

Continuous Quality Improvements for Fire and Emergency Services

**FIRST
WATCH**[®]
Helping the Helpers



 Center for Public Safety Excellence

**FIRST
WATCH**[®]
Helping the Helpers

**Fire Operations Analytics/Accreditation
Module (FOAM)** 

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June 3, 2020 | firstwatch.net

Watch last year's CPSE sponsored
FOAM demo at firstwatch.net/fire



I. Overview of Benefits and Differentiation

- a. Accreditation is an extremely valuable process that requires a lot of focus and resources
- b. FirstWatch doesn't pretend to be all things to all people. But for purposes of Performance Reporting and Data Analysis FirstWatch clearly leads the field:
 - i. Automated 'cleaning' of data to identify outliers and non-relevant calls for service
 - ii. An "Exclusion" Tool that allows you to search for and sort calls, provided automated reasons for exclusion, re-calculates the data and provides a report for your peer review team identifying all the calls not included in your reporting and associates the reasons with your excluded call policy.
 - iii. The ability to "Drill Down" from out suite of reports to the data contained within individual CAD, RMS or ePCR data to evaluate individual calls for service and the response segments within them.
 - iv. Experienced people on the FirstWatch team with leadership experience in both the Fire Service and Technology industries to provide unmatched support and assistance.
 - v. High degree of customization based upon your agency's unique needs and planning characteristics.
- c. The following Matrix provides a high-level overview of how our comprehensive FOAM Module and the Reports Suite included within it can assist you in your Accreditation Efforts:

	Geo Home Page	ACR	UHU	Turnout Time	Time Analysis Graph	Demand Charts	Station Reliability	Transports	Inc. and Resp Summary	SPC Temporal Charts
Category I - Governance and Administration	✓	✓				✓	✓		✓	✓
Category II - Assessment and Planning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Category III — Goals and Objectives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Category IV — Financial Resources	✓	✓	✓							✓
Category V — Community Risk Reduction Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Category VI — Physical Resources	✓	✓			✓	✓	✓	✓	✓	✓
Category VII — Human Resources			✓	✓		✓		✓	✓	✓
Category VIII — Training and Competency			✓	✓						
Category IX — Essential Resources	✓	✓		✓				✓	✓	✓
Category X — External Systems Relationships	✓	✓				✓	✓	✓		✓

II. Breakdown and Association with Competencies Required in Accreditation

a. Category I – Governance and Administration

i. FOAM provides Governing Boards and communities with a variety of ways to display performance data from a variety of perspectives. These all have a very robust filtering and sorting capability allowing you to analyze and display by a variety of metrics including:

1. Response Segment reporting all included in the Annual Compliance Report (Auto Generated in v9 or v10 Format)
2. You have the option to include the newly required Performance Gap Analysis as part of the automated ACR Reporting Format

Date Range Type

Start Date

NULL

End Date


Shift

Include Current Year True False

Display Gap Column True False

of 7

Find | Next



FirstWatch Annual Compliance Report (DRAFT)

Criteria: 01/01/2019 to 03/16/2021

Shift(s): R, G, B

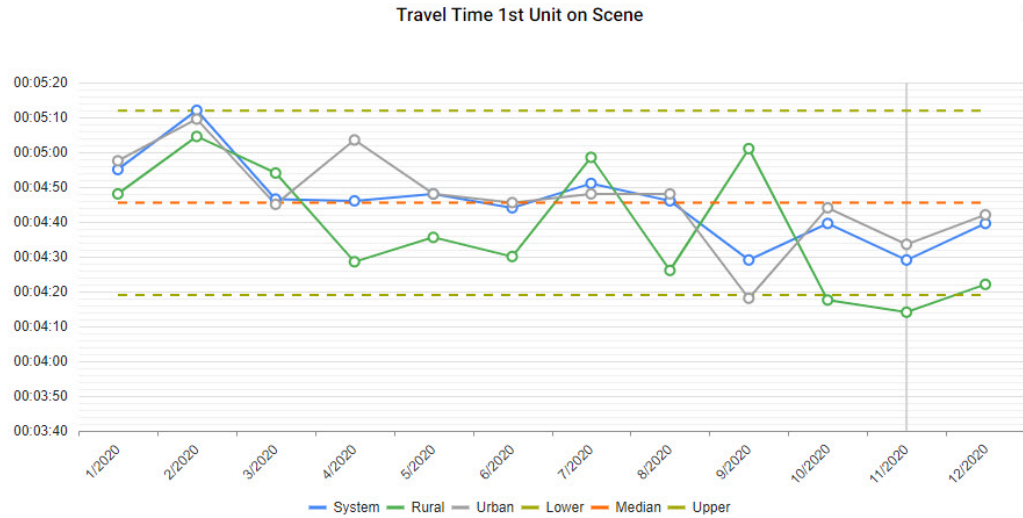
Fire Suppression - Moderate Risk 90th Percentile			2019 - 2021	2021	2020	2019	Benchmark	Gap
Alarm Handling	Pick-up to Dispatch	Urban	01:17	01:08	01:22	01:04	01:00	00:17
	Turnout Time	Urban	01:32	04:09	01:33	00:52	01:30	00:02
Travel Time	Travel Time 1st Unit Distribution	Urban	04:46	02:49	04:49	03:37	04:00	00:46
	Travel Time ERF Concentration	Urban	10:26	08:11	11:46	09:37	08:00	02:26
Total Response Time	Total Response Time 1st Unit Distribution	Urban	06:59	07:17	07:01	05:04	06:30	00:29
			<i>n = 22</i>	<i>n = 5</i>	<i>n = 10</i>	<i>n = 7</i>		
	Total Response Time ERF Concentration	Urban	12:03	10:58	13:52	10:57	10:30	01:33
			<i>n = 20</i>	<i>n = 5</i>	<i>n = 8</i>	<i>n = 7</i>		

*Gap calculation uses the difference between the *Benchmark* and the *Aggregate Baseline* of the selected date range.

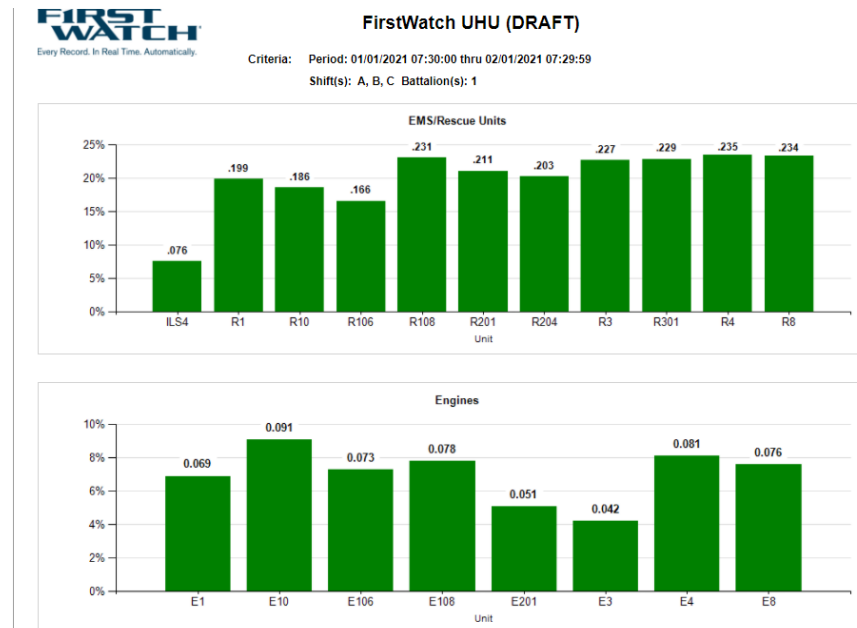
Printed on 3/16/2021 3:02:46 PM Page 1 of 7

3. Statistical Process Control and Temporal Charts of Performance

- a. Provides you with the ability to view changes in performance over time. This is extremely useful in times of change such as station closures, new development, annexations or changes in staffing or delivery strategies:



4. Resource demand and utilization from a Unit Hour Perspective (% of Time units are committed to calls for service)



5. Station and Unit Reliability (How units arrive first in each planning or station area)

Date Range Type: Last Month Start Date: NULL End Date: NULL

Shift: A,B,C Call Type: EMS,Fire,Structure Fire Report: All Responses

1 of 1 | Find | Next

FirstWatch Station Reliability (DRAFT)

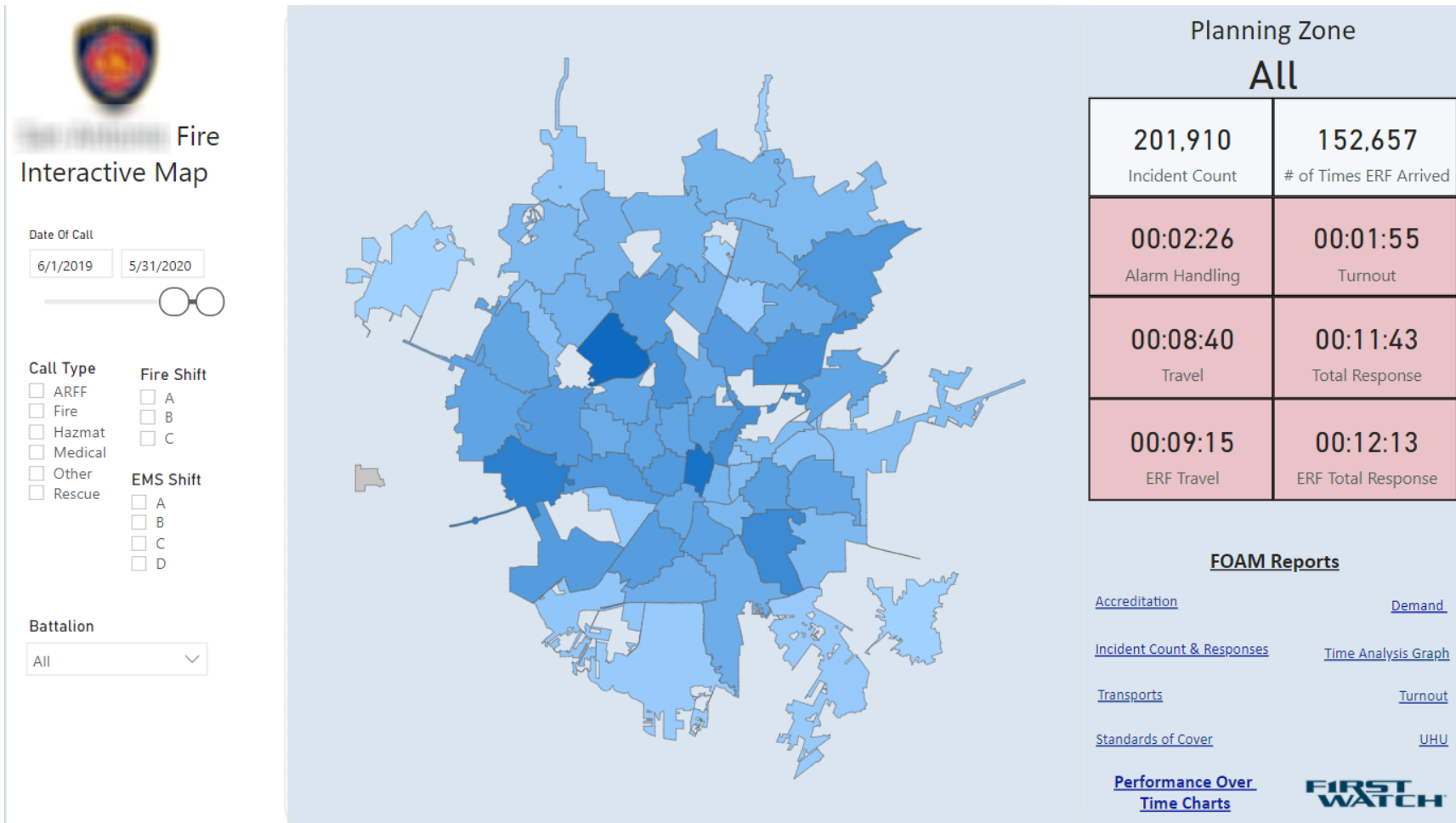
Every Record. In Real Time. Automatically.

Date Range: 01/01/2021 to 02/01/2021
Shift(s): A, B, C

Station	Unit	1		2		3		4		6		7		8		9		10		11		12		13		14		MA Area 1		MA Area 2		MA Area 3		
		Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	Resp	%	
1	LR1	13	9.63%			33	24.44%	14	10.37%																									
	ME1	301	94.36%	2	1.48%	2	0.63%	3	0.94%																									
	R1	284	91.99%			3	1.05%	2	0.70%																									
	T1	9	10.00%	2	2.22%	21	23.33%	5	5.56%				3	3.33%																				
	D5	6	4.72%			21	16.54%	7	5.51%	5	3.94%				8	6.30%	3	2.35%			31	24.41%	1	0.79%	5	3.04%	3	2.35%			10	7.87%	7	5.51%
2	E5	91	39.39%	3	1.30%	23	9.95%	19	8.23%	1	0.43%				10	4.33%			2	0.87%	10	4.33%	1	0.43%			3	1.30%						
	R5	26	9.52%			2	0.73%	4	1.47%						3	1.10%			1	0.37%	2	0.73%												
3	E2			199	82.92%					2	0.63%					9	3.75%	2	0.83%									3	1.25%					
	E3	9	3.80%			150	63.29%			14	5.91%			8	3.38%	1	0.42%	2	0.84%	29	12.24%									3	1.27%			
	ME3	2	0.75%			259	97.00%	1	0.37%											4	1.50%													
4	R3	4	1.13%			320	90.14%			2	0.56%			1	0.28%					21	5.92%													
	E4	19	11.45%			2	1.20%	108	65.06%			7	4.22%					13	7.83%			6	3.61%	2	1.20%			1	0.60%					
	HR4	1	8.33%			2	16.67%	1	8.33%								3	25.00%	4	33.33%														
	R4	7	2.45%			2	0.70%	250	88.03%			7	2.46%	1	0.35%			5	1.76%			5	1.76%	1	0.35%									
	T4	2	2.74%	2	2.74%	2	2.74%	17	23.29%	3	4.11%	2	2.74%	1	1.37%	4	5.48%	17	23.29%	5	6.85%	3	4.11%	4	5.48%	4	5.48%	3	4.11%					
6	E6	3	1.80%	9	4.70%	19	10.11%	1	0.53%	89	47.34%			5	2.68%	7	3.72%	14	7.45%	9	4.70%							3	1.80%	11	5.65%	7	3.72%	
	R6					7	2.20%			308	95.86%							2	0.63%															
7	E7	2	1.11%					6	3.33%					93	51.67%	4	2.22%			6	3.33%			5	2.78%	26	14.44%	10	5.56%	17	9.44%			
	R7							4	1.45%					247	89.49%							1	0.36%	10	3.62%	4	1.45%	5	1.81%					
8	E8	7	4.58%			5	3.27%	3	1.98%					98	64.05%			1	0.65%	33	21.57%													
	R8	1	0.33%			1	0.33%	3	0.99%					288	95.05%			1	0.33%	8	2.64%													
9	E9			11	9.57%	2	1.74%			14	12.17%					70	60.87%							1	0.87%					6	5.22%	3	2.61%	
	R9			2	0.98%					2	0.98%					199	97.07%							1	0.40%									
10	D10	2	2.47%	3	3.70%	8	7.41%	8	9.88%	2	2.47%	3	3.70%	1	1.23%	1	1.23%	7	6.64%	6	7.41%	5	6.17%	12	14.81%	7	8.64%	10	12.35%	3	3.70%			
	E10	6	3.21%			8	4.28%	17	9.09%	5	2.67%			1	0.53%	1	0.53%	116	62.03%	4	2.14%	2	1.07%	2	1.07%	1	0.53%	15	8.02%					
	R10					6	1.98%	4	1.32%	2	0.66%	4	1.32%					279	92.08%					1	0.33%			3	0.99%					
11	E11			14	6.25%	3	1.34%							1	0.45%	18	8.04%			144	64.26%			3	1.34%									
	R11	3	0.81%			5	1.35%							1	0.27%	12	3.24%			338	91.35%			3	0.81%									
	T11	3	2.59%			6	5.17%	4	3.45%	2	1.72%					5	4.31%			1	0.80%			3	2.59%			3	2.59%	7	6.03%			
12	E12					7	6.48%							8	7.41%							92	85.10%											
	E13					1	0.35%																											
13	LR13	2	3.08%			1	1.54%	8	12.31%					10	15.38%	4	6.15%	1	1.54%	7	10.77%	2	3.08%	5	7.66%	11	16.02%	10	15.38%					
	T13					1	1.16%							7	8.24%					6	7.06%			39	45.88%	21	24.71%	2	2.35%					

b. Category II – Assessment and Planning

- i. FOAM provides a number of tools that allow your agency to analyze data collected from one or many data sources allowing you to compare 'call received' data against 'situation found data' to provide a complete, accurate and comprehensive view of past, current and projected demands. This can be applied against any number of geographic overlays including Planning Zones, Census Tracts, Councilmanic districts, Station areas, climatic zones, etc.:




c. Category III – Goals and Objectives

- i. The Incident Count and Response Performance Report provides your agency with a summary of incidents and responses through a variety of filters that are defined by you. This can include date range, battalion or station. When combined with the complete Reports Suite it offers an essential component on operational performance and the ability of your current system to meet community goals:

Incident Count and Response Pe...

1 of 1 100% Find | Next



Incident Count and Response Performance by Unit

Date Range: 01/01/2021 07:30:00 to 02/01/2021 07:29:59
Shift(s): A, B, C Battalion(s): 1 Station(s): 1, 2, 3, 4, 5

# of Incidents				Transports
Fire	EMS	HazMat	Total	# of Transports
23	1,515	4	1,542	647

Response Measures by Unit by Incident Type (LVFR Units Only)

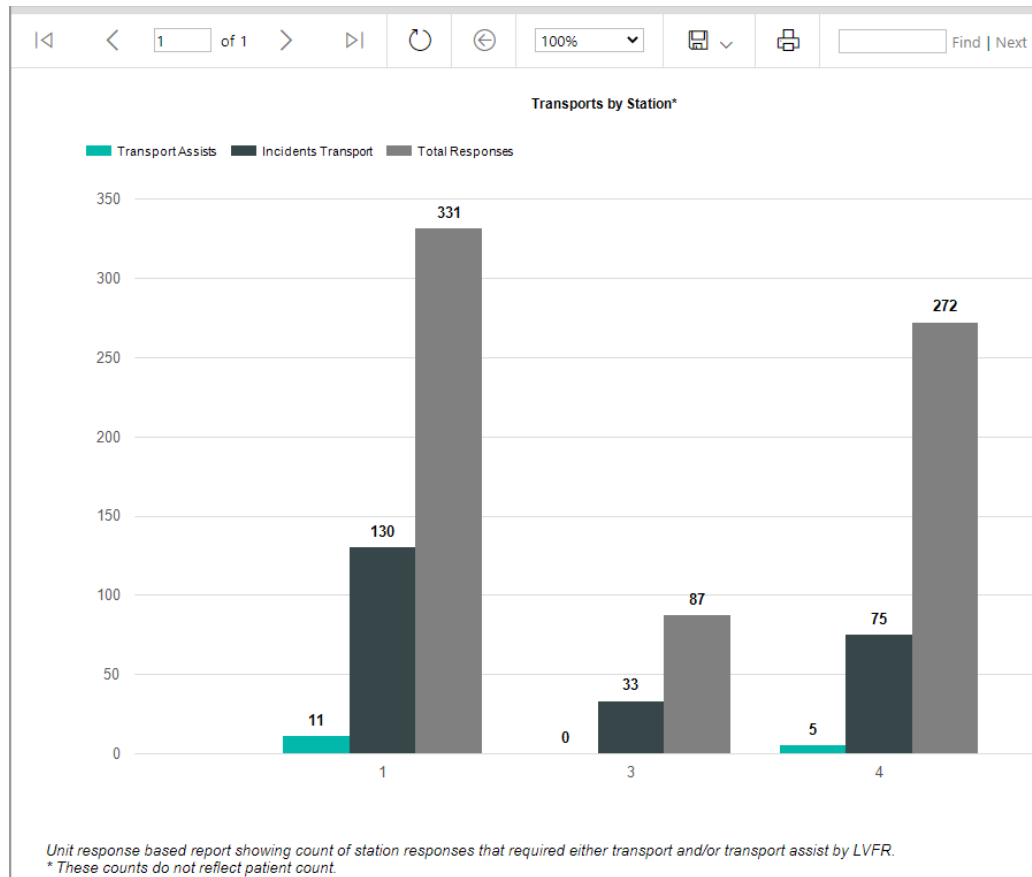
Unit	Dispatch		TurnOut		Travel		Unit Performance		Total Response		Transports		Number of Responses By Incident Type			
	90th Percentile	% Goal Met	90th Percentile	% Goal Met	90th Percentile	% Goal Met	90th Percentile	% Goal Met	90th Percentile	% Goal Met	Transports by Unit	Transport Assist by Unit	EMS	Fire	HazMat	Total
B1	0:01:50	●	0:01:39	●	0:06:26	●	0:07:31	●	0:11:36	●			7	21		28
CBRN3	0:02:23	●	0:01:50	●	0:08:56	●	0:09:47	●	0:14:29	●	1		31	6		37
E1	0:02:53	●	0:01:46	●	0:08:00	●	0:08:34	●	0:12:39	●	9		95	16	2	113
E201	0:02:59	●	0:01:35	●	0:07:38	●	0:08:40	●	0:14:02	●	8		79	18		97
E3	0:02:43	●	0:01:49	●	0:08:50	●	0:09:26	●	0:13:13	●	4		45	4	2	51
E4	0:02:47	●	0:01:36	●	0:06:49	●	0:07:49	●	0:11:33	●	8		144	15	1	160
E5	0:02:47	●	0:01:31	●	0:08:07	●	0:08:59	●	0:11:41	●	1		34	4		38
EMS1	0:00:58	●	0:02:47	●	0:08:45	●	0:10:40	●	0:19:08	●				7		7
ILS4	0:13:02	●	0:02:11	●	0:11:51	●	0:13:42	●	0:26:30	●			108			108
R1	0:02:46	●	0:01:49	●	0:07:29	●	0:08:35	●	0:11:06	●	107		177	2		179
R201	0:03:05	●	0:01:49	●	0:07:00	●	0:08:04	●	0:11:01	●	120		226	4		230
R204	0:02:57	●	0:01:48	●	0:07:32	●	0:08:38	●	0:11:19	●	89		220	4		224
R3	0:02:50	●	0:01:53	●	0:07:19	●	0:08:03	●	0:10:53	●	73		129			129
R301	0:02:43	●	0:02:00	●	0:07:28	●	0:08:55	●	0:12:03	●	121		223	4		227
R4	0:02:59	●	0:01:43	●	0:06:52	●	0:08:10	●	0:11:11	●	118		228	4		232
R5	0:02:51	●	0:01:54	●	0:08:18	●	0:09:36	●	0:12:09	●	19		36			36
T1	0:03:16	●	0:01:58	●	0:08:50	●	0:09:56	●	0:14:36	●			61	17		78
Total*	0:02:54	●	0:01:51	●	0:07:39	●	0:08:48	●	0:12:05	●	647	31	1,843	126	5	1,974

Dispatch - Phone Pickup to Dispatched, TurnOut - Dispatched to Enroute, Travel - Enroute to at Scene, Unit Performance- Assigned to at Scene, Total Response - Phone Pickup to at Scene
Goals: Dispatch - 00:01:00, TurnOut - 00:01:30, Travel - 00:07:30, Unit Performance - 00:09:00, Total Response - 00:10:00

d. Category IV – Financial Resources

	Geo Home Page	ACR	UHU	Turnout Time	Time Analysis Graph	Demand Charts	Station Reliability	Transports	Inc. and Resp Summary	SPC Temporal Charts		
Category IV – Financial Resources	✓	✓	✓							✓		

- i. FOAM is not designed as a financial reporting tool per se. However, within the planning and analysis context described above, your Agency’s Financial Plan can be justified and monitored on operational, clinical and human resource metrics.
- ii. The impact of your Suppression and Rescue forces supporting or providing ambulance transports can be visualized through the Transport Report that provides not only an analysis of ambulance transports, but the extent to which your agency supports ambulance transports by utilizing suppression-based resources:



e. Category V – Community Risk Reduction Program

- i. In addition to the reporting capabilities described above, the impact of your planning for Community Risk Reduction can be displayed by the demand for services over time charts. (See our SPC/Temporal Chart example under Category I above.
- ii. Additionally, you can determine your historical demand for services through the Demand Report. This also can be filtered such that you can report on individual stations, battalions or any other geo-based metric that is important to you. Additionally, you can retrieve various date ranges to compare time periods for preparing you Standards of Cover Document. These can be displayed at either Counts of calls or the Average Number of Calls received during a given hour for a given period of time:

Counts

Incidents	Hour of Day																								
DOW	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Sunday	4	5	5	2	5	5	5	6	2	4	5	3	5	4	6	5	3	7	7	9	3	4	6	5	115
Monday	2	2	2	3	0	4	2	3	7	8	10	10	4	4	3	4	7	6	7	4	8	6	3	6	115
Tuesday	2	3	2	4	2	3	3	4	0	3	2	2	2	4	3	3	1	3	4	3	1	3	0	2	59
Wednesday	1	4	0	4	2	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Thursday	0	0	0	0	0	0	0	1	1	0	1	1	1	0	4	5	5	2	2	2	4	2	1	2	34
Friday	0	3	2	2	2	0	1	3	1	4	4	6	4	5	4	5	5	3	5	2	5	5	2	8	81
Saturday	6	3	4	4	5	4	6	2	7	6	4	4	4	7	5	8	5	7	9	5	5	3	10	4	127
Total	15	20	15	19	16	17	20	20	18	25	26	26	20	24	25	30	26	28	34	25	26	23	22	27	547

Responses	Hour of Day																								
DOW	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Sunday	4	5	6	2	5	7	5	9	2	4	5	3	5	5	9	5	8	10	13	10	3	4	6	5	140
Monday	6	2	2	3	0	4	2	3	15	11	15	23	4	7	8	6	7	8	15	6	8	7	3	6	171
Tuesday	2	3	3	4	2	3	3	4	0	6	4	4	4	5	3	6	1	6	5	4	1	3	0	7	83
Wednesday	1	4	0	4	4	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Thursday	0	0	0	0	0	0	0	2	1	0	1	1	1	0	4	6	5	2	2	2	4	2	1	2	36
Friday	0	3	2	2	2	0	1	3	1	5	4	6	4	6	7	5	7	4	6	2	5	6	2	8	91
Saturday	6	3	5	4	6	4	13	2	9	6	5	5	4	10	6	8	6	8	12	5	7	3	10	4	151
Total	19	20	18	19	19	19	27	24	28	32	34	42	22	33	37	36	34	38	53	29	28	25	22	32	690

f. Category VI – Physical Resources

	Geo Home Page	ACR	UHU	Turnout Time	Time Analysis Graph	Demand Charts	Station Reliability	Transports	Inc. and Resp Summary	SPC Temporal Charts		
Category VI – Physical Resources	✓	✓			✓	✓	✓	✓	✓	✓		

- i. Planning for physical resources is a direct result of establishing and meeting community goals. The reporting capability identified above all contain elements that contribute to the meeting of community service level goals.
- ii. The Time Analysis Graph report provides an easy read summary of the various response segments of the Annual Compliance Report in a high visual manner:



g. Category VII – Human Resources

- i. The adherence of your people to operational standards is of paramount importance in meeting community goals and expectations. Primary among these is the ‘turn-out time’ requirements that your agency expects. Continual, real time monitoring of individuals, units and stations provides a comprehensive tool for management of one of the critical response time segments:

- 90th Percentile Turnout Time Compliance

Period: 01/01/2021 07:30:00 thru 02/01/2021 07:29:59
By Call Type / Station / Shift

Battalion(s): 1 Call Type(s): EMS, Fire, Technical Rescue, Bomb, HazMat, Public Assist
Risk Category(ies): Moderate, High, Critical

Station	Unit	A Shift - Day	Calls	A Shift - Night	Calls	A Shift - Overall	Calls	Overall	Calls
1	B1	00:01:01	17	00:01:47	5	00:01:22	22	00:01:22	22
	E1	00:01:02	37	00:01:42	15	00:01:29	52	00:01:29	52
	E201	00:01:24	23	00:02:19	12	00:01:48	35	00:01:48	35
	R1	00:01:12	36	00:01:49	18	00:01:38	54	00:01:38	54
	R201	00:01:18	55	00:01:47	29	00:01:40	84	00:01:40	84
	R301	00:01:34	52	00:02:24	28	00:02:07	80	00:02:07	80
	T1	00:01:23	22	00:01:58	11	00:01:45	33	00:01:45	33
Station Total:		00:01:21	242	00:02:04	118	00:01:45	360	00:01:45	360
3	CBRN3	00:01:37	18	00:01:53	5	00:01:45	23	00:01:45	23
	E3	00:01:24	30	00:02:06	5	00:01:32	35	00:01:32	35
	R3	00:01:20	53	00:02:25	29	00:02:08	82	00:02:08	82
Station Total:		00:01:25	101	00:02:14	39	00:02:02	140	00:02:02	140
4	E4	00:01:25	62	00:02:04	15	00:01:51	77	00:01:51	77
	R204	00:01:17	59	00:02:14	23	00:01:55	82	00:01:55	82
	R4	00:01:16	73	00:02:36	25	00:01:51	98	00:01:51	98
Station Total:		00:01:21	194	00:02:20	63	00:01:53	257	00:01:53	257
8	E8	00:01:15	30	00:01:19	9	00:01:15	39	00:01:15	39
	R8	00:01:39	47	00:02:33	20	00:02:12	67	00:02:12	67
	T8	00:01:25	12	00:02:35	5	00:02:05	17	00:02:05	17
Station Total:		00:01:31	89	00:02:29	34	00:02:03	123	00:02:03	123
Total		00:01:24	626	00:02:15	254	00:01:53	880	00:01:53	880

- ii. The Unit Hour Utilization report already discussed in Ila above, combined with the Demand Report provides a view into the work level and potential stress that work level has on your people. Like all the reports in FOAM they can be filtered to reflect any time period and a variety of other variables including stations, units and shifts.

h. Category VIII – Training and Competency

- i. FirstWatch has significant experience and capabilities in reporting on various Learning Module Systems and have developed unique Training Program scheduling and monitoring programs. However, these are outside of the FOAM Module itself. Please contact your Regional Manager for more information.


i. Category IX – Essential Resources

- i. Alarm Handling Time is an essential component of your Communications Infrastructure. These data are captured and analyzed in our ACR and SPC/Time Charting.

- ii. CAD data source connections and Communication Center monitoring are an integral part of FirstWatch services and product offerings. We have a unique partnership with the International Academies of Emergency Dispatch for real time monitoring of Communication Center functions and Priority Dispatch performance. Please contact your Regional Manager for more information.

j. Category X – External Systems Relationships

- i. For more than 22-years FirstWatch has partnered with our customers to solve Data-related pain-points & challenges, including working together at our customers request to develop automated data analysis, reporting and data visualizations related to the CPSE / CFAI accreditation process via the NEW FirstWatch FOAM module. Our FOAM – Fire Operations & Accreditation/Analytics Module was designed leveraging FirstWatch data expertise, combined with strategic customer feedback to create tools to aid with review of operational & performance measurements related to the CPSE / CFAI accreditation process. Also based upon daily customer use and the iterative FirstWatch product development process, timely feedback & customer enhancement requests have helped FOAM quickly evolve into an industry-leading tool for Fire Departments across the US & Canada.

To learn more about FOAM  for continuous improvement, gap analysis, as well as CPSE / CFAI accreditation, please reach out to our FirstWatch team:



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