

DRAFT: 12/15/11

Fire Department Performance Measures

FPSI produces occasional informal papers on subjects related to accountability in general and Results-Based Accountability™ (RBA) implementation in particular. This paper is in response to a request for ideas about performance measures for fire departments. The following disclaimer(s) are necessary. I am not an expert on fire departments. The whole nature of RBA is not to claim expertise on every subject for which measurement might be appropriate, but rather to provide a structure within which people who do have the requisite knowledge can come to useful conclusions about measurement and its implications for action.

The right way to answer the question about performance measurement for fire departments is to get firefighters around a table. The 5 step process for identifying performance measures in 45 minutes (Appendix G of "Trying Hard Is Not Good Enough") could be used to structure the discussion. And this would almost certainly lead to a good working set of measures that could become the starting point for continuous improvement. The trick in this process is to winnow the long list of potential measures to those few which could be MOST useful in monitoring and improving performance. This analysis is intended as a resource for this kind of process.

In the course of researching this question, I found two useful online resources:

1. "Montgomery County Fire and Rescue Service Plan FY10"

<http://www.montgomerycountymd.gov/content/exec/stat/pdfs/FRS.pdf>

This is an excellent performance improvement plan using RBA principles, including both population and performance accountability, baselines for six headline measures, the story behind those baselines and "What we propose to do to improve performance." Development of this plan was supported by the Results Leadership Group (www.resultsleadership.org).

2. "Fire Service Performance Measures" by the National Fire Protection Association (NFPA), Jennifer D. Flynn, November 2009.

<http://www.nfpa.org/assets/files/pdf/os.fsperformancemeasures.pdf>

This is an excellent analysis of performance measures, including over 80 suggested measures for Fire Incident Calls, Medical Aid Responses, HazMat calls and other calls and activities. Only the "fire incident call" measures are included in the Appendix A analysis. The bibliography to this report is a treasure trove of other resources on the subject. The only caution in considering this report is its overemphasis of traditional target setting in continuous improvement.

The attached summary chart shows performance measures from these two sources as well as additional measures suggested by FPSI experience. The measures are sorted between Population Accountability and Performance Accountability, and between the three RBA performance measurement categories (*How much did we do? How well did we do it? Is anyone better off?*).

Where similar measures exist in different documents, alternative phrasings are included. The intent of this summary is to provide a "shopping list" of potential measures for identification of the most important "headline" measures for which good data currently exists, the remaining secondary measures where good data currently exists, and the Data Development Agenda, a prioritized list of where new or better data is needed. (See pp. 555-56 of "Trying Hard Is Not Good Enough").

This is obviously not an exhaustive analysis and is intended only as one resource in support of serious efforts to select and use performance measures to improve performance. Comments are welcome and may be addressed to the email address below.

- Mark Friedman

An Analysis of Potential Fire Department Performance Measures

Sources:

- 1) "Montgomery County Fire and Rescue Service (MCFRS) Performance Plan FY10," Fire Chief Richard R. Bowers. <http://www.montgomerycountymd.gov/content/exec/stat/pdfs/FRS.pdf>
- 2) the report "Fire Service Performance Measures" by the National Fire Protection Association (NFPA) Jennifer D. Flynn, November 2009
<http://www.nfpa.org/assets/files/pdf/os.fsperformancemeasures.pdf>
- 3) Other measures suggested by FPSI.

POPULATION ACCOUNTABILITY (quality of life conditions and associated measures to which fire departments contribute, but which are the shared responsibility of many partners across the community)

Result(s): Safe People; Safe Communities

Indicators:

1. Rate of injury and death from fire per 100,000 population (MCFRS, NFPA)
2. Rate of injury and death from fire per 1,000 fires (NFPA)
3. % of residential/commercial properties with operating smoke detectors / alarms
4. % of residential/commercial properties with evacuation plan
5. Rate of fires per 1,000 population & per 1,000 buildings (NFPA)

PERFORMANCE ACCOUNTABILITY (measures for which the fire department bears sole or principle responsibility)

How much did we do?

1. # of buildings protected (estimate) - by residential, commercial and other
2. \$ value of buildings protected (estimate)
3. # of responses to alarms
4. # false alarms
5. # of community outreach, training and inspection events
6. # of calls from individuals (by call type - fire, medical, other etc.) (NFPA implied)
7. # of calls from alarm monitoring companies (by call type) (NFPA implied)
8. # of calls from other source (by call type) (NFPA implied)
9. Amt of response time stratified by turnout time, travel time, total response time and time of control of fire (NFPA)

How well did we do it?

1. Unit cost of service per alarm response
2. Fire dept budget as % of building/property value est.
3. % of alarm responses in less than / more than x minutes (by urban/rural) (MCFRS,NFPA)
4. % false alarms (NFPA)
5. Workload ratio: alarms to staff (or other ratio)
6. Safety measure: rate of serious injuries to staff per month/year (NFPA)
7. Preparedness measure: score on preparedness self assessment

8. Distribution of fires by type and cause
9. Percentage of inspections on schedule
10. % of time/resources assisting neighboring fire departments
11. % of calls from individuals (by call type - fire, medical, other etc.) (NFPA)
12. % of calls from alarm monitoring companies (by call type) (NFPA)
13. % of calls from other source (by call type) (NFPA)
14. Avg response time per fire incident call (NFPA)
15. Avg time to control spread or confirm spread has stopped (by size on arrival and type of occupancy) (NFPA)
16. % of fires extinguished before department arrival (NFPA)
17. % of fires not extinguished before department arrival (NFPA)
18. # of firefighter fatalities / injuries per 1,000 firefighters (NFPA)
19. # of firefighter fatalities / injuries per 1,000 fires (NFPA)
20. % of firefighters with completed, up-to-date training (NFPA)
21. % of firefighters who are certified (NFPA)
22. % of accreditation related strategic recommendations addressed (MCFRS)
23. % of fire incidents where smoke detectors were not operational or present (MCFRS)
24. % of equipment needs met (by type)

Is anyone better off?

- 1a. % of responses where fire was kept to the room of origin
- 1b. % of residential structure fires confined to the room of origin (MCFRS)
- 1c. % of fires responded to that spread beyond room of origin before department arrival (NFPA)
- 1d. % of fires responded to that spread beyond room of origin after department arrival (NFPA)
2. Amt of fire property damage as a percentage of total protected property value
3. % of fires in which a person or people were rescued from the building by firefighters (NFPA)
4. Number of "saves" vs. number of casualties (NFPA)
5. Rate of saves per incident involving at least one save (NFPA)
6. Total \$'s saved in terms of structure and content (NFPA)
7. Average \$'s saved per fire (NFPA)
8. % of fires in which \$ damage to the building was greater than "x" dollars (NFPA)
9. % of fires in which \$ saved was greater than "x" dollars (NFPA)
10. % of county residents surveyed who rate MCFRS injury and fire prevention education services effective (MCFRS)