Locating Fire Stations at the Most Convenient Location

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SUMMARY

Fires are the accidents which occur most frequently, whose causes are the most diverse and which require intervention methods and techniques adapted to the conditions and needs of each incident. Effective planning of emergency response services helps to avoid economic losses, such as reducing disability and mortality rates. As the population in cities increase the emergency calls will increase accordingly and new planning for renewing existing fire stations or opening of new stations will arise. The determination of the correct locations will reduce the duration of the intervention in case of a possible emergency call. In cities with high earthquake risk as well as rapid population growth and heavy traffic characteristics, the selection of locations of fire stations is very important to prevent life and property losses.

Moreover, estimating fire predictions for future years according to the data of previous years fires will provide preventive measures and fire resistant investments in possible fire zones. This will provide a visible reduction in fire numbers and an increase in fire resistant structures in the future.

Since Fire station buildings and materials can also be at risk during disasters all preventive methods should be taken during location selection and building those stations. In this study, a multi-layer model based on the risk factors, environmental factors and infrastructure is suggested for the selection of fire station locations.