

## Extending Smart City Infrastructure to Cover Natural Disasters

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**Abstract :** Smart city solutions are being developed across the globe to transform urban areas. However, the infrastructure enablement for alerting natural disasters such as floods and wildfires is deficient. This paper discusses an innovative device that could be used as part of the smart city initiative to detect and provide alerts in case of floods at road crossings and wildfires. An Internet of Things (IoT) smart city node was designed, tested, and deployed with collaboration from the City of Austin. The end to end solution includes a 3G enabled IoT device, flood and fire sensors, cloud, a mobile app, and IoT analytics. The real-time data was collected and analyzed using IoT analytics to refine the solution for the past year. The results demonstrate that the proposed solution is reliable and provides accurate results. This low-cost solution is viable, and it can replace the current solution which costs tens of thousands of dollars.

**Keywords :** analytics, internet of things, natural disasters, smart city

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