

# Service Area Capability of Emergency Units Based on Traffic Accidents; Case Study of Samsun

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**Key words:** Geoinformation/GI; Risk management

## SUMMARY

Traffic accidents are one of the most important social problems all around the world today. 1.2 million people have been lost their life by traffic accidents in per year and 20-50 million people have been injured or disabled. When an accident occurred, ambulances and fire vehicles first come to mind as an emergency response team. Depending on the scientific studies, it is represented that 10% of the deaths were occurred in first 3-5 minutes and 54-60 % of the deaths were occurred in 30 minutes It is having important role for performing emergency response facilities in a shortest time by the team of experts. Besides expert teams and modern equipment, real time instant conditions must be considered. Traffic volume, number of vehicles on the road of emergency vehicles, road conditions, driver's behaviours and giving way to emergency vehicles are different life conditions which are effect response time. The best way for providing life-property safety and to minimize or preventing the casualties is using Geographical Information System (GIS) and Technologies with its comprehensive functions. Thus through the queries and analysis functionalities of GIS, it is aim to enable for providing availability of the emergency fields, evaluation of current position of the emergency response units/stations and siting the new emergency response units/stations with using the current and actual accident data and information. In this study, for all mentioned above, cases which occurred in 2014 in Atakum, &#304;lkad&#305;m, Canik and Tekkek y districts which are located in Samsun city and responded by Fire Brigade and Ambulance Stations are using for buffer, density and network analysis methods. In studies response time determined between 5-8 minutes for rescue and medical emergency cases. In this study 8 minute is taken as the maximum response time and the coverage area of the rescue and medical emergency station are examined.

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