



CLIENT:

City of Philadelphia Fire
Department

POPULATION:

1.5 million

DEPARTMENT NEEDS:

- Reduce residential fires and fire fatalities
- Improve overall performance of fire prevention program
- Optimize fire prevention program spending

Firefighting With Analytics

How a Fire Vulnerability Index revolutionized firefighting in Philadelphia.

HERE'S THE SITUATION

By conventional measures, the Philadelphia Fire Department (PFD) was following all of the best practices in modern fire prevention. It sponsored an aggressive safety education program starting at the kindergarten level and a wide-ranging smoke alarm installation program.

Still, the department faced a challenge: In addition to getting its messaging and tools into the hands of the most at-risk citizens, the department was also spending precious man hours and budget reaching out to households that didn't present an abnormally high risk — they simply happened to live in the vicinity of households that did. In today's era of tighter spending on public services, and flat or shrinking departmental budgets, this kind of waste was difficult to write off.

HERE'S WHAT WE DID ABOUT IT

We worked closely with the PFD to develop a customized Fire Vulnerability Index (FVI), which scored every household in Philadelphia for fire risk. The FVI allowed us to identify quantifiable patterns in resident psychographics (individual lifestyles, life stages, behaviors, attitudes and finances) that correlated with fire incidents.

We discovered that nearly 60 percent of residential fire incidents in Philadelphia occurred in two specific household types — households that accounted for just 26 percent of the total household mix in the city.

We loaded the FVI data into SCOUT®, our online mapping and analysis tool, which allowed the PFD to quickly view not only the areas of the city with high concentrations of fire-vulnerable households, but exact addresses that presented a high level of risk for fires. Each fire station, in fact, was able to see a detailed plot of high-FVI households in their area — including households with children.

Armed with SCOUT, the PFD's fire prevention program could take the next step, now going literally block by block and pinpointing each building's

propensity to produce a fire, and developing a one-on-one relationship with those citizens. As a web- and mobile-based "app," SCOUT is on call 24 hours a day, 7 days a week, just like the PFD itself.

CHECK OUT THESE RESULTS

So far, the PFD has:

- Used our FVI to narrow a target of fire-vulnerable households from 48,000 to 2,000 within key neighborhoods as part of a fire prevention campaign. This new campaign target provided firefighters with a significantly more manageable number of houses to contact with direct mail, free smoke detectors, school education and home visits.
- Initiated a "feet on the street" effort to reach fire-vulnerable households using the FVI, which also identified households by presence of children and seniors.
- Installed more than 7,000 smoke alarms in 30 days.
- Educated thousands of Philadelphians on the hazards of fire, and the safety actions that can be applied to prevent fires.
- Created a strategy for prioritizing the department's education and outreach programs.
- Obtained significant federal funding for the city's fire mitigation programs by leveraging the FVI analysis in its application.

"The data and information that Buxton gives us through SCOUT is just life-changing," says PFD Fire Commissioner Lloyd Ayers. "It's a game-changer for the fire service. We have the opportunity to spend more time on education so we can chase the fire out of the city."

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