

# CITYGATE ASSOCIATES, LLC

■ FOLSOM (SACRAMENTO), CA

MANAGEMENT CONSULTANTS ■



## **FIRE AND EMERGENCY SERVICES STUDY FOR THE EL DORADO LAFCO**

***VOLUME 3 OF 3 – STATISTICAL  
APPENDIX***

# **Draft Report**

*January 11, 2010*



■ 2250 East Bidwell St., Ste #100 ■ Folsom, CA 95630  
(916) 458-5100 ■ Fax: (916) 983-2090



CITYGATE ASSOCIATES, LLC  
FIRE & EMERGENCY SERVICES

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# EL DORADO COUNTY RESPONSE STATISTICS ASSESSMENT

## 1.1 DATASET IDENTIFICATION

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*This section describes the sources and quality of data used in this study.*

Data used in this study was gathered from two primary sources. NFIRS 5 data was collected from South Lake Tahoe and Lake Valley fire agencies in the Tahoe Basin.

The second source of data was from CAL Fire, which provided CAD data for West Slope fire agencies.

### 1.1.1 Creation of Incident Data

NFIRS 5 data was quickly converted into Incidents (one record per incident) and Apparatus (one record per apparatus response) records. CAL Fire CAD data was provided for apparatus responses. Using CAL Fire's incident numbers, the provided apparatus response data was used to create a corresponding set of incidents. In total 84,071 incidents and 256,289 apparatus records were collected.

### *Dataset Dates and Analytical Periods*

The NFIRS 5 data from Tahoe Basin included incidents from 1/1/2006 – 11/25/2009. The CAL Fire CAD data included responses from 12/14/2004 – 11/05/2009.

In order to maximize the benefit of the data provided trends county-wide will be tracked in three fiscal years as follows

- ◆ FY 06/07      10/1/2006 – 9/30/2007
- ◆ FY 07/08      10/1/2007 – 9/30/2008
- ◆ FY 08/09      10/1/2008 – 9/30/2009.

Using the last 36 months of available data assures the most contemporary county-wide trend analysis possible. Because of the extended date ranges available for the West Slope, trends analysis can include FY 05/06 (10/1/2005 – 9/30/2006).

### *Geocodes*

Geocoded data was provided by CAL Fire for all West Slope incidents. Tahoe Basin incidents were not geocoded. Using NFIRS 5 address information geocodes were located for 87.3 percent incident and apparatus responses.

### *Data Standardization*

NFIRS 5 data and CAL Fire CAD data use different systems to categorize call types. For the purpose of this study all incident and apparatus call types were grouped as follows:

- ◆ BF      Building Fire
- ◆ WF      Wildland Fire
- ◆ OF      Other Fire

- ◆ EMS EMS response
- ◆ OTH Other response type.

Because CAD call types describe the initial report and not the situation found, these categories may have a few inaccuracies.

### ***Quantitative vs. Qualitative Datasets***

Quantitative datasets, those used to measure the amount of activity, include all incidents between a set of date ranges. Qualitative datasets, those used to measure response performance, utilize the following search criteria:

- ◆ Incidents are included within a stated date range
- ◆ Only fires and EMS incidents are included (“OTH” incident type excluded)
- ◆ Incidents excluding all those having a call to arrival time equal to zero
- ◆ Incidents excluding all those having a call to arrival time greater than 60 minutes
- ◆ EMS incidents excluding the CAD incident type, “Medical Transfer”
- ◆ EMS incidents excluding those originating in a “331 Hospital” Property Use.

Maintaining different datasets for quantitative and qualitative measurements provides the best estimates of both system demand and system performance.

Data from two fire departments was not included in the statistical analysis that follows. Fallen Leaf uses an on-line data center which was unresponsive to a request for NFIRS 5 data. The record keeping system used in Meeks Bay is a type of spreadsheet narrative. Information about these fire departments may be found at the end of the Tahoe Basin narrative.

### ***Data Collection Recommendations***

CAL Fire has a capable and responsive CAD records system. As a minimum, all fire departments in the County should be reporting incident and apparatus activity in a qualified NFIRS 5 format. This minimum reporting standard is required in California and by FEMA at the federal level. NFIRS 5 reporting is considered a prerequisite for receiving federal grants.

## ***2.1 COUNTY-WIDE – DEMAND AND PERFORMANCE***

### **2.1.1 Demand Trends**

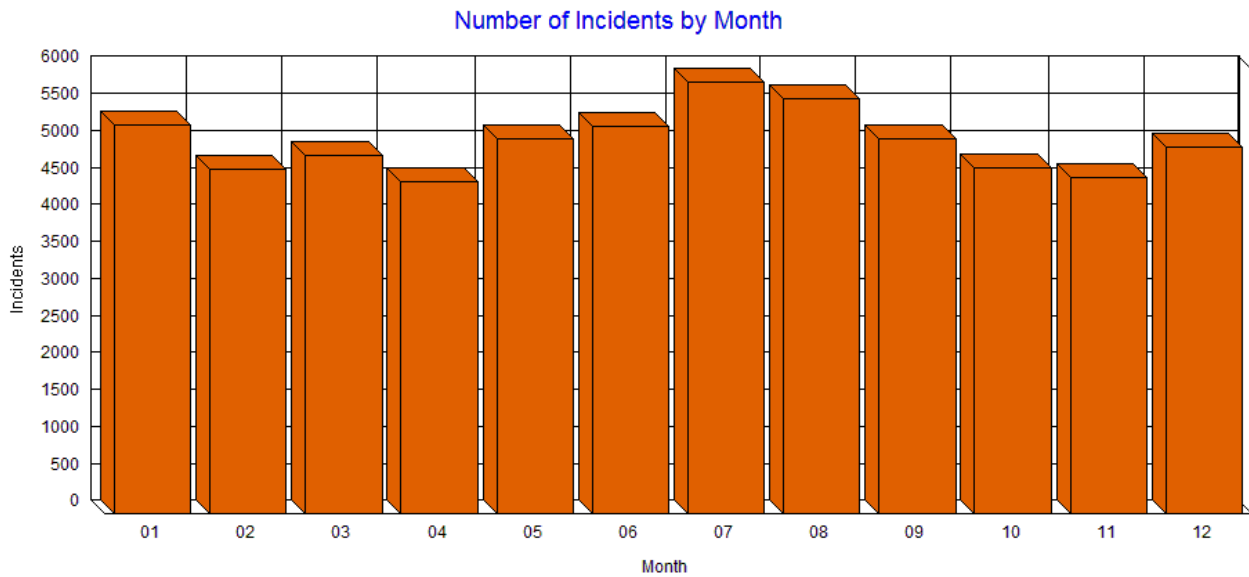
The number of county-wide incidents constructed from collected apparatus data is as follows:

- ◆ FY 06/07 18,971
- ◆ FY 07/08 20,701
- ◆ FY 08/09 20,642.

Here is another county-wide breakdown by incident type for the three-year period. A very small number of incidents could not be categorized by type:

	BF	EMS	WF	OF	OTH	Total
FY 06/07	212	13,920	355	550	3,933	18,970
FY 07/08	242	14,283	387	524	5,265	20,701
FY 08/09	197	13,625	299	406	6,113	20,640
Total	651	41,828	1,041	1,480	15,311	60,311
Percentage	1%	69%	2%	3%	25%	100%

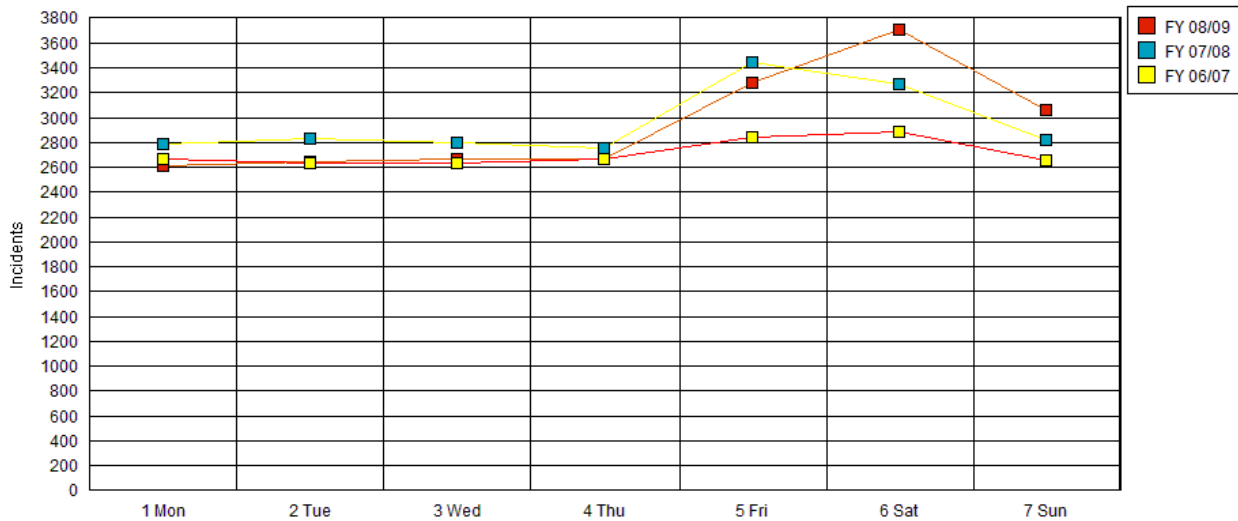
Incidents peak slightly during the summer months.



April and November have the fewest number of incidents.

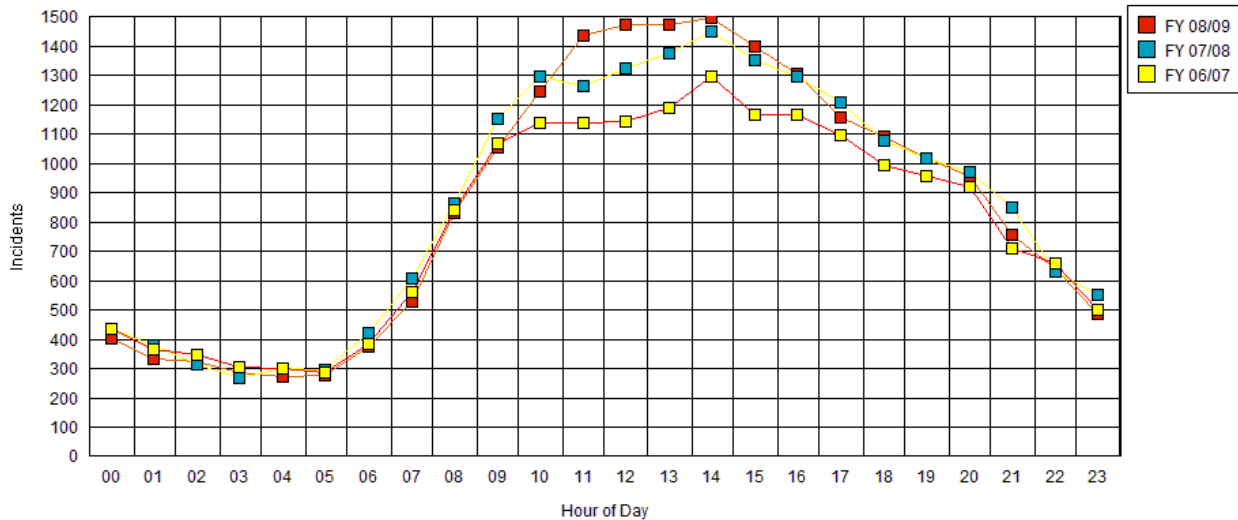
The County experiences the greatest incident activity at the end of the week. The year-to-year trend shows an increase in the number of incidents in the early part of the weekend.

Number of Incidents by Day of Week by Year



The number of incidents by hour of day follows a normal curve for fire department operations. However, it is interesting to note the annual increase in activity during peak hours from 10:00 – 16:00.

Number of Incidents by Hour of Day by Year



Here is a “temporal activity map” showing incident activity by hour of day and day of week.

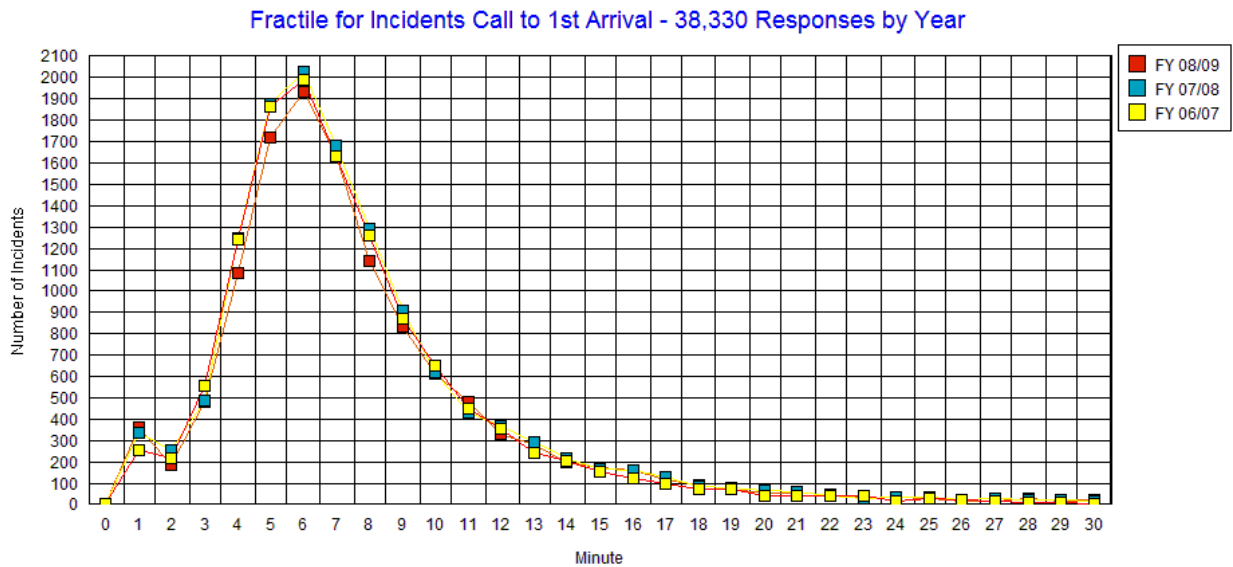
**County-wide Activity - 3 Yrs**

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Total
00:00-00:59	178	160	144	161	183	246	201	1,273
01:00-01:59	142	144	149	131	125	200	185	1,076
02:00-02:59	123	112	139	124	124	163	200	985
03:00-03:59	88	122	129	111	109	138	161	858
04:00-04:59	92	119	118	122	147	150	129	877
05:00-05:59	129	124	120	104	121	124	138	860
06:00-06:59	202	171	167	156	175	179	129	1,179
07:00-07:59	258	232	263	251	260	224	210	1,698
08:00-08:59	414	374	370	364	369	334	309	2,534
09:00-09:59	469	439	468	497	511	467	429	3,280
10:00-10:59	516	507	508	496	573	561	526	3,687
11:00-11:59	542	517	496	537	591	555	598	3,836
12:00-12:59	538	511	535	469	609	699	579	3,940
13:00-13:59	526	530	544	536	638	687	577	4,038
14:00-14:59	540	570	579	544	659	761	593	4,246
15:00-15:59	491	513	543	519	615	702	536	3,919
16:00-16:59	480	522	443	505	610	658	549	3,767
17:00-17:59	420	473	473	480	583	555	484	3,468
18:00-18:59	416	417	404	436	532	513	446	3,164
19:00-19:59	405	414	376	401	507	476	415	2,994
20:00-20:59	360	375	349	404	507	490	362	2,847
21:00-21:59	299	324	295	302	420	359	318	2,317
22:00-22:59	254	230	272	238	341	338	259	1,932
23:00-23:59	173	214	214	202	259	279	199	1,540
Total	8,055	8,114	8,098	8,090	9,568	9,858	8,532	60,315

Here activity is focused during the afternoon hours on Friday and Saturday.

**2.1.2 Fractile Performance for El Dorado County**

The following graph illustrates fractile performance for El Dorado County. Incidents with a response time greater than 60 minutes were eliminated from this fractile analysis. The measurement is from the time the request for assistance was received until the first apparatus arrived on the scene. This graph includes data from all three years for fire and EMS incidents only.



In the graph above, performance appears very consistent from year-to-year. Also, there is a very slow drop-off after 7 minutes indicating a significant number of incidents with longer call to arrival times.

***Fractile Breakdown by Call Type for the County***

Here is the statistical breakdown for the same set of incidents:

INC Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
EMS	11,300	00:12:30	00:09:30	86.05%	93.71%
OF	348	00:17:30	00:11:45	76.14%	87.35%
WF	272	00:24:00	00:17:30	58.08%	74.63%
BF	190	00:14:00	00:10:45	83.68%	91.57%

### 2.1.3 Temporal Performance for the County

Here is a chart that compares performance by hour of day and day of week. Here the percentage of compliance with an 11-minute call to first apparatus arrival is being measured.

Call to 1st Arrival @ 11 minutes

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Hourly %
00:00-00:59	80%	69%	83%	63%	91%	72%	80%	78%
01:00-01:59	85%	74%	77%	78%	81%	88%	77%	80%
02:00-02:59	64%	72%	88%	79%	90%	71%	87%	80%
03:00-03:59	82%	82%	73%	68%	85%	82%	89%	81%
04:00-04:59	91%	90%	83%	71%	91%	92%	88%	87%
05:00-05:59	78%	86%	71%	81%	87%	79%	79%	80%
06:00-06:59	86%	92%	89%	88%	88%	80%	67%	85%
07:00-07:59	89%	83%	85%	85%	77%	85%	89%	85%
08:00-08:59	83%	87%	85%	92%	86%	81%	83%	85%
09:00-09:59	84%	85%	87%	91%	83%	89%	88%	87%
10:00-10:59	82%	89%	89%	87%	92%	86%	82%	87%
11:00-11:59	90%	84%	83%	85%	82%	79%	84%	84%
12:00-12:59	88%	78%	86%	80%	82%	78%	82%	82%
13:00-13:59	86%	87%	84%	84%	87%	75%	90%	84%
14:00-14:59	89%	86%	87%	81%	90%	84%	86%	86%
15:00-15:59	90%	87%	83%	85%	89%	81%	83%	85%
16:00-16:59	87%	93%	85%	90%	88%	78%	86%	87%
17:00-17:59	92%	91%	91%	90%	87%	83%	89%	89%
18:00-18:59	80%	92%	82%	84%	89%	90%	89%	87%
19:00-19:59	87%	85%	80%	81%	82%	90%	89%	85%
20:00-20:59	86%	92%	89%	85%	82%	93%	92%	88%
21:00-21:59	87%	86%	91%	84%	84%	88%	89%	87%
22:00-22:59	90%	80%	86%	86%	86%	89%	90%	87%
23:00-23:59	75%	86%	85%	88%	75%	90%	76%	83%
Daily %	86%	86%	85%	85%	86%	83%	85%	85%



Here are the results using the same dataset for 15 minutes.

Call to 1st Arrival @ 15 minutes

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Hourly %
00:00-00:59	84%	86%	89%	71%	100%	84%	93%	88%
01:00-01:59	96%	87%	94%	93%	97%	95%	93%	94%
02:00-02:59	91%	86%	94%	89%	97%	92%	96%	93%
03:00-03:59	93%	96%	83%	86%	96%	85%	94%	91%
04:00-04:59	96%	100%	93%	88%	97%	97%	94%	95%
05:00-05:59	88%	91%	88%	100%	91%	97%	82%	90%
06:00-06:59	93%	100%	94%	97%	97%	84%	74%	92%
07:00-07:59	98%	92%	93%	94%	91%	98%	96%	95%
08:00-08:59	91%	96%	93%	98%	94%	95%	91%	94%
09:00-09:59	93%	95%	97%	97%	90%	94%	96%	95%
10:00-10:59	92%	97%	93%	95%	97%	93%	91%	94%
11:00-11:59	97%	96%	91%	91%	93%	91%	90%	93%
12:00-12:59	93%	92%	96%	91%	95%	90%	86%	92%
13:00-13:59	93%	94%	90%	88%	92%	85%	92%	91%
14:00-14:59	93%	91%	96%	87%	97%	90%	93%	92%
15:00-15:59	93%	94%	89%	92%	94%	90%	90%	92%
16:00-16:59	91%	97%	91%	96%	93%	89%	91%	93%
17:00-17:59	95%	98%	95%	96%	94%	88%	94%	94%
18:00-18:59	93%	97%	88%	92%	96%	99%	97%	95%
19:00-19:59	98%	94%	95%	92%	88%	98%	95%	94%
20:00-20:59	94%	97%	95%	95%	90%	94%	95%	94%
21:00-21:59	97%	97%	98%	95%	89%	92%	99%	95%
22:00-22:59	97%	91%	96%	98%	92%	97%	96%	95%
23:00-23:59	92%	92%	94%	93%	90%	99%	92%	93%
Daily %	94%	95%	93%	93%	93%	92%	92%	93%

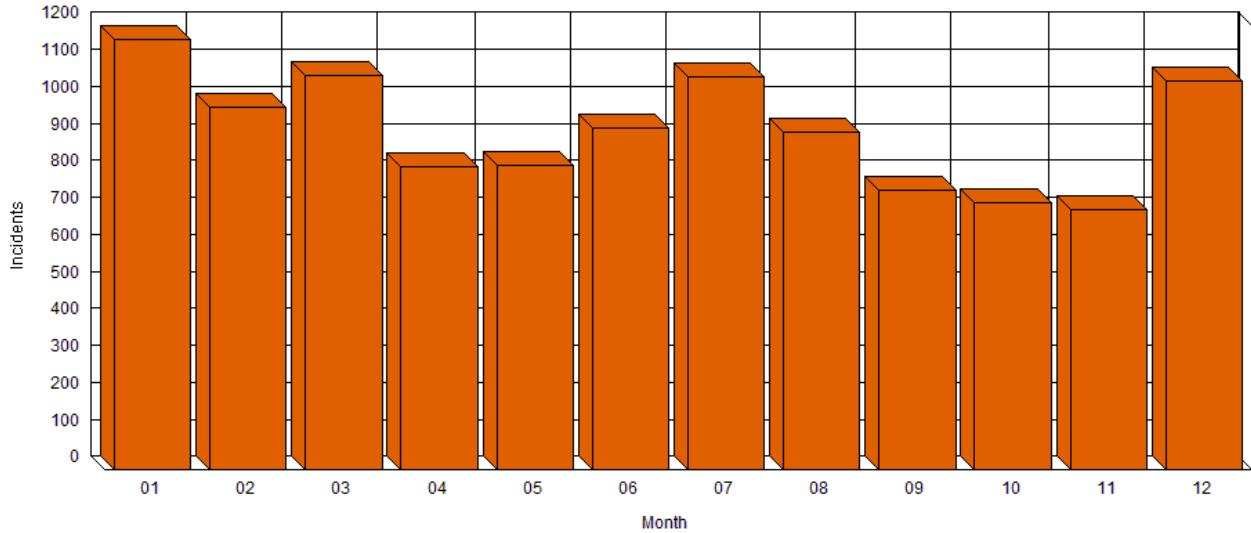
**3.1 TAHOE BASIN – DEMAND AND PERFORMANCE**

Here is the same breakdown for the Tahoe Basin:

	BF	EMS	WF	OF	OTH	Total
FY 06/07	41	2,331	82	48	990	3,492
FY 07/08	69	2,802	35	44	1,250	4,200
FY 08/09	40	2,281	20	26	935	3,302
Total	150	7,414	137	118	3,175	10,994
Percentage	2%	67%	1%	1%	29%	100%

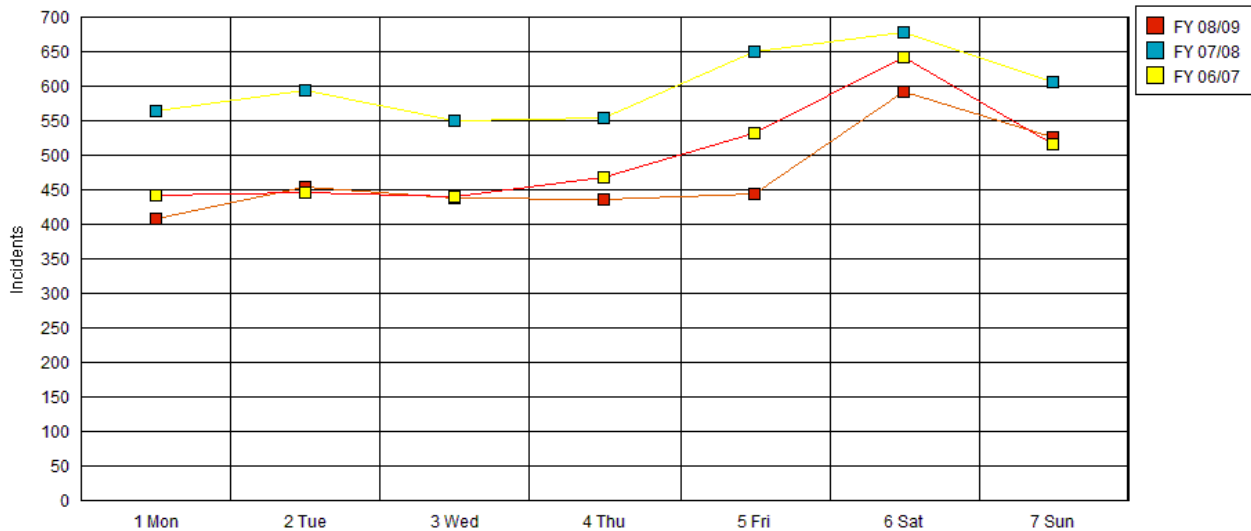
While Tahoe Basin shows a general increase in activity in the summer months, winter recreational activities may be providing an activity boost December through March.

Number of Incidents by Month

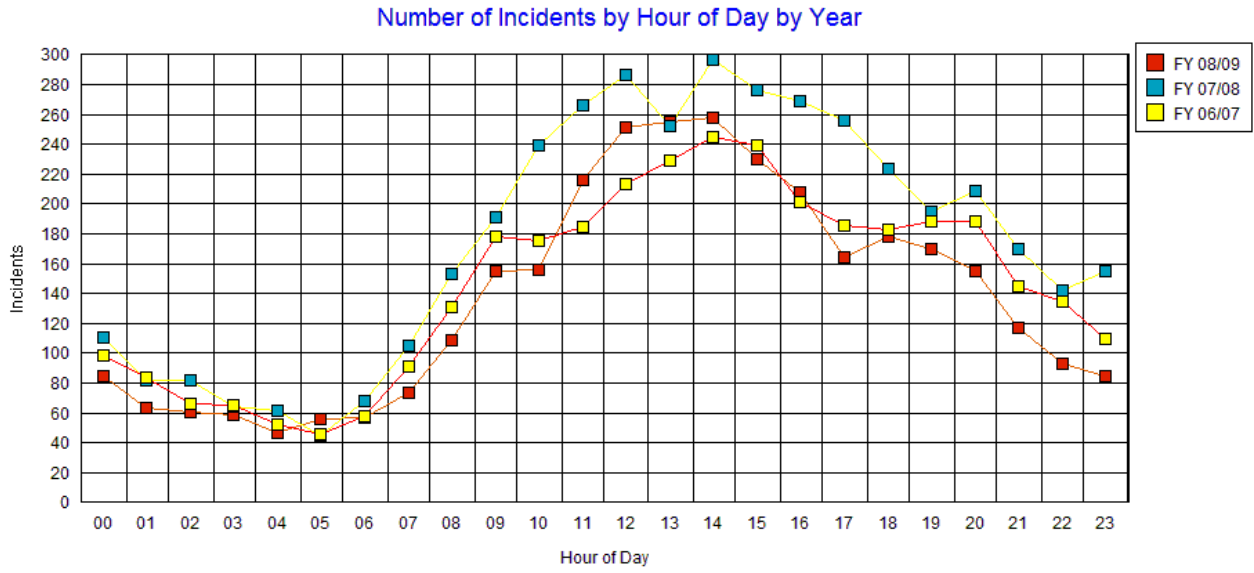


Incidents tend to increase as the weekend starts.

Number of Incidents by Day of Week by Year



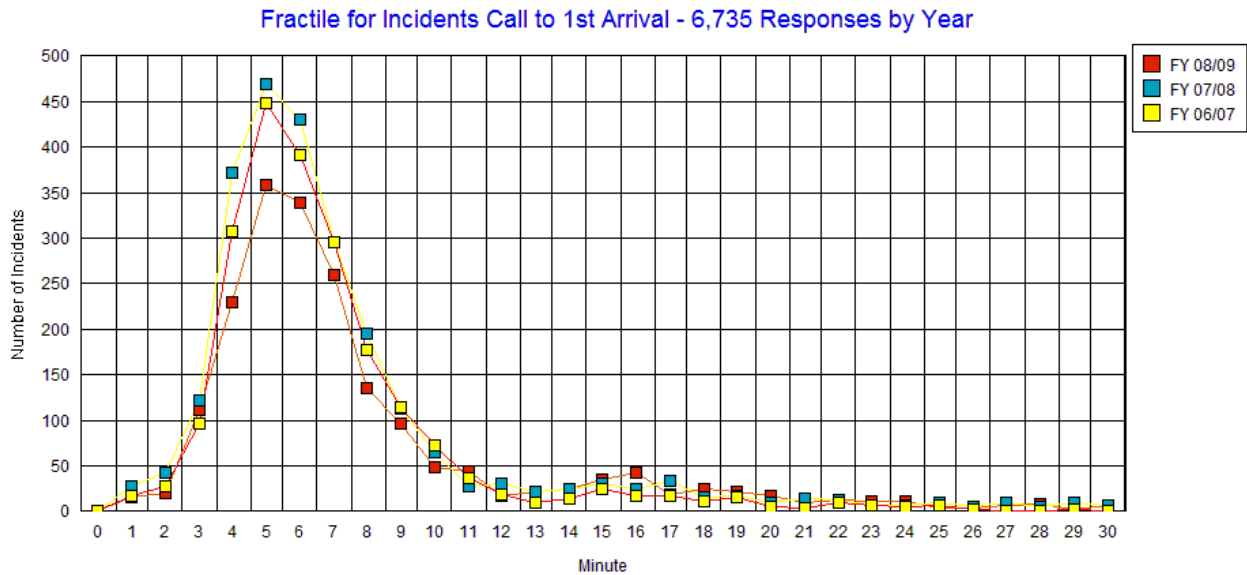
Here is the annual trend by hour of day.



### 3.1.1 Temporal Activity for Tahoe Basin

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Total
00:00-00:59	23	25	28	28	21	50	39	214
01:00-01:59	21	21	21	16	20	45	26	170
02:00-02:59	17	16	26	20	20	28	39	166
03:00-03:59	15	19	17	17	23	20	32	143
04:00-04:59	11	9	14	16	18	28	23	119
05:00-05:59	17	14	8	11	16	18	28	112
06:00-06:59	19	15	17	20	13	31	9	124
07:00-07:59	19	25	21	27	28	38	26	184
08:00-08:59	36	37	28	51	34	33	40	259
09:00-09:59	41	40	49	41	47	47	48	313
10:00-10:59	57	60	62	64	71	39	42	395
11:00-11:59	71	63	56	80	58	75	74	477
12:00-12:59	92	69	68	57	74	96	92	548
13:00-13:59	75	67	80	62	67	98	65	514
14:00-14:59	63	58	70	76	66	127	83	543
15:00-15:59	65	64	59	79	80	113	69	529
16:00-16:59	51	62	49	50	58	91	77	438
17:00-17:59	53	62	44	40	54	77	65	395
18:00-18:59	36	55	49	45	73	61	50	369
19:00-19:59	52	52	55	42	58	58	68	385
20:00-20:59	50	51	38	52	69	56	53	369
21:00-21:59	41	28	27	34	54	40	50	274
22:00-22:59	29	29	38	26	44	38	38	242
23:00-23:59	26	32	34	36	44	52	29	253
Total	980	973	958	990	1,110	1,359	1,165	7,535

### 3.1.2 Overall Fractile Performance for Tahoe Basin



The key area to watch is the drop-off of the number of minutes after 7 minutes. The faster the drop-off the fewer the incidents experiencing delayed first apparatus arrival. Here we see a fairly normal drop-off until 15 – 20 minutes where longer response times indicate few responses to a few remote locations.

#### Fractile Performance by Call Type for Tahoe Basin

INC Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
EMS	1,665	00:14:45	00:08:45	85.52%	90.39%
BF	36	00:16:45	00:09:00	83.33%	88.88%
OF	23	00:09:15	00:09:00	100.00%	100.00%
WF	17	00:24:45	00:19:00	58.82%	70.58%

### 3.1.3 Temporal Performance for Tahoe Basin

Call to 1st Arrival @ 11 minutes

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Hourly %
00:00-00:59	100%	100%	83%	60%	100%	100%	100%	93%
01:00-01:59	100%	67%	100%	100%	100%	100%	86%	91%
02:00-02:59	100%	100%	100%	100%	100%	100%	100%	100%
03:00-03:59	100%	100%	75%	100%	100%	100%	88%	94%
04:00-04:59	100%	100%	100%	100%	75%	100%	100%	97%
05:00-05:59	100%	100%	100%	100%	100%	100%	100%	100%
06:00-06:59	80%	100%	100%	100%		100%	100%	96%
07:00-07:59	100%	100%	100%	100%	83%	100%	89%	95%
08:00-08:59	100%	83%	100%	100%	100%	100%	100%	98%
09:00-09:59	92%	83%	75%	71%	100%	82%	100%	87%
10:00-10:59	100%	82%	80%	88%	100%	82%	86%	87%
11:00-11:59	100%	89%	74%	64%	61%	74%	63%	74%
12:00-12:59	67%	55%	78%	80%	88%	71%	71%	73%
13:00-13:59	68%	76%	70%	64%	76%	42%	73%	66%
14:00-14:59	95%	78%	81%	69%	100%	61%	79%	78%
15:00-15:59	93%	73%	73%	92%	85%	73%	67%	78%
16:00-16:59	90%	86%	50%	86%	80%	73%	81%	78%
17:00-17:59	92%	93%	100%	86%	100%	74%	88%	88%
18:00-18:59	91%	100%	92%	100%	93%	92%	91%	94%
19:00-19:59	100%	100%	100%	100%	92%	100%	95%	98%
20:00-20:59	92%	100%	88%	100%	92%	100%	100%	96%
21:00-21:59	100%	100%	100%	80%	91%	92%	100%	95%
22:00-22:59	100%	71%	80%	100%	100%	100%	100%	93%
23:00-23:59	100%	100%	100%	100%	100%	100%	100%	100%
Daily %	90%	85%	82%	86%	89%	81%	86%	85%

Here is the same record set at 15 minutes.

Call to 1st Arrival @ 15 minutes

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Hourly %
00:00-00:59	100%	100%	83%	60%	100%	100%	100%	93%
01:00-01:59	100%	83%	100%	100%	100%	100%	86%	94%
02:00-02:59	100%	100%	100%	100%	100%	100%	100%	100%
03:00-03:59	100%	100%	75%	100%	100%	100%	100%	97%
04:00-04:59	100%	100%	100%	100%	100%	100%	100%	100%
05:00-05:59	100%	100%	100%	100%	100%	100%	100%	100%
06:00-06:59	100%	100%	100%	100%		100%	100%	100%
07:00-07:59	100%	100%	100%	100%	100%	100%	100%	100%
08:00-08:59	100%	83%	100%	100%	100%	100%	100%	98%
09:00-09:59	100%	83%	88%	71%	100%	88%	100%	91%
10:00-10:59	100%	91%	85%	94%	100%	91%	86%	92%
11:00-11:59	100%	100%	79%	71%	78%	87%	75%	84%
12:00-12:59	83%	75%	96%	92%	94%	88%	71%	85%
13:00-13:59	84%	88%	74%	64%	82%	67%	73%	76%
14:00-14:59	95%	83%	88%	69%	100%	71%	95%	84%
15:00-15:59	93%	87%	82%	100%	90%	85%	76%	87%
16:00-16:59	90%	86%	67%	93%	87%	80%	86%	84%
17:00-17:59	92%	93%	100%	86%	100%	74%	88%	88%
18:00-18:59	91%	100%	92%	100%	93%	92%	91%	94%
19:00-19:59	100%	100%	100%	100%	92%	100%	95%	98%
20:00-20:59	92%	100%	100%	100%	92%	100%	100%	97%
21:00-21:59	100%	100%	100%	100%	91%	92%	100%	97%
22:00-22:59	100%	71%	100%	100%	100%	100%	100%	95%
23:00-23:59	100%	100%	100%	100%	100%	100%	100%	100%
Daily %	94%	91%	88%	89%	93%	88%	90%	90%

Tahoe Basin performance is fairly consistent. Most systems would experience a greater performance shift by hour of day with poorer performance during early morning hours.

By comparing the temporal activity chart with this temporal performance chart it appears the increased activity occurring during daytime hours may be a factor dragging-down performance. This may explain the better performance observed in early evening hours.

#### 4.1 MEEKS BAY AND FALLEN LEAF FIRE DEPARTMENTS

From 2006 through 2008 the Fallen Leaf Fire Department responded to an average of 32 incidents per year. Peak activity is May through September. Average arrival time for first Fallen Leaf responder is 4:48 from time of dispatch. Ambulance response times from dispatch to arrival average 18:57.

Meeks Bay responded to 201 incidents in 2006, 215 in 2007 and 213 incidents in 2008. Roughly 60 percent of incidents are EMS and 20 percent are fire. The majority of dispatch-to-arrival times are less than 10 minutes.

Approximate Percentage by Incident Type:

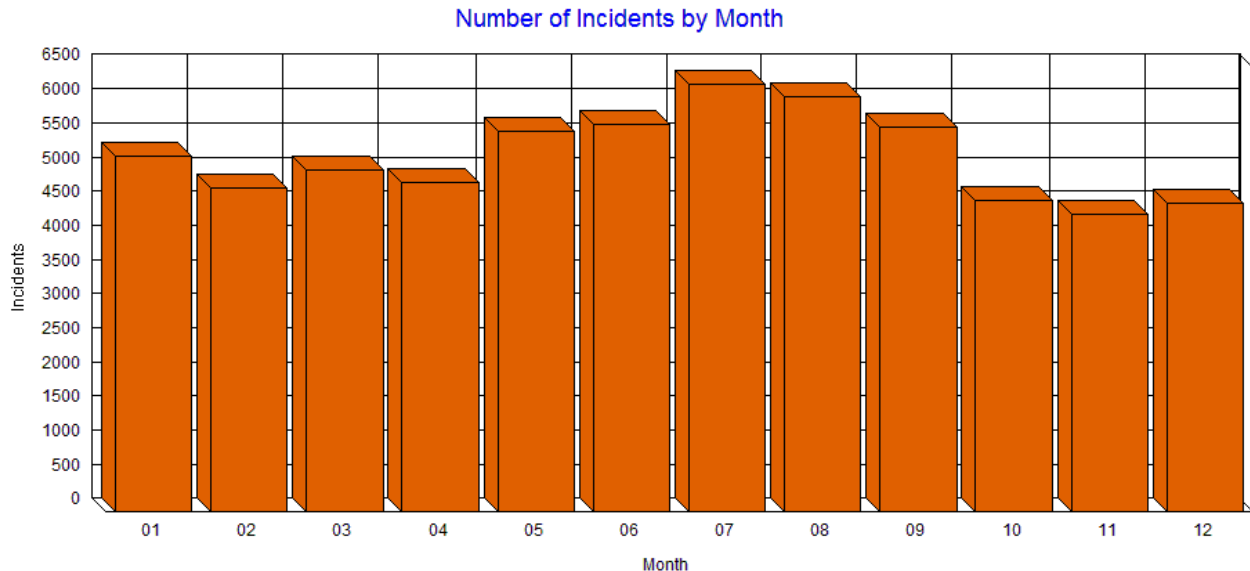
Incident Type	BF	WF	OF	EMS	OTH
Fallen Leaf	3%	25%	24%	37%	11%
Meeks Bay	1 – 2%	1 – 2%	3%	79%	15%

### 5.1 WEST SLOPE – DEMAND AND PERFORMANCE

Using the additional year for trend analysis, here are the totals for West Slope:

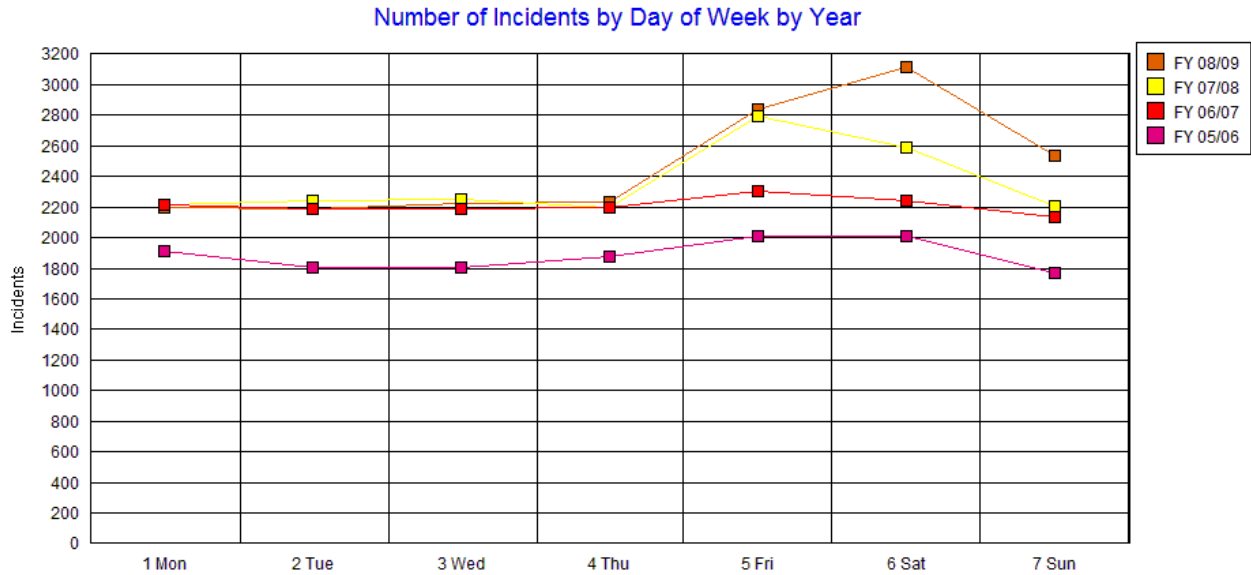
	BF	EMS	WF	OF	OTH	Total
FY 05/06	204	9,710	286	625	2,367	13,192
FY 06/07	171	11,589	273	502	2,943	15,478
FY 07/08	173	11,481	352	480	4,015	16,501
FY 08/09	157	11,344	279	380	5,178	17,338
Total	705	44,124	1,190	1,987	14,503	62,509
Percentage	1%	71%	2%	3%	23%	100%

In the West Slope, incident activity tends to peak in the summer months.

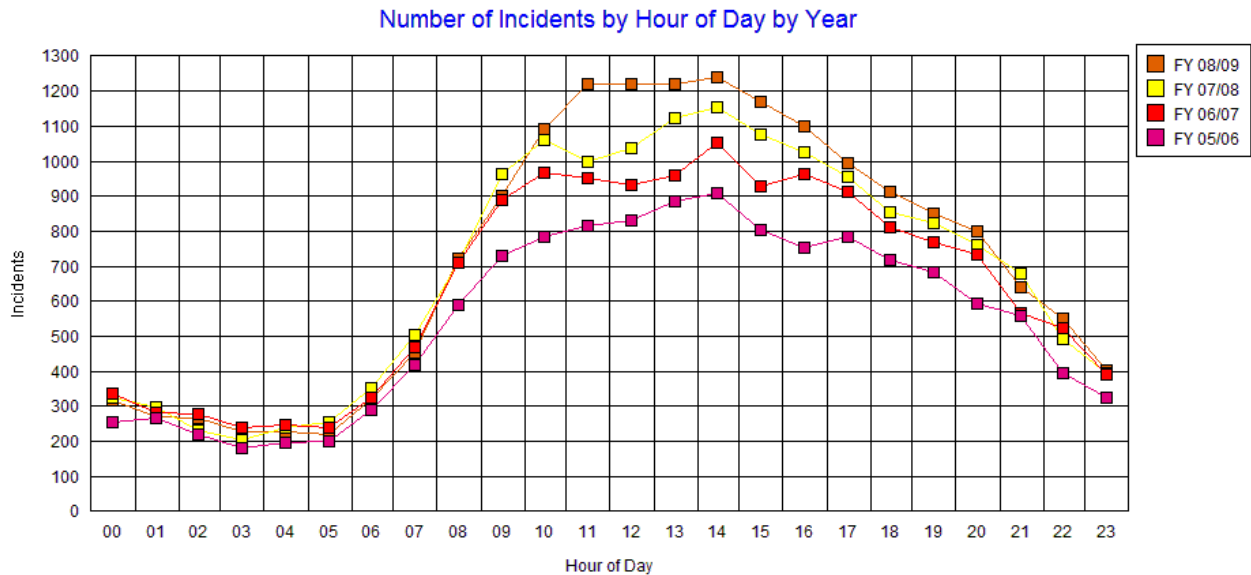




Like Tahoe Basic incident activity tends to peak early weekend.



While activity has remained steady in the early morning hours, late morning, afternoon and evening activity is increasing with each passing year.

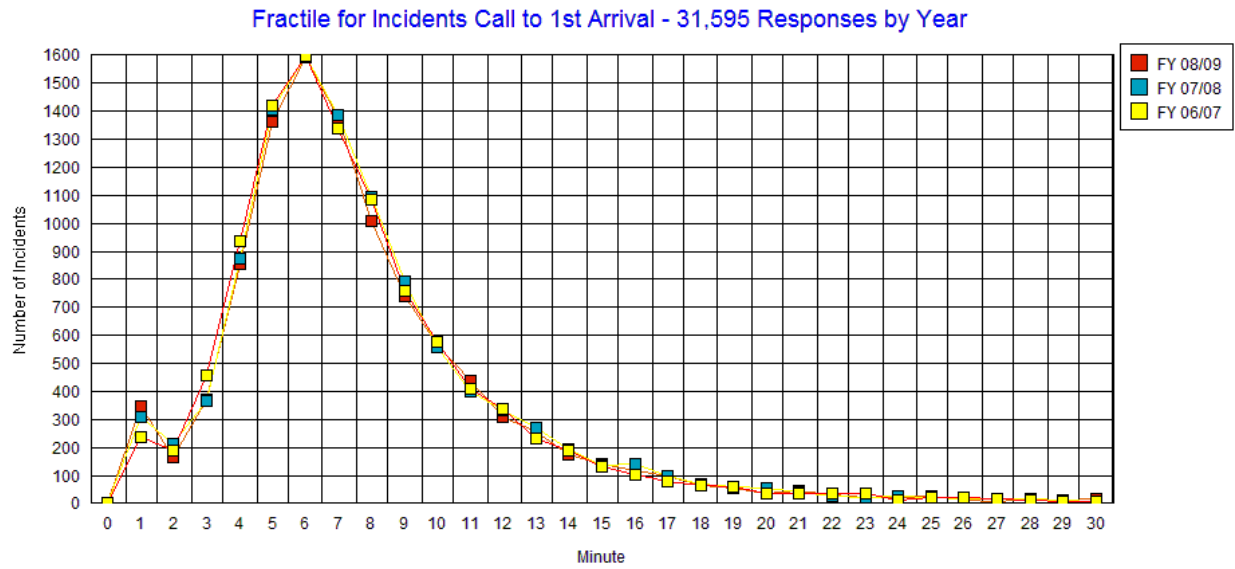


### 5.1.1 Temporal Activity for West Slope

Again, activity is greatest during afternoon hours at the end of the week.

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Total
00:00-00:59	116	108	92	99	128	158	136	837
01:00-01:59	103	94	105	92	89	122	125	730
02:00-02:59	86	85	97	86	87	112	126	679
03:00-03:59	62	81	89	85	70	98	96	581
04:00-04:59	66	91	84	83	97	99	83	603
05:00-05:59	89	85	86	78	90	82	98	608
06:00-06:59	147	118	126	102	125	111	94	823
07:00-07:59	186	156	181	171	169	132	136	1,131
08:00-08:59	277	254	259	227	214	200	179	1,610
09:00-09:59	311	265	295	300	277	260	223	1,931
10:00-10:59	332	284	296	311	334	304	268	2,129
11:00-11:59	330	292	302	291	354	286	312	2,167
12:00-12:59	320	325	308	290	345	337	309	2,234
13:00-13:59	303	329	343	327	333	325	295	2,255
14:00-14:59	346	374	346	326	363	344	307	2,406
15:00-15:59	308	322	345	304	323	312	283	2,197
16:00-16:59	287	318	285	314	327	301	289	2,121
17:00-17:59	253	292	312	303	322	277	280	2,039
18:00-18:59	277	259	256	265	282	304	286	1,929
19:00-19:59	260	253	222	246	289	264	254	1,788
20:00-20:59	214	230	215	237	263	295	214	1,668
21:00-21:59	187	222	190	196	235	198	203	1,431
22:00-22:59	167	156	182	160	216	218	171	1,270
23:00-23:59	115	134	153	124	157	174	134	991
Total	5,142	5,127	5,169	5,017	5,489	5,313	4,901	36,158

## 5.1.2 Fractile Performance for West Slope



West Slope performance tapers down very slowly to about 20 minutes for call to arrival.

### Fractile Performance by Call Type for West Slope

INC Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
EMS	9,635	00:12:15	00:09:30	86.14%	94.29%
OF	325	00:17:45	00:12:00	74.46%	86.46%
WF	255	00:23:45	00:17:15	58.03%	74.90%
BF	154	00:13:00	00:10:45	83.76%	92.20%

### 5.1.3 Temporal Performance for West Slope

Call to 1st Arrival @ 11 minutes

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Hourly %
00:00-00:59	77%	64%	83%	63%	90%	65%	76%	75%
01:00-01:59	83%	76%	75%	75%	78%	85%	75%	78%
02:00-02:59	56%	71%	87%	76%	88%	66%	82%	76%
03:00-03:59	79%	79%	73%	63%	82%	78%	89%	78%
04:00-04:59	90%	89%	80%	67%	93%	90%	83%	85%
05:00-05:59	74%	83%	67%	76%	84%	77%	71%	76%
06:00-06:59	87%	91%	87%	85%	88%	76%	64%	83%
07:00-07:59	88%	81%	84%	83%	77%	80%	89%	83%
08:00-08:59	81%	88%	84%	91%	84%	79%	78%	84%
09:00-09:59	83%	85%	88%	92%	81%	91%	86%	87%
10:00-10:59	81%	90%	91%	87%	91%	86%	81%	87%
11:00-11:59	89%	84%	85%	89%	86%	81%	87%	86%
12:00-12:59	92%	84%	88%	80%	81%	79%	85%	84%
13:00-13:59	90%	90%	88%	88%	88%	83%	93%	88%
14:00-14:59	87%	87%	88%	82%	89%	91%	87%	87%
15:00-15:59	89%	89%	84%	84%	90%	84%	86%	86%
16:00-16:59	87%	95%	90%	91%	89%	78%	87%	88%
17:00-17:59	92%	90%	90%	91%	86%	86%	89%	89%
18:00-18:59	79%	90%	80%	82%	88%	89%	89%	86%
19:00-19:59	85%	82%	78%	79%	81%	88%	87%	83%
20:00-20:59	86%	91%	90%	83%	80%	93%	91%	87%
21:00-21:59	86%	84%	90%	84%	82%	87%	86%	85%
22:00-22:59	89%	82%	86%	84%	84%	88%	89%	86%
23:00-23:59	71%	83%	83%	86%	73%	88%	72%	80%
Daily %	85%	86%	86%	84%	85%	84%	85%	85%

Here is the same dataset at 15 minutes.

Call to 1st Arrival @ 15 minutes

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Hourly %
00:00-00:59	82%	84%	90%	73%	100%	80%	91%	86%
01:00-01:59	96%	88%	93%	92%	96%	94%	94%	93%
02:00-02:59	89%	86%	94%	88%	96%	91%	95%	91%
03:00-03:59	92%	96%	85%	84%	95%	81%	93%	89%
04:00-04:59	95%	100%	92%	86%	97%	97%	92%	94%
05:00-05:59	85%	90%	87%	100%	89%	97%	75%	88%
06:00-06:59	92%	100%	93%	96%	97%	82%	72%	91%
07:00-07:59	98%	91%	93%	94%	89%	97%	94%	94%
08:00-08:59	91%	97%	93%	97%	93%	94%	89%	94%
09:00-09:59	92%	97%	98%	99%	89%	95%	95%	95%
10:00-10:59	91%	97%	95%	96%	96%	94%	91%	94%
11:00-11:59	97%	95%	94%	95%	95%	91%	92%	94%
12:00-12:59	95%	96%	96%	90%	95%	90%	90%	93%
13:00-13:59	96%	95%	95%	92%	94%	89%	96%	94%
14:00-14:59	93%	93%	97%	90%	96%	96%	93%	94%
15:00-15:59	93%	96%	90%	91%	96%	92%	93%	93%
16:00-16:59	91%	99%	95%	97%	94%	90%	92%	94%
17:00-17:59	96%	99%	95%	97%	94%	91%	95%	95%
18:00-18:59	93%	96%	87%	91%	96%	100%	98%	95%
19:00-19:59	97%	92%	94%	92%	88%	97%	96%	94%
20:00-20:59	94%	97%	94%	95%	89%	94%	94%	94%
21:00-21:59	97%	96%	98%	94%	89%	92%	98%	95%
22:00-22:59	96%	95%	95%	98%	91%	97%	96%	95%
23:00-23:59	90%	90%	93%	92%	89%	98%	91%	92%
Daily %	94%	95%	94%	93%	93%	93%	93%	94%

## 6.1 SUMMARY OF DEMAND AND PERFORMANCE BY COMMUNITY

CAL Fire CAD data included a community reference with each apparatus response. Similarly, NFIRS 5 data included a city of incident. Here is a demand and performance summary calculated by the values of those two fields for fire and EMS incidents of 60 minutes or less during the three-year dataset.

Community	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
S Lake Tahoe	6,574	00:13:00	00:08:15	87.89%	91.81%
Placerville	5,585	00:10:15	00:08:30	91.69%	96.49%
El Dorado Hills	4,263	00:09:30	00:08:15	95.21%	98.87%
Cameron Park	3,644	00:07:45	00:06:45	98.24%	99.39%
Diamond Springs	3,301	00:08:30	00:07:15	96.72%	99.21%
Pollock Pines	2,136	00:11:15	00:09:00	89.18%	96.48%
Shingle Springs	1,720	00:11:00	00:09:00	90.17%	97.55%
El Dorado	1,145	00:10:00	00:08:15	93.18%	97.81%
Georgetown	1,079	00:18:15	00:13:30	70.34%	83.31%
Camino	1,066	00:12:45	00:10:15	83.86%	94.09%
Rescue	862	00:12:30	00:10:30	82.36%	95.59%
Garden Valley	840	00:11:15	00:09:45	88.69%	95.59%
Cool	638	00:15:45	00:13:15	64.10%	86.36%
Oak Hill	622	00:14:30	00:12:00	74.59%	90.67%
Pleasant Valley	548	00:16:30	00:13:30	62.77%	86.49%
Sierra Springs	443	00:17:45	00:16:00	26.86%	71.78%
Coloma	392	00:15:00	00:12:15	73.21%	89.79%
Logtown	350	00:19:45	00:17:00	41.42%	71.71%
Gold Hill	332	00:14:30	00:13:30	51.50%	93.07%
Grizzly Flats	283	00:29:15	00:25:15	19.78%	38.51%
Pacific Ranch	264	00:40:15	00:30:45	39.01%	51.51%
Sleepy Hollow	241	00:12:45	00:11:15	79.25%	96.26%
Pilot Hill	240	00:21:30	00:16:30	47.91%	73.33%
Mount Aukum	217	00:13:45	00:11:30	76.49%	93.08%
Fair Play	202	00:17:00	00:14:45	50.00%	80.69%
Mosquito	197	00:14:00	00:11:45	75.12%	92.38%
Kelsey	183	00:18:00	00:15:30	49.18%	75.40%
Somerset	147	00:19:15	00:16:45	41.49%	65.98%
Kyburz	141	00:29:00	00:25:45	14.18%	24.82%

Community	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Greenwood	132	00:15:45	00:12:45	59.84%	87.87%
Latrobe	129	00:15:30	00:12:45	68.99%	85.27%
Kirkwood	104	00:50:45	00:44:30	0.96%	1.92%
Strawberry	79	00:38:30	00:31:45	8.86%	17.72%
Outingdale	61	00:13:30	00:11:45	65.57%	91.80%
Pacific House	56	00:30:30	00:16:00	32.14%	71.42%
Omo Ranch	41	00:26:30	00:24:45	9.75%	14.63%
Twin Bridges	20	00:21:30	00:19:45	15.00%	55.00%
Meyers	12	00:09:30	00:09:30	100.00%	100.00%
Stateline	10	00:12:30	00:12:00	70.00%	100.00%
Amador Ranch	8	00:38:30	00:36:45	25.00%	25.00%
Desolation	6	00:44:45	00:25:45	16.66%	16.66%
Hope Valley	5	00:29:30	00:24:45	0.00%	20.00%

Here is the same data ordered by community name.

Community	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Amador Ranch	8	00:38:30	00:36:45	25.00%	25.00%
Cameron Park	3,644	00:07:45	00:06:45	98.24%	99.39%
Camino	1,066	00:12:45	00:10:15	83.86%	94.09%
Coloma	392	00:15:00	00:12:15	73.21%	89.79%
Cool	638	00:15:45	00:13:15	64.10%	86.36%
Desolation	6	00:44:45	00:25:45	16.66%	16.66%
Diamond Springs	3,301	00:08:30	00:07:15	96.72%	99.21%
El Dorado	1,145	00:10:00	00:08:15	93.18%	97.81%
El Dorado Hills	4,263	00:09:30	00:08:15	95.21%	98.87%
Fair Play	202	00:17:00	00:14:45	50.00%	80.69%
Garden Valley	840	00:11:15	00:09:45	88.69%	95.59%
Georgetown	1,079	00:18:15	00:13:30	70.34%	83.31%
Gold Hill	332	00:14:30	00:13:30	51.50%	93.07%
Greenwood	132	00:15:45	00:12:45	59.84%	87.87%
Grizzly Flats	283	00:29:15	00:25:15	19.78%	38.51%
Hope Valley	5	00:29:30	00:24:45	0.00%	20.00%
Kelsey	183	00:18:00	00:15:30	49.18%	75.40%
Kirkwood	104	00:50:45	00:44:30	0.96%	1.92%
Kyburz	141	00:29:00	00:25:45	14.18%	24.82%
Latrobe	129	00:15:30	00:12:45	68.99%	85.27%
Logtown	350	00:19:45	00:17:00	41.42%	71.71%
Meyers	12	00:09:30	00:09:30	100.00%	100.00%
Mosquito	197	00:14:00	00:11:45	75.12%	92.38%
Mount Aukum	217	00:13:45	00:11:30	76.49%	93.08%
Oak Hill	622	00:14:30	00:12:00	74.59%	90.67%
Omo Ranch	41	00:26:30	00:24:45	9.75%	14.63%
Outingdale	61	00:13:30	00:11:45	65.57%	91.80%
Pacific House	56	00:30:30	00:16:00	32.14%	71.42%
Pacific Ranch	264	00:40:15	00:30:45	39.01%	51.51%
Pilot Hill	240	00:21:30	00:16:30	47.91%	73.33%
Placerville	5,585	00:10:15	00:08:30	91.69%	96.49%
Pleasant Valley	548	00:16:30	00:13:30	62.77%	86.49%



Community	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Pollock Pines	2,136	00:11:15	00:09:00	89.18%	96.48%
Rescue	862	00:12:30	00:10:30	82.36%	95.59%
S Lake Tahoe	6,574	00:13:00	00:08:15	87.89%	91.81%
Shingle Springs	1,720	00:11:00	00:09:00	90.17%	97.55%
Sierra Springs	443	00:17:45	00:16:00	26.86%	71.78%
Sleepy Hollow	241	00:12:45	00:11:15	79.25%	96.26%
Somerset	147	00:19:15	00:16:45	41.49%	65.98%
Stateline	10	00:12:30	00:12:00	70.00%	100.00%
Strawberry	79	00:38:30	00:31:45	8.86%	17.72%
Twin Bridges	20	00:21:30	00:19:45	15.00%	55.00%

Here are community stats broken down by incident type.

Community / Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Alpine County_EMS	1	00:34:30	00:34:30	0.00%	0.00%
Amador Ranch_EMS	3	00:20:15	00:20:15	0.00%	0.00%
Amador Ranch_OF	2	00:00:45	00:00:45	100.00%	100.00%
Amador Ranch_WF	3	00:38:30	00:38:30	0.00%	0.00%
Cameron Park_BF	61	00:08:15	00:07:45	96.72%	100.00%
Cameron Park_EMS	3,480	00:07:45	00:06:45	98.50%	99.48%
Cameron Park_OF	82	00:08:45	00:07:30	90.24%	96.34%
Cameron Park_WF	21	00:09:00	00:08:45	90.47%	95.23%
Camino_	1	00:42:00	00:42:00	0.00%	0.00%
Camino_BF	20	00:11:45	00:10:30	80.00%	95.00%
Camino_EMS	950	00:12:15	00:10:00	85.57%	95.36%
Camino_OF	66	00:22:15	00:14:00	69.69%	81.81%
Camino_WF	29	00:17:00	00:13:00	65.51%	82.75%
Coloma_BF	4	00:11:45	00:11:45	75.00%	100.00%
Coloma_EMS	358	00:15:00	00:12:15	74.02%	90.22%
Coloma_OF	15	00:15:45	00:15:00	60.00%	80.00%
Coloma_WF	15	00:16:00	00:14:30	66.66%	86.66%
Cool_BF	7	00:15:30	00:13:45	71.42%	85.71%
Cool_EMS	600	00:16:00	00:13:15	64.00%	86.33%

Community / Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Cool_OF	13	00:18:45	00:15:15	69.23%	76.92%
Cool_WF	18	00:14:45	00:13:45	61.11%	94.44%
Desolation_EMS	3	00:44:45	00:44:45	0.00%	0.00%
Desolation_WF	3	00:21:15	00:21:15	33.33%	33.33%
Diamond Springs_BF	26	00:09:15	00:08:15	96.15%	96.15%
Diamond Springs_EMS	3,175	00:08:30	00:07:15	97.07%	99.33%
Diamond Springs_OF	76	00:11:45	00:08:45	86.84%	96.05%
Diamond Springs_WF	24	00:12:30	00:10:45	83.33%	95.83%
El Dorado County_EMS	1	00:13:45	00:13:45	0.00%	100.00%
El Dorado Hills_BF	94	00:10:30	00:09:00	94.68%	100.00%
El Dorado Hills_EMS	3,945	00:09:15	00:08:15	95.79%	99.18%
El Dorado Hills_OF	157	00:13:45	00:10:30	82.80%	91.71%
El Dorado Hills_WF	67	00:10:45	00:09:45	91.04%	95.52%
El Dorado_BF	14	00:09:45	00:09:45	100.00%	100.00%
El Dorado_EMS	1,081	00:09:45	00:08:00	93.89%	98.24%
El Dorado_OF	30	00:18:30	00:14:15	76.66%	83.33%
El Dorado_WF	20	00:12:30	00:11:30	75.00%	95.00%
Fair Play_BF	2	00:18:30	00:18:30	0.00%	50.00%
Fair Play_EMS	183	00:16:15	00:14:45	52.45%	83.06%
Fair Play_OF	6	00:24:30	00:19:15	33.33%	50.00%
Fair Play_WF	11	00:22:30	00:16:30	27.27%	63.63%
Garden Valley_BF	15	00:14:15	00:12:30	46.66%	93.33%
Garden Valley_EMS	764	00:10:45	00:09:15	91.23%	96.59%
Garden Valley_OF	31	00:20:30	00:12:45	70.96%	87.09%
Garden Valley_WF	30	00:18:00	00:14:00	63.33%	80.00%
Georgetown_BF	11	00:22:30	00:19:45	63.63%	63.63%
Georgetown_EMS	951	00:16:45	00:12:45	72.45%	86.01%
Georgetown_OF	67	00:23:30	00:18:30	65.67%	73.13%
Georgetown_WF	50	00:35:45	00:27:45	38.00%	50.00%
Gold Hill_BF	6	00:17:45	00:14:00	50.00%	83.33%
Gold Hill_EMS	311	00:14:30	00:13:15	51.44%	93.89%
Gold Hill_OF	8	00:15:15	00:12:45	62.50%	87.50%

Community / Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Gold Hill_WF	7	00:20:45	00:18:00	42.85%	71.42%
Greenwood_BF	1	00:11:45	00:11:45	0.00%	100.00%
Greenwood_EMS	119	00:14:45	00:12:15	64.70%	89.91%
Greenwood_OF	1	00:13:15	00:13:15	0.00%	100.00%
Greenwood_WF	11	00:17:30	00:16:30	18.18%	63.63%
Grizzly Flats_BF	5	00:35:45	00:30:30	20.00%	20.00%
Grizzly Flats_EMS	248	00:28:00	00:25:00	18.95%	38.70%
Grizzly Flats_OF	19	00:39:00	00:23:00	36.84%	42.10%
Grizzly Flats_WF	11	00:35:45	00:31:45	9.09%	36.36%
Highway 88_EMS	3	00:28:45	00:28:45	0.00%	0.00%
Hope Valley_EMS	5	00:29:30	00:24:45	0.00%	20.00%
Kelsey_BF	5	00:18:00	00:14:15	60.00%	80.00%
Kelsey_EMS	161	00:16:30	00:15:00	52.79%	80.12%
Kelsey_OF	6	00:45:15	00:25:30	16.66%	16.66%
Kelsey_WF	11	00:24:45	00:21:00	9.09%	36.36%
Kirkwood_EMS	103	00:50:45	00:44:30	0.97%	1.94%
Kirkwood_WF	1	00:40:15	00:40:15	0.00%	0.00%
Kyburz_BF	2	00:24:30	00:24:30	0.00%	0.00%
Kyburz_EMS	121	00:26:45	00:25:00	15.70%	27.27%
Kyburz_OF	9	00:33:45	00:33:45	11.11%	22.22%
Kyburz_WF	9	00:38:15	00:33:00	0.00%	0.00%
Latrobe_BF	4	00:10:00	00:10:00	100.00%	100.00%
Latrobe_EMS	112	00:15:45	00:12:45	69.64%	84.82%
Latrobe_OF	5	00:12:45	00:12:00	40.00%	100.00%
Latrobe_WF	8	00:22:15	00:15:15	62.50%	75.00%
Logtown_BF	3	00:16:30	00:16:30	33.33%	66.66%
Logtown_EMS	327	00:19:00	00:16:30	42.20%	73.08%
Logtown_OF	6	00:22:45	00:18:45	16.66%	66.66%
Logtown_WF	14	00:37:15	00:25:15	35.71%	42.85%
Meyers_EMS	11	00:09:30	00:09:30	100.00%	100.00%
Meyers_OF	1	00:05:00	00:05:00	100.00%	100.00%
Minden_EMS	1	00:01:45	00:01:45	100.00%	100.00%
Mosquito_BF	4	00:13:15	00:13:15	50.00%	100.00%
Mosquito_EMS	166	00:12:30	00:11:00	79.51%	95.78%

Community / Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Mosquito_OF	13	00:17:30	00:15:15	61.53%	76.92%
Mosquito_WF	14	00:22:00	00:19:45	42.85%	64.28%
Mount Aukum_BF	6	00:12:00	00:11:30	66.66%	100.00%
Mount Aukum_EMS	201	00:13:30	00:11:15	78.10%	95.02%
Mount Aukum_OF	3	00:36:30	00:36:30	33.33%	33.33%
Mount Aukum_WF	7	00:42:45	00:27:45	57.14%	57.14%
Oak Hill_BF	12	00:11:15	00:11:15	75.00%	100.00%
Oak Hill_EMS	573	00:13:45	00:11:45	76.09%	91.79%
Oak Hill_OF	22	00:26:00	00:17:30	59.09%	77.27%
Oak Hill_WF	15	00:26:30	00:19:45	40.00%	60.00%
Omo Ranch_EMS	27	00:27:00	00:24:45	3.70%	11.11%
Omo Ranch_OF	8	00:31:00	00:26:30	25.00%	25.00%
Omo Ranch_WF	6	00:21:45	00:18:15	16.66%	16.66%
Outingdale_BF	2	00:13:30	00:13:30	50.00%	100.00%
Outingdale_EMS	56	00:13:30	00:11:45	67.85%	92.85%
Outingdale_OF	2	00:17:30	00:17:30	0.00%	50.00%
Outingdale_WF	1	00:06:00	00:06:00	100.00%	100.00%
Pacific House_EMS	50	00:17:00	00:15:30	32.00%	76.00%
Pacific House_OF	2	00:05:45	00:05:45	100.00%	100.00%
Pacific House_WF	4	00:46:00	00:46:00	0.00%	0.00%
Pacific Ranch_EMS	112	00:43:00	00:33:15	29.46%	41.96%
Pacific Ranch_OF	52	00:40:15	00:23:45	55.76%	63.46%
Pacific Ranch_WF	100	00:37:00	00:28:00	41.00%	56.00%
Pilot Hill_BF	2	00:15:30	00:15:30	50.00%	50.00%
Pilot Hill_EMS	208	00:21:00	00:15:45	50.00%	75.48%
Pilot Hill_OF	10	00:27:30	00:19:15	30.00%	70.00%
Pilot Hill_WF	20	00:34:00	00:20:45	35.00%	55.00%
Placerville_	2	00:05:00	00:05:00	100.00%	100.00%
Placerville_BF	95	00:09:15	00:08:00	96.84%	97.89%
Placerville_EMS	5,172	00:10:00	00:08:15	93.17%	97.79%
Placerville_OF	199	00:39:15	00:16:00	69.34%	78.39%
Placerville_WF	117	00:32:00	00:25:15	59.82%	68.37%
Pleasant Valley_BF	13	00:20:00	00:16:45	30.76%	61.53%
Pleasant Valley_EMS	503	00:15:30	00:13:15	64.41%	88.07%

Community / Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Pleasant Valley_OF	13	00:18:30	00:17:45	30.76%	69.23%
Pleasant Valley_WF	19	00:23:15	00:20:15	63.15%	73.68%
Pollock Pines_BF	13	00:09:15	00:08:45	100.00%	100.00%
Pollock Pines_EMS	2,027	00:10:45	00:09:00	90.28%	97.08%
Pollock Pines_OF	66	00:19:00	00:13:15	68.18%	83.33%
Pollock Pines_WF	30	00:19:00	00:14:15	56.66%	83.33%
Rescue_BF	18	00:15:45	00:12:15	77.77%	88.88%
Rescue_EMS	762	00:12:15	00:10:30	83.59%	96.45%
Rescue_OF	46	00:16:15	00:11:30	76.08%	84.78%
Rescue_WF	36	00:14:45	00:12:15	66.66%	94.44%
Round Hill_EMS	1	00:33:00	00:33:00	0.00%	0.00%
S Lake Tahoe_BF	145	00:11:45	00:08:45	88.27%	94.48%
S Lake Tahoe_EMS	6,205	00:13:00	00:08:15	88.10%	91.87%
S Lake Tahoe_OF	115	00:10:00	00:08:00	93.91%	98.26%
S Lake Tahoe_WF	109	00:22:00	00:15:30	68.80%	77.98%
Shingle Springs_BF	36	00:13:15	00:11:30	72.22%	97.22%
Shingle Springs_EMS	1,578	00:10:45	00:08:45	91.38%	98.03%
Shingle Springs_OF	62	00:15:00	00:11:15	77.41%	90.32%
Shingle Springs_WF	44	00:15:00	00:11:00	79.54%	90.90%
Sierra Springs_BF	3	00:23:30	00:23:30	0.00%	33.33%
Sierra Springs_EMS	409	00:17:15	00:15:30	27.87%	74.81%
Sierra Springs_OF	16	00:22:15	00:20:00	6.25%	25.00%
Sierra Springs_WF	15	00:23:45	00:21:00	26.66%	46.66%
Sleepy Hollow_BF	2	00:08:15	00:08:15	100.00%	100.00%
Sleepy Hollow_EMS	216	00:13:00	00:11:00	79.62%	95.83%
Sleepy Hollow_OF	17	00:12:30	00:12:00	70.58%	100.00%
Sleepy Hollow_WF	6	00:11:30	00:07:45	83.33%	100.00%
Somerset_BF	4	00:20:15	00:20:15	25.00%	75.00%
Somerset_EMS	125	00:19:15	00:17:45	42.40%	64.80%
Somerset_OF	4	00:23:45	00:23:45	75.00%	75.00%
Somerset_WF	14	00:16:45	00:15:30	28.57%	71.42%
Stateline_BF	1	00:08:45	00:08:45	100.00%	100.00%
Stateline_EMS	9	00:14:30	00:12:30	66.66%	100.00%
Strawberry_BF	1	00:28:00	00:28:00	0.00%	0.00%

Community / Type	Incidents	Mins. to 90%	Mins. to 80%	% @ 11 min	% @ 15 min
Strawberry_EMS	58	00:32:30	00:29:30	12.06%	20.68%
Strawberry_OF	14	00:52:00	00:48:45	0.00%	0.00%
Strawberry_WF	6	00:38:30	00:38:30	0.00%	33.33%
Twin Bridges_EMS	19	00:28:15	00:20:45	15.78%	52.63%
Twin Bridges_OF	1	00:12:45	00:12:45	0.00%	100.00%
Zephyr Cove_EMS	2	00:19:00	00:19:00	0.00%	50.00%
Zephyr Heights_BF	1	00:09:00	00:09:00	100.00%	100.00%

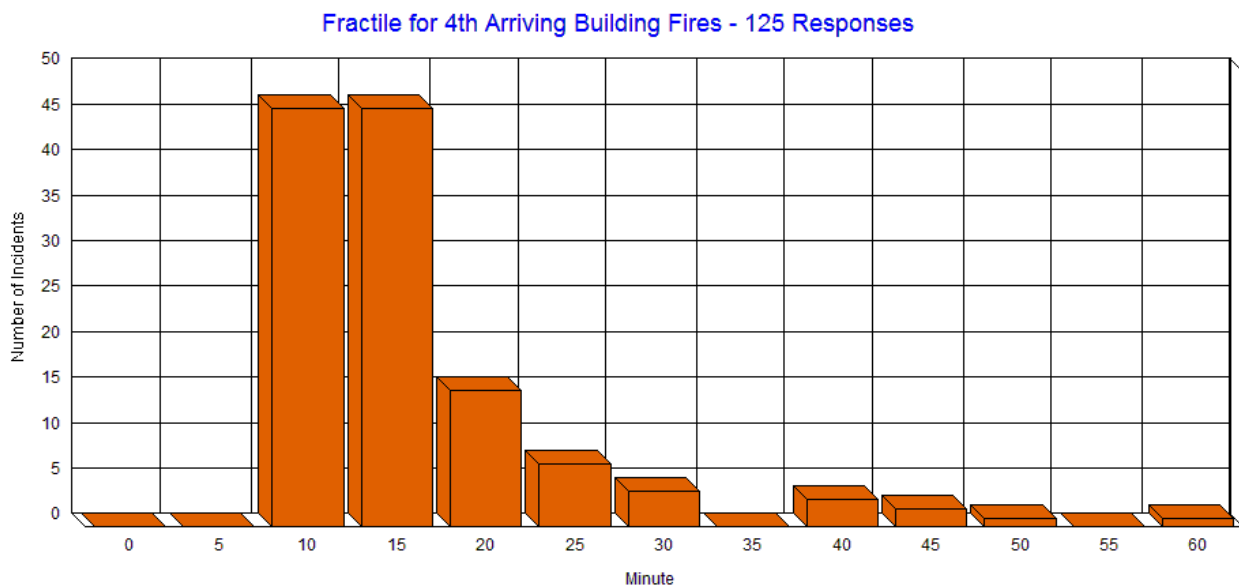
### 7.1 CONCENTRATION (FIRST ALARM) MEASUREMENTS

In the last 12-month fiscal year there were 125 4<sup>th</sup> apparatus arrivals at building fires and 126 4<sup>th</sup> apparatus arrivals at wildland fires.

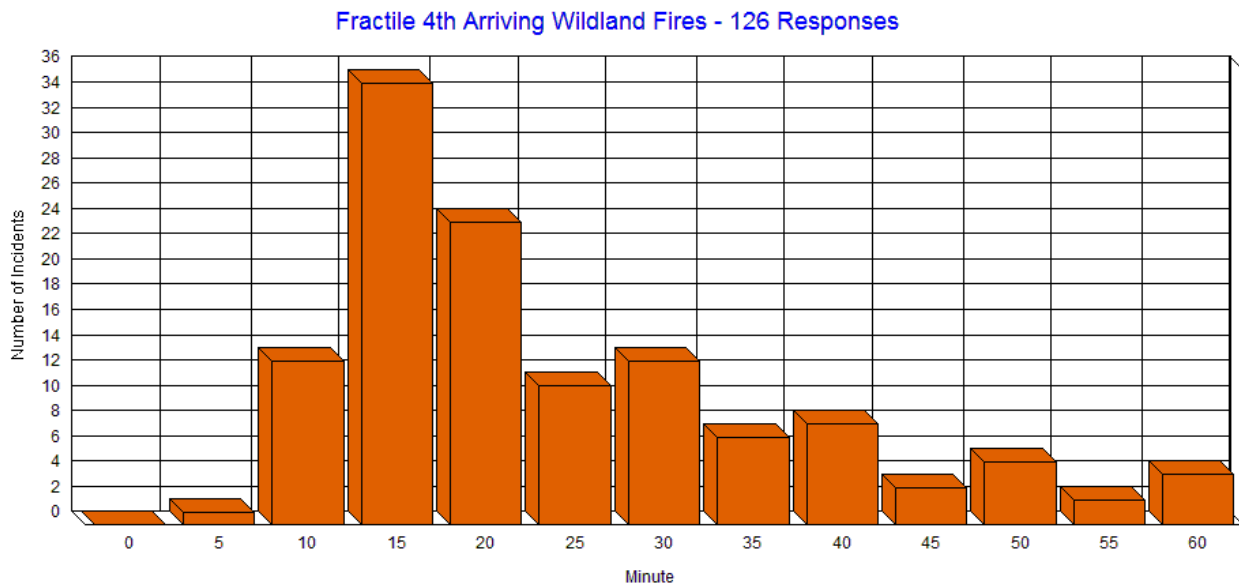
With nearly equal 4<sup>th</sup> apparatus arrivals here is how the fractiles break down by incident type.

Percent	Building Fires	Wildland Fires
70%	14:30	28:00
80%	17:15	32:30
90%	23:15	44:00

The graph below illustrates 4<sup>th</sup> apparatus fractile arrivals at building fires.



The graph below illustrates 4<sup>th</sup> apparatus fractile arrivals at wildland fires.



Roughly speaking 4<sup>th</sup> apparatus arrival performance is roughly twice as good for building fires as for wildland fires.

## **8.1 SIMULTANEOUS CALLS FOR SERVICE**

### **8.1.1 Overview**

Like most of El Dorado County, Tahoe Basin provides service to both core and remote areas. Despite a fairly low call volume there is a very high incidence of simultaneous alarms within the South Lake Tahoe / Lake Valley response areas.

#### ***Simultaneous Incidents***

An incident can be marked as simultaneous if the incident begins while other incidents are underway. Here is the breakdown for simultaneous incidents within the Tahoe Basin area for the three fiscal years of the study. At fewer than 4,000 incidents per year there is a high incidence of simultaneous alarms.

- Number of Incidents 10,994
- At least 1 simultaneous incident – 5,148 or 46.8%
- At least 2 simultaneous incidents – 2,024 or 18.4%
- At least 3 simultaneous incidents – 718 or 6.5%
- At least 4 simultaneous incidents – 235 or 2.1%.

Whenever simultaneous incidents are high and call volume is low it makes sense to investigate incident duration. The longer an incident, the more likely another incident will occur before it is cleared.

The graph below indicates when this simultaneous incident activity occurs:

**Temporal  
Activity**

Simultaneous Incidents

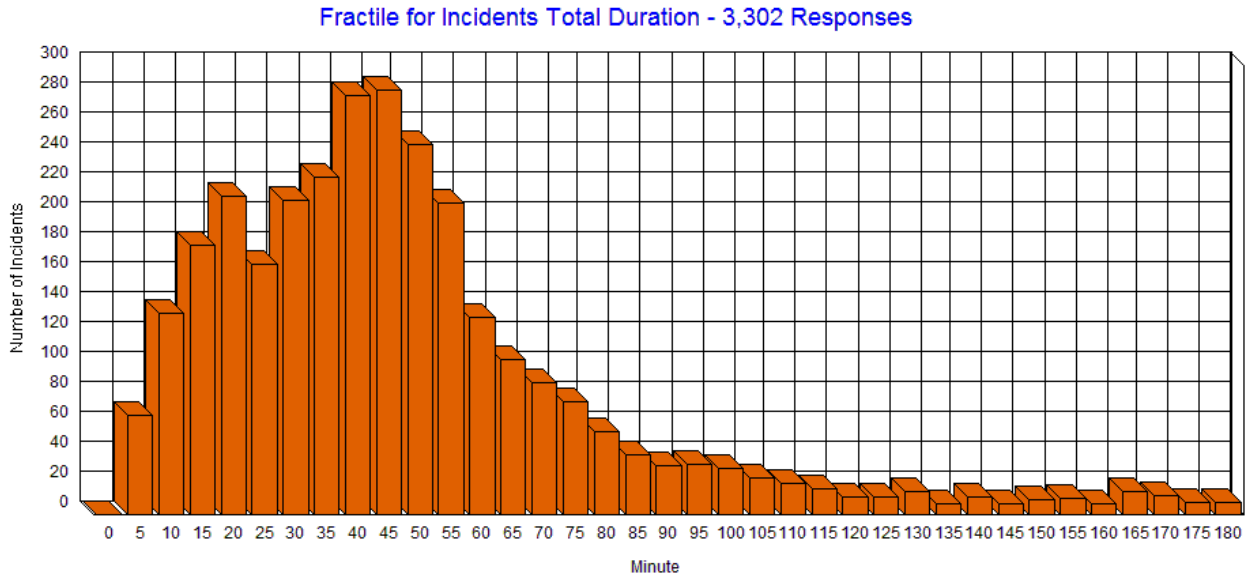
	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Total
00:00-00:59	13	11	12	15	14	26	24	115
01:00-01:59	11	12	9	7	8	24	10	81
02:00-02:59	5	5	9	3	5	10	13	50
03:00-03:59	5	7	9	4	5	8	22	60
04:00-04:59	3	2	3	7	5	6	10	36
05:00-05:59	1	3	3	1	2	4	11	25
06:00-06:59	9	5	7	5	3	13	6	48
07:00-07:59	3	4	6	10	8	16	9	56
08:00-08:59	14	16	13	20	22	24	11	120
09:00-09:59	24	26	42	34	28	33	24	211
10:00-10:59	41	28	36	38	44	20	25	232
11:00-11:59	49	46	46	70	42	39	43	335
12:00-12:59	73	49	60	42	57	69	61	411
13:00-13:59	54	56	65	47	55	75	58	410
14:00-14:59	56	61	65	52	67	118	69	488
15:00-15:59	48	58	52	64	53	97	65	437
16:00-16:59	37	66	39	38	45	87	68	380
17:00-17:59	43	49	35	33	53	71	59	343
18:00-18:59	29	46	34	37	60	46	35	287
19:00-19:59	27	35	40	25	43	43	51	264
20:00-20:59	33	32	30	35	53	49	36	268
21:00-21:59	24	31	14	28	46	34	34	211
22:00-22:59	19	19	25	11	26	22	19	141
23:00-23:59	12	23	20	12	29	29	14	139
Total	633	690	674	638	773	963	777	5,148

Notice activity is unusually high during a six-hour period on Saturday.



## Incident Duration

This fractile graph breaks down the duration of incidents into 5-minute segments. Here we look only at Tahoe Basin incidents in the last fiscal year. Only incidents with durations less than 3 hours were included in this calculation.



Notice incident durations peak at 45 minutes and taper down well past 2 hours. Also notice while the median duration was under 45 minutes the average duration was just under 1 hour and 9 minutes.

Here is the fractile break down for these incidents:

There are 3,302 Incident records being analyzed.

One record was ignored because of a zero time value.

Total Duration <= 00:00:00 .0% (0)  
Total Duration <= 00:05:00 2.0% (67)  
Total Duration <= 00:10:00 6.1% (202)  
Total Duration <= 00:15:00 11.6% (382)  
Total Duration <= 00:20:00 18.0% (595)  
Total Duration <= 00:25:00 23.1% (763)  
Total Duration <= 00:30:00 29.5% (973)  
Total Duration <= 00:35:00 36.3% (1,199)  
Total Duration <= 00:40:00 44.8% (1,479)  
Total Duration <= 00:45:00 53.4% (1,763)  
Total Duration <= 00:50:00 60.9% (2,011)  
Total Duration <= 00:55:00 67.3% (2,220)  
Total Duration <= 01:00:00 71.3% (2,352)  
Total Duration <= 01:05:00 74.4% (2,456)  
Total Duration <= 01:10:00 77.1% (2,545)  
Total Duration <= 01:15:00 79.4% (2,621)

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Total Duration <= 01:20:00 81.1% (2,677)  
Total Duration <= 01:25:00 82.3% (2,717)  
Total Duration <= 01:30:00 83.3% (2,750)  
Total Duration <= 01:35:00 84.3% (2,784)  
Total Duration <= 01:40:00 85.3% (2,815)  
Total Duration <= 01:45:00 86.0% (2,840)  
Total Duration <= 01:50:00 86.7% (2,861)  
Total Duration <= 01:55:00 87.2% (2,879)  
Total Duration <= 02:00:00 87.6% (2,891)  
Total Duration <= 02:05:00 87.9% (2,903)  
Total Duration <= 02:10:00 88.4% (2,919)  
Total Duration <= 02:15:00 88.7% (2,927)  
Total Duration <= 02:20:00 89.0% (2,939)  
Total Duration <= 02:25:00 89.3% (2,947)  
Total Duration <= 02:30:00 89.6% (2,957)  
Total Duration <= 02:35:00 89.9% (2,968)  
Total Duration <= 02:40:00 90.2% (2,976)  
Total Duration <= 02:45:00 90.6% (2,992)  
Total Duration <= 02:50:00 91.0% (3,005)  
Total Duration <= 02:55:00 91.3% (3,014)  
Total Duration <= 03:00:00 91.6% (3,023)

Median Total Duration 00:43:07 (43.12 minutes)  
Average Total Duration 01:08:58 (68.96 minutes)