COUNTING CALLS

Telling the Story:
Fire Department Response Capability, Performance, and System Resilience
FIRE DEPARTMENT CORE VALUES

Protect lives, property, and the environment through preparedness, prevention, public education, and emergency response with an emphasis on quality services, efficiency, effectiveness, and safety.
Effectively managing a fire department requires an understanding of and an ability to demonstrate how changes to resources in any of these areas will affect the service to the community.

One of the greatest challenges to public safety is articulating its value in a quantifiable manner.
DATA: THE SUSTAINING LIFEBLOOD OF THE FIRE SERVICE.

Data, and the information gleaned from it, show the need for prevention, public education, and emergency response services including the number of apparatus necessary to mitigate the emergencies that do occur, assure optimal performance of responders on scene, and best facilitate a positive outcome of the incident.
Fire department leaders must have reliable statistical data useful for optimization of resources in every area of the fire department.
ANNUAL REPORTS…
WHAT’S IN YOURS?

- Response statistics, division reports, specialty team reports, and highlights of other services provided
- Provide an opportunity for leaders to demonstrate the department’s value and educate stakeholders.
- Powerful, effective and efficient way to connect with the community.
HISTORIC REPORTING

- Fires per capita (per 1000 population)
- Fire Loss estimates vs assessed property value
- Fire Loss per capita (per 1000 population)
- Civilian injury/ death per year
- Smoke detectors installed
- Incidents total number
- Incidents number /percentage by category (fire, EMD, Hazmat)
- Incident number/percentage by type (cardiac, trauma, vehicle fire, trash fire, etc)
LEADERS MUST …
TELL A MORE COMPLETE STORY

➤ The first rule is to anticipate the questions to be asked by decision makers, the press and the public.

➤ The next step is to not only answer those questions but also go beyond to educate them on your message and the reality of the fire departments capability, activity, performance and resilience.
TELLING THE STORY: FIRE DEPARTMENT RESPONSE CAPABILITY, PERFORMANCE, AND SYSTEM RESILIENCE

Divided into 12 Sections

• History of Data Use
• Guide for Community Risk Assessment
• Gathering data for Risk Assessment
• Performance Measures in Standards
• Workload Analysis
• Unit Availability/ Capability
TELLING THE STORY: FIRE DEPARTMENT RESPONSE CAPABILITY, PERFORMANCE, AND SYSTEM RESILIENCE

Divided into 12 Sections

- Department ‘Busyness’
- Department Overall Availability/Capability
- System Capacity
- System Resilience
- Reporting to Decision Makers
- Reporting to Outside Agencies
DATA ACQUISITION

- Computer Aid Dispatch (CAD) Data (1-3 years preferred)
- Station First due boundaries
- Station First due response zones (fire box zones)
- Building footprint and building type
- Parcel data (land/property value)
- Demographic data from the American Community Survey portion of the U.S. Census at the census block level preferred (Gender, Age, Race, Education, Income/Poverty, Housing Characteristics)
- Physical Data (e.g. transportation network, utility lines, river, and floodplains)
FIRECARES - VISUALIZE DATA

- Station **First due boundaries**
- **Building footprint** and building type
- **Parcel data** (land/property value)
- **Demographic data** from the American Community Survey portion of the U.S. Census at the census block level preferred (Gender, Age, Race, Education, Income/Poverty, Housing Characteristics)
- **Physical Data** (e.g. transportation network, utility lines, river, and floodplains)
Computer Aid Dispatch (CAD) or RMS Data

Unit Responses by first due

Unit Responses by call type

Unit Responses by council district

Unit Responses by Battalion

Searchable by keywords
NFPA 1710 PERFORMANCE OBJECTIVES

<table>
<thead>
<tr>
<th>Time</th>
<th>Unit</th>
<th>Percentage</th>
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<tr>
<td>4 min</td>
<td>MIN ENGINE</td>
<td>29.3%</td>
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<tr>
<td>8 min</td>
<td>MIN ENGINE</td>
<td>80.3%</td>
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<td>4 min</td>
<td>MIN LADDER TOWER</td>
<td>13.7%</td>
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<td>MIN LADDER TOWER</td>
<td>62.8%</td>
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<td>8 min</td>
<td>MIN MEDIC UNIT</td>
<td>53.4%</td>
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<tr>
<td>8 min</td>
<td>MIN AMBULANCE UNIT</td>
<td>61.2%</td>
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</tbody>
</table>

- These times are captured for every incident in NFORS.

- LIVE DEMO
Incident Detail

NFPA 1710 Performance Objectives

Location Details

Responding Units Performance Details

Incident On-Scene Time Details

Overall Response Details
Using Geography is an effective way to visualize response capability based on the performance objectives in the NFPA 1710 Standard.
Fire Chiefs and other department leaders must learn to leverage data available in their emergency response system to tell the fire department’s story.

Data, and the knowledge gleaned from it, show the adequacy or the need for prevention, public education, and emergency response services.
UFF POSITION:
OPERATIONAL PERFORMANCE MEASURES

- **Performance measures** used to;
  - Learn
  - Improve
  - Optimize operations
  - Establish benchmarks
  - Provide comparative metrics
  - Promote best practices
Performance measures may be:

- **Core** – guideline /standard exists

- **Developmental** – need more data to establish a standard measure
UFF POSITION:
OPERATIONAL PERFORMANCE MEASURES

- **Performance measures** are necessary;
  - Determine **baseline performance**
  - Establish **goals**
  - Determine **gaps** between current performance and goal
  - Track **progress**
  - **Benchmark** and compare
  - Identify **problems**
  - Plan for **the future**
Implications for using Performance measures:

- Continuous measurement of quality
- Identify areas of excellence
- Highlight sentinel events
- Verify effectiveness of corrective action
- Allow comparison to standards
- Contribute to establishing new standards
PERFORMANCE INDICATORS

- **Alarm Processing** = CORE
- **Turnout Time** = CORE
- **Travel Time** = CORE
- **Total Response Time** = CORE
- **Company Staffing** = CORE
- **Initial Full Alarm** (Effective Response Force) = CORE
PERFORMANCE INDICATORS

- **Water on Fire Time** = Developmental
- **Primary Search Complete** = Developmental
- **BLS Arrival on Scene** = CORE
- **ALS Arrival on Scene** = CORE
- **At Patient Side** = Developmental
- **Time on Assignment** = Developmental
- **Back-to-Back Responses** = Developmental
- **Count of Incidents/Hour** = Developmental
PERFORMANCE INDICATORS

- Incident Location /Hour = Developmental
- Count of Cover Incidents = Developmental
- Location of Cover Incidents = Developmental
- Travel Time in Relation / Number of Units Engaged = Developmental
- Duration of On-Scene Time Waiting for EMS Transport = CORE
PERFORMANCE MEASURES

- Valid and Reliable measures are needed to assist Fire Service Leaders to ensure
  - Availability
  - Capability
  - Efficient/Effective Use of Resources
  - Quality Operational Performance
UFF POSITION STATEMENT AND PAPER

Motion to Approve

UFF Position Statement:
Fire Department Operational Performance Measures

Data driven decision making is key in today’s fire service. Given the potential impact and the need for quality data to inform these decisions, the Urban Fire Forum and the Metropolitan Fire Chiefs support and promote a dynamic series of operational performance measures. These measures are intended to assess department’s response availability, optimize its capability to arrive and mitigate an incident, and evaluate effectiveness of on-scene operational performance. Leaders must seek optimal performance in every deployment thereby leading to positive outcomes for firefighters, civilians, and any property involved.

Performance measures can be used to learn, improve, and optimize fire department operations. Performance measures can also be used to establish benchmarks for a department’s performance, provide comparative metrics for other departments and identify and promote best practices.

Performance measures may be deemed core or developmental. Measures are deemed core if a guideline or standard exists for it or indicates that the measure is deemed to be developmental. As more data becomes available for a developmental measure, standards can be established making it a core metric. Additionally, new indicators and measures may be added as data becomes available for collection.

Need for Operational Performance Measures in Fire Departments

Performance measures are necessary to (1) allow departments to determine a baseline performance level according to the indicators; (2) establish goals based on current performance; (3) determine the gap between desired goals and current performance levels (i.e., where we are v. where we want to be); (4) track progress toward achieving goals; (5) benchmark and compare performance between departments; (6) identify problems and causes; and, (7) plan for the future. Once fire departments can be measured according to the same indicators, standards based on best practices can be more easily established.

Implications of Performance Measurement in Fire Departments

Fire department performance should be measured according to indicators of quality and effectiveness that are established for the emergency response system. Measuring fire department performance using appropriate indicators is expected to (1) provide continuous measurement of quality in the system; (2) identify areas of excellence; (3) highlight sentinel events; (4) verify effectiveness of a corrective action; (5) allow comparison of the department to established operational standards; and, (6) contribute to establishing new standards for performance.

Fire Department performance measures are necessary to guide policy makers in critical decisions regarding system deployment and to safeguard against poor quality operations. Valid and reliable measures are needed to assist fire service leaders to ensure availability and capability of response, efficient and effective use of resources, and quality operations.