Tempe Fire Medical Rescue Department

Fire Station Location Study

Planning fire station locations to optimally respond to increasing EMS demand

KEY FACTS

Population: 170,000

Area Covered: 40 sq mi

Fire Stations: 6

Annual Incidents: 25,000

Budget: $31,000,000

ABOUT TFMRD

TFMRD is an all-hazards response agency responsible for prevention, fire suppression, EMS, hazardous materials, and technical rescue. Within the Phoenix Metropolitan Area, TFMRD responds to incidents in neighboring departments as part of the automatic aid arrangements.

THE CHALLENGE

The overall objective of the study was to evaluate the distribution of TFMRD fire stations. This involved assessing the response provided by current locations and the potential need for additional stations to provide optimal coverage.

The study needed to take account of future changes in Tempe – the City is expected to grow by more than 55,000 new residents by 2040. Incident numbers are currently increasing by 4.3% annually, resulting in additional demand on existing stations.

ORH'S APPROACH

ORH analyzed the current workload of each station, its contribution to response performance and how this would change with increased demand. This enabled TFMRD to decide which stations should be considered 'fixed' in the future. Then, through a series of optimization runs, ORH identified optimal locations for additional stations – this iterative approach ensured buy-in from TFMRD staff.

RESULTS

Working towards a ten-year planning horizon, ORH recommended a phased set of changes to the deployment of resources, including:

- Adding a station in Southeast Tempe to improve incident coverage
- Locating an additional resource in an area with high demand and development

The modeling demonstrated how these changes would improve response times and the effect on workload in and out of the City within each station's local area.

ORH presented the results to City Council, who approved the initial changes.

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> *ORH demonstrated a great commitment to the project, bringing the essential experience and investing significant time into understanding our department. Their valuable input will enable TFMRD to make best-practice decisions for our future, driven by a detailed critical analysis and a practical and professional decision-making process.*
>
> Greg Ruiz, Chief, Tempe Fire Medical Rescue Department

Emergency Service Planning
Case Study

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ORH
PLAN. PREPARE. PERFORM.

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ORH helps emergency services around the world to optimize resource use and respond in the most effective and efficient way.

We have set the benchmark for emergency service planning, with a proven approach combining rigorous scientific analysis with experienced, insightful consultancy. Our expert team uses sophisticated modeling techniques to identify opportunities for improvement and uncover hidden capacity. Simulating future scenarios ensures that solutions are objective, evidence-based and quantified.

Every organization faces a unique set of challenges, so remaining independent and flexible allows us to deliver an appropriate solution every time. The outputs of our work enable clients to make robust, data-driven decisions and explain them clearly to stakeholders.

ORH's approach is always tailored to the needs of the client. Above all, we are committed to getting it right, for the good of our clients and the people who rely on their services.

ORH HAS WORKED WITH CAREER AND VOLUNTEER FIRE DEPARTMENTS TO HELP:

- Optimize station locations, both now and in the future

- Assess standards of cover in line with NFPA 1710

- Project future demand and the effects on utilization

- Support decision making in dispatch centers

- Quantify the impacts of providing EMS transportation

- Evaluate the potential for Low Acuity Vehicles