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**STANDARDS OF
RESPONSE COVER STUDY
FOR THE
CITY OF EUREKA
FIRE DEPARTMENT
Final Report**

VOLUME 3 OF 3 – STATS APPENDIX

February 9, 2007

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APPENDIX 1

EUREKA FIRE DEPARTMENT STATISTICS

EUREKA FIRE DEPARTMENT STATISTICS

Dataset Identification

The Eureka Fire Department (EFD) has furnished NFIRS 5 data for 12,050 incidents dated from 10/01/2002 through 6/30/2006. Supplemental CAD data was also submitted. The CAD data covered a 36-month period from 7/1/2003 – 6/30/2006. Since a 3-year period is ideal for analysis the set of NFIRS 5 incident records was reduced to the same dates provided in the supplemental CAD data. This reduced the incidents submitted by Eureka to 9,638 for the 3-year period.

The Humboldt Fire District (HFD) furnished 5,171 incidents from NFIRS 5 data for the period of 1/1/2003 – 6/30/2006. This dataset was reduced to the same 3-year date range. This trimmed the HFD incident count to 4,477. CAD data was not submitted since HFD utilizes different company inventories in their CAD and RMS systems.

Once date formats were converted Eureka raw CAD data was successfully merged into their NFIRS 5 data. This merge provides information about apparatus turnout and travel times not available from NFIRS 5 data alone. Because of the lack of CAD data these same measurements are not available for HFPD.

Data Quality

Eureka has a substantial history of using the current NFIRS 5 incident-reporting standard. Raw CAD data was available to augment NFIRS 5 response data.

Dataset strengths include the following:

- ◆ Use of NFIRS 5 Incidents and Apparatus modules
- ◆ Use of seconds in all time fields
- ◆ Consistent use of narratives by company officers in Incidents.

Dataset weaknesses include the following:

- ◆ Missing apparatus timestamps in CAD data
- ◆ Use of optional census tract would provide additional analysis opportunities.

Data Processing

Three years of NFIRS 5 data was imported from NFIRS 5 state transaction files for both Eureka and Humboldt. Eureka data was supplemented with raw CAD data.

For analysis purposes the 3-years are defined as follows:

Year 1 (7/1/2003 – 6/30/2004)

Year 2 (7/1/2004 – 6/30/2005)

Year 3 (7/1/2005 – 6/30/2006)

This breakdown will be used to analyze operational trends.

Demand for Service

Over the 36-month data period the Eureka Fire Department responded to an average of 8.80 incidents per day. Of those 5.43 incidents per day are for EMS. There are 4.08 fire incidents per week. For the 36-month time period 6.60% of incident responses were to fire, 61.75% to EMS and 31.65% to other types of incidents.

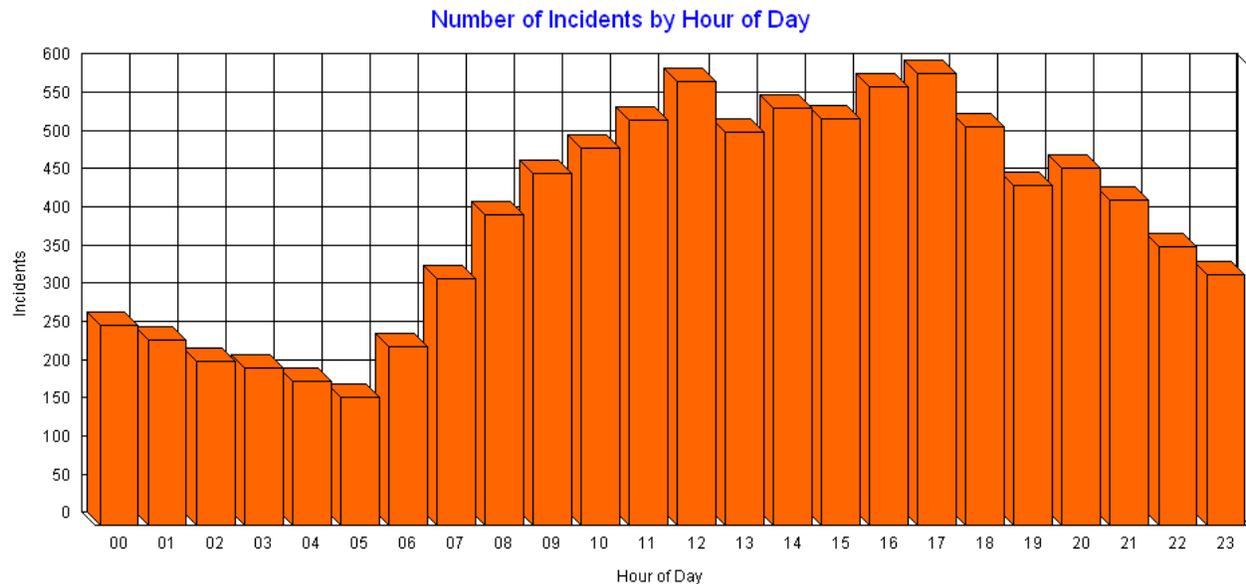
The years of available data breaks down as follows:

	Year 1	Year 2	Year 3
Incidents	3,316	3,107	3,215
Fire & EMS	2,258	2,174	2,157
Fire	256	212	169
Structure Fire	78	53	58
EMS	2,002	1,962	1,988

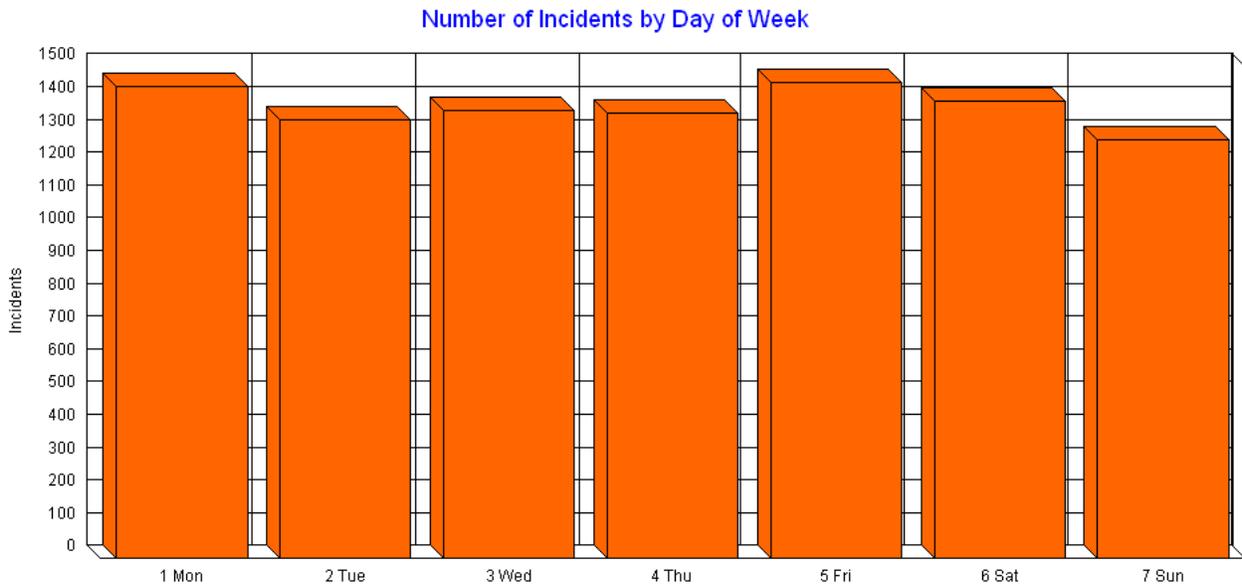
This trend analysis shows no steady increase in incidents. Decreases are noted Fire & EMS incidents as well as Fire incidents.

Chronological Distributions

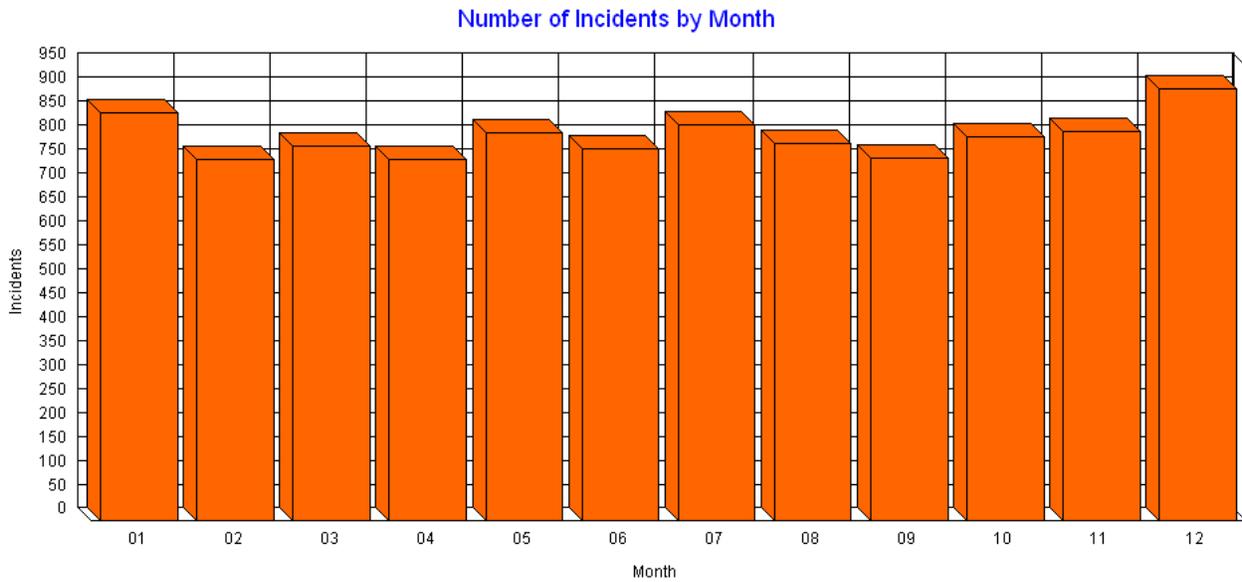
The following graph illustrates the number of incidents by hour of the day, day of week and month of year for the three-years of available data. Notice a minimal number of incidents in the early morning. After 5:00am the number of incidents grow through the late morning remaining fairly consistent through an evening drop-off. This response graph is a fairly typical representation of fire department activity.



The number of incidents tends to remain relatively constant by day of week with a slight increase in incident activity on Friday and Monday. This trend is illustrated in the following graph.



The following graph illustrates the monthly number of incidents. While monthly totals remain fairly consistent there is a slight spike of activity in December and January.



Below is a list of the top incident types for the 36-month period. Incident types with fewer than 20 responses were eliminated from the list.

Incident Type	Count
321 EMS call, excluding vehicle accident with injury	4,945
311 Medical assist, assist EMS crew	642
611 Dispatched & canceled en route	526
700 False alarm or false call, other	405
600 Good intent call, other	306
510 Person in distress, other	253
322 Vehicle accident with injuries	252
554 Assist invalid	231
111 Building fire	181
444 Power line down	124
561 Unauthorized burning	108
551 Assist police or other governmental agency	107
131 Passenger vehicle fire	87
531 Smoke or odor removal	82
500 Service Call, other	72
323 Motor vehicle/pedestrian accident (MV Ped)	68
400 Hazardous condition, other	60
661 EMS call, party transported by non-fire agency	57
142 Brush, or brush and grass mixture fire	54
151 Outside rubbish, trash or waste fire	46
631 Authorized controlled burning	46
412 Gas leak (natural gas or LPG)	45
413 Oil or other combustible liquid spill	45
651 Smoke scare, odor of smoke	43
154 Dumpster or other outside trash receptacle fire	37
440 Electrical wiring/equipment problem, other	36
511 Lock-out	31
411 Gasoline or other flammable liquid spill	30
100 Fire, other	29
671 Hazmat release investigation w/ no hazmat	29
522 Water or steam leak	27
140 Natural vegetation fire, other	26
445 Arcing, shorted electrical equipment	25
652 Steam, vapor, fog or dust thought to be smoke	25
143 Grass fire	24
352 Extrication of victim(s) from vehicle	22
113 Cooking fire, confined to container	21
150 Outside rubbish fire, other	21
160 Special outside fire, other	21
114 Chimney or flue fire, confined to chimney or flue	20

Here is a chart showing the top types of property receiving service from the Eureka Fire Department during the 36-month data period. Property types with fewer than 20 responses were eliminated from the list.

Property Type	Count
419 1 or 2 family dwelling	3,161
429 Multifamily dwellings	1,346
963 Street or road in commercial area	614
962 Residential street, road or residential driveway	550
439 Boarding/rooming house, residential hotels	301
965 Vehicle parking area	285
449 Hotel/motel, commercial	248
900 Outside or special property, other	207
960 Street, other	179
519 Food and beverage sales, grocery store	165
961 Highway or divided highway	149
459 Residential board and care	145
400 Residential, other	126
500 Mercantile, business, other	106
599 Business office	97
311 24-hour care Nursing homes, 4 or more persons	90
931 Open land or field	77
571 Service station, gas station	71
322 Alcohol or substance abuse recovery center	68
UUU Undetermined	68
460 Dormitory type residence, other	59
161 Restaurant or cafeteria	58
580 General retail, other	55
361 Jail, prison (not juvenile)	52
581 Department or discount store	46
160 Eating, drinking places	45
579 Motor vehicle or boat sales, services, repair	44
215 High school/junior high school/middle school	41
936 Vacant lot	40
569 Professional supplies, services	38
331 Hospital - medical or psychiatric	35
511 Convenience store	35
323 Asylum, mental institution	31
NNN None	25
300 Health care, detention, & correction, other	24
213 Elementary school, including kindergarten	23
549 Specialty shop	22
700 Manufacturing, processing	22
951 Railroad right of way	21

Simultaneous Incident Activity

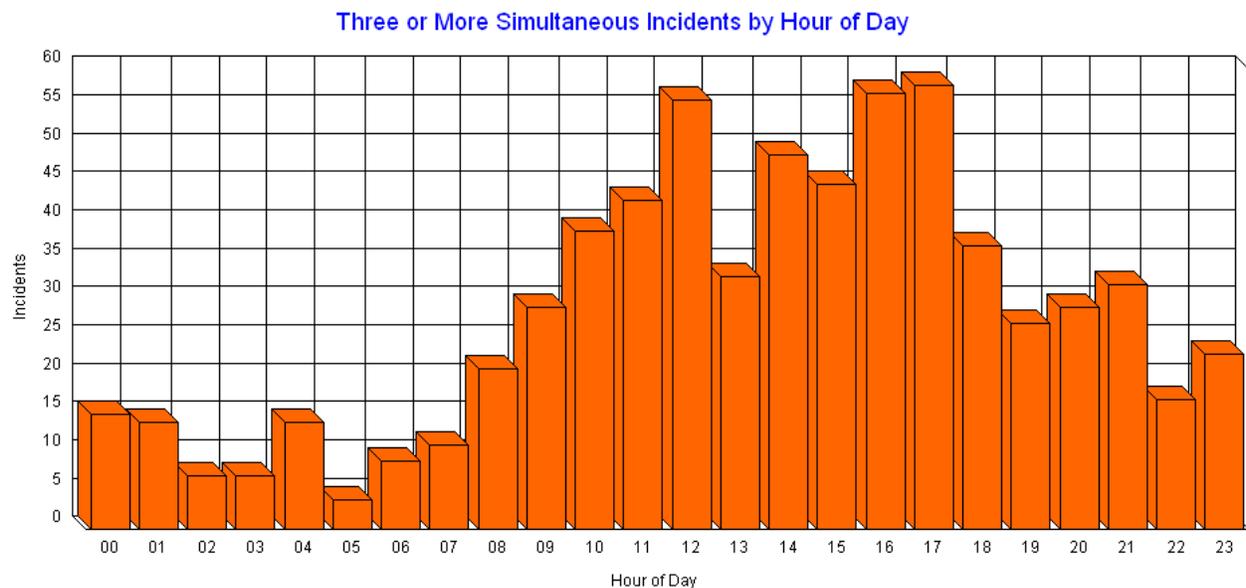
Obviously, incidents occurring at the same time tax fire department resources more than those occurring when there is no other fire department response activity. Since Eureka and Humboldt work closely together the following simultaneous measurements include both fire departments within the 3-year dataset.

Examining incident data for the 36-month period shows 25.11% of incidents occurred when Eureka or Humboldt were already engaged in other response activity. Despite combining data from two fire departments, this number illustrates a fairly low level of simultaneous activity.

Here is the breakdown by number of incidents:

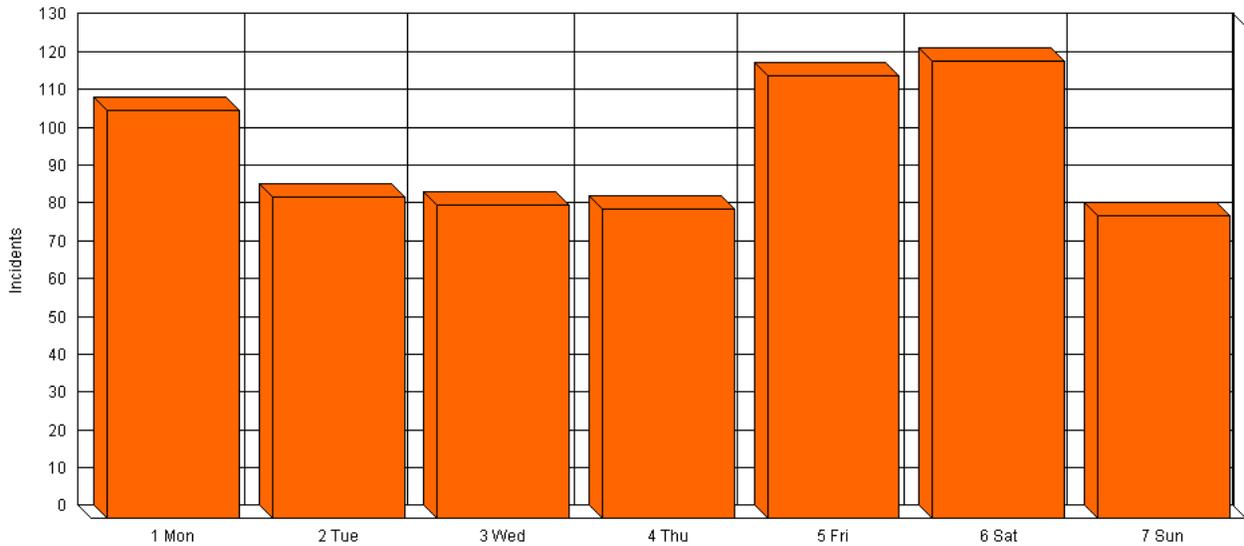
At least 2 Incidents occurring at the same time	25.11%
At least 3 Incidents occurring at the same time	4.78%
At least 4 Incidents occurring at the same time	.88%

The graph below illustrates the hourly distribution of 3 or more (4.78%) simultaneous incidents. This graph roughly follows the distribution frequency of incidents in general. This means the percentage of simultaneous incidents remains relatively constant during a 24-hour day.



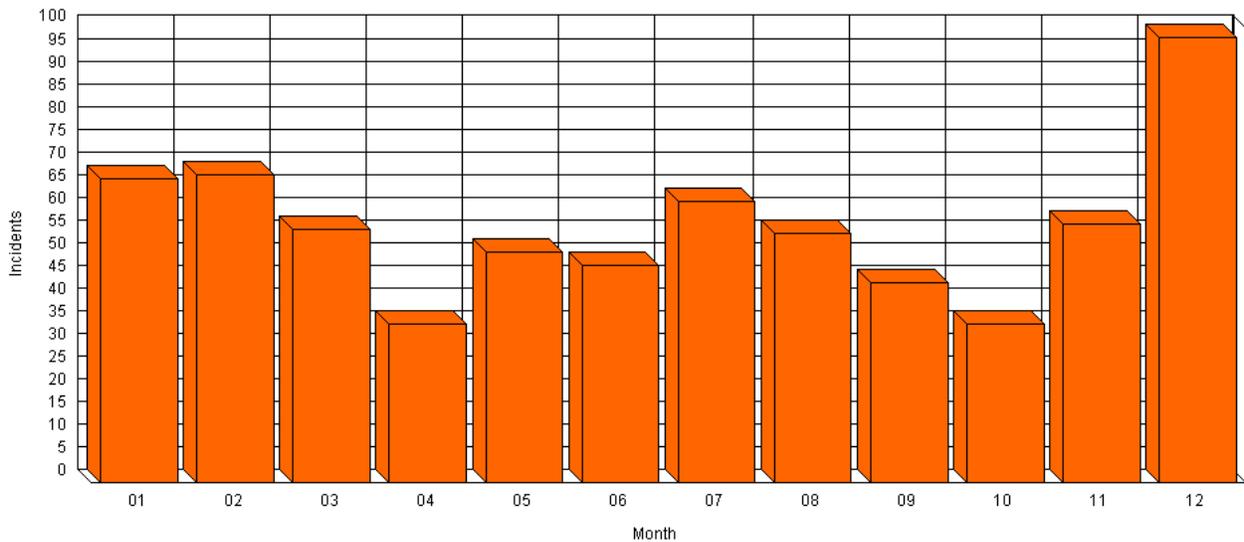
The occurrence of simultaneous incidents is greatest on Saturday and Friday with minimum simultaneous activity on Sunday. This is roughly in line with overall activity levels.

Number of Simultaneous Incidents by Day of Week

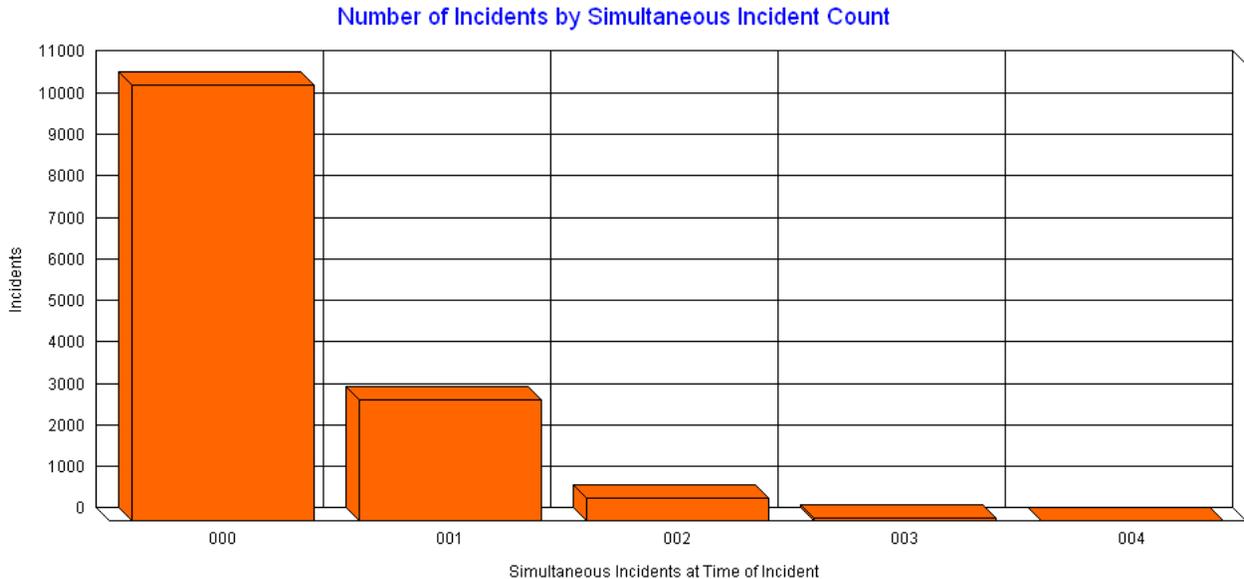


Simultaneous activity increases greatly in the month of December. It is at its minimum in April and October.

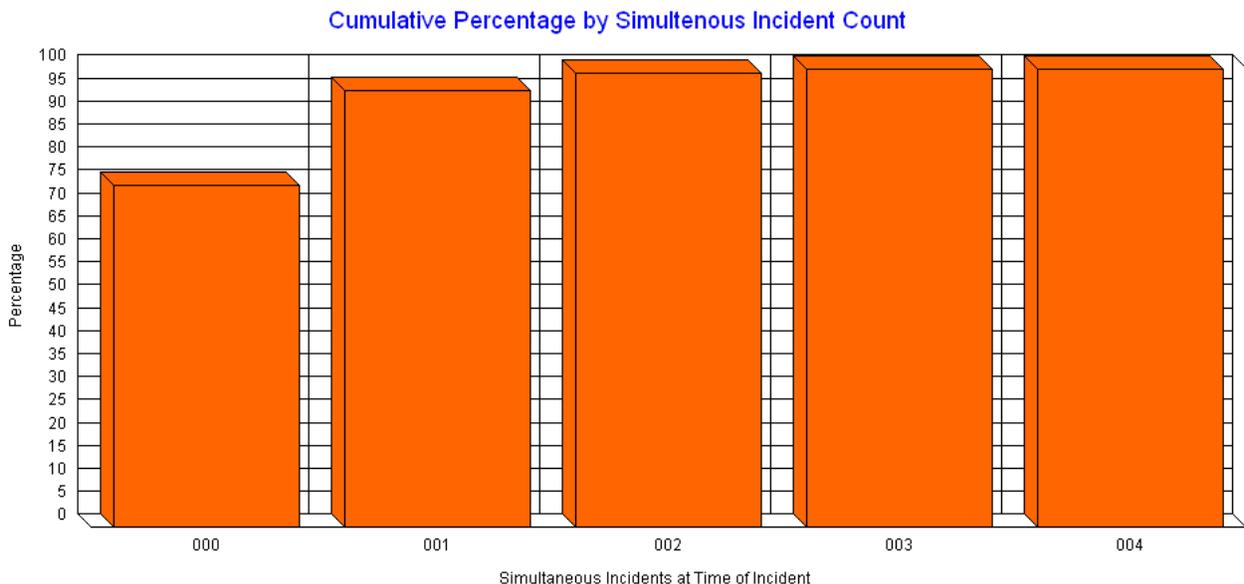
Number of Simultaneous Incidents by Month



Let us shift gears to measure how simultaneous incidents affect performance. The following chart illustrates the number of incidents by simultaneous count. The vast majority of incidents occur when no other incidents are underway (000). The count of simultaneous incidents decreases rapidly as the number of simultaneous incidents increases.

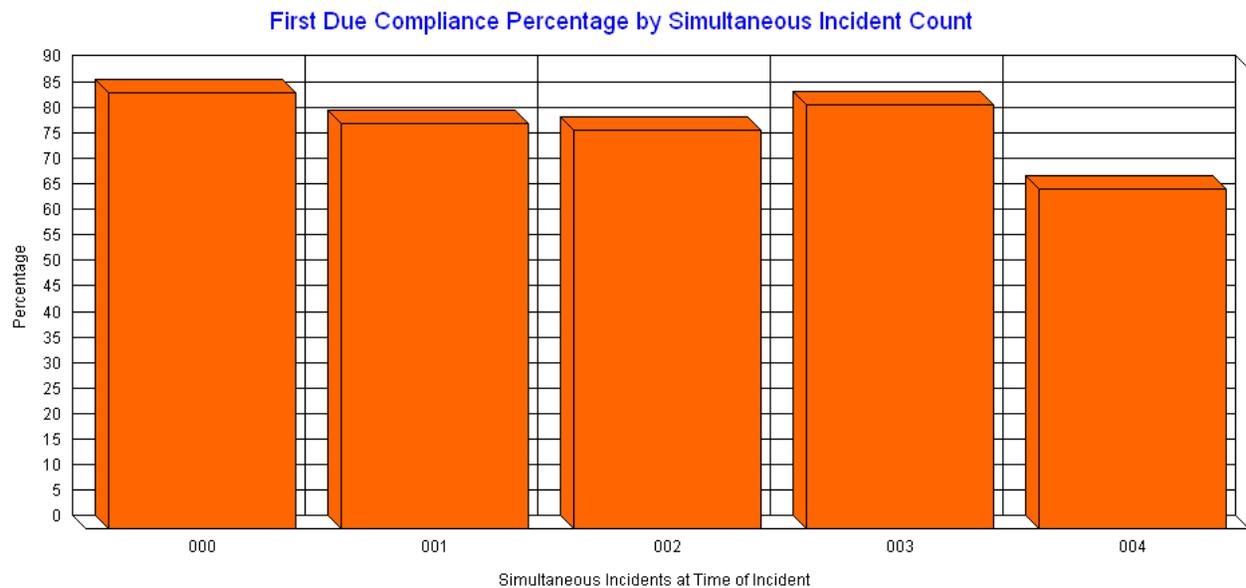


This next graph is a cumulative percentage graph. It illustrates how over 95% of all incidents occur when there are zero or one other incident underway.



Now let us see how simultaneous incidents affect the percentage of compliance with a 7-minute total reflex time (first apparatus to reach the scene). Notice, in general, response time

compliance drops with each additional simultaneous incident. Here the chart with three or four simultaneous incidents the graph becomes more volatile given the small number of incidents.



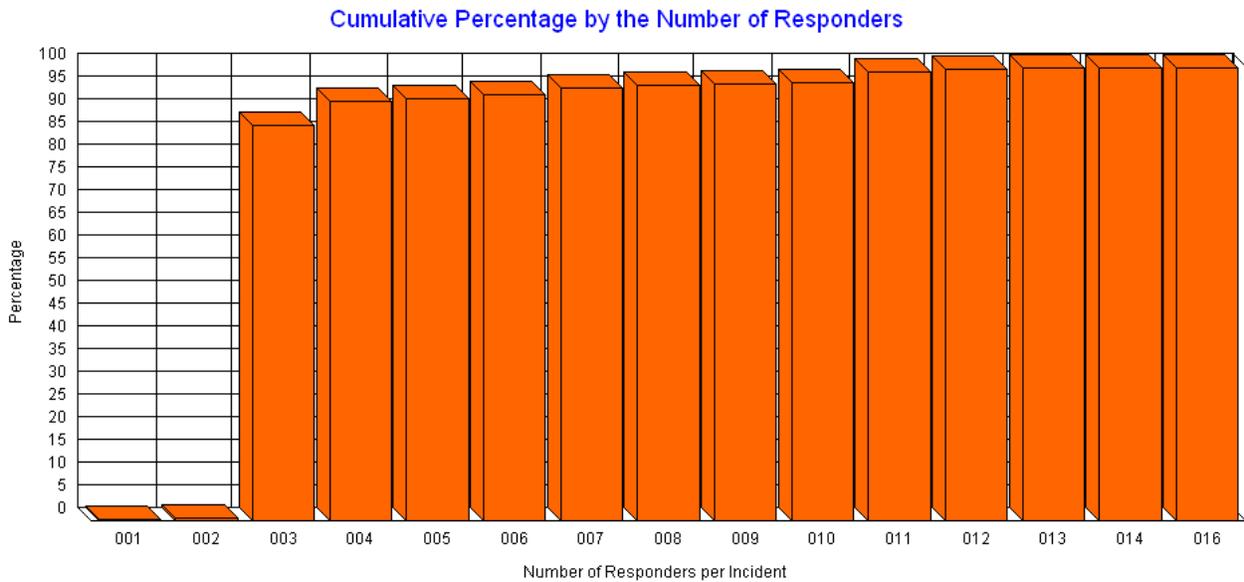
One factor increasing simultaneous incident activity is the duration of incidents. The longer an incident takes to resolve the more likely simultaneous incidents are to occur.

This numeric chart illustrates the top incident types in the 3-year dataset. Notice the average duration (in minutes) for EMS incident types is roughly similar to other incident types. Since EMS incidents are by far the most numerous type longer durations can drive simultaneous incident percentages higher. Eureka’s relatively low incidence of simultaneous incidents is linked to lower duration times EMS incidents.

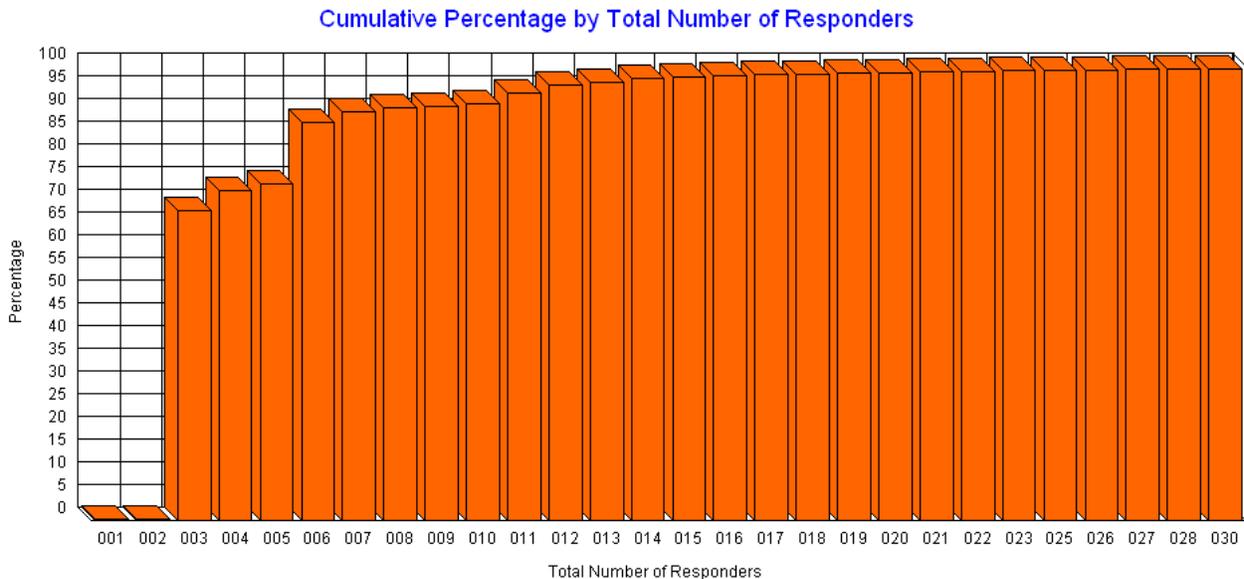
Description	Count	Average
321 EMS call, excluding vehicle accident with injury	7,019	22.05
311 Medical assist, assist EMS crew	1,153	21.80
611 Dispatched & canceled en route	903	15.34
700 False alarm or false call, other	503	25.47
600 Good intent call, other	417	23.50
111 Building fire	347	84.65
554 Assist invalid	341	20.00
322 Vehicle accident with injuries	331	31.64
510 Person in distress, other	314	23.49
561 Unauthorized burning	190	21.27

Let us see how simultaneous incidents affect staffing requirements. While the forgoing analysis has been for both Eureka and Humboldt, the following staff analysis is for Eureka only.

The following graph illustrates the number of incidents by the number of responders. Notice 95% of incidents can be handled with 7 or fewer on-duty responders.



Now let us shift so rather than measuring responder requirements by the incident we measure total responders required when incident overlap (simultaneous incidents) are considered.



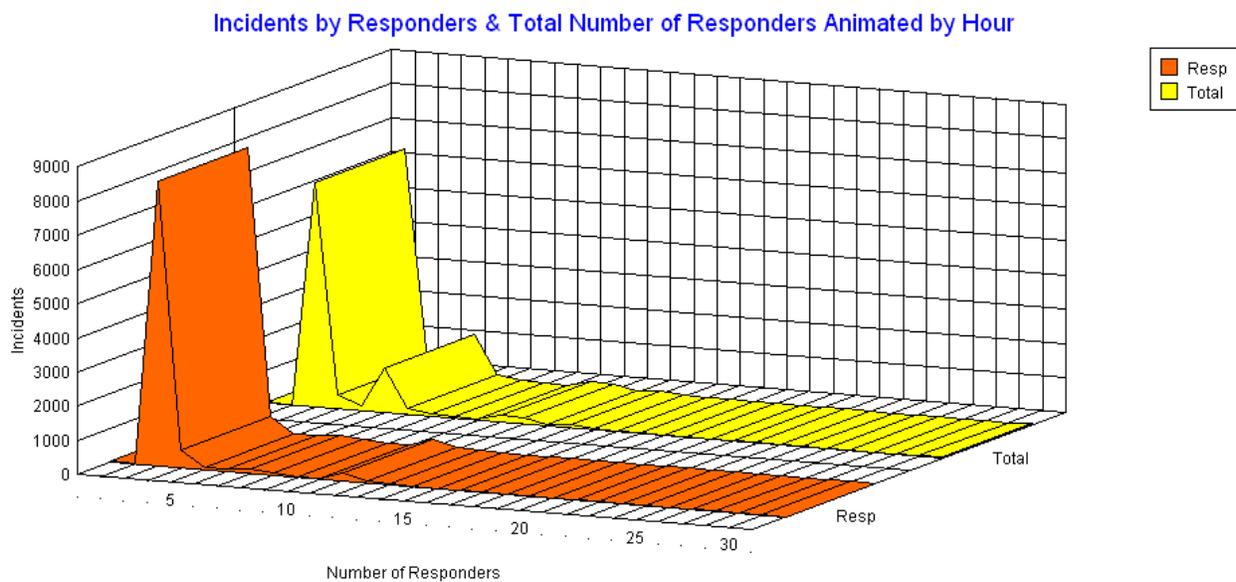
Here we see rather than 7-responders, the frequency of simultaneous incidents pushes the total number of responders required to cover 95% of incidents to between 11 and 12 responders. This is a relatively small increase and is directly traceable to lower EMS duration times.

These two charts can be combined. The area graph below compares the number of responders per incident to the total number of responders required for per incident. The orange area rises

based on the number of incidents handled by the number of responders on the X-Axis. Notice most incidents require substantially less than 10 responders. The yellow area rises based on the **total** number of responders required as each incident occurs.

To understand the graph let us use a simple example of two EMS incidents using three personnel each. On the orange graph there would be a sharp spike at the number 3 indicating two incidents requiring three personnel each. On the yellow graph there would be lower spikes at 3 and at 6 indicating the first incident was handled with 3 total responders, but when the second EMS incident overlapped the first requiring a total number of 6 responders.

While both the orange and yellow areas of the graphs cover exactly the same amount of area, the yellow graph shifts higher numbers of incidents to the right to indicate the increase in staffing demands caused by simultaneous incident activity.



Notice how low simultaneous incident activity causes the yellow “Total” area to roughly resemble the “Responders” area. A rise in the yellow graph at 6 responders indicates the presence of two 3-responder incidents. The affect of simultaneous activity is pretty low in the Eureka Fire Department. This dramatically holds down staffing requirements.

Interdepartmental Aid

During 3-years of available data aid types breakdown as follows:

Eureka	Count
1 Received	5
2 Automatic Aid Received	408
3 Given	22
4 Automatic Aid Given	317
5 Other Aid Given	19
N None	8,867

<u>Humboldt</u>	<u>Count</u>
1 Received	0
2 Automatic Aid Received	182
3 Given	16
4 Automatic Aid Given	901
5 Other Aid Given	14
N None	3,364

Data suggests the Eureka Fire Department, over the past 3-years, was slightly more likely to receive aid than give it. When interdepartmental aid is totaled it was received 53.56% of the time and given 46.44% of the time.

83.64% of the Humboldt Fire District’s aid is given, 16.36% is received.

Here is a summary of Aid Activity by fire department:

Department Aid Report for Eureka Fire Department

Total Incidents: 9,638

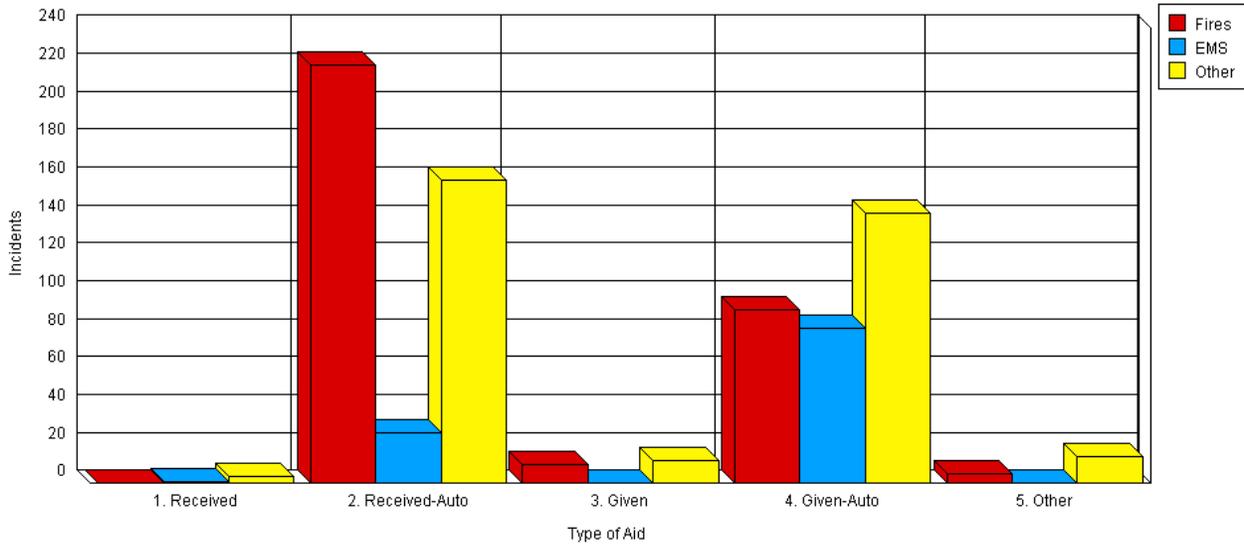
<u>Incident</u>	<u>Count</u>	<u>Percentage</u>
Incidents Involving Aid:	771	8.00%
Aid Incidents for Fires:	328	42.54%
Aid Incidents for EMS:	110	14.27%
Aid Incidents for Others:	333	43.19%
Incidents Involving Aid Received:	413	53.56%
Incidents Involving Requested Aid Received:	5	.65%
Incidents Involving Automatic Aid Received:	408	52.92%
Incidents Involving Aid Given:	358	46.44%
Incidents Involving Requested Aid Given:	22	2.85%
Incidents Involving Automatic Aid Given:	317	41.12%
Incidents Involving Other Types of Aid Given:	19	2.46%

Department Aid Report for Humboldt Fire District

Total Incidents: 4,477

<u>Incident</u>	<u>Count</u>	<u>Percentage</u>
Incidents Involving Aid:	1,113	24.86%
Aid Incidents for Fires:	273	24.53%
Aid Incidents for EMS:	384	34.50%
Aid Incidents for Others:	456	40.97%
Incidents Involving Aid Received:	182	16.36%
Incidents Involving Requested Aid Received:		.00%
Incidents Involving Automatic Aid Received:	182	16.35%
Incidents Involving Aid Given:	931	83.64%
Incidents Involving Requested Aid Given:	16	1.44%
Incidents Involving Automatic Aid Given:	901	80.95%
Incidents Involving Other Types of Aid Given:	14	1.26%

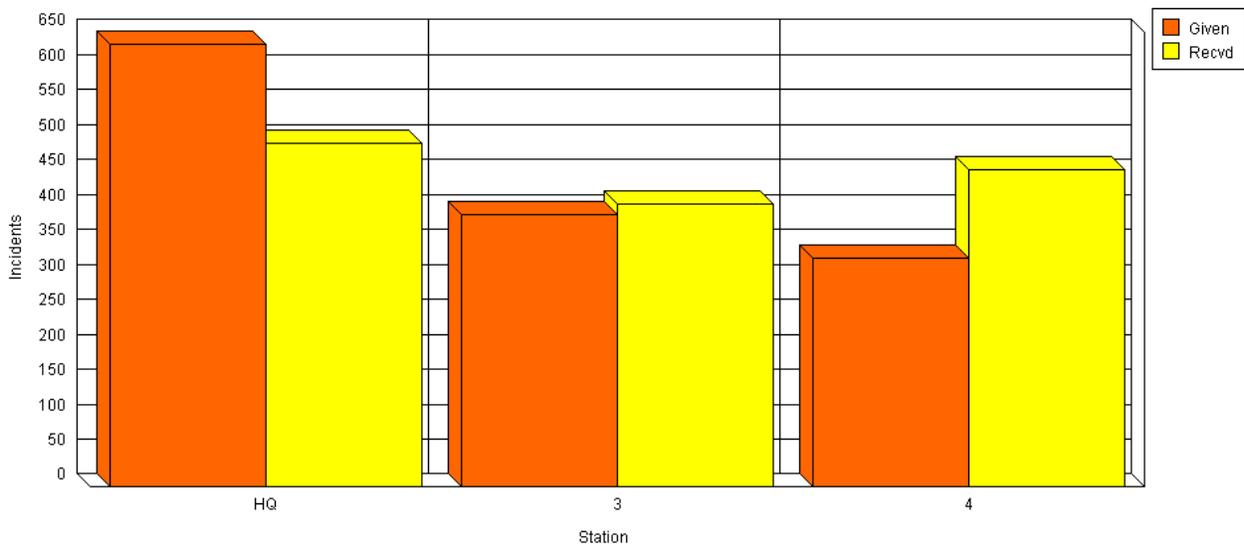
Aid Activity by Incident Type Animated by Hour for Eureka Fire Headquarters



Aid Given and Received Between Eureka Stations

The graph below illustrates aid distribution between fire stations in Eureka for the 3-year data period. If the orange and yellow bars associated with each fire station were of equal height, each of the fire stations would be sending apparatus into other districts and having apparatus responding into their district at an even rate. Unequal orange and yellow bars illustrate a lack of response “balance”. Here we see a very even distribution of workload with the higher aid given in HQ due to it housing the ladder company.

Station Aid Given & Received for Eureka Fire Department



Geographic Distributions

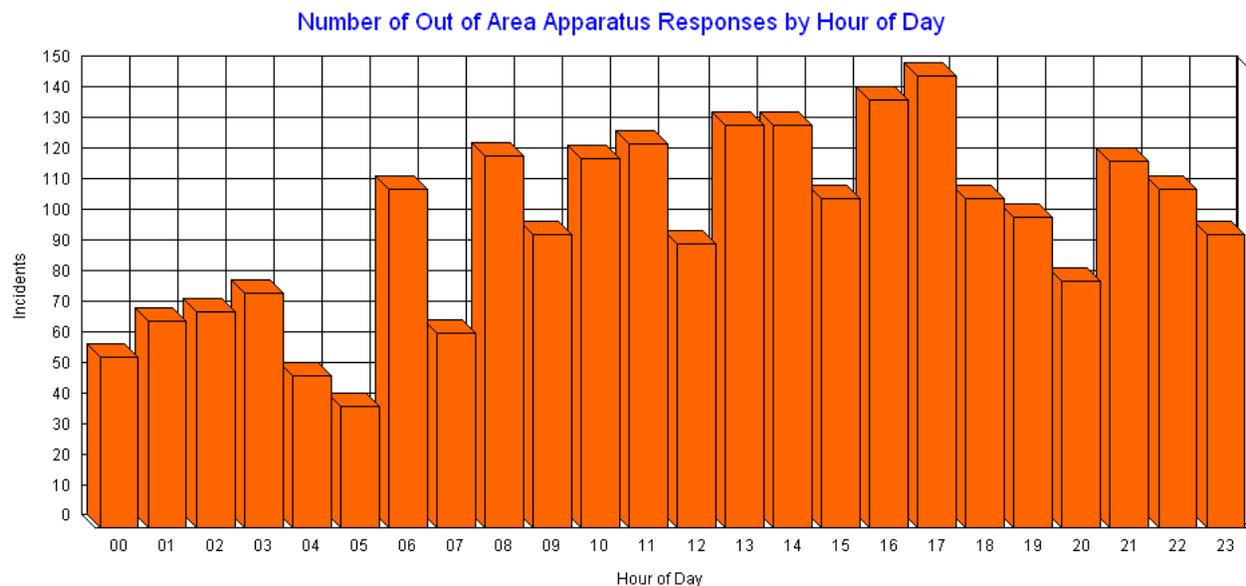
Here is the distribution of incidents by station for 2004-2005. The busiest stations are listed first.

3-Year Totals

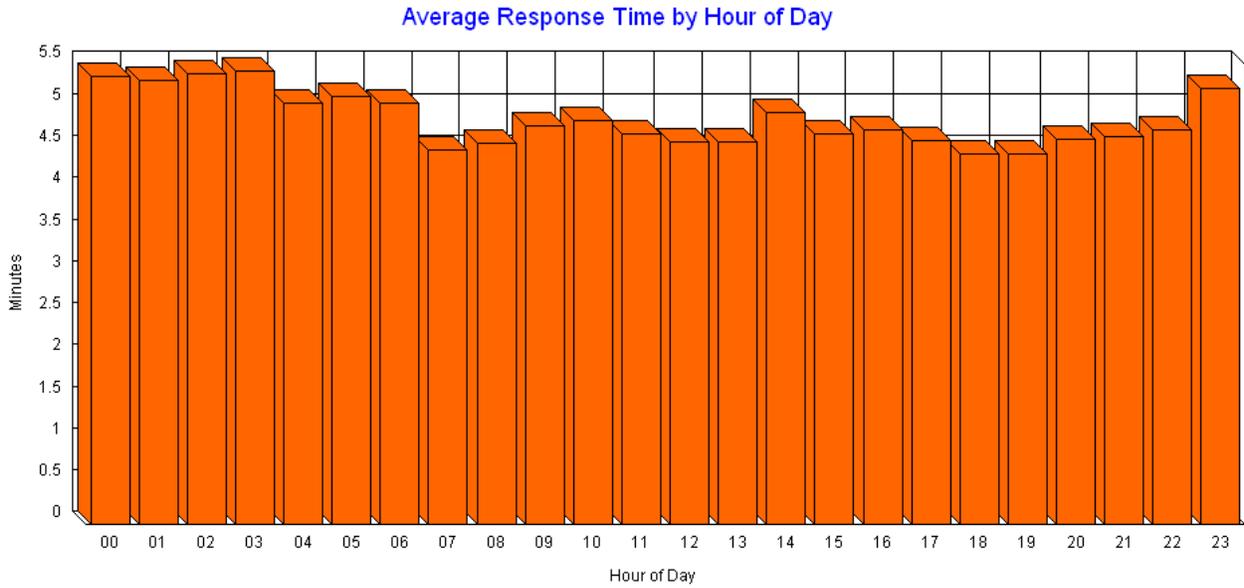
<u>Sta.</u>	<u>Resp.</u>	<u>% Fire</u>	<u>% EMS</u>	<u>% Other</u>	<u>Per Day</u>	<u>Median Response Time</u>
HQ	3,622	7.15%	59.17%	33.68%	3.30	4.42
3	3,361	5.95%	63.64%	30.41%	3.07	4.58
4	2,650	6.72%	62.98%	30.30%	2.42	4.37

Notice each station area enjoys a good median first unit arrival time. This indicates a fairly equal distribution of fire resources within the community.

We can test to see if simultaneous activity is correlated with responses outside of assigned station area. Like simultaneous responses, a substantial number of out of station area responses can tax fire department resources. Out of station area responses by hour of the day have a patterns similar to incident activity graphs. The same is true by day of week and by month. This indicates out of station activity is most closely correlated with overall incident activity.

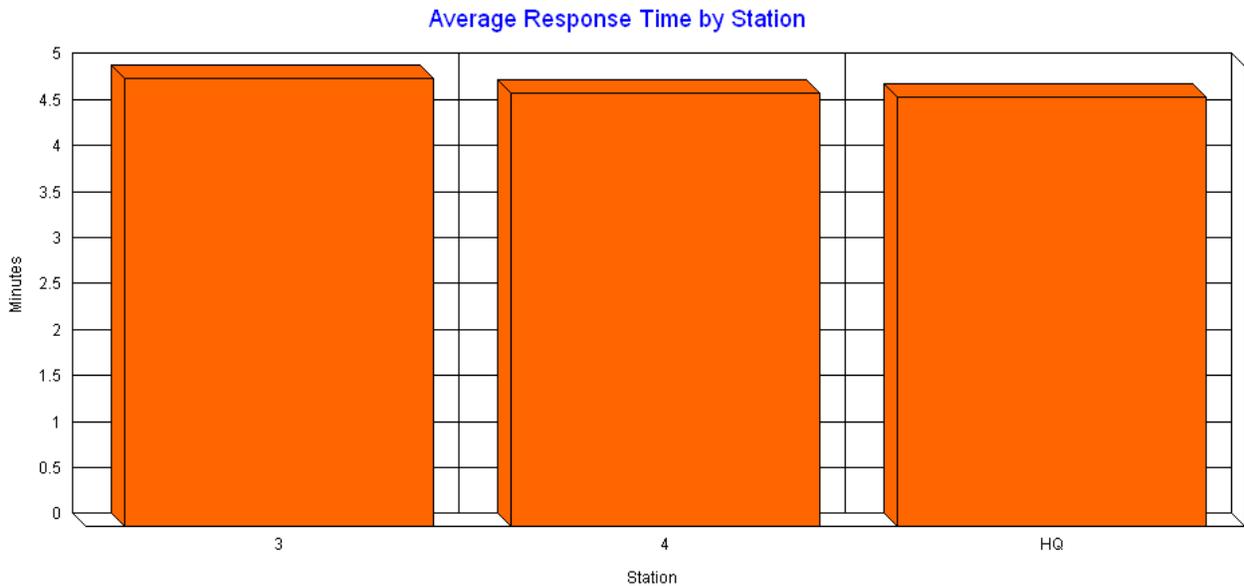


Another measurement of a fire department response system under stress is an increase in response times. Here is the breakdown of average response times by hour of the day. Only responses with a response time greater than zero and less than 12 minutes were included in this calculation.

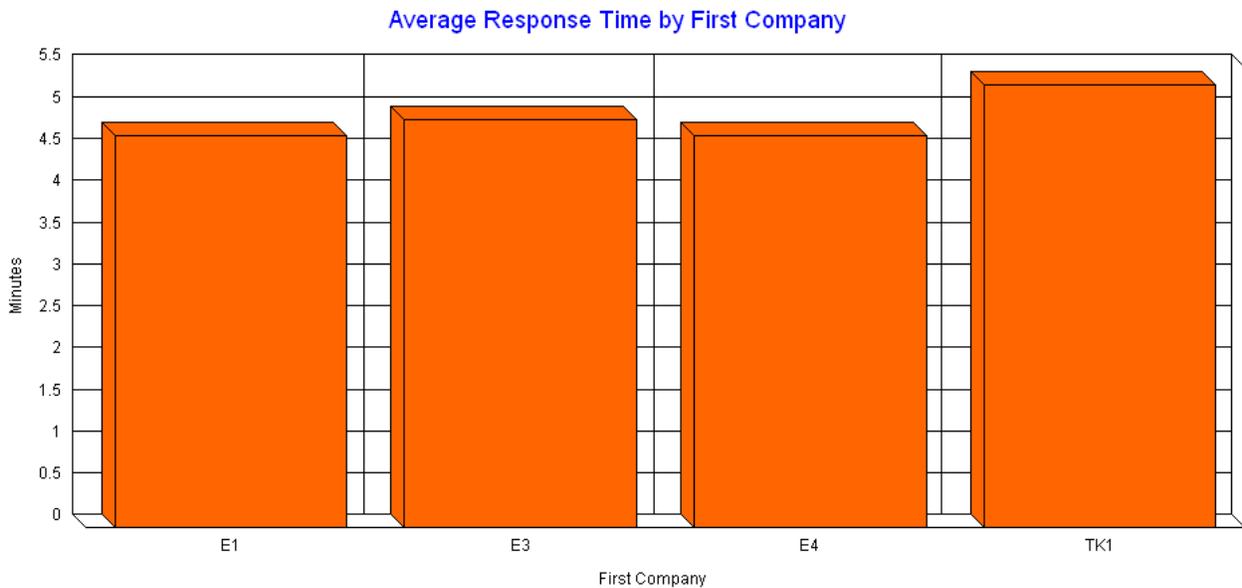


Notice Eureka does not experience longer average response times during high-traffic or commuting hours. Longer response times are more closely correlated with early morning hours during times of minimal response activity.

Here is a breakdown of average response time by station area. Again, response times appear fairly fast and consistent from station to station.



Here is a breakdown of average response time by first arriving company. The average is under 5-minutes for primary engines and under 5.5 minutes for the truck. Remember, these average response times are calculated for the first apparatus to reach the scene.



Response to Demands for Service

This section will focus on the most recent year of response activity, **Year 3** from 7/1/2005 to 6/30/2006.

While many fire departments track average response time it is not highly regarded as a performance measurement. One of the most commonly used criteria to measure response effectiveness is fractile analysis of response time.

A fractile analysis splits responses into time segments and provides a count and percentage for each progressive time segment.

Below is a fractile analysis of incidents in **Year 3**. This fractile is broken down into 15-second segments and progressively covers response times greater than 0 and less than 20 minutes. This measures the elapsed time from CAD call received until the first apparatus arrives on the scene.

There are 3,111 Incident records being analyzed.

- 1st Apparatus On Scene <= 00:00:00 .0% (0)
- 1st Apparatus On Scene <= 00:00:15 .2% (7)
- 1st Apparatus On Scene <= 00:00:30 .3% (8)
- 1st Apparatus On Scene <= 00:00:45 .3% (10)
- 1st Apparatus On Scene <= 00:01:00 .5% (16)
- 1st Apparatus On Scene <= 00:01:15 .6% (20)
- 1st Apparatus On Scene <= 00:01:30 .8% (26)
- 1st Apparatus On Scene <= 00:01:45 1.2% (36)
- 1st Apparatus On Scene <= 00:02:00 1.8% (57)
- 1st Apparatus On Scene <= 00:02:15 3.2% (101)

1st Apparatus On Scene <= 00:02:30 5.1% (160)
 1st Apparatus On Scene <= 00:02:45 7.6% (236)
 1st Apparatus On Scene <= 00:03:00 11.3% (352)
 1st Apparatus On Scene <= 00:03:15 15.9% (496)
 1st Apparatus On Scene <= 00:03:30 21.9% (682)
 1st Apparatus On Scene <= 00:03:45 28.7% (894)
 1st Apparatus On Scene <= 00:04:00 34.8% (1,083)
 1st Apparatus On Scene <= 00:04:15 41.5% (1,290)
 1st Apparatus On Scene <= 00:04:30 47.5% (1,478)
 1st Apparatus On Scene <= 00:04:45 53.5% (1,665)
 1st Apparatus On Scene <= 00:05:00 59.2% (1,842)
 1st Apparatus On Scene <= 00:05:15 64.0% (1,991)
 1st Apparatus On Scene <= 00:05:30 68.3% (2,124)
 1st Apparatus On Scene <= 00:05:45 72.0% (2,241)
 1st Apparatus On Scene <= 00:06:00 74.6% (2,320)
 1st Apparatus On Scene <= 00:06:15 77.3% (2,406)
 1st Apparatus On Scene <= 00:06:30 79.7% (2,478)
 1st Apparatus On Scene <= 00:06:45 81.9% (2,547)
1st Apparatus On Scene <= 00:07:00 83.6% (2,600)
 1st Apparatus On Scene <= 00:07:15 85.1% (2,646)
 1st Apparatus On Scene <= 00:07:30 86.5% (2,690)
 1st Apparatus On Scene <= 00:07:45 87.5% (2,722)
 1st Apparatus On Scene <= 00:08:00 88.8% (2,762)
1st Apparatus On Scene <= 00:08:15 89.7% (2,792)
 1st Apparatus On Scene <= 00:08:30 90.8% (2,824)
 1st Apparatus On Scene <= 00:08:45 91.8% (2,855)
 1st Apparatus On Scene <= 00:09:00 92.5% (2,879)
 1st Apparatus On Scene <= 00:09:15 93.2% (2,898)
 1st Apparatus On Scene <= 00:09:30 93.6% (2,912)
 1st Apparatus On Scene <= 00:09:45 94.1% (2,929)
 1st Apparatus On Scene <= 00:10:00 94.5% (2,941)
 1st Apparatus On Scene <= 00:10:15 95.0% (2,955)
 1st Apparatus On Scene <= 00:10:30 95.4% (2,969)
 1st Apparatus On Scene <= 00:10:45 95.8% (2,981)
 1st Apparatus On Scene <= 00:11:00 96.2% (2,992)
 1st Apparatus On Scene <= 00:11:15 96.3% (2,996)
 1st Apparatus On Scene <= 00:11:30 96.5% (3,002)
 1st Apparatus On Scene <= 00:11:45 96.6% (3,006)
 1st Apparatus On Scene <= 00:12:00 96.8% (3,010)
 1st Apparatus On Scene <= 00:12:15 96.9% (3,014)
 1st Apparatus On Scene <= 00:12:30 97.2% (3,023)
 1st Apparatus On Scene <= 00:12:45 97.3% (3,028)
 1st Apparatus On Scene <= 00:13:00 97.5% (3,034)
 1st Apparatus On Scene <= 00:13:15 97.6% (3,036)
 1st Apparatus On Scene <= 00:13:30 97.7% (3,040)
 1st Apparatus On Scene <= 00:13:45 97.9% (3,045)

1st Apparatus On Scene <= 00:14:00 98.0% (3,048)
 1st Apparatus On Scene <= 00:14:15 98.1% (3,051)
 1st Apparatus On Scene <= 00:14:30 98.1% (3,052)
 1st Apparatus On Scene <= 00:14:45 98.3% (3,059)
 1st Apparatus On Scene <= 00:15:00 98.5% (3,063)
 1st Apparatus On Scene <= 00:15:15 98.6% (3,066)
 1st Apparatus On Scene <= 00:15:30 98.6% (3,068)
 1st Apparatus On Scene <= 00:15:45 98.6% (3,069)
 1st Apparatus On Scene <= 00:16:00 98.7% (3,071)
 1st Apparatus On Scene <= 00:16:15 98.7% (3,072)
 1st Apparatus On Scene <= 00:16:30 98.8% (3,075)
 1st Apparatus On Scene <= 00:16:45 98.9% (3,077)
 1st Apparatus On Scene <= 00:17:00 99.0% (3,081)
 1st Apparatus On Scene <= 00:17:15 99.2% (3,086)
 1st Apparatus On Scene <= 00:17:30 99.3% (3,088)
 1st Apparatus On Scene <= 00:17:45 99.4% (3,092)
 1st Apparatus On Scene <= 00:18:00 99.5% (3,095)
 1st Apparatus On Scene <= 00:18:15 99.5% (3,097)
 1st Apparatus On Scene <= 00:18:30 99.6% (3,100)
 1st Apparatus On Scene <= 00:18:45 99.8% (3,104)
 1st Apparatus On Scene <= 00:19:00 99.8% (3,106)
 1st Apparatus On Scene <= 00:19:15 99.9% (3,107)
 1st Apparatus On Scene <= 00:19:30 99.9% (3,109)
 1st Apparatus On Scene <= 00:19:45 99.9% (3,109)
 1st Apparatus On Scene <= 00:20:00 100.0% (3,111)

Median 1st Apparatus On Scene 00:04:37 (4.62 minutes)
 Average 1st Apparatus On Scene 00:05:15 (5.25 minutes)

If incidents are reduced to **fire & EMS incidents**, the following fractile results. Notice Eureka's response effectiveness increases dramatically when responding to fire and EMS incidents, more likely to fall into the category of emergency responses. For all incidents the 90% first apparatus arrival is not reached until 08:15 (8 minutes, 15 seconds). However, when responding to fire and EMS incidents the 90% threshold is reached in just 06:30.

There are 2,111 Incident records being analyzed.

1st Apparatus On Scene <= 00:00:00 .0% (0)
 1st Apparatus On Scene <= 00:00:15 .2% (4)
 1st Apparatus On Scene <= 00:00:30 .2% (5)
 1st Apparatus On Scene <= 00:00:45 .3% (6)
 1st Apparatus On Scene <= 00:01:00 .5% (11)
 1st Apparatus On Scene <= 00:01:15 .7% (14)
 1st Apparatus On Scene <= 00:01:30 .9% (18)
 1st Apparatus On Scene <= 00:01:45 1.3% (27)
 1st Apparatus On Scene <= 00:02:00 2.1% (45)
 1st Apparatus On Scene <= 00:02:15 3.9% (82)
 1st Apparatus On Scene <= 00:02:30 6.3% (133)

1st Apparatus On Scene <= 00:02:45 9.4% (198)
 1st Apparatus On Scene <= 00:03:00 14.1% (298)
 1st Apparatus On Scene <= 00:03:15 19.9% (421)
 1st Apparatus On Scene <= 00:03:30 27.8% (586)
 1st Apparatus On Scene <= 00:03:45 36.3% (766)
 1st Apparatus On Scene <= 00:04:00 43.8% (924)
 1st Apparatus On Scene <= 00:04:15 51.9% (1,096)
 1st Apparatus On Scene <= 00:04:30 58.8% (1,241)
 1st Apparatus On Scene <= 00:04:45 65.4% (1,381)
 1st Apparatus On Scene <= 00:05:00 71.5% (1,510)
 1st Apparatus On Scene <= 00:05:15 76.6% (1,617)
 1st Apparatus On Scene <= 00:05:30 80.9% (1,707)
 1st Apparatus On Scene <= 00:05:45 84.2% (1,778)
 1st Apparatus On Scene <= 00:06:00 86.3% (1,822)
 1st Apparatus On Scene <= 00:06:15 87.9% (1,856)
1st Apparatus On Scene <= 00:06:30 89.7% (1,894)
 1st Apparatus On Scene <= 00:06:45 90.9% (1,919)
 1st Apparatus On Scene <= 00:07:00 91.9% (1,939)
 1st Apparatus On Scene <= 00:07:15 92.5% (1,953)
 1st Apparatus On Scene <= 00:07:30 93.1% (1,966)
 1st Apparatus On Scene <= 00:07:45 93.7% (1,979)
 1st Apparatus On Scene <= 00:08:00 94.4% (1,992)
 1st Apparatus On Scene <= 00:08:15 94.9% (2,003)
 1st Apparatus On Scene <= 00:08:30 95.6% (2,018)
 1st Apparatus On Scene <= 00:08:45 96.1% (2,028)
 1st Apparatus On Scene <= 00:09:00 96.4% (2,034)
 1st Apparatus On Scene <= 00:09:15 96.6% (2,039)
 1st Apparatus On Scene <= 00:09:30 96.8% (2,044)
 1st Apparatus On Scene <= 00:09:45 97.2% (2,052)
 1st Apparatus On Scene <= 00:10:00 97.5% (2,058)
 1st Apparatus On Scene <= 00:10:15 97.7% (2,062)
 1st Apparatus On Scene <= 00:10:30 98.0% (2,068)
 1st Apparatus On Scene <= 00:10:45 98.2% (2,073)
 1st Apparatus On Scene <= 00:11:00 98.4% (2,077)
 1st Apparatus On Scene <= 00:11:15 98.4% (2,078)
 1st Apparatus On Scene <= 00:11:30 98.5% (2,080)
 1st Apparatus On Scene <= 00:11:45 98.5% (2,080)
 1st Apparatus On Scene <= 00:12:00 98.5% (2,080)
 1st Apparatus On Scene <= 00:12:15 98.5% (2,080)
 1st Apparatus On Scene <= 00:12:30 98.6% (2,081)
 1st Apparatus On Scene <= 00:12:45 98.6% (2,082)
 1st Apparatus On Scene <= 00:13:00 98.8% (2,085)
 1st Apparatus On Scene <= 00:13:15 98.8% (2,085)
 1st Apparatus On Scene <= 00:13:30 98.8% (2,086)
 1st Apparatus On Scene <= 00:13:45 98.9% (2,087)
 1st Apparatus On Scene <= 00:14:00 98.9% (2,088)

1st Apparatus On Scene <= 00:14:15 99.0% (2,090)
 1st Apparatus On Scene <= 00:14:30 99.0% (2,090)
 1st Apparatus On Scene <= 00:14:45 99.1% (2,092)
 1st Apparatus On Scene <= 00:15:00 99.1% (2,093)
 1st Apparatus On Scene <= 00:15:15 99.1% (2,093)
 1st Apparatus On Scene <= 00:15:30 99.2% (2,094)
 1st Apparatus On Scene <= 00:15:45 99.2% (2,095)
 1st Apparatus On Scene <= 00:16:00 99.3% (2,097)
 1st Apparatus On Scene <= 00:16:15 99.3% (2,097)
 1st Apparatus On Scene <= 00:16:30 99.4% (2,098)
 1st Apparatus On Scene <= 00:16:45 99.4% (2,098)
 1st Apparatus On Scene <= 00:17:00 99.4% (2,099)
 1st Apparatus On Scene <= 00:17:15 99.4% (2,099)
 1st Apparatus On Scene <= 00:17:30 99.5% (2,100)
 1st Apparatus On Scene <= 00:17:45 99.5% (2,101)
 1st Apparatus On Scene <= 00:18:00 99.6% (2,103)
 1st Apparatus On Scene <= 00:18:15 99.6% (2,103)
 1st Apparatus On Scene <= 00:18:30 99.8% (2,106)
 1st Apparatus On Scene <= 00:18:45 99.9% (2,109)
 1st Apparatus On Scene <= 00:19:00 100.0% (2,110)

Median 1st Apparatus On Scene 00:04:12 (4.2 minutes)
 Average 1st Apparatus On Scene 00:04:36 (4.60 minutes)

Here is a breakdown when incidents are narrowed down to **structure fires**.

There are 55 Incident records being analyzed.

1st Apparatus On Scene <= 00:00:00 .0% (0)
 1st Apparatus On Scene <= 00:00:15 .0% (0)
 1st Apparatus On Scene <= 00:00:30 .0% (0)
 1st Apparatus On Scene <= 00:00:45 .0% (0)
 1st Apparatus On Scene <= 00:01:00 1.8% (1)
 1st Apparatus On Scene <= 00:01:15 1.8% (1)
 1st Apparatus On Scene <= 00:01:30 3.6% (2)
 1st Apparatus On Scene <= 00:01:45 3.6% (2)
 1st Apparatus On Scene <= 00:02:00 3.6% (2)
 1st Apparatus On Scene <= 00:02:15 5.5% (3)
 1st Apparatus On Scene <= 00:02:30 5.5% (3)
 1st Apparatus On Scene <= 00:02:45 7.3% (4)
 1st Apparatus On Scene <= 00:03:00 14.5% (8)
 1st Apparatus On Scene <= 00:03:15 16.4% (9)
 1st Apparatus On Scene <= 00:03:30 18.2% (10)
 1st Apparatus On Scene <= 00:03:45 27.3% (15)
 1st Apparatus On Scene <= 00:04:00 36.4% (20)
 1st Apparatus On Scene <= 00:04:15 47.3% (26)
 1st Apparatus On Scene <= 00:04:30 50.9% (28)

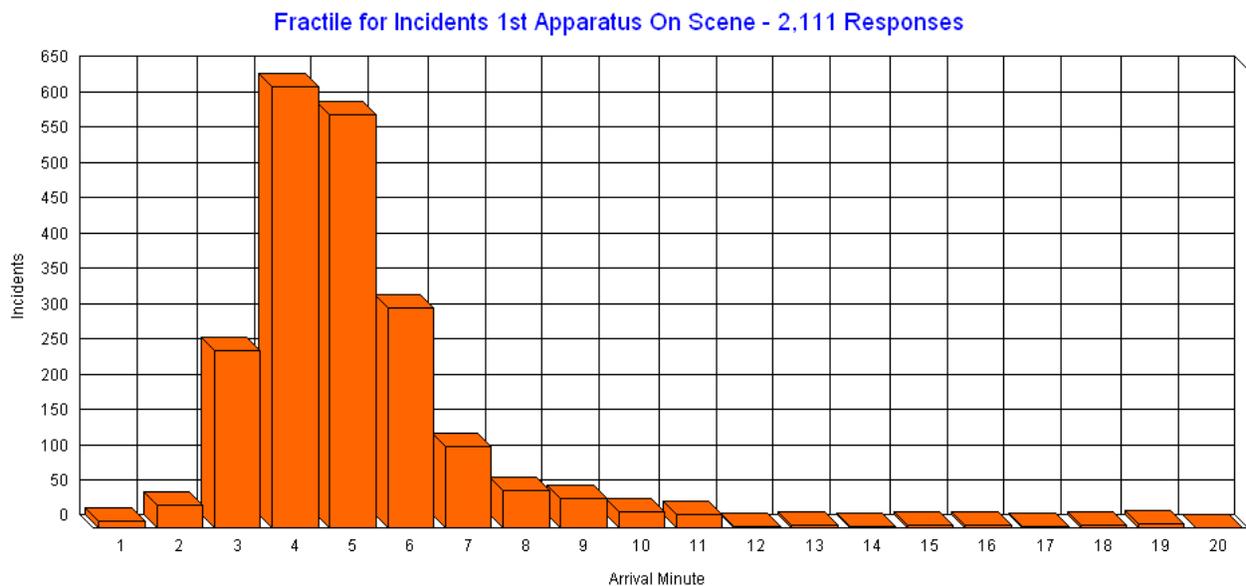
1st Apparatus On Scene <= 00:04:45 54.5% (30)
 1st Apparatus On Scene <= 00:05:00 61.8% (34)
 1st Apparatus On Scene <= 00:05:15 69.1% (38)
 1st Apparatus On Scene <= 00:05:30 74.5% (41)
 1st Apparatus On Scene <= 00:05:45 81.8% (45)
 1st Apparatus On Scene <= 00:06:00 83.6% (46)
 1st Apparatus On Scene <= 00:06:15 83.6% (46)
 1st Apparatus On Scene <= 00:06:30 83.6% (46)
 1st Apparatus On Scene <= 00:06:45 85.5% (47)
1st Apparatus On Scene <= 00:07:00 87.3% (48)
 1st Apparatus On Scene <= 00:07:15 87.3% (48)
 1st Apparatus On Scene <= 00:07:30 87.3% (48)
 1st Apparatus On Scene <= 00:07:45 87.3% (48)
 1st Apparatus On Scene <= 00:08:00 87.3% (48)
 1st Apparatus On Scene <= 00:08:15 87.3% (48)
 1st Apparatus On Scene <= 00:08:30 87.3% (48)
 1st Apparatus On Scene <= 00:08:45 87.3% (48)
 1st Apparatus On Scene <= 00:09:00 87.3% (48)
 1st Apparatus On Scene <= 00:09:15 87.3% (48)
 1st Apparatus On Scene <= 00:09:30 89.1% (49)
1st Apparatus On Scene <= 00:09:45 89.1% (49)
 1st Apparatus On Scene <= 00:10:00 90.9% (50)
 1st Apparatus On Scene <= 00:10:15 90.9% (50)
 1st Apparatus On Scene <= 00:10:30 90.9% (50)
 1st Apparatus On Scene <= 00:10:45 90.9% (50)
 1st Apparatus On Scene <= 00:11:00 90.9% (50)
 1st Apparatus On Scene <= 00:11:15 90.9% (50)
 1st Apparatus On Scene <= 00:11:30 90.9% (50)
 1st Apparatus On Scene <= 00:11:45 90.9% (50)
 1st Apparatus On Scene <= 00:12:00 90.9% (50)
 1st Apparatus On Scene <= 00:12:15 90.9% (50)
 1st Apparatus On Scene <= 00:12:30 90.9% (50)
 1st Apparatus On Scene <= 00:12:45 90.9% (50)
 1st Apparatus On Scene <= 00:13:00 92.7% (51)
 1st Apparatus On Scene <= 00:13:15 92.7% (51)
 1st Apparatus On Scene <= 00:13:30 92.7% (51)
 1st Apparatus On Scene <= 00:13:45 94.5% (52)
 1st Apparatus On Scene <= 00:14:00 94.5% (52)
 1st Apparatus On Scene <= 00:14:15 94.5% (52)
 1st Apparatus On Scene <= 00:14:30 94.5% (52)
 1st Apparatus On Scene <= 00:14:45 94.5% (52)
 1st Apparatus On Scene <= 00:15:00 94.5% (52)
 1st Apparatus On Scene <= 00:15:15 94.5% (52)
 1st Apparatus On Scene <= 00:15:30 94.5% (52)
 1st Apparatus On Scene <= 00:15:45 94.5% (52)
 1st Apparatus On Scene <= 00:16:00 94.5% (52)

1st Apparatus On Scene <= 00:16:15 94.5% (52)
 1st Apparatus On Scene <= 00:16:30 94.5% (52)
 1st Apparatus On Scene <= 00:16:45 94.5% (52)
 1st Apparatus On Scene <= 00:17:00 94.5% (52)
 1st Apparatus On Scene <= 00:17:15 94.5% (52)
 1st Apparatus On Scene <= 00:17:30 94.5% (52)
 1st Apparatus On Scene <= 00:17:45 96.4% (53)
 1st Apparatus On Scene <= 00:18:00 98.2% (54)
 1st Apparatus On Scene <= 00:18:15 98.2% (54)
 1st Apparatus On Scene <= 00:18:30 98.2% (54)
 1st Apparatus On Scene <= 00:18:45 100.0% (55)

Median 1st Apparatus On Scene 00:04:27 (4.45 minutes)
 Average 1st Apparatus On Scene 00:05:33 (5.54 minutes)

While most fire and EMS responses are handled with a single local apparatus, structure fires draw resources from more distant locations. The slower response time figures may be due to a disproportionate number of responses to neighboring fire jurisdictions.

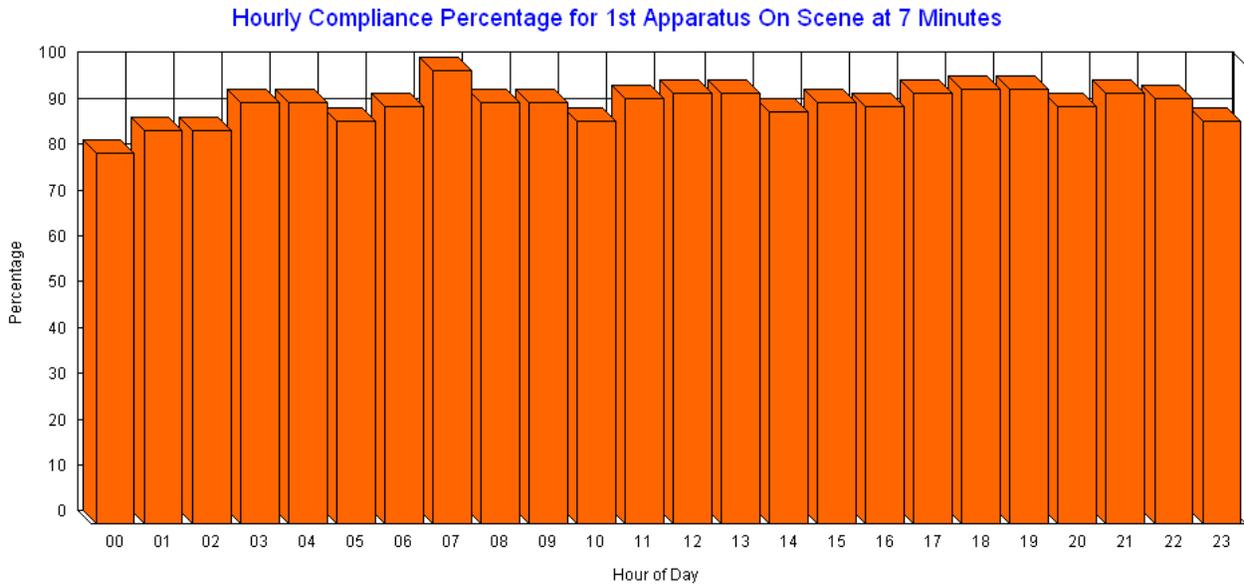
Fractile response times can also be viewed graphically. Here is a graph illustrating the number of incidents by response time minute for **fire and EMS incidents**. Incidents with a zero response time were eliminated from the graph.



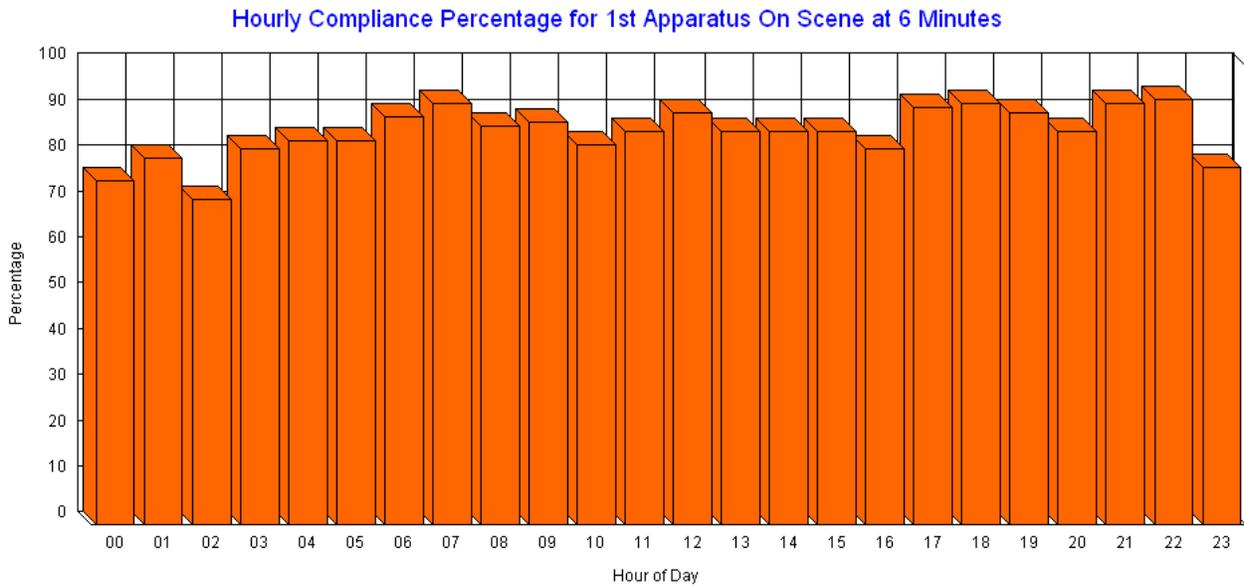
Notice the minute with the most first arriving apparatus is minute 4. This is unusually good performance. It shows a large number of responses are located close to fire stations. There are, however, responses that require longer travel to more distant locations.

We can look at this same set of response statistics in a different way. The concept here is called “Compliance”. Compliance measures the percentage of time a response time goal (in this case of 7 or 6 minutes) is met.

Here is a graph illustrating the percentage of compliance (0 – 100%) with a 7-minute response time standard (beginning with CAD call receipt) by hour of the day. Notice incidents that occur early in the morning are just slightly less likely to meet a 7-minute response time objective.



Here is the same graph this time testing compliance with a standard of 6-minutes.

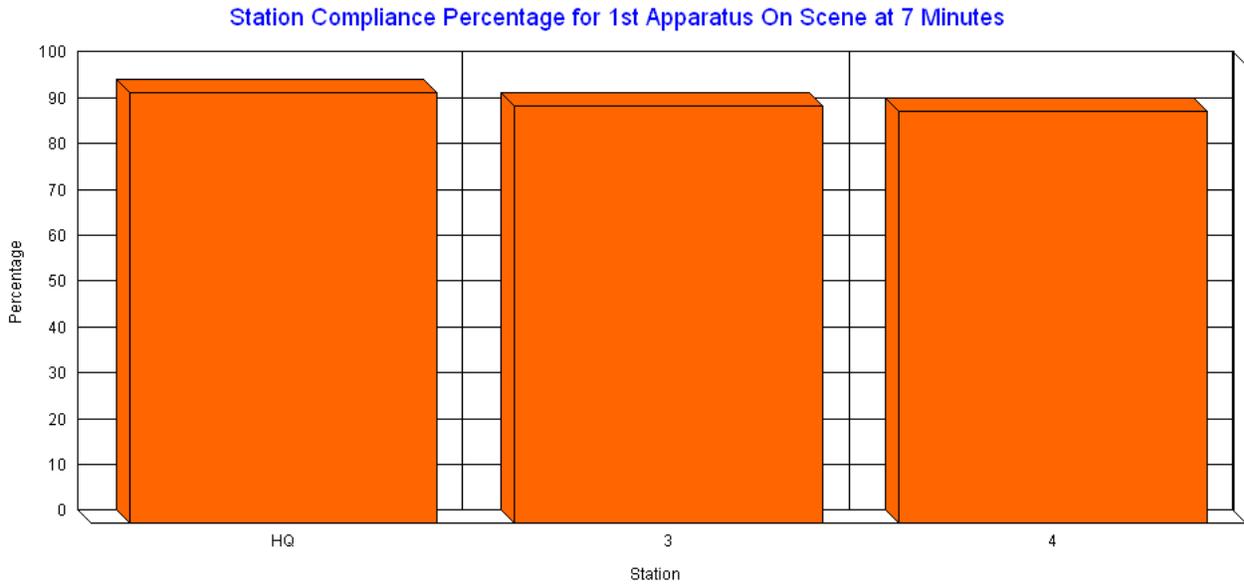


Notice while the compliance percentage is just a little less at 6-minutes, this is nevertheless a strong showing for first company arrival.

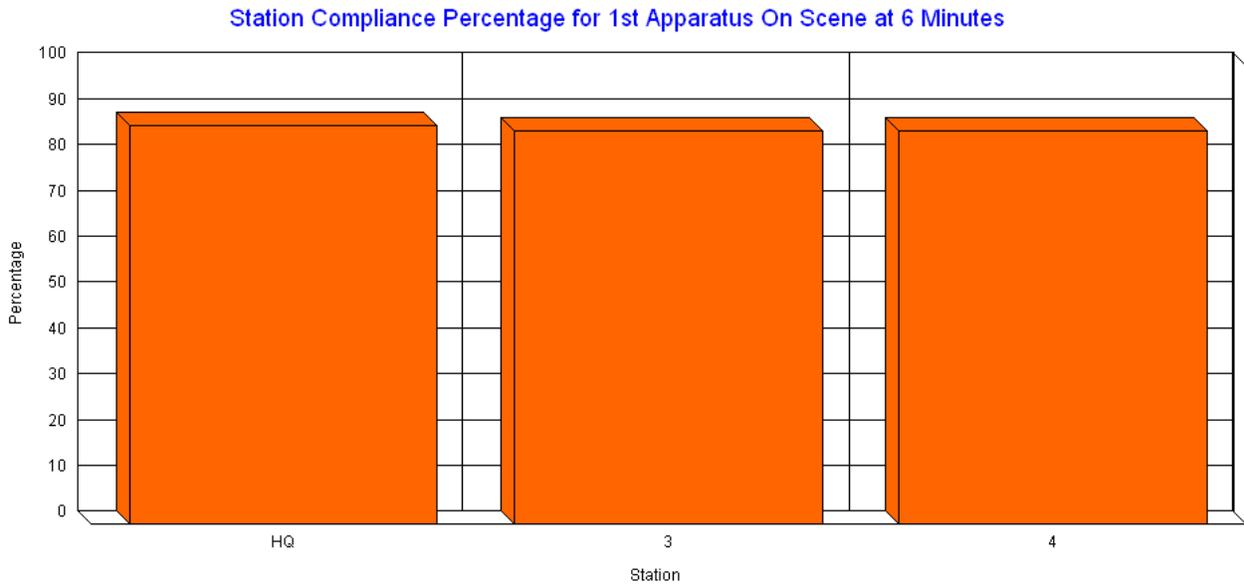
Station Response

This graph compares the overall 7 and 6-minute response time compliance percentages for the first apparatus to arrive on the scene by station in **Year 3**.

Notice at 7-minutes all stations are in first company compliance over 90% of the time. The HQ station shows the best performance solidly over 90%.



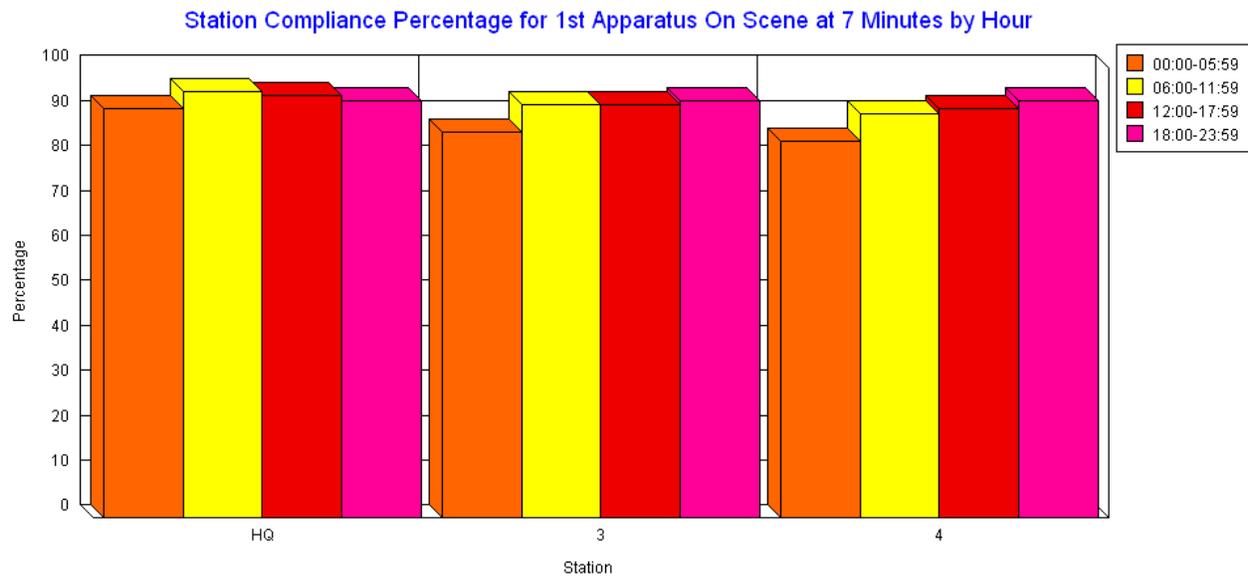
Here is a breakdown of Station response time compliance at 6-minutes from CAD call receipt.



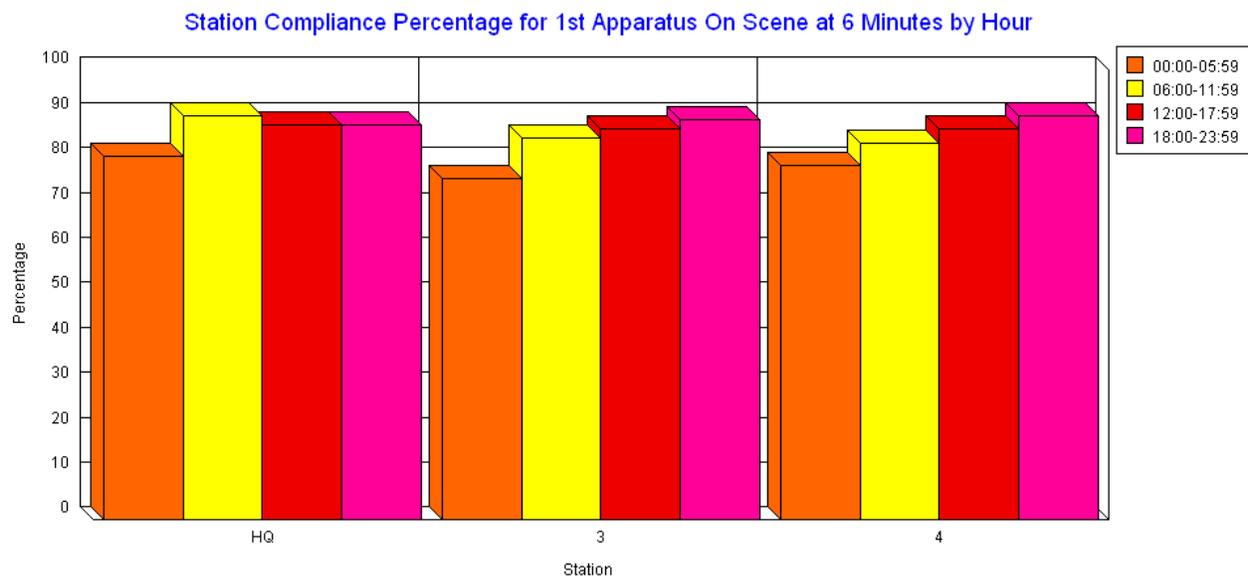
All three stations show good and consistent performance at this demanding 6-minute goal.

If we breakdown the compliance percentage by hour of the day we see only slightly lower compliance percentage in the early morning hours.

Here is a graph illustrating compliance with a goal of 7-minutes from CAD call receipt to arrival of the first apparatus on the scene.

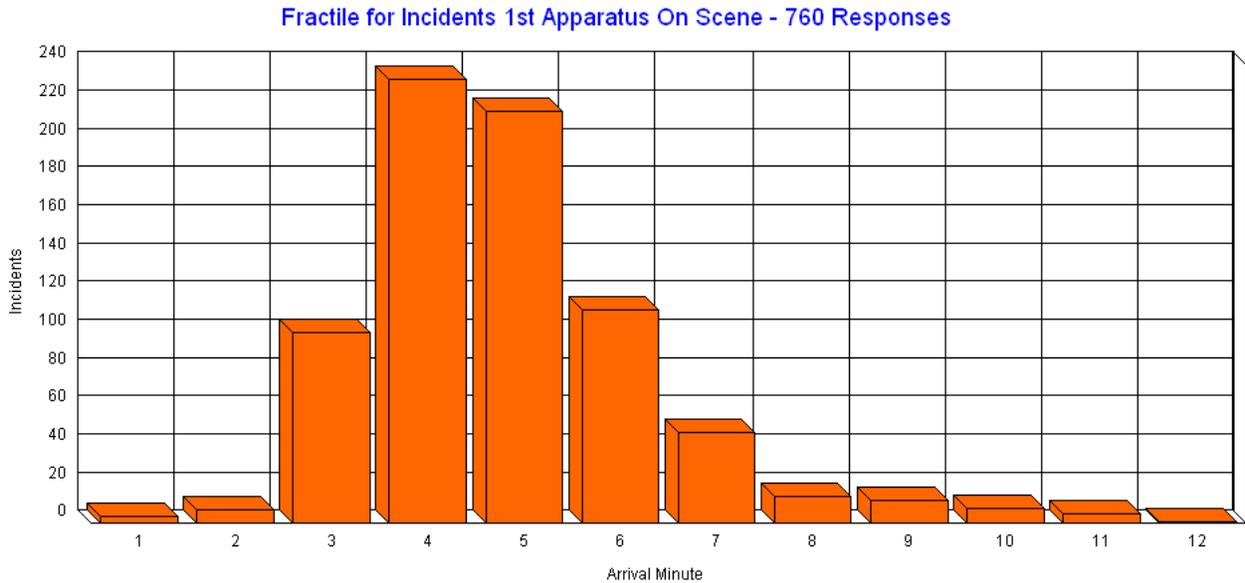


Here is the same graph using a 6-minute standard.



Here are the fractile response time breakdowns by Eureka fire station in **Year 3**. Only **fire and EMS** incidents with response times greater than zero and less than 12 are represented. This set of graphs illustrates fast response time performance in each of Eureka’s three station areas.

Station HQ



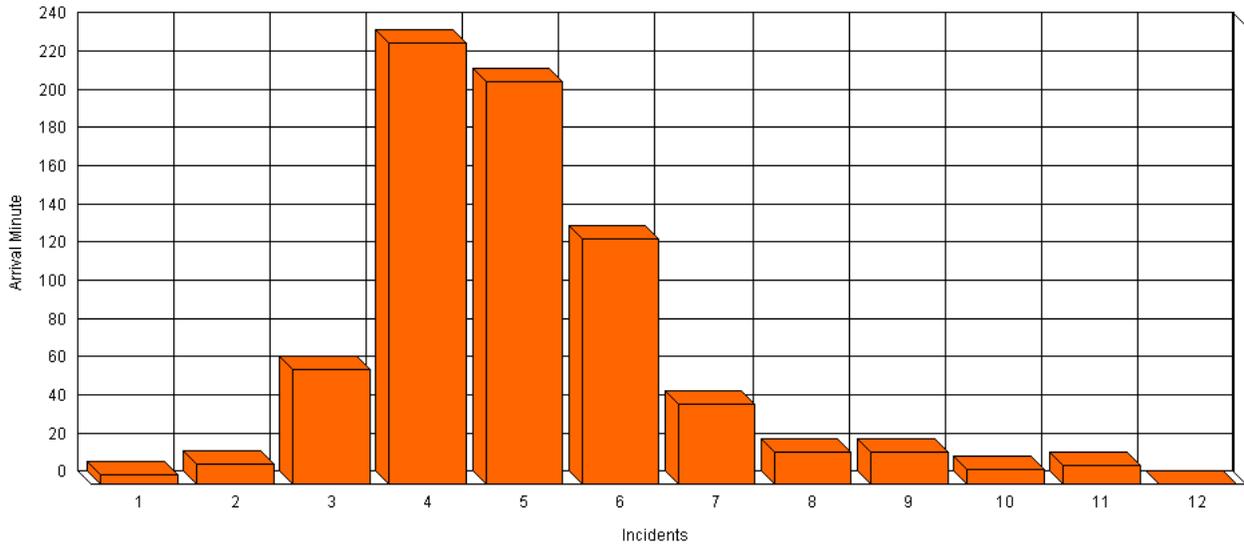
There are 760 Incident records being analyzed.

1st Apparatus On Scene <= 00:00:00 .0% (0)
1st Apparatus On Scene <= 00:01:00 .5% (4)
1st Apparatus On Scene <= 00:02:00 1.4% (11)
1st Apparatus On Scene <= 00:03:00 14.6% (111)
1st Apparatus On Scene <= 00:04:00 45.3% (344)
1st Apparatus On Scene <= 00:05:00 73.7% (560)
1st Apparatus On Scene <= 00:06:00 88.4% (672)
1st Apparatus On Scene <= 00:07:00 94.7% (720)
1st Apparatus On Scene <= 00:08:00 96.6% (734)
1st Apparatus On Scene <= 00:09:00 98.2% (746)
1st Apparatus On Scene <= 00:10:00 99.2% (754)
1st Apparatus On Scene <= 00:11:00 99.9% (759)
1st Apparatus On Scene <= 00:12:00 100.0% (760)

Median 1st Apparatus On Scene 00:04:08 (4.13 minutes)
Average 1st Apparatus On Scene 00:04:22 (4.36 minutes)

Station #3

Fractile for Incidents 1st Apparatus On Scene - 741 Responses

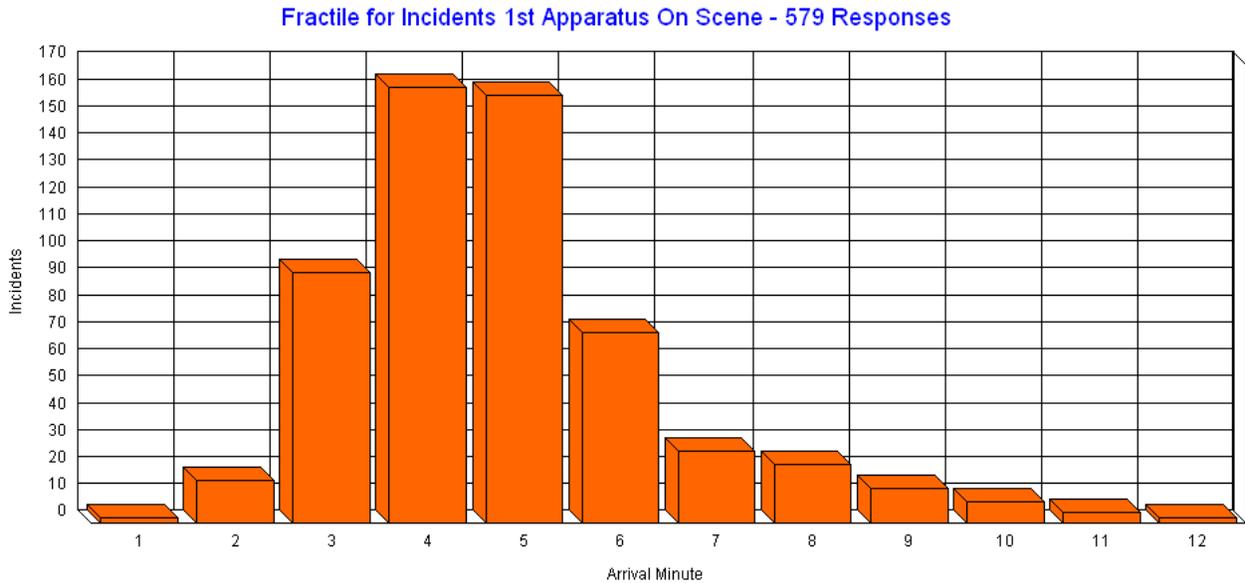


There are 741 Incident records being analyzed.

- 1st Apparatus On Scene <= 00:00:00 .0% (0)
- 1st Apparatus On Scene <= 00:01:00 .7% (5)
- 1st Apparatus On Scene <= 00:02:00 2.2% (16)
- 1st Apparatus On Scene <= 00:03:00 10.3% (76)
- 1st Apparatus On Scene <= 00:04:00 41.4% (307)
- 1st Apparatus On Scene <= 00:05:00 69.9% (518)
- 1st Apparatus On Scene <= 00:06:00 87.3% (647)
- 1st Apparatus On Scene <= 00:07:00 93.0% (689)
- 1st Apparatus On Scene <= 00:08:00 95.3% (706)
- 1st Apparatus On Scene <= 00:09:00 97.6% (723)
- 1st Apparatus On Scene <= 00:10:00 98.7% (731)
- 1st Apparatus On Scene <= 00:11:00 100.0% (741)
- 1st Apparatus On Scene <= 00:12:00 100.0% (741)

Median 1st Apparatus On Scene 00:04:16 (4.27 minutes)
Average 1st Apparatus On Scene 00:04:33 (4.55 minutes)

Station #4



There are 579 Incident records being analyzed.

1st Apparatus On Scene <= 00:00:00 .0% (0)
1st Apparatus On Scene <= 00:01:00 .3% (2)
1st Apparatus On Scene <= 00:02:00 3.1% (18)
1st Apparatus On Scene <= 00:03:00 19.2% (111)
1st Apparatus On Scene <= 00:04:00 47.2% (273)
1st Apparatus On Scene <= 00:05:00 74.6% (432)
1st Apparatus On Scene <= 00:06:00 86.9% (503)
1st Apparatus On Scene <= 00:07:00 91.5% (530)
1st Apparatus On Scene <= 00:08:00 95.3% (552)
1st Apparatus On Scene <= 00:09:00 97.6% (565)
1st Apparatus On Scene <= 00:10:00 99.0% (573)
1st Apparatus On Scene <= 00:11:00 99.7% (577)
1st Apparatus On Scene <= 00:12:00 100.0% (579)

Median 1st Apparatus On Scene 00:04:08 (4.13 minutes)
Average 1st Apparatus On Scene 00:04:23 (4.37 minutes)

Engine / Station Area Response Matrix

This matrix illustrates the responses of Eureka engine companies in **Year 3**. As expected engine companies make more responses within their assigned station area than any other station area.

	<u>HQ</u>	<u>3</u>	<u>4</u>	<u>Total</u>
E1	1,135	43	70	1,248
E3	87	1,121	47	1,255
E4	73	22	886	981
Total	1,295	1,186	1,003	3,484

This chart illustrates a fairly even distribution and sharing of engine company resources.

Total Reflex Time Analysis

Response time has different meanings in different fire departments. Here we will evaluate all response time components by breaking-down “Total Reflex Time” or the amount of time that passes from citizen request until the arrival of a fire department company on the scene of the reported emergency.

The following data was taken from Eureka CAD data. CAD data was merged into NFIRS 5 transaction data inside NFIRS 5 Alive.

Total Reflex Time can be broken-down into the following component parts:

- ◆ Call-handling time – time of call until time of dispatch. Only incident records showing a call-handling time greater than 0 seconds and less than 3-minutes were used in this analysis.
- ◆ Turnout time – time of dispatch until time unit is responding. Only incident records showing a Turnout time greater than 0 seconds and less than 4-minutes were used in this analysis.
- ◆ Travel time – time unit is responding until time the unit arrives on the scene. Only CAD records showing a Travel time greater than 0 seconds and less than 10-minutes were used in this analysis.

Call Handling Time

Call Handling Time (Call Processing Time) for all fires and EMS responses in **Year 3** can be broken-down as follows:

There are 1,968 Incident records being analyzed.

Call Processing <= 00:00:00 .0% (0)

Call Processing <= 00:00:15 2.5% (49)

Call Processing <= 00:00:30 10.5% (206)

Call Processing <= 00:00:45 25.2% (496)

Call Processing <= 00:01:00 43.1% (848)

Call Processing <= 00:01:15 60.7% (1,195)
Call Processing <= 00:01:30 74.0% (1,456)
Call Processing <= 00:01:45 83.4% (1,641)
Call Processing <= 00:02:00 89.5% (1,762)
Call Processing <= 00:02:15 93.6% (1,842)
Call Processing <= 00:02:30 96.6% (1,901)
Call Processing <= 00:02:45 98.8% (1,945)
Call Processing <= 00:03:00 100.0% (1,968)

Median Call Processing 00:01:06 (1.1 minutes)
Average Call Processing 00:01:11 (1.18 minutes)

Call Processing performance appears to be well below the 90% at 1-minute standard recognized as a national call processing goal. This is unexpected given fast overall first company response statistics.

Call Processing should be timed and monitored manually to see what events trigger timestamps. This will provide better insight into performance and opportunities for performance enhancement.

Turnout Time

Here is a breakdown of turnout time for Incidents in **Year 3**.

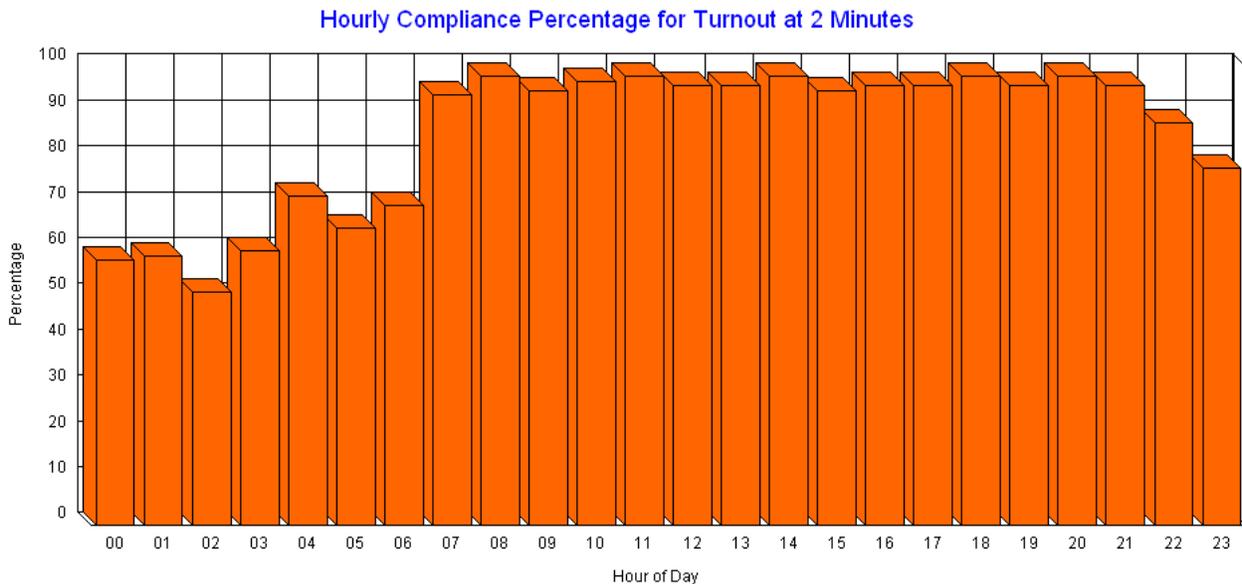
There are 2,021 Incident records being analyzed.

Turnout <= 00:00:00 .0% (0)
Turnout <= 00:00:15 7.4% (149)
Turnout <= 00:00:30 16.3% (330)
Turnout <= 00:00:45 27.6% (557)
Turnout <= 00:01:00 42.4% (856)
Turnout <= 00:01:15 58.4% (1,180)
Turnout <= 00:01:30 73.1% (1,478)
Turnout <= 00:01:45 82.6% (1,669)
Turnout <= 00:02:00 89.6% (1,811)
Turnout <= 00:02:15 93.9% (1,897)
Turnout <= 00:02:30 96.9% (1,959)
Turnout <= 00:02:45 98.6% (1,993)
Turnout <= 00:03:00 99.2% (2,005)
Turnout <= 00:03:15 99.6% (2,013)
Turnout <= 00:03:30 99.8% (2,017)
Turnout <= 00:03:45 100.0% (2,020)

Median Turnout 00:01:08 (1.13 minutes)
Average Turnout 00:01:10 (1.16 minutes)

Theoretically, a nationally accepted turnout time goal is one minute or less. However, a more practical and achievable goal is 2-minutes.

Here is a compliance percentage graph illustrating a 2-minute goal for apparatus turnout in **Year 3**. This graph breaks down performance by hour of day. Notice the data tends to indicate opportunities to improve turnout time in the early morning hours. However, Eureka does achieve an overall compliance percentage of nearly 90% at 2-minutes. This is considered good performance.



These numbers are simply numbers. Actual experience may require apparatus to sign-on long after their vehicles are rolling. Further investigation will be required before any conclusion is drawn.

Travel Time

Here is a breakdown of travel time performance for all Eureka incidents in **Year 3**.

There are 2,052 Incident records being analyzed.

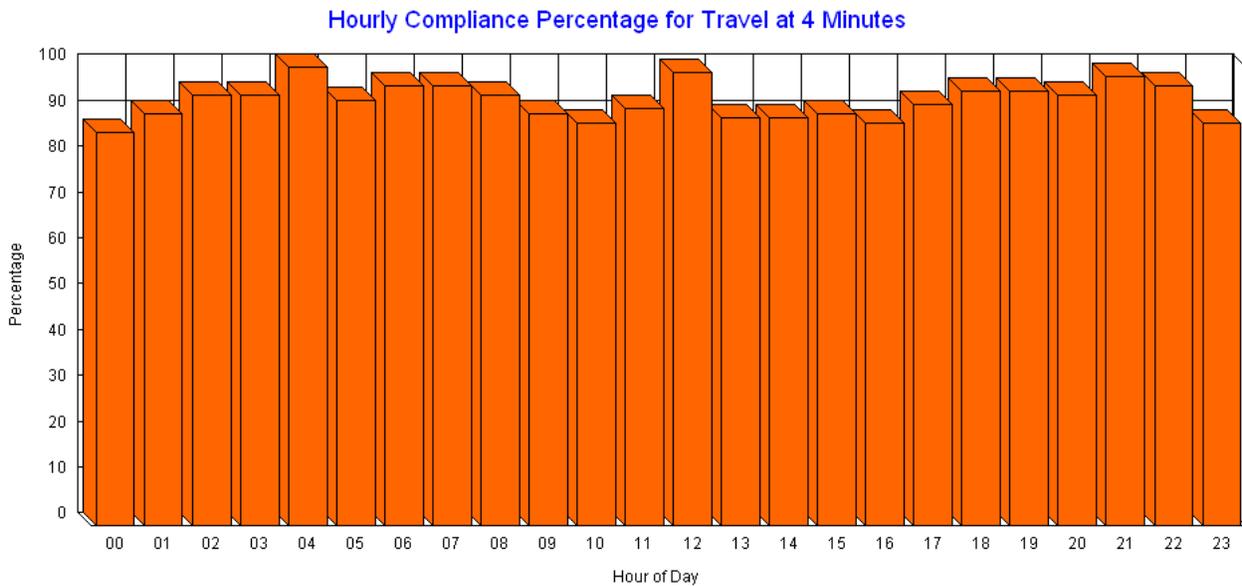
- Travel <= 00:00:00 .0% (0)
- Travel <= 00:00:15 2.7% (56)
- Travel <= 00:00:30 6.6% (135)
- Travel <= 00:00:45 11.5% (237)
- Travel <= 00:01:00 19.7% (404)
- Travel <= 00:01:15 28.4% (583)
- Travel <= 00:01:30 39.6% (812)
- Travel <= 00:01:45 49.8% (1,022)
- Travel <= 00:02:00 60.2% (1,236)
- Travel <= 00:02:15 68.5% (1,406)
- Travel <= 00:02:30 75.8% (1,556)
- Travel <= 00:02:45 80.5% (1,652)
- Travel <= 00:03:00 84.7% (1,739)
- Travel <= 00:03:15 87.3% (1,792)
- Travel <= 00:03:30 89.9% (1,845)**

Travel <= 00:03:45 91.2% (1,872)
Travel <= 00:04:00 92.5% (1,898)
Travel <= 00:04:15 93.7% (1,923)
Travel <= 00:04:30 94.6% (1,942)
Travel <= 00:04:45 95.4% (1,957)
Travel <= 00:05:00 96.2% (1,973)
Travel <= 00:05:15 96.7% (1,984)
Travel <= 00:05:30 97.2% (1,995)
Travel <= 00:05:45 97.7% (2,005)
Travel <= 00:06:00 97.9% (2,009)
Travel <= 00:06:15 98.3% (2,017)
Travel <= 00:06:30 98.5% (2,021)
Travel <= 00:06:45 98.7% (2,025)
Travel <= 00:07:00 98.9% (2,030)
Travel <= 00:07:15 99.2% (2,036)
Travel <= 00:07:30 99.4% (2,040)
Travel <= 00:07:45 99.6% (2,043)
Travel <= 00:08:00 99.6% (2,044)
Travel <= 00:08:15 99.7% (2,046)
Travel <= 00:08:30 99.8% (2,048)
Travel <= 00:08:45 99.8% (2,048)
Travel <= 00:09:00 99.9% (2,050)
Travel <= 00:09:15 99.9% (2,050)
Travel <= 00:09:30 99.9% (2,050)
Travel <= 00:09:45 100.0% (2,051)
Travel <= 00:10:00 100.0% (2,052)

Median Travel 00:01:46 (1.77 minutes)

Average Travel 00:02:01 (2 minutes)

Travel times in Eureka are impressive. This indicates the vast majority of incidents occur in areas near fire stations. The small number of simultaneous incident activity also contributes to these impressive statistics.



Travel time compliance appears to be slightly depressed during the workday. This could be a function of traffic in core areas. Regardless, variations in travel time by hour are very subtle.

Deployment Compliance

Deployment Compliance is a type of compliance report that measures the percentage of time a preset goal is realized. Again, the percentage range can range from 0% to 100%. For example, a goal could be set to measure compliance with having at least one company on the scene of an emergency within six or seven minutes of CAD notification and having a first alarm assignment on the scene within 11 minutes.

Here is how a 7 minute goal for first company arrival breaks-down:

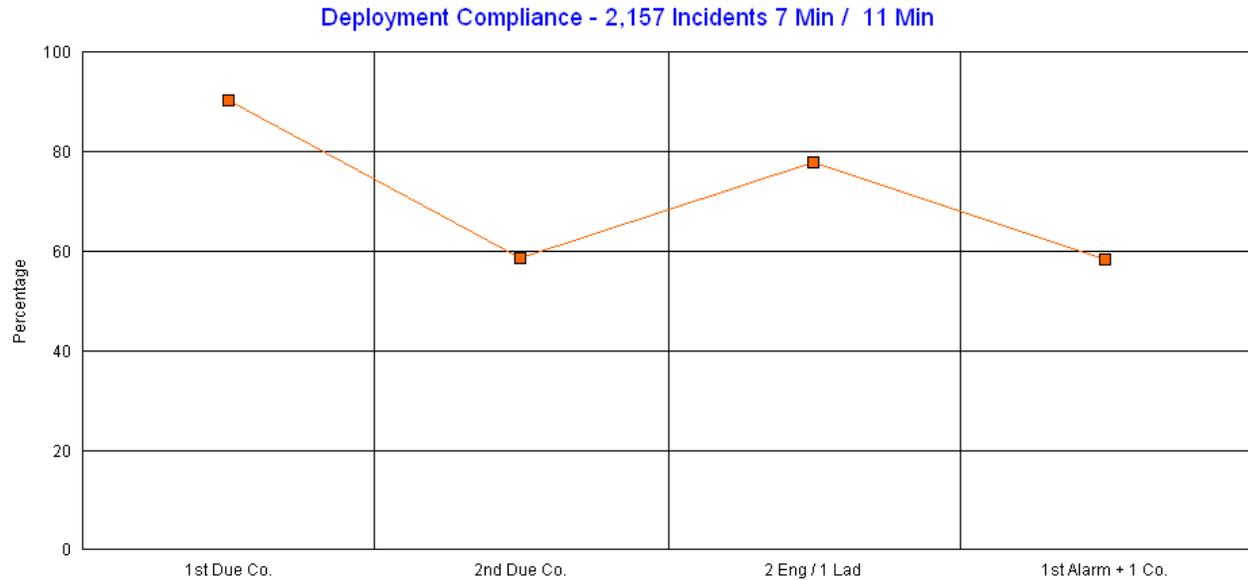
Call Processing Time	1 min
Turnout Time	2 min
Travel Time	4 min
Total First Unit Arrival	7 min

The following Deployment Compliance graphs were constructed from NFIRS 5 Incident data for Eureka in **Year 3**. Since NFIRS 5 records mark the time of alarm as the time the CAD center was first notified, the following graphs will measure response time compliance from CAD notification until apparatus arrive on the scene. Eureka’s standard first alarm response has been set to two engines and 1 ladder for purposes of this measurement.

The following graphs plot compliance for the 1st Due Company (first plot) as well as a 2 Engine / 1 Ladder 1st Alarm assignment (third plot). The second and fourth plots illustrate compliance level for additional resources, the second company at 6 and 7 minutes and an augmented 1st Alarm Assignment at 11 minutes. An augmented first alarm assignment is simply 2 engines and

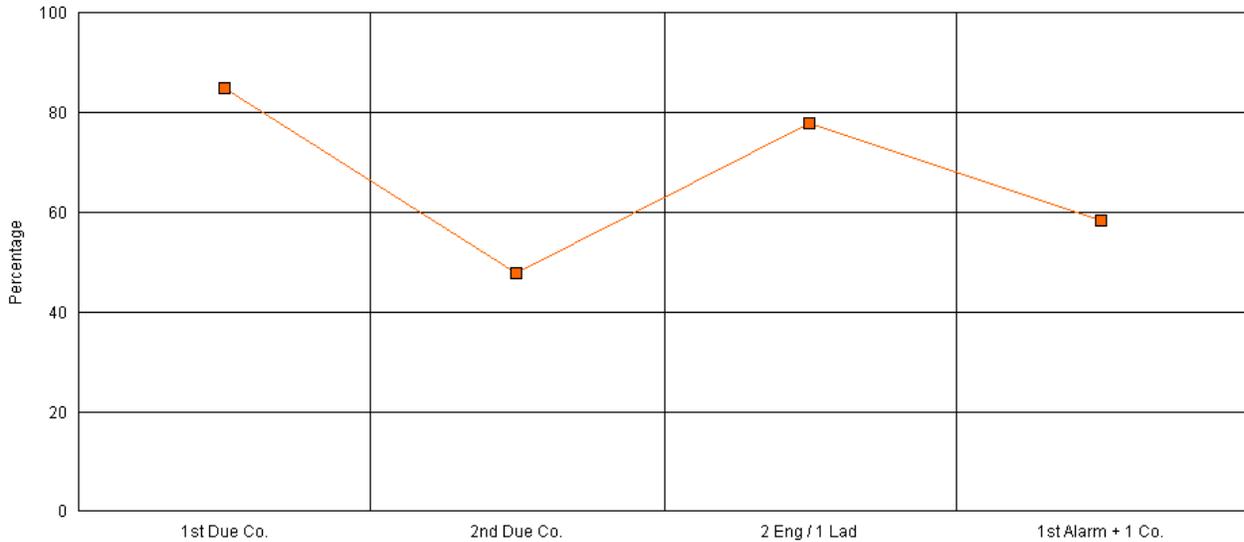
1 ladder plus one additional ladder or engine. These graphs include engines responding from Humboldt Fire District for automatic aid.

Note: The following charts may not exactly match the response time text above. This is because 1st Due is calculated only for incidents where both a first due and second due company responded. Also, this chart only measures engine and ladder companies that recorded an On Scene time in NFIRS 5 records.



Here we see a “fast” response with over 90% of incidents having the first apparatus arrive on scene within the 7-minute compliance goal. However, the first company will have to handle the situation for a while since the arrival of the second company within 7-minutes only occurs 60% of the time. Here we see the speed of the response is quite satisfactory, but the “weight” of the response (multiple apparatus, quickly) is much lighter.

Deployment Compliance - 2,157 Incidents 6 Min / 11 Min



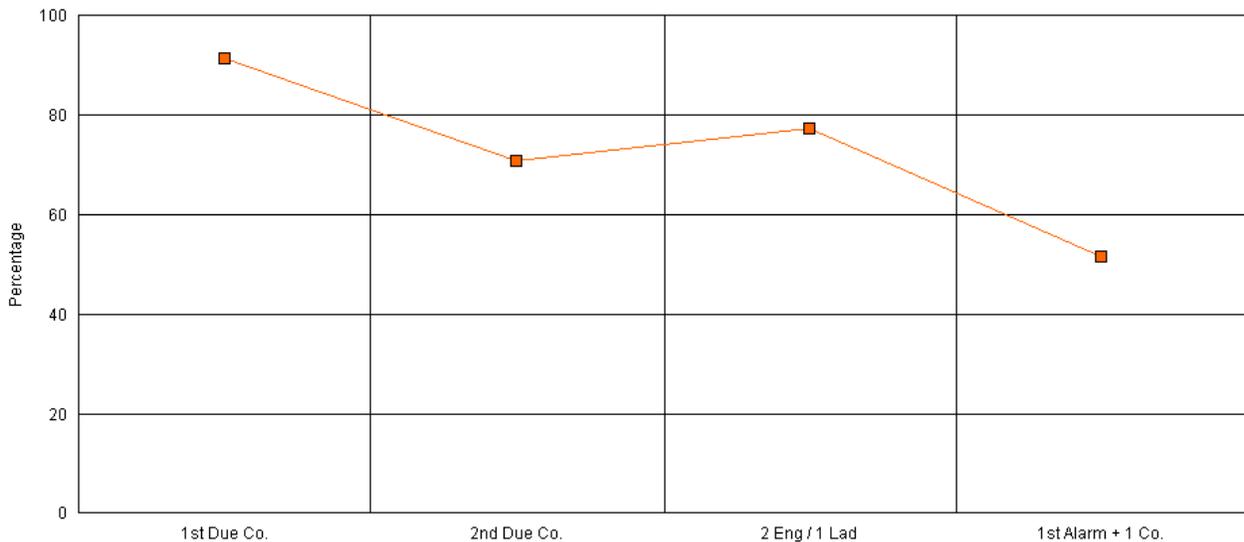
Notice the first due company response is well over 80% at 6-minutes. This is solid performance for the arrival of the first company. Again however, the second due companies arrive within the 6 minute criteria just about 50% of the time.

Having a 2 / 1 first alarm assignment arrive within 11 minutes occurs just under 80% of the time, while an augmented first alarm response (response of one additional engine or ladder) occurs within 11 minutes just under 60% of the time.

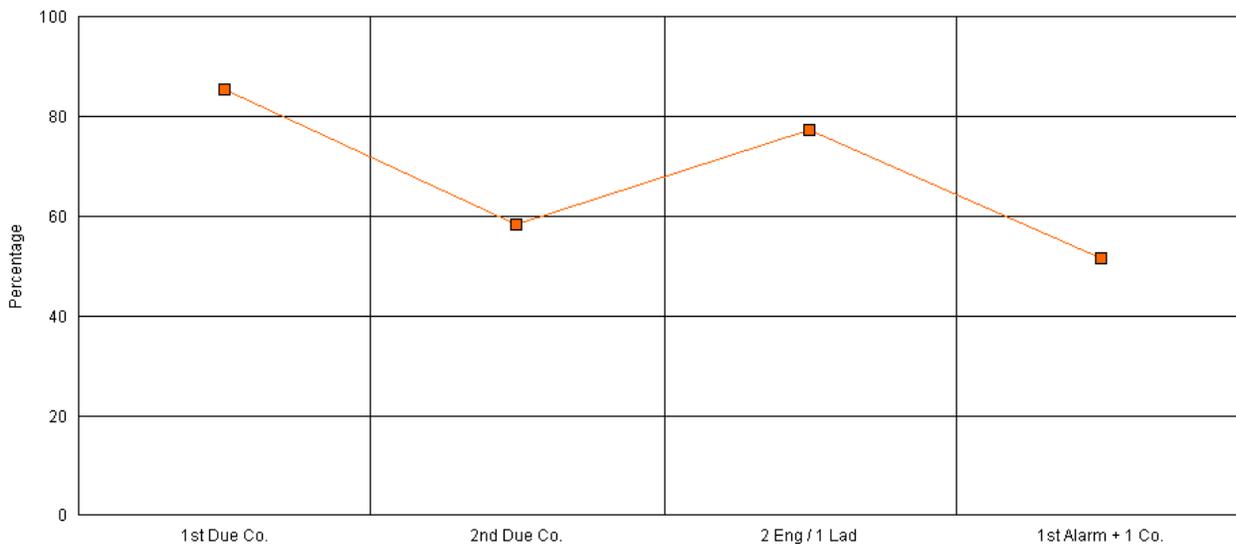
Here is a breakdown by Station Area. These charts can be more volatile and less accurate in the “2 Eng / 1 Lad” and “First Alarm + 1 Co.” columns because of a very limited number of incidents meeting these two criteria within a given station area.

Station HQ Area

Deployment Compliance - Station HQ (791) 7 Min / 11 Min



Deployment Compliance - Station HQ (791) 6 Min / 11 Min

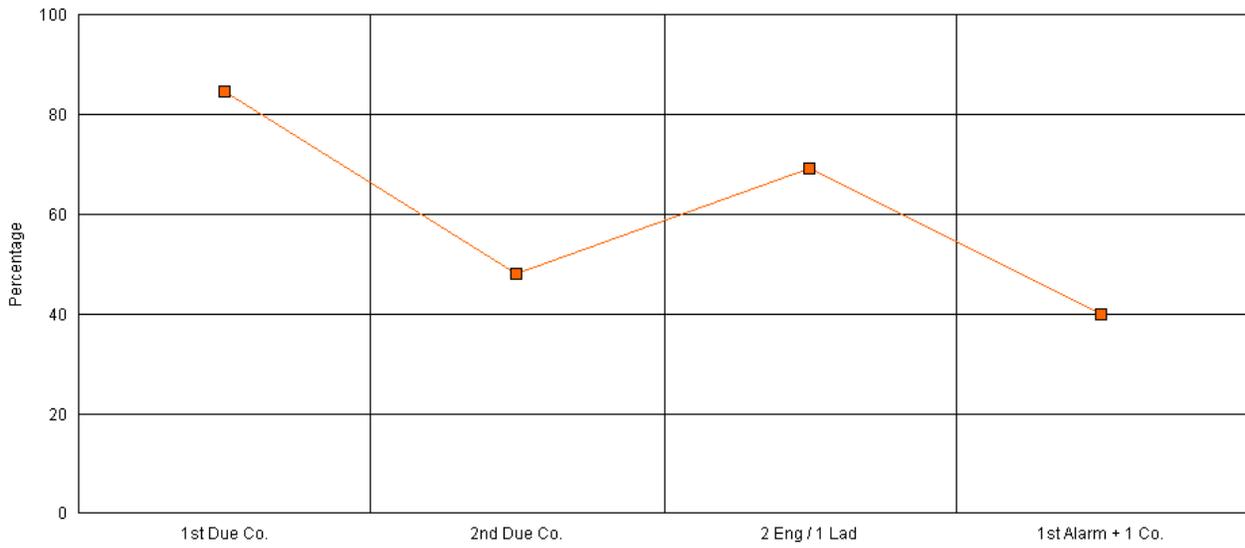


Station 3 Area

Deployment Compliance - Station 3 (767) 7 Min / 11 Min

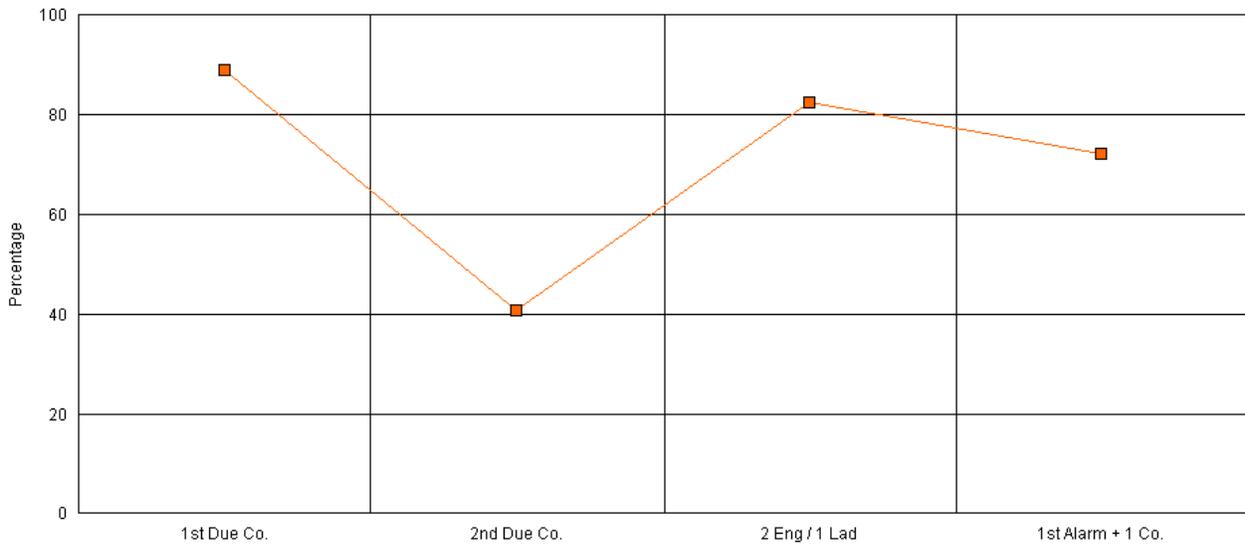


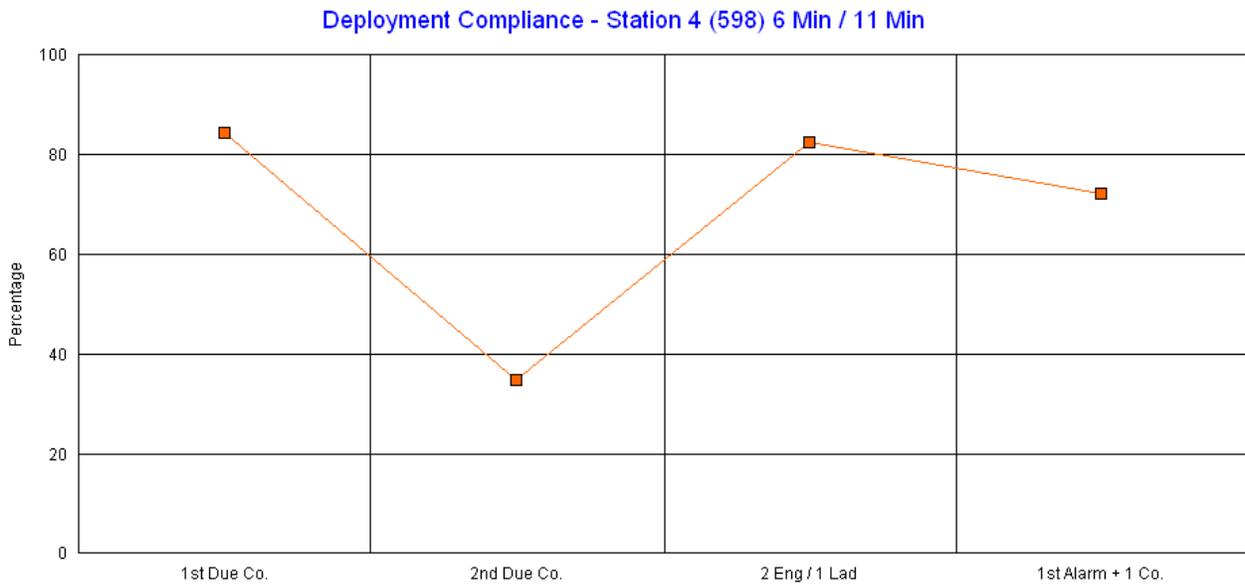
Deployment Compliance - Station 3 (767) 6 Min / 11 Min



Station #4 Area

Deployment Compliance - Station 4 (598) 7 Min / 11 Min





Response Reliability Graphs

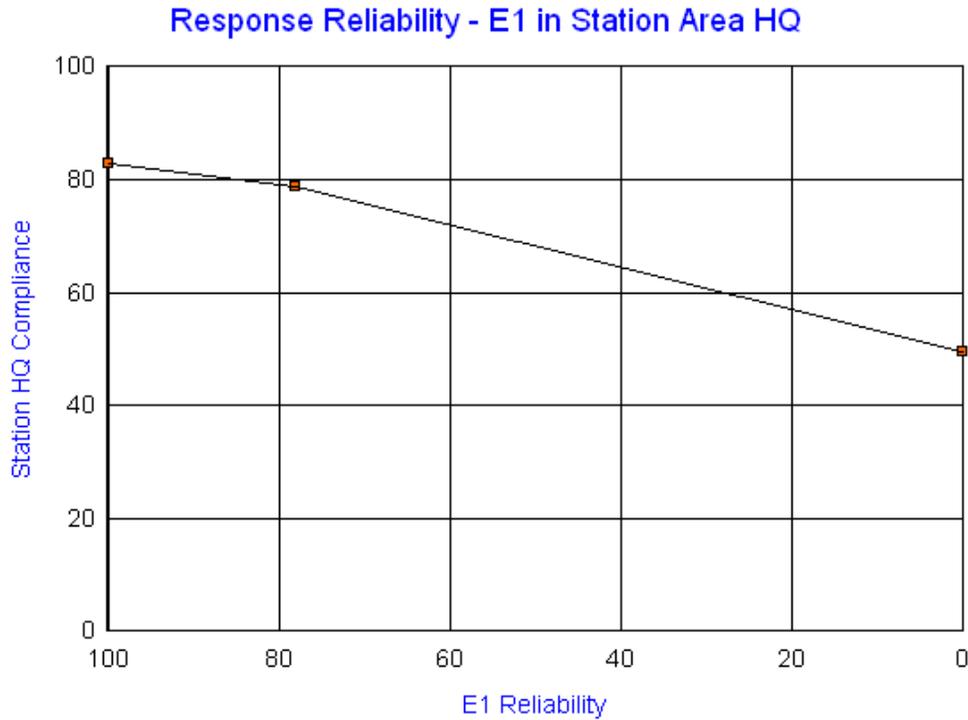
"Response Reliability" is a Standard of Cover measurement displayed in a line graph. The graph describes the effect a single engine company has on the response compliance percentage within its own response area.

The graph measures the percentage of compliance with the fire department's stated goals in three key areas:

- ◆ The percentage of compliance when the subject engine responds
- ◆ The percentage of compliance for all engine responses within the response district
- ◆ The percentage of compliance when the subject engine is not able to respond.

This type of graph can be used to measure "concentration" which can be defined as the ability to provide adequate numbers of engine companies to a station's response area in a short amount of time. Concentration measures the "weight" of the response.

Here is the Response Reliability graph for Engine 1 responding in the HQ station area:

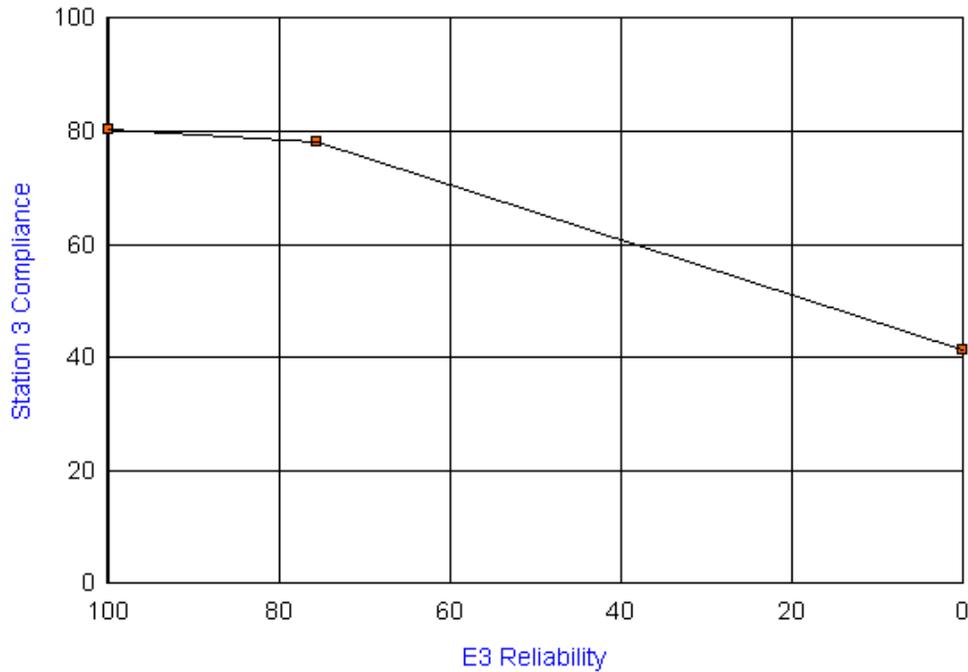


Ideally, the first line should run straight across the graph indicating a solid matrix of available engine companies. The matrix provides quick augmentation and backup. The short space between the first two plots indicates Engine 1 has high reliability, meaning it is available to cover its own response area quite frequently. However, when it is not available, other engine companies only fill-in at 7-minutes only about 50% of the time.

Let us look at Station 3 and Station 4:

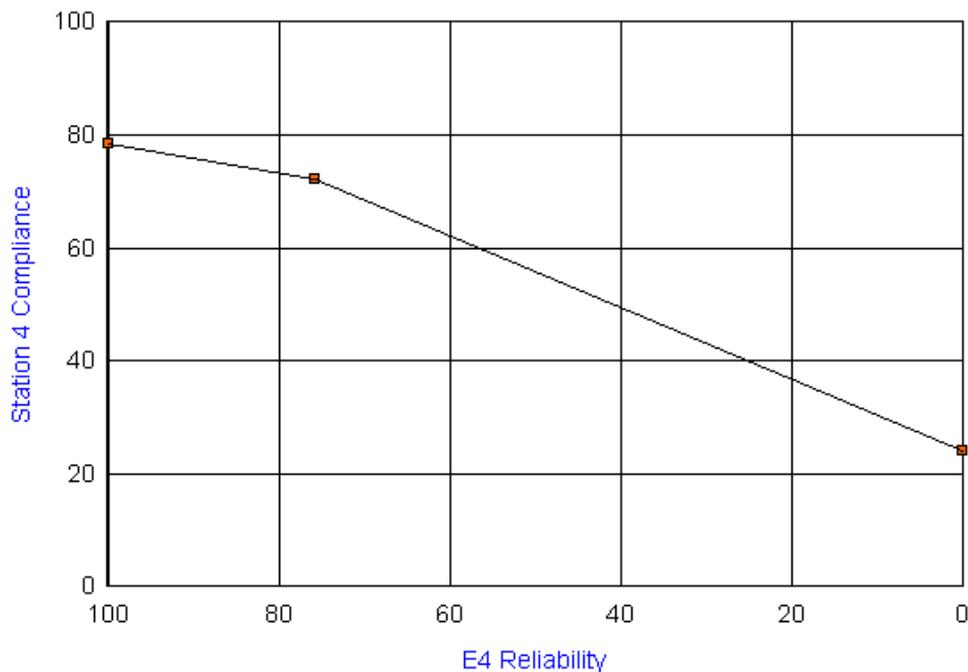
Station 3 has similar availability for Engine 3. However, if Engine 3 is not available the compliance for a 7-minute response time drops to 40%.

Response Reliability - E3 in Station Area 3



The trend continues with Engine 4. Here, Engine 4 is just a bit less “reliable”. But a big drop in compliance occurs if Engine 4 is not available to respond within its district. Here reliability can drop down to near 20%.

Response Reliability - E4 in Station Area 4





APPENDIX 2

HUMBOLDT FIRE DISTRICT STATISTICS



HUMBOLDT FIRE DISTRICT STATISTICS - SUPPLEMENTAL

This supplemental report is based on an initial data assessment performed by NFIRS 5 Alive. It is intended to identify extremely broad trends and areas in need of additional study.

Dataset Identification

The Humboldt Fire District furnished 5,171 incidents from NFIRS 5 data for the period of 1/1/2003 – 6/30/2006. This dataset was reduced to the same 3-year date range. This trimmed the HFD incident count to 4,477. CAD data was not submitted since HFD utilizes different company inventories in their CAD and RMS systems.

Major Call Types

The years of available data breaks down as follows:

	Year 1	Year 2	Year 3
Incidents	1,534	1,439	1,504
Fire & EMS	1,033	1,024	1,069
Fire	151	124	139
Structure Fire	70	42	61
EMS	882	900	930

This trend analysis shows no steady increase in any call type category except EMS incidents.

Below is a list of the top incident types for the 36-month period. Incident types with fewer than 20 responses were eliminated from the list.

Incident Type	Count
321 EMS call, excluding vehicle accident with injury	2,074
311 Medical assist, assist EMS crew	511
611 Dispatched & canceled en route	377
111 Building fire	166
600 Good intent call, other	111
554 Assist invalid	110
700 False alarm or false call, other	98
561 Unauthorized burning	82
322 Vehicle accident with injuries	79
500 Service Call, other	68
510 Person in distress, other	61
631 Authorized controlled burning	59
100 Fire, other	49
743 Smoke detector activation, no fire - unintentional	44
733 Smoke detector activation due to malfunction	40
131 Passenger vehicle fire	38
444 Power line down	36

114 Chimney or flue fire, confined to chimney or flue	31
352 Extrication of victim(s) from vehicle	23
142 Brush, or brush and grass mixture fire	21

Response to Demands for Service

This section will focus on the most recent year of response activity, **Year 3** from 7/1/2005 to 6/30/2006.

One of the most commonly used criteria to measure response effectiveness is fractile analysis of response time. A fractile analysis splits responses into time segments and provides a count and percentage for each progressive time segment.

Below is a fractile analysis of incidents in **Year 3**. Incidents with a response time of zero or a response time greater than 20 minutes were eliminated from this analysis. This fractile is broken down into 15-second segments and progressively covers response times greater than 0 and less than 20 minutes.

There are 1,461 Incident records being analyzed.

1st Apparatus On Scene <= 00:00:00	.0%	(0)
1st Apparatus On Scene <= 00:00:15	.5%	(7)
1st Apparatus On Scene <= 00:00:30	.8%	(11)
1st Apparatus On Scene <= 00:00:45	1.7%	(25)
1st Apparatus On Scene <= 00:01:00	3.4%	(50)
1st Apparatus On Scene <= 00:01:15	4.7%	(68)
1st Apparatus On Scene <= 00:01:30	5.8%	(85)
1st Apparatus On Scene <= 00:01:45	7.8%	(114)
1st Apparatus On Scene <= 00:02:00	11.0%	(161)
1st Apparatus On Scene <= 00:02:15	13.8%	(202)
1st Apparatus On Scene <= 00:02:30	16.6%	(242)
1st Apparatus On Scene <= 00:02:45	19.2%	(280)
1st Apparatus On Scene <= 00:03:00	25.7%	(376)
1st Apparatus On Scene <= 00:03:15	30.3%	(443)
1st Apparatus On Scene <= 00:03:30	34.2%	(499)
1st Apparatus On Scene <= 00:03:45	37.9%	(554)
1st Apparatus On Scene <= 00:04:00	44.8%	(654)
1st Apparatus On Scene <= 00:04:15	48.9%	(714)
1st Apparatus On Scene <= 00:04:30	52.5%	(767)
1st Apparatus On Scene <= 00:04:45	56.1%	(820)
1st Apparatus On Scene <= 00:05:00	61.7%	(901)
1st Apparatus On Scene <= 00:05:15	65.5%	(957)
1st Apparatus On Scene <= 00:05:30	68.2%	(997)
1st Apparatus On Scene <= 00:05:45	70.6%	(1,031)
1st Apparatus On Scene <= 00:06:00	75.3%	(1,100)
1st Apparatus On Scene <= 00:06:15	77.3%	(1,130)
1st Apparatus On Scene <= 00:06:30	78.7%	(1,150)
1st Apparatus On Scene <= 00:06:45	80.2%	(1,171)
1st Apparatus On Scene <= 00:07:00	82.8%	(1,209)
1st Apparatus On Scene <= 00:07:15	84.4%	(1,233)

1st Apparatus On Scene <= 00:07:30 85.7% (1,252)
 1st Apparatus On Scene <= 00:07:45 86.7% (1,267)
 1st Apparatus On Scene <= 00:08:00 88.5% (1,293)
1st Apparatus On Scene <= 00:08:15 89.7% (1,310)
 1st Apparatus On Scene <= 00:08:30 90.5% (1,322)
 1st Apparatus On Scene <= 00:08:45 91.5% (1,337)
 1st Apparatus On Scene <= 00:09:00 92.7% (1,354)
 1st Apparatus On Scene <= 00:09:15 93.1% (1,360)
 1st Apparatus On Scene <= 00:09:30 93.9% (1,372)
 1st Apparatus On Scene <= 00:09:45 94.4% (1,379)
 1st Apparatus On Scene <= 00:10:00 95.3% (1,392)
 1st Apparatus On Scene <= 00:10:15 95.7% (1,398)
 1st Apparatus On Scene <= 00:10:30 96.0% (1,403)
 1st Apparatus On Scene <= 00:10:45 96.2% (1,405)
 1st Apparatus On Scene <= 00:11:00 96.5% (1,410)
 1st Apparatus On Scene <= 00:11:15 96.5% (1,410)
 1st Apparatus On Scene <= 00:11:30 96.8% (1,414)
 1st Apparatus On Scene <= 00:11:45 96.9% (1,415)
 1st Apparatus On Scene <= 00:12:00 97.0% (1,417)
 1st Apparatus On Scene <= 00:12:15 97.3% (1,421)
 1st Apparatus On Scene <= 00:12:30 97.3% (1,421)
 1st Apparatus On Scene <= 00:12:45 97.5% (1,424)
 1st Apparatus On Scene <= 00:13:00 98.2% (1,434)
 1st Apparatus On Scene <= 00:13:15 98.4% (1,437)
 1st Apparatus On Scene <= 00:13:30 98.4% (1,438)
 1st Apparatus On Scene <= 00:13:45 98.4% (1,438)
 1st Apparatus On Scene <= 00:14:00 98.7% (1,442)
 1st Apparatus On Scene <= 00:14:15 98.7% (1,442)
 1st Apparatus On Scene <= 00:14:30 98.8% (1,444)
 1st Apparatus On Scene <= 00:14:45 98.9% (1,445)
 1st Apparatus On Scene <= 00:15:00 99.2% (1,450)
 1st Apparatus On Scene <= 00:15:15 99.2% (1,450)
 1st Apparatus On Scene <= 00:15:30 99.3% (1,451)
 1st Apparatus On Scene <= 00:15:45 99.4% (1,452)
 1st Apparatus On Scene <= 00:16:00 99.5% (1,453)
 1st Apparatus On Scene <= 00:16:15 99.5% (1,453)
 1st Apparatus On Scene <= 00:16:30 99.5% (1,453)
 1st Apparatus On Scene <= 00:16:45 99.5% (1,454)
 1st Apparatus On Scene <= 00:17:00 99.7% (1,456)
 1st Apparatus On Scene <= 00:17:15 99.7% (1,456)
 1st Apparatus On Scene <= 00:17:30 99.7% (1,456)
 1st Apparatus On Scene <= 00:17:45 99.7% (1,456)
 1st Apparatus On Scene <= 00:18:00 99.7% (1,456)
 1st Apparatus On Scene <= 00:18:15 99.7% (1,456)
 1st Apparatus On Scene <= 00:18:30 99.7% (1,457)
 1st Apparatus On Scene <= 00:18:45 99.7% (1,457)

1st Apparatus On Scene <= 00:19:00 99.7% (1,457)
1st Apparatus On Scene <= 00:19:15 99.7% (1,457)
1st Apparatus On Scene <= 00:19:30 99.9% (1,459)
1st Apparatus On Scene <= 00:19:45 99.9% (1,460)
1st Apparatus On Scene <= 00:20:00 100.0% (1,461)

Median 1st Apparatus On Scene 00:04:20 (4.33 minutes)
Average 1st Apparatus On Scene 00:04:53 (4.88 minutes)

If incidents are reduced to **fire and EMS incidents**, the following fractile results. Notice HFD's response effectiveness increases when responding to fire and EMS incidents, more likely to fall into the category of emergency responses. For all incidents the 90% first apparatus arrival is not reached until 08:15 (8 minutes, 15 seconds). However, when responding to fire and EMS incidents the 90% threshold is reached in 07:30.

There are 1,052 Incident records being analyzed.

1st Apparatus On Scene <= 00:00:00 .0% (0)
1st Apparatus On Scene <= 00:00:15 .5% (5)
1st Apparatus On Scene <= 00:00:30 .7% (7)
1st Apparatus On Scene <= 00:00:45 1.1% (12)
1st Apparatus On Scene <= 00:01:00 2.4% (25)
1st Apparatus On Scene <= 00:01:15 3.4% (36)
1st Apparatus On Scene <= 00:01:30 4.7% (49)
1st Apparatus On Scene <= 00:01:45 7.0% (74)
1st Apparatus On Scene <= 00:02:00 10.6% (111)
1st Apparatus On Scene <= 00:02:15 14.0% (147)
1st Apparatus On Scene <= 00:02:30 17.5% (184)
1st Apparatus On Scene <= 00:02:45 20.4% (215)
1st Apparatus On Scene <= 00:03:00 27.3% (287)
1st Apparatus On Scene <= 00:03:15 32.9% (346)
1st Apparatus On Scene <= 00:03:30 37.5% (395)
1st Apparatus On Scene <= 00:03:45 41.4% (436)
1st Apparatus On Scene <= 00:04:00 49.1% (517)
1st Apparatus On Scene <= 00:04:15 53.3% (561)
1st Apparatus On Scene <= 00:04:30 56.9% (599)
1st Apparatus On Scene <= 00:04:45 60.5% (636)
1st Apparatus On Scene <= 00:05:00 66.4% (699)
1st Apparatus On Scene <= 00:05:15 70.3% (740)
1st Apparatus On Scene <= 00:05:30 73.1% (769)
1st Apparatus On Scene <= 00:05:45 75.4% (793)
1st Apparatus On Scene <= 00:06:00 80.2% (844)
1st Apparatus On Scene <= 00:06:15 82.4% (867)
1st Apparatus On Scene <= 00:06:30 83.9% (883)
1st Apparatus On Scene <= 00:06:45 85.1% (895)
1st Apparatus On Scene <= 00:07:00 87.5% (921)

1st Apparatus On Scene <= 00:07:15 89.2% (938)
1st Apparatus On Scene <= 00:07:30 90.3% (950)
 1st Apparatus On Scene <= 00:07:45 91.1% (958)
 1st Apparatus On Scene <= 00:08:00 92.7% (975)
 1st Apparatus On Scene <= 00:08:15 93.5% (984)
 1st Apparatus On Scene <= 00:08:30 94.3% (992)
 1st Apparatus On Scene <= 00:08:45 94.9% (998)
 1st Apparatus On Scene <= 00:09:00 95.4% (1,004)
 1st Apparatus On Scene <= 00:09:15 95.8% (1,008)
 1st Apparatus On Scene <= 00:09:30 96.4% (1,014)
 1st Apparatus On Scene <= 00:09:45 96.9% (1,019)
 1st Apparatus On Scene <= 00:10:00 97.5% (1,026)
 1st Apparatus On Scene <= 00:10:15 97.8% (1,029)
 1st Apparatus On Scene <= 00:10:30 98.0% (1,031)
 1st Apparatus On Scene <= 00:10:45 98.1% (1,032)
 1st Apparatus On Scene <= 00:11:00 98.4% (1,035)
 1st Apparatus On Scene <= 00:11:15 98.4% (1,035)
 1st Apparatus On Scene <= 00:11:30 98.4% (1,035)
 1st Apparatus On Scene <= 00:11:45 98.4% (1,035)
 1st Apparatus On Scene <= 00:12:00 98.5% (1,036)
 1st Apparatus On Scene <= 00:12:15 98.5% (1,036)
 1st Apparatus On Scene <= 00:12:30 98.5% (1,036)
 1st Apparatus On Scene <= 00:12:45 98.8% (1,039)
 1st Apparatus On Scene <= 00:13:00 99.1% (1,043)
 1st Apparatus On Scene <= 00:13:15 99.1% (1,043)
 1st Apparatus On Scene <= 00:13:30 99.2% (1,044)
 1st Apparatus On Scene <= 00:13:45 99.2% (1,044)
 1st Apparatus On Scene <= 00:14:00 99.3% (1,045)
 1st Apparatus On Scene <= 00:14:15 99.3% (1,045)
 1st Apparatus On Scene <= 00:14:30 99.4% (1,046)
 1st Apparatus On Scene <= 00:14:45 99.4% (1,046)
 1st Apparatus On Scene <= 00:15:00 99.5% (1,047)
 1st Apparatus On Scene <= 00:15:15 99.5% (1,047)
 1st Apparatus On Scene <= 00:15:30 99.5% (1,047)
 1st Apparatus On Scene <= 00:15:45 99.6% (1,048)
 1st Apparatus On Scene <= 00:16:00 99.7% (1,049)
 1st Apparatus On Scene <= 00:16:15 99.7% (1,049)
 1st Apparatus On Scene <= 00:16:30 99.7% (1,049)
 1st Apparatus On Scene <= 00:16:45 99.7% (1,049)
 1st Apparatus On Scene <= 00:17:00 99.7% (1,049)
 1st Apparatus On Scene <= 00:17:15 99.7% (1,049)
 1st Apparatus On Scene <= 00:17:30 99.7% (1,049)
 1st Apparatus On Scene <= 00:17:45 99.7% (1,049)
 1st Apparatus On Scene <= 00:18:00 99.7% (1,049)
 1st Apparatus On Scene <= 00:18:15 99.7% (1,049)
 1st Apparatus On Scene <= 00:18:30 99.7% (1,049)

1st Apparatus On Scene <= 00:18:45 99.7% (1,049)
1st Apparatus On Scene <= 00:19:00 99.7% (1,049)
1st Apparatus On Scene <= 00:19:15 99.7% (1,049)
1st Apparatus On Scene <= 00:19:30 99.9% (1,051)
1st Apparatus On Scene <= 00:19:45 100.0% (1,052)
1st Apparatus On Scene <= 00:20:00 100.0% (1,052)

Median 1st Apparatus On Scene 00:04:02 (4.03 minutes)
Average 1st Apparatus On Scene 00:04:32 (4.53 minutes)

Here is a breakdown when incidents are narrowed down to **structure fires**.

There are 59 Incident records being analyzed.

1st Apparatus On Scene <= 00:00:00 .0% (0)
1st Apparatus On Scene <= 00:00:15 .0% (0)
1st Apparatus On Scene <= 00:00:30 .0% (0)
1st Apparatus On Scene <= 00:00:45 .0% (0)
1st Apparatus On Scene <= 00:01:00 .0% (0)
1st Apparatus On Scene <= 00:01:15 .0% (0)
1st Apparatus On Scene <= 00:01:30 1.7% (1)
1st Apparatus On Scene <= 00:01:45 3.4% (2)
1st Apparatus On Scene <= 00:02:00 6.8% (4)
1st Apparatus On Scene <= 00:02:15 8.5% (5)
1st Apparatus On Scene <= 00:02:30 8.5% (5)
1st Apparatus On Scene <= 00:02:45 10.2% (6)
1st Apparatus On Scene <= 00:03:00 11.9% (7)
1st Apparatus On Scene <= 00:03:15 13.6% (8)
1st Apparatus On Scene <= 00:03:30 16.9% (10)
1st Apparatus On Scene <= 00:03:45 18.6% (11)
1st Apparatus On Scene <= 00:04:00 32.2% (19)
1st Apparatus On Scene <= 00:04:15 33.9% (20)
1st Apparatus On Scene <= 00:04:30 33.9% (20)
1st Apparatus On Scene <= 00:04:45 33.9% (20)
1st Apparatus On Scene <= 00:05:00 40.7% (24)
1st Apparatus On Scene <= 00:05:15 47.5% (28)
1st Apparatus On Scene <= 00:05:30 49.2% (29)
1st Apparatus On Scene <= 00:05:45 50.8% (30)
1st Apparatus On Scene <= 00:06:00 61.0% (36)
1st Apparatus On Scene <= 00:06:15 64.4% (38)
1st Apparatus On Scene <= 00:06:30 66.1% (39)
1st Apparatus On Scene <= 00:06:45 71.2% (42)
1st Apparatus On Scene <= 00:07:00 79.7% (47)
1st Apparatus On Scene <= 00:07:15 79.7% (47)
1st Apparatus On Scene <= 00:07:30 81.4% (48)
1st Apparatus On Scene <= 00:07:45 84.7% (50)

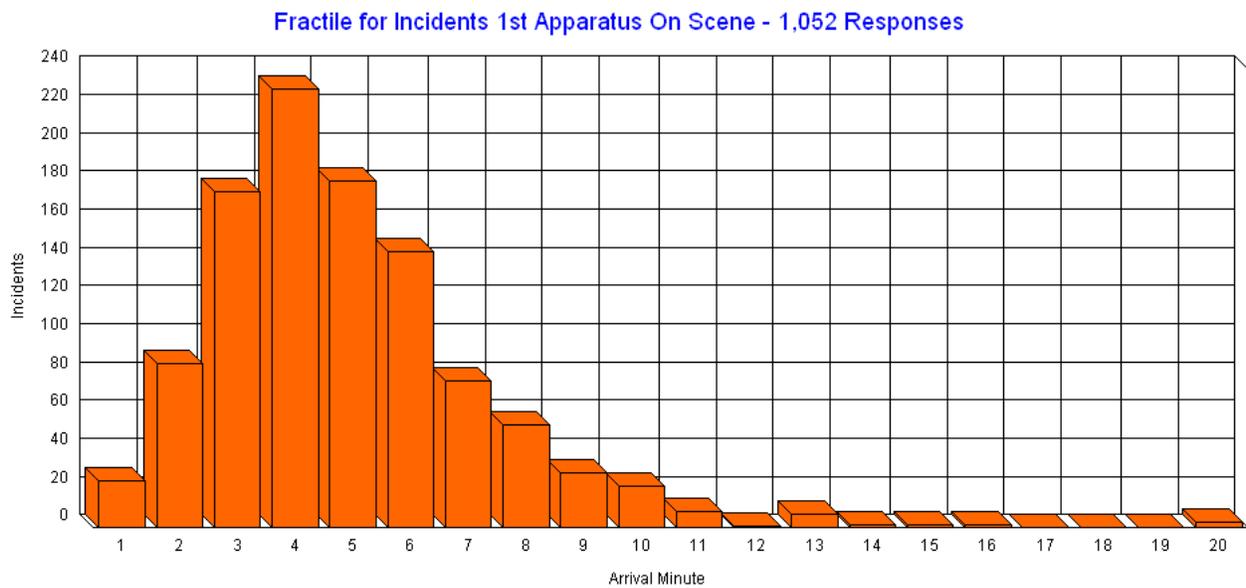
1st Apparatus On Scene <= 00:08:00 88.1% (52)
1st Apparatus On Scene <= 00:08:15 88.1% (52)
1st Apparatus On Scene <= 00:08:30 89.8% (53)
1st Apparatus On Scene <= 00:08:45 91.5% (54)
1st Apparatus On Scene <= 00:09:00 91.5% (54)
1st Apparatus On Scene <= 00:09:15 91.5% (54)
1st Apparatus On Scene <= 00:09:30 93.2% (55)
1st Apparatus On Scene <= 00:09:45 94.9% (56)
1st Apparatus On Scene <= 00:10:00 94.9% (56)
1st Apparatus On Scene <= 00:10:15 96.6% (57)
1st Apparatus On Scene <= 00:10:30 96.6% (57)
1st Apparatus On Scene <= 00:10:45 98.3% (58)
1st Apparatus On Scene <= 00:11:00 98.3% (58)
1st Apparatus On Scene <= 00:11:15 98.3% (58)
1st Apparatus On Scene <= 00:11:30 98.3% (58)
1st Apparatus On Scene <= 00:11:45 98.3% (58)
1st Apparatus On Scene <= 00:12:00 98.3% (58)
1st Apparatus On Scene <= 00:12:15 98.3% (58)
1st Apparatus On Scene <= 00:12:30 98.3% (58)
1st Apparatus On Scene <= 00:12:45 98.3% (58)
1st Apparatus On Scene <= 00:13:00 98.3% (58)
1st Apparatus On Scene <= 00:13:15 98.3% (58)
1st Apparatus On Scene <= 00:13:30 98.3% (58)
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1st Apparatus On Scene <= 00:14:00 98.3% (58)
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1st Apparatus On Scene <= 00:14:45 98.3% (58)
1st Apparatus On Scene <= 00:15:00 98.3% (58)
1st Apparatus On Scene <= 00:15:15 98.3% (58)
1st Apparatus On Scene <= 00:15:30 98.3% (58)
1st Apparatus On Scene <= 00:15:45 98.3% (58)
1st Apparatus On Scene <= 00:16:00 98.3% (58)
1st Apparatus On Scene <= 00:16:15 98.3% (58)
1st Apparatus On Scene <= 00:16:30 98.3% (58)
1st Apparatus On Scene <= 00:16:45 98.3% (58)
1st Apparatus On Scene <= 00:17:00 98.3% (58)
1st Apparatus On Scene <= 00:17:15 98.3% (58)
1st Apparatus On Scene <= 00:17:30 98.3% (58)
1st Apparatus On Scene <= 00:17:45 98.3% (58)
1st Apparatus On Scene <= 00:18:00 98.3% (58)
1st Apparatus On Scene <= 00:18:15 98.3% (58)
1st Apparatus On Scene <= 00:18:30 98.3% (58)
1st Apparatus On Scene <= 00:18:45 98.3% (58)
1st Apparatus On Scene <= 00:19:00 98.3% (58)
1st Apparatus On Scene <= 00:19:15 98.3% (58)

1st Apparatus On Scene <= 00:19:30 100.0% (59)
 1st Apparatus On Scene <= 00:19:45 100.0% (59)
 1st Apparatus On Scene <= 00:20:00 100.0% (59)

Median 1st Apparatus On Scene 00:05:21 (5.35 minutes)
 Average 1st Apparatus On Scene 00:05:44 (5.72 minutes)

While most fire and EMS responses are handled with a single local apparatus, structure fires draw resources from more distant locations. The slower response time figures may be due to a disproportionate number of responses to neighboring fire jurisdictions.

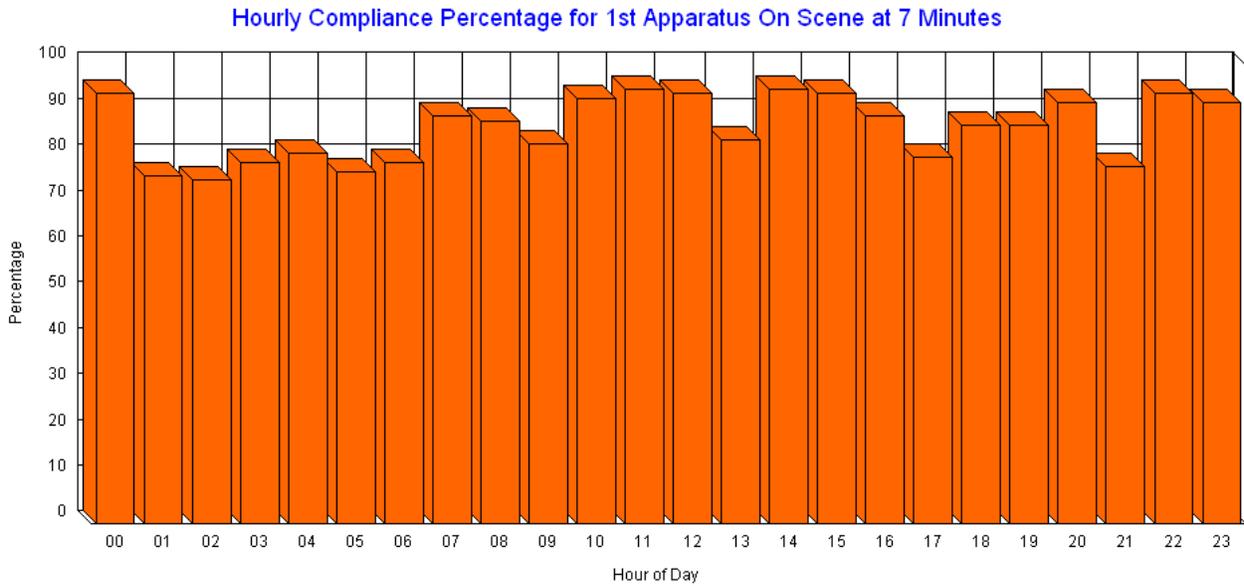
Fractile response times can also be viewed graphically. Here is a graph illustrating the number of incidents by response time minute for **fire and EMS incidents**. Incidents with a zero response time were eliminated from the graph.



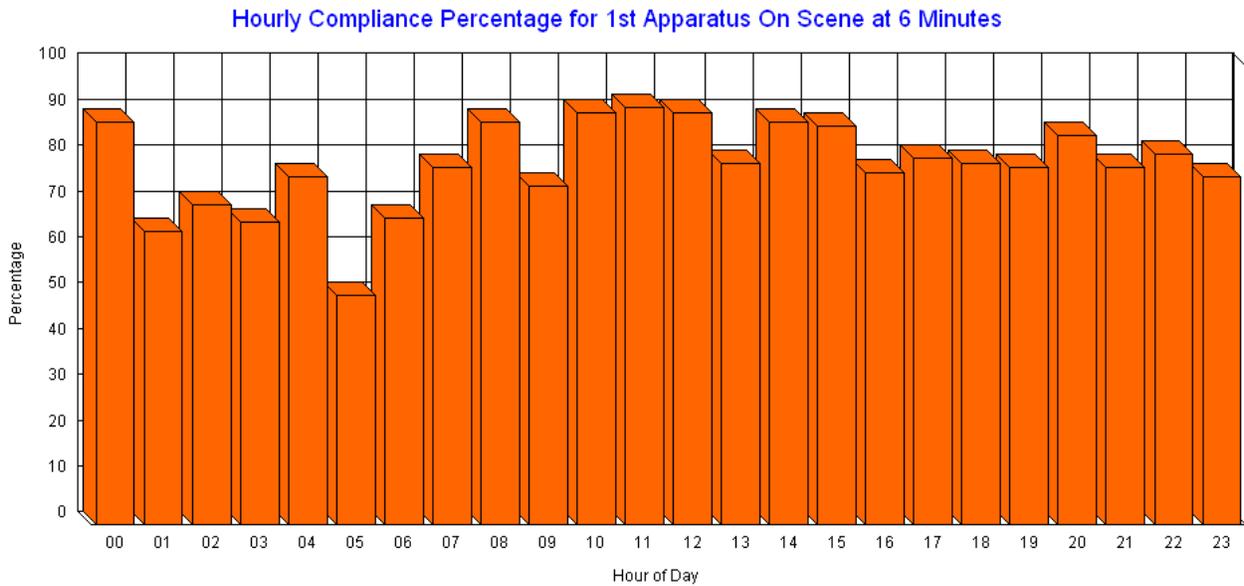
Notice the minute with the most first arriving apparatus is minute 4. This is unusually good performance. It shows a large number of responses are located close to fire stations. There are, however, responses that require longer travel to more distant locations.

We can look at this same set of response statistics in a different way. The concept here is called “Compliance”. Compliance measures the percentage of time a response time goal (in this case of 7 or 6 minutes) is met.

Here is a graph illustrating the percentage of compliance (0 – 100%) with a 7-minute response time standard (beginning with CAD call receipt) by hour of the day. Notice incidents that occur early in the morning are just slightly less likely to meet a 7-minute response time objective.



Here is the same graph this time testing compliance with a standard of 6-minutes.



Notice while the compliance percentage is just a little less at 6-minutes, this is nevertheless a strong showing for first company arrival.

Departmental Aid

Here is the department aid report summary for HFD. These stats were drawn from the 3-year dataset:

Total Incidents: 4,477

Incidents Involving Aid: 1,113	Percentage: 24.86%
Aid Incidents for Fires: 273	Percentage: 24.53%
Aid Incidents for EMS: 384	Percentage: 34.50%
Aid Incidents for Others: 456	Percentage: 40.97%
Incidents Involving Aid Received: 182	Percentage: 16.35%.
Incidents Involving Requested Aid Received:	Percentage: .00%
Incidents Involving Automatic Aid Received: 182	Percentage: 16.35%
Incidents Involving Aid Given: 931	Percentage: 83.65%.
Incidents Involving Requested Aid Given: 16	Percentage: 1.44%
Incidents Involving Automatic Aid Given: 901	Percentage: 80.95%
Incidents Involving Other Types of Aid Given: 14	Percentage: 1.26%

Here is aid activity illustrated in graphic form:

