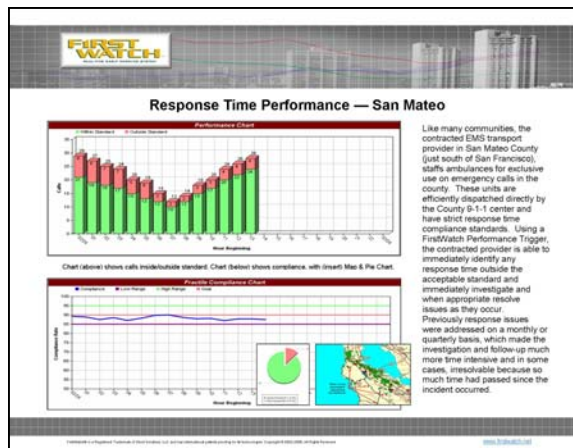# FirstWatch Dashboard & Trigger Examples

The following FirstWatch Dashboard, Trigger and Enhancement Module examples are based on actual usage from agencies that have deployed FirstWatch across North America.
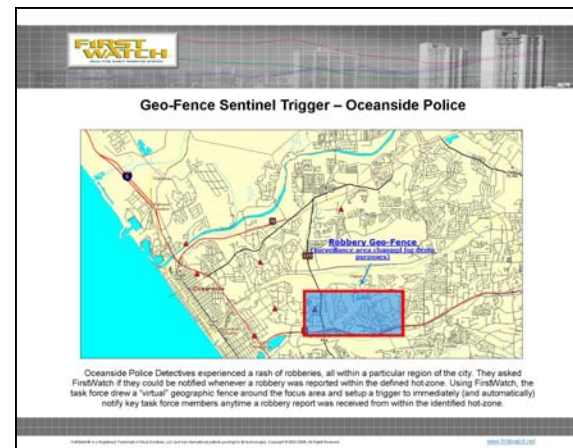
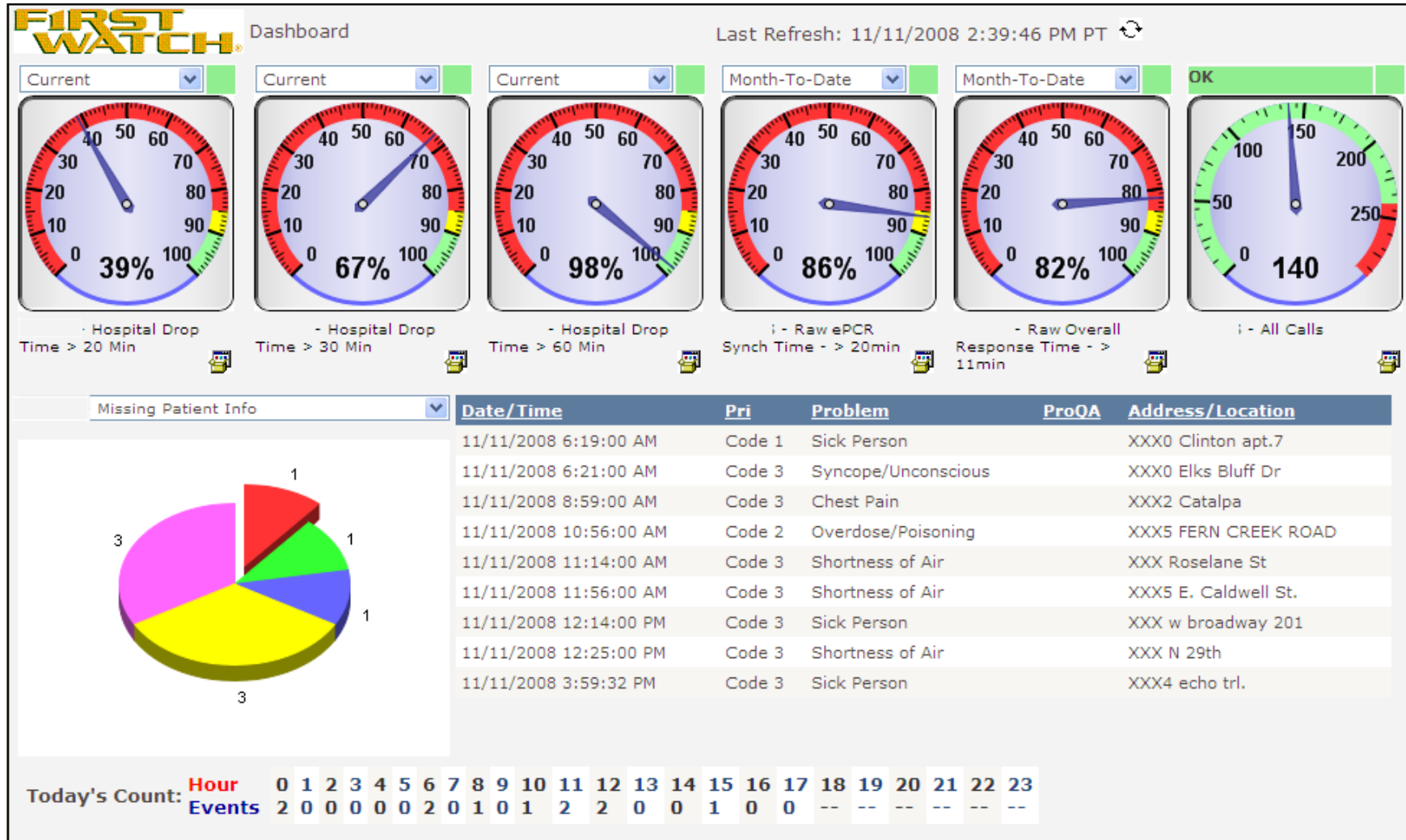| Real-time Dashboards fast & easy Trend Analysis	EMS, Fire and Police Performance & Operational	Public Safety, Public Health & Homeland Security

Dashboards for Crime or Operational Trends

Response Time Performance — San Mateo

Geo-Fence Sentinel Trigger – Oceanside Police

For more information and to schedule an online demonstration
please contact us at: 760.943.9123 or via email to: info@firstwatch.net

Real-Time Performance & Operational Dashboards

Real-Time Trending Dashboards

FIRST WATCH® Dashboard

Last Refresh: 11/5/2008 10:58:22 AM PT

OK	ALERTING 1	OK	OK	OK	OK
1	15	12	6	6	0
Oceanside Crime - Robbery	Oceanside Burglary Trigger	Oceanside Crime - Suspicious	Oceanside Police RSV	Oceanside Police RSV	Oceanside Crime - Shots Fired

Oceanside Police - All Calls

Date/Time	Pri	Problem	ProQA	Address/Location
11/4/2008 10:45:23 PM	6	T Traffic Stop		XXX S DITMAR ST, OCEANSIDE,
11/4/2008 10:45:30 PM	3	488 Petty Theft		XXX N Coast Hy, OCEANSIDE, C
11/4/2008 10:48:11 PM	7	1186 Special Detail		XXX7 OCEANSIDE BL, OCEANSIDE
11/4/2008 10:53:39 PM	3	OFD OFD Response		XXX0 Mira Pacific Dr, OCEANS
11/4/2008 10:54:27 PM	4	ATC Att to Contact		XXX1 LEWIS ST, OCEANSIDE, CA
11/4/2008 10:57:25 PM	6	T Traffic Stop		XXXSION AV / N HORNE ST, OCE
11/4/2008 11:01:13 PM	3	1172A Audible Alarm		XXX6 Mission Av, B, OCEANSID
11/4/2008 11:01:26 PM	6	T Traffic Stop		XXX N MYERS ST, OCEANSIDE, C
11/4/2008 11:06:49 PM	6	T Traffic Stop		XXX0 LONNIE ST, OCEANSIDE, C
11/4/2008 11:09:35 PM	6	T Traffic Stop		XXX0 KRAFT ST, OCEANSIDE, CA

1 2 3 4 5 6 7 8 9 10 ...

Today's Count: Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Events	14	15	8	2	5	3	9	17	12	14	12	--	--	--	--	--	--	--	--	--	--	--	--	--

Pie chart values: 3, 21, 3, 1, 3, 7, 1, 7, 1, 8, 3, 18, 5, 4, 3, 4, 5, 50

Real-Time Dispatcher / Call-Taker Performance

Dispatch Performance Current Call Information

Calls displayed represent active or performed calls between the hours of 4/8/2008 7:55:38 AM and 4/8/2008 7:55:38 PM.
Performance Standard = 00:01:00

Data and Report from the FirstWatch ™ Internet Server

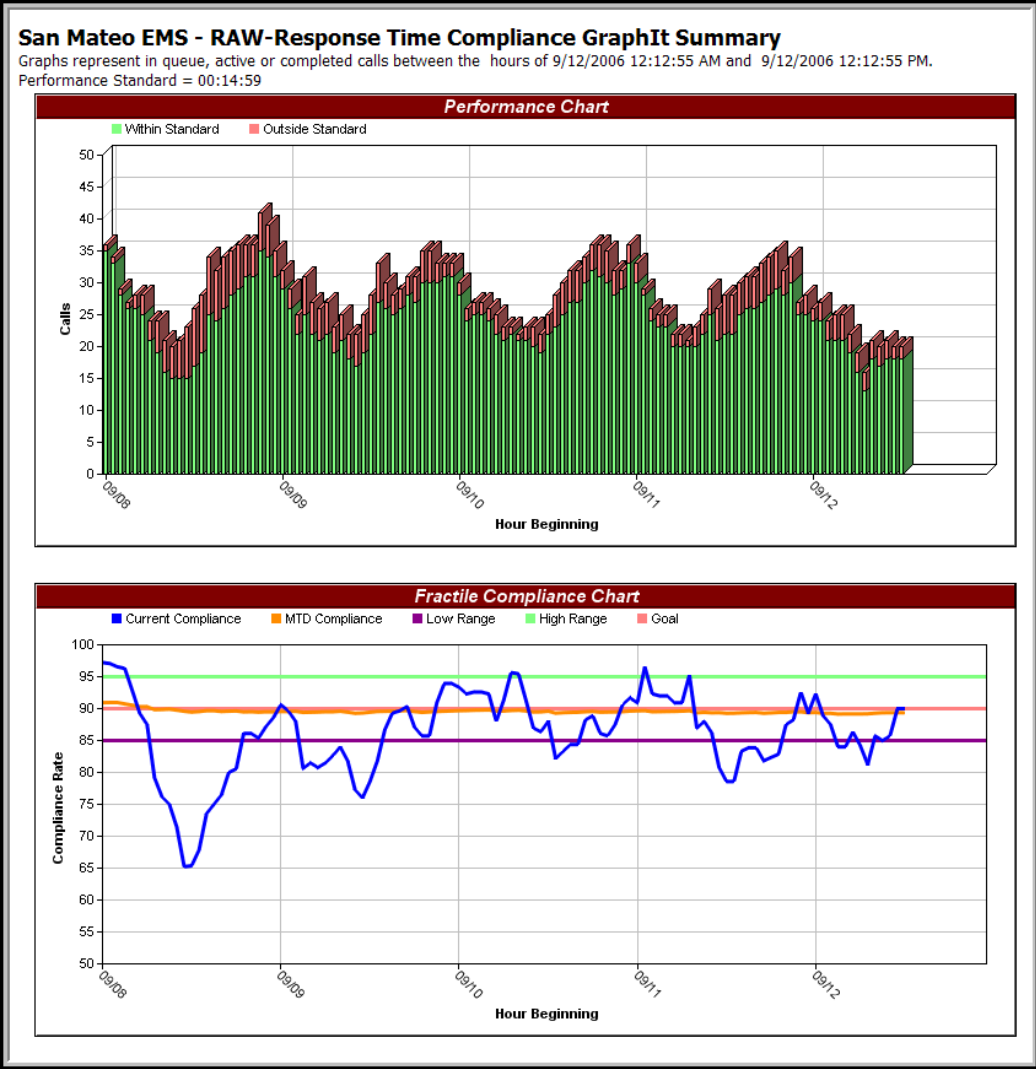| GC	Geo Valid	Time Sent To Queue	Problem	ProQA	Response #	Unit	Address/Location	Dispatcher	Create To Dispatch	Outside Standard
	✔	4/8/2008 8:13:25 AM	Falls		25460	5223			00:04:17	Yes
	✔	4/8/2008 8:33:47 AM	Diabetic Problems		25467	00988			00:00:09	No
	?	4/8/2008 8:55:48 AM	Heart Problems / A.I.C.D.		25470	01197			00:00:22	No
	✔	4/8/2008 9:01:34 AM	Hemorrage / Lacerations		25472	3050			00:00:34	No
	✔	4/8/2008 9:04:23 AM	Falls		25473	01039			00:00:21	No
	✔	4/8/2008 9:48:11 AM	Unknown Problem (Man Down)		25480	5223			00:00:12	No
	✔	4/8/2008 10:23:33 AM	Abdominal Pain / Problems		25483	00975			00:00:17	No
	✔	4/8/2008 10:24:44 AM	Traffic/Transportation Accidents		25484	GAEMS			00:00:31	No

De-identified information
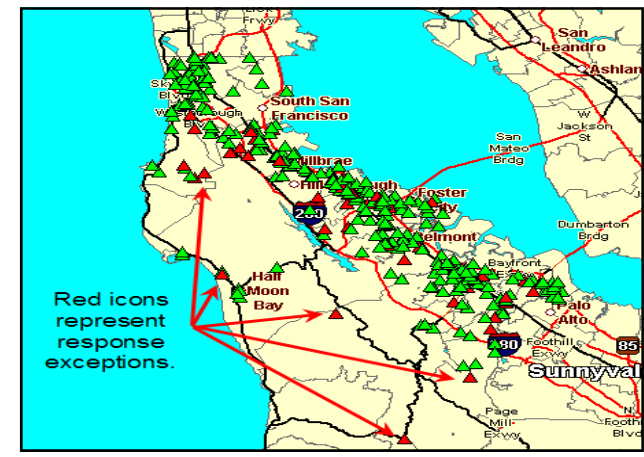
De-identified information

When measured against pre-defined standards, dispatch related time intervals captured via CAD system operation may be used as Key Performance Indicators. In this instance, a CAD computed elapsed time of 4 minutes, 17 seconds, representing the dispatch interval between "clock start" and "clock stop" is noted to have exceeded the user-determined 60 second standard. Using FirstWatch, appropriate administrative personnel can be alerted in real time when current and/or month-to-date dispatch elements, calculated as a percentage of overall compliance goals, exceed user-set baselines.

Response Time Performance

San Mateo EMS - RAW-Response Time Compliance GraphIt Summary

Graphs represent in queue, active or completed calls between the hours of 9/12/2006 12:12:55 AM and 9/12/2006 12:12:55 PM.
Performance Standard = 00:14:59

Like many communities, the contracted EMS transport provider in San Mateo County (just south of San Francisco) staffs ambulances for exclusive use on emergency calls in the County. These units are efficiently dispatched directly by the County 9-1-1 center and have strict response time compliance standards. Using a FirstWatch Performance Trigger, the contracted provider is able to immediately identify any response time outside the acceptable standard, immediately investigate and (when appropriate) resolve issues as they occur. Previously, response issues were addressed on a monthly or quarterly basis, this made the investigation and follow-up much more time intensive and, in some cases, irresolvable because so much time had passed since the incident occurred.

Response Time Performance, by Zone or Sector

In this example, CAD generated time stamps for defined response components are computed for a single specified Fire/EMS response zone and are measured against a user-defined standard (8 minutes, 90 % of the time). When response goals are not met, real-time alerts are automatically transmitted to pre-identified personnel accountable for agency performance objectives.
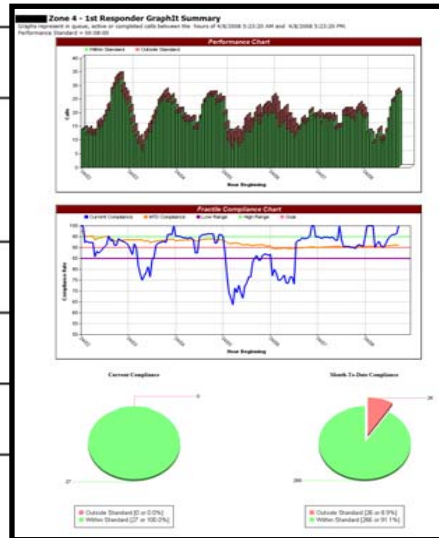
Zone 4 - 1st Responder Current Call Information

Calls displayed represent active or performed calls between the hours of 4/8/2008 5:23:20 AM and 4/8/2008 5:23:20 PM.
Performance Standard = 00:08:00

Data and Report from the FirstWatch ™ **Internet Server**

Outside Standard	Time Sent To Queue	Problem	ProQA	Response #	Unit	Address/Location	Assign To Enroute	Assign To Scene	Create To Dispatch
No	4/8/2008 6:13:19 AM	Traffic Accident (L1)	29D02f	023064	E44		00:02:28	00:04:27	00:06:55
No	4/8/2008 6:27:23 AM	Diabetic Problems (L1)	13C01C	023070	E37		00:02:44	00:02:44	00:05:28
No	4/8/2008 7:12:34 AM	Diabetic Problems (L1)	13C01	023077	E23		00:02:31	00:02:52	00:05:23
No	4/8/2008 7:34:49 AM	Unc/Fainting (Non Trauma)(L1)	31D01	023079			00:02:29	00:03:30	00:05:59
No	4/8/2008 7:45:11 AM	Traffic Accident (L1)	29B01	023080			00:04:14	00:02:33	00:06:47
No	4/8/2008 7:57:17 AM	Traffic Accident (L1)	29B06	023082			00:02:51	00:01:59	00:04:50
No	4/8/2008 8:36:06 AM	Traffic Accident (L1)		023086			00:03:13	00:03:19	00:06:32
No	4/8/2008 10:12:56 AM	Breathing Problems (L1)	06D03A	023094			00:02:07	00:01:47	00:03:54
No	4/8/2008 11:10:07 AM	Convulsions / Seizures (L1)	12D02	023103			00:01:52	00:02:18	00:04:10

Out of Chute / Station Compliance

Performance and Operational Triggers provide real-time views and automated alerts to Command Staff accountable for response time related performance. In this example, FirstWatch monitors an "Out of Chute" time constructed of CAD generated time stamps between dispatch "time to queue" and squad "responding." Supervisory personnel are automatically alerted when Out of Chute times exceed the user-defined baseline (2 minutes in this case).

Time on Task GraphIt Summary

Graphs represent in queue, active or completed calls between the hours of 3/28/2008 9:43:59 PM and 3/29/2008 9:43:59 AM.
Performance Standard = 02:00:00

Performance Chart
- Within Standard
- Outside Standard

Calls / Hour Beginning

Fractile Compliance Chart
- Current Compliance
- MTD Compliance
- Low Range
- High Range
- Goal

Compliance Rate / Hour Beginning

Current Compliance
- Outside Standard [0 or 0.0%]
- Within Standard [8 or 100.0%]

Month-To-Date Compliance
- Outside Standard [35 or 3.3%]
- Within Standard [1014 or 96.7%]

Time-On-Task Compliance

Agencies today are interested in real-time monitoring of time-on-task or time-on-scene. User defined criteria can be specified by various types of calls. For example, there may be an interest in measuring time-on-scene from time of patient contact for all cardiac related incidents as part of a cardiac research study. Automatic notifications can be generated for all units that fall outside of the designated response time goal.

Free Text Analysis and Automated Alerting

FirstWatch can also analyze user-defined free text using keyword or phrase inclusion, exclusion, and regular expressions rules. Comprehensive trend analysis or sentinel event notifications can be generated using FirstWatch Free Text Triggers. In this case, the customer is using free text rules to mine and analyze fever related events.

FreeText Setup: ███ **Fever - FreeText**

+ Larger Font | + Smaller Font   FreeText Search

Matched	Categories	Event	Date/Time	Free Text
Y	Fever	2566587	4/8/2008 6:33:36 PM	[De-Identified]
Y	Fever	2566619	4/8/2008 7:19:08 PM	[De-Identified]
Y	Fever	2566642	4/8/2008 7:51:37 PM	[De-Identified]
Y	Fever	2566644	4/8/2008 7:54:39 PM	[De-Identified]

<-- **From:** 4/8/2008 6:33:36 PM **To:** 4/8/2008 7:54:39 PM --> Show Matched Only **Rows to Return:** 10

Categories   **Keywords/Phrases**   **EXCLUDED Keywords/Phrases**   **Regular Expression:**

Fever

Keyword/Phrase:
[ ] Add
EXCLUDED Keyword/Phrase:
[ ] Add

Keywords/Phrases:
Fever
fièvre
febrile
hot skin
high temp
SHIVERING
REALLY HOT
hot to touch
elevated temp

EXCLUDED Keywords/Phrases:
afebrile
no fever
Fever UNK
INABILITY
unk fever
denies fever
UNK IF Fever
NO OUTBREAKS OR Fever

Regular Expression:
\bFever\b|\bfebrile\b|\belevated temp\b|\bhigh temp\b|\bhot to touch\b|\bREALLY HOT\b|\bhot skin\b|\bfièvre\b|\bSHIVERING\b

Remove   Remove   Update Regular Expression

Server Time: 4/8/2008 5:51:49 PM PT
Copyright 2002-2008 Firstwatch Solutions, Inc. - Confidential and Proprietary Business and Customer Information

Incident Drill-down
ProQA(tm)

Incident Details

fwCust_ID	47	Time_FirstCallTakingKeystroke	4/8/2008 11:29:56 AM
ID	2566206	Time_CallEnteredQueue	4/8/2008 11:31:48 AM
FWTimeStamp	4/8/2008 10:12:11 AM	Time_CallTakingComplete	4/8/2008 11:33:42 AM
Response_Date	4/8/2008 11:29:56 AM	Time_CallClosed	4/8/2008 1:09:39 PM
Master_Incident_Number	08-0076670	Time_First_Unit_Assigned	4/8/2008 11:33:20 AM
Agency_Type	EMS	Time_First_Unit_Arrived	4/8/2008 11:44:56 AM
Jurisdiction		Cancel_Reason	
Division	SE	Call_Disposition	01 - Incident Complete
Response_Area	44 Station	EMD_Used	
Problem	Interfacility-B	CIS_Used	
Priority_Number	4	Determinant	33C06T
Location_Name	[De-Identified]	ProQA_CaseNumber	0008058754
Address	[De-Identified]	Call_Is_Active	0
Apartment	[De-Identified]	CreatedbyPrescheduleModule	
City		Caller_Type	Nurse
State	███	Location_Type	███
Postal_Code		Priority_Description	3-Bravo
County	███	ClockStartTime	4/8/2008 11:29:56 AM
Longitude	[De-Identified]	MultiAgency_Ptr	
Latitude	[De-Identified]	Calc_Latitude	[De-Identified]
Time_PhonePickUp	4/8/2008 11:29:48 AM	Calc_Longitude	[De-Identified]

FW FreeText (TM)
Categories: ILI
Free Text: [De-Identified]

Inter-Facility Contract Compliance

BLS On Demand	Status	Current Compliance	Current %	MTD Compliance	MTD %	Logged In
	OK	38/50	76 ➡	45/62	72.58 ➡	---

BLS Scheduled	Status	Current Compliance	Current %	MTD Compliance	MTD %	Logged In
	OK	39/49	79.59 ➡	51/57	89.47 ➡	---

CCT On Demand	Status	Current Compliance	Current %	MTD Compliance	MTD %	Logged In
	OK	52/58	89.66 ➡	49/55	89.09 ➡	---

CCT Scheduled	Status	Current Compliance	Current %	MTD Compliance	MTD %	Logged In
	OK	15/17	88.24 ➡	16/18	88.89 ➡	---

CCT Scheduled Current Call Information

Calls displayed represent active or performed calls between the hours of 4/1/2008 5:45:07 PM and 4/8/2008 5:45:07 PM.
Performance Standard = 00:15:00
Data and Report from the FirstWatch™ Internet Server

Geo Valid	Time Sent To Queue	Problem	ProQA	Response #	Unit	Address/Location	Arrive Over Requested	Outside Standard
✓	4/8/2008 10:26:02 AM	CCT		04082008-0002876	BLS46			No
✓	4/8/2008 10:26:02 AM	CCT		04082008-0002875	CCN1			No
✓	4/8/2008 12:08:55 PM	CCT		04082008-0002888	BLS47	De-identified information	De-identified information	No
✓	4/8/2008 12:08:55 PM	CCT		04082008-0002887	CCN2			No
✓	4/8/2008 3:45:44 PM	CCT		04082008-0002902	CCN3			No

Inter-facility transports are an essential function for many EMS providers. Many private ambulance providers adhere to stringent response time requirements for their contract hospitals. As such, delayed pickup times can not only slow down system performance, but they can cost lives and diminish profitability for an organization. These KPI Triggers provide real-time monitoring of contract hospital pick up and can be measured against requested or promised pickup times.   Automatic notifications can be generated for all response times that fall outside of the designated response time goal.

The Status Page Dashboard (to the left—gray box) provides a snapshot of current and month-to-date compliance without the need to invest human re-sources to run lengthy reports. Instead the minutes old view from FirstWatch can provide a quick look at 'how you are doing today' as well as charts, graphs and maps that offer greater detail on what has happened in the last 12 or 24 hours. With the FirstWatch Analysis Tool, you can look retrospectively to see how you performed against goal, last week, last month, last quarter—or year-to-date.
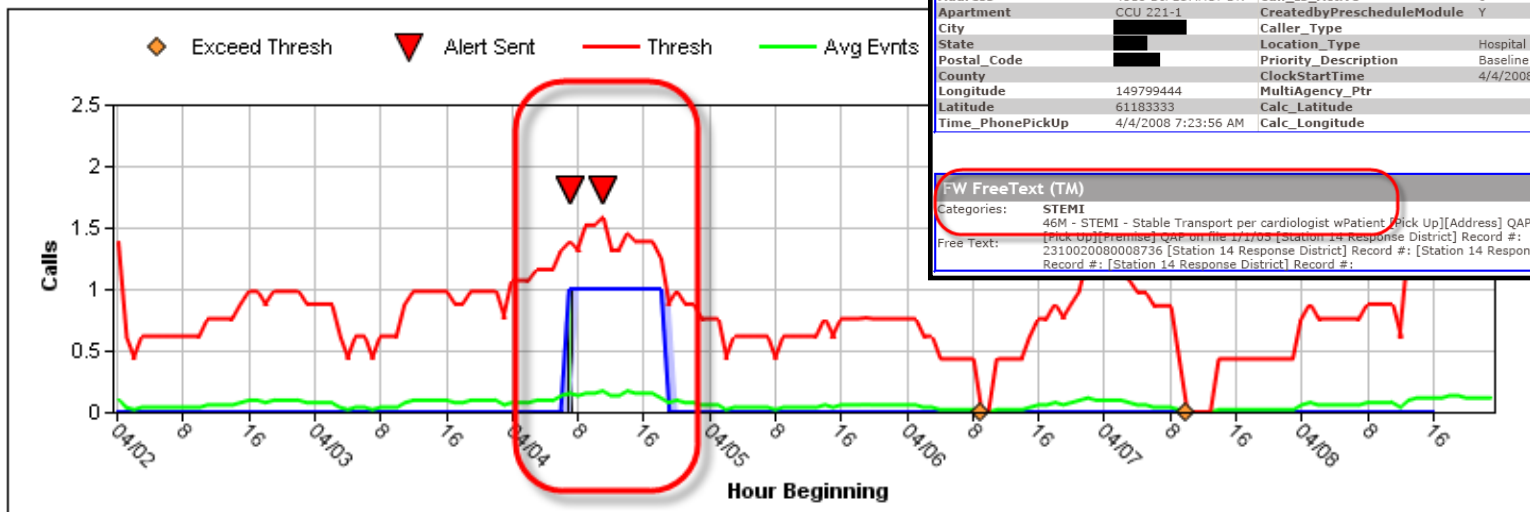
STEMI Alert and Incident Drill-down

When EMS Medical Directors requested notifications for all STEMI's within their jurisdictional area—our savvy EMS customers turned to FirstWatch! Now real-time STEMI data views, incident drill downs, maps, charts are generated on the fly and automated alerts are sent out as soon as STEMI criteria is met, as defined within their system. Further evolution of the STEMI Trigger could include automated notifications of Hospital ED and Catheterization Lab teams.

Incident Drill-down

Incident Details

fwCust_ID	54	Time_FirstCallTakingKeystroke	4/4/2008 7:24:07 AM
ID	282308	Time_CallEnteredQueue	4/4/2008 7:29:07 AM
FWTimeStamp	4/4/2008 9:47:12 AM	Time_CallTakingComplete	4/4/2008 7:29:06 AM
Response_Date	4/4/2008 7:29:16 AM	Time_CallClosed	4/4/2008 8:45:23 AM
Master_Incident_Number	2008231000010699	Time_First_Unit_Assigned	4/4/2008 7:29:16 AM
Agency_Type		Time_First_Unit_Arrived	4/4/2008 7:51:40 AM
Jurisdiction		Cancel_Reason	
Division	Station 14 Response District	Call_Disposition	
Response_Area	Sta14	EMD_Used	0
Problem	Patient Transport - GF	CIS_Used	0
Priority_Number	5	Determinant	
Location_Name		ProQA_CaseNumber	
Address	4315 DIPLOMACY DR	Call_Is_Active	0
Apartment	CCU 221-1	CreatedbyPrescheduleModule	Y
City		Caller_Type	
State		Location_Type	Hospital
Postal_Code		Priority_Description	Baseline Yellow
County		ClockStartTime	4/4/2008 7:24:07 AM
Longitude	149799444	MultiAgency_Ptr	
Latitude	61183333	Calc_Latitude	
Time_PhonePickUp	4/4/2008 7:23:56 AM	Calc_Longitude	

FW FreeText (TM)

Categories:	**STEMI**
Free Text:	46M - STEMI - Stable Transport per cardiologist wPatient [Pick Up][Address] QAP on file 1/1/05 [Pick Up][Premise] QAP on file 1/1/05 [Station 14 Response District] Record #: 2310020080008736 [Station 14 Response District] Record #: [Station 14 Response District] Record #: [Station 14 Response District] Record #: [Station 14 Response District] Record #:

San Francisco – MCI

San Francisco City and County EMS officials needed a way to be notified in real-time of any major Mass Casualty Incident (MCI) within the City. San Francisco Fire and EMS responses vary greatly in a community like San Francisco, so the agency needed a FirstWatch Trigger that could watch for a complex set of criterion. The FirstWatch MCI Trigger constantly scans for events where a certain number of units and specific types of apparatus are assigned and arrive on scene, while filtering out other types of calls. Once the criterion indicates an MCI, alerts are sent to notify the specified officials.

ePCR Compliance – Charleston EMS

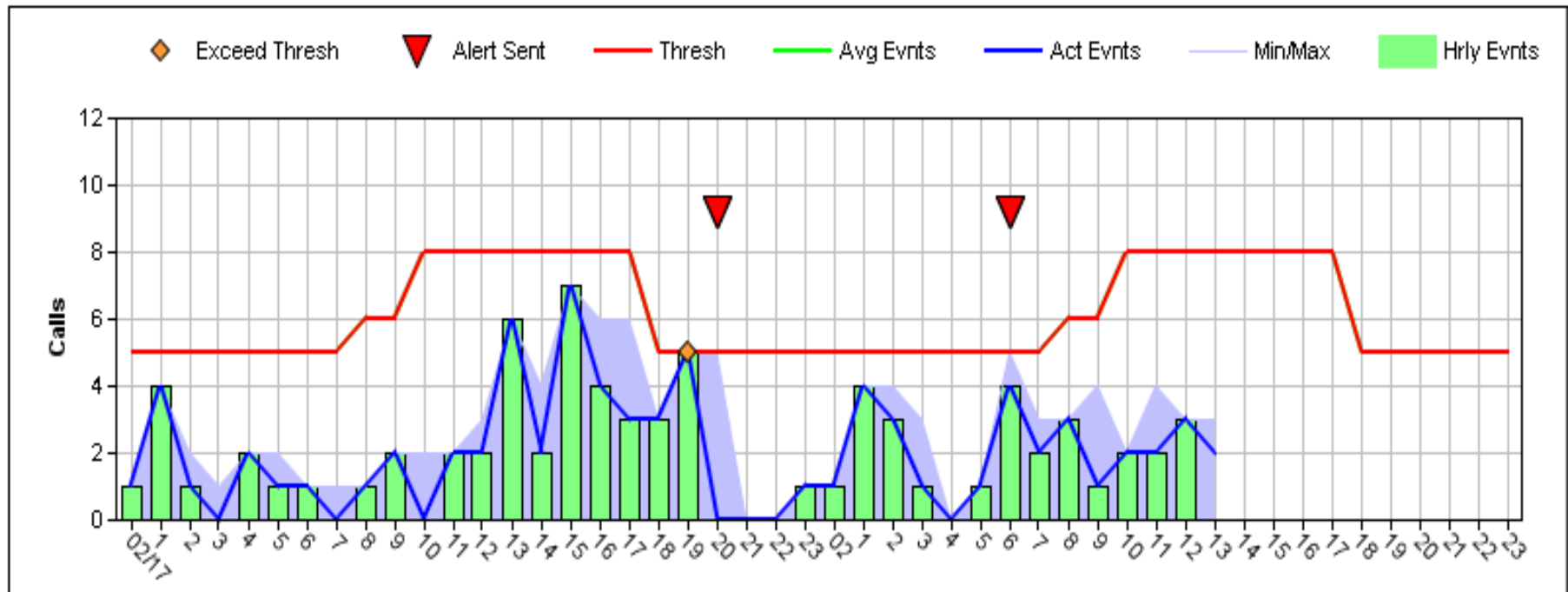## Charleston ePCR Compliance Current Call Information

Calls displayed represent active or performed calls between the hours of 2/23/2006 2:16:00 PM and 2/24/2006 2:16:00 PM.

Data and Report from the FirstWatch™ Internet Server

No ePCR

ePCR	Time_Assigned	Time_ArrivedAtScene	Pri	Problem	Call Disposition	Response #	Unit
	2/23/2006 2:51:48 PM	2/23/2006 3:02:10 PM	5	Sick Party NPS	Patient Transported	00099255	M02
📕	2/23/2006 3:05:44 PM	2/23/2006 3:12:45 PM	4	Medical Alarm	Patient Assist	00099256	M19
📕	2/23/2006 3:11:08 PM	2/23/2006 3:17:25 PM	4	MVA - Injuries	Patient Transported	00099257	M18
📕	2/23/2006 3:39:03 PM	2/23/2006 3:42:20 PM	5	Sick Party NPS	Non-Transport	00099262	A30
📕	2/23/2006 3:36:32 PM		5	Sick Party NPS	Non-Transport	00099261	M12
	2/23/2006 3:41:54 PM	2/23/2006 3:48:10 PM	3	Sick Party-Cardiac Hx	Patient Transported	00099263	M14
📕	2/23/2006 4:38:01 PM	2/23/2006 4:42:47 PM	3	Diabetic -Charlie Override	Patient Transported	00099265	M01

Every EMS agency understands the importance and necessity of maintaining adequate documentation of all patient encounters, but there are times when due to the normal busy nature of the job some reports are not completed/submitted right away. Using FirstWatch, Charleston EMS created a Trigger to ensure an electronic patient care report (ePCR) is completed for each response where a crew arrived on scene. FirstWatch integrates data from Charleston's CAD & ePCR systems and provides a real-time quality assurance check that allows them to identify when a report is missing. This tool ensures that all reports are turned in for 100% compliance before the crew finishes their shift.

High Volume Activity Sentinel – Bowling Green

Using FirstWatch, managers with Bowling Green Kentucky's EMS system created a Trigger to alert them when resources are being stretched too thin. The High Volume Sentinel Trigger alerts designated EMS managers when certain dynamic call volume thresholds are exceeded (based on their staffing model). FirstWatch enables EMS managers to quickly make assessments and decisions (based on real-time data) to add additional team members as needed to handle the increased call volume.

Rain, winds pound Northern California

Northeast, Great Lakes remain cold

Tuesday, February 28, 2006; Posted: 9:42 a.m. EST (14:42 GMT)

SAN FRANCISCO, California (AP) -- A storm bringing wind gusts of nearly 100 mph and heavy rains toppled trees, power lines and a 30-ton construction crane Monday night.

More than 100,000 Pacific Gas and Electric Co. customers were without power as of 11 p.m. Monday night, PG&E spokeswoman Jana Schuering said.

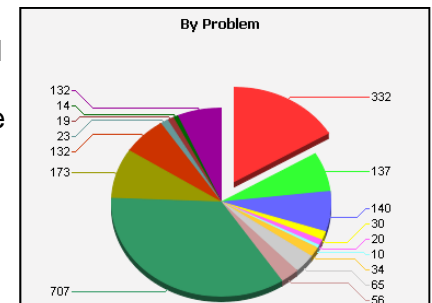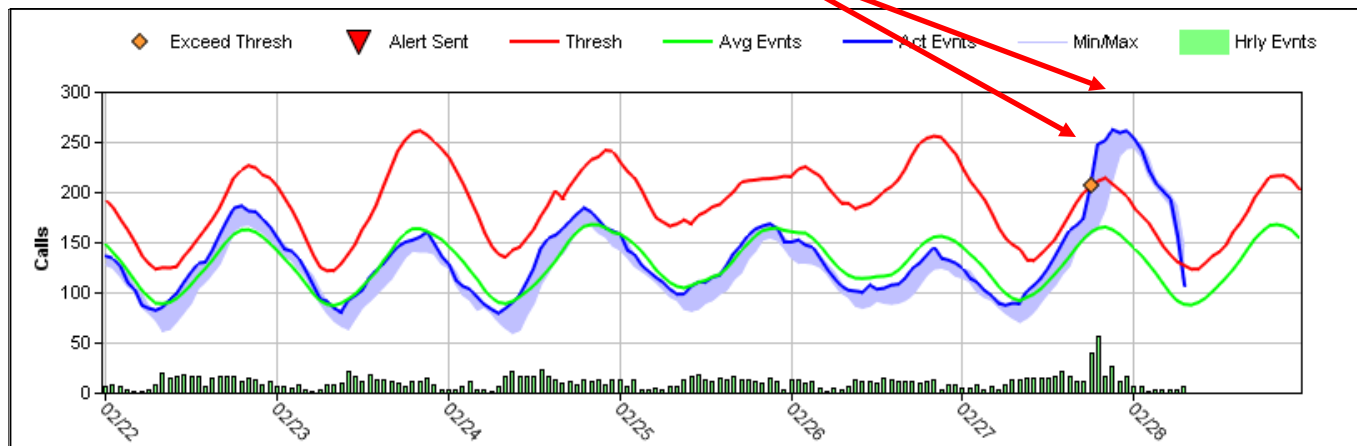Most of the power outages were reported

The continental United States as seen at 6:30 a.m. ET.

Emergency Preparedness

When disaster strikes, the dissemination of accurate and up-to date information from the front lines becomes ever more crucial. When hurricane Katrina devastated the gulf coast in 2005, State and Federal authorities struggled to get accurate and timely information from the scene. FirstWatch is able to bridge that information gap by allowing agencies to share identified or de-identified 9-1-1 call information with regional and federal emergency management organizations in real-time. In 2006, when hurricane force winds pounded the San Francisco Bay area, FirstWatch worked in the background and was able to share a real-time perspective of the storm's impact based on where the calls were coming from, nature of the call and number of calls taken. Whether a short lived storm or a major disaster like an Earthquake, Hurricane, or Wildfire, FirstWatch can provide officials with a front-line perspective of the impact with real-time information.

FirstWatch Chart (below) outlines Spike in Emergency Responder activity during the height of the storm.

By Problem

- Alarm [332 or 16.4%]
- Assist [137 or 6.8%]
- Fire - Other [140 or 6.9%]
- Fire - Structure [30 or 1.5%]
- Fire - Vehicle [20 or 1.0%]
- HazMat [10 or 0.5%]
- Medical - GI [34 or 1.7%]
- Medical - MVA [65 or 3.2%]
- Medical - Neurologic [56 or 2.8%]
- Medical - Other [707 or 34.9%]
- Medical - Respiratory [173 or 8.5%]
- Medical - Trauma [132 or 6.5%]
- Medical - Unresp / Uncon [23 or 1.1%]
- Medical - Violent [19 or 0.9%]
- Rescue [14 or 0.7%]
- Unclassified [132 or 6.5%]

Legend: Exceed Thresh | Alert Sent | Thresh | Avg Evnts | Act Evnts | Min/Max | Hrly Evnts

Pandemic Driven International Deployments

Legend: ◆ Exceed Thresh ▼ Alert Sent ── Thresh ── Avg Evnts ── Act Evnts ── Min/Max ▮ Hrly Evnts

Toronto EMS is Canada's largest EMS agency, providing all emergency and non-emergent transports for the regions 2.5million.

Pie chart legend:
- Assist - FD [5 or 1.2%]
- Medical - Cardiac [33 or 7.9%]
- Medical - GI [9 or 2.2%]
- Medical - MVA [16 or 3.8%]
- Medical - Neurologic [34 or 8.2%]
- Medical - Other [111 or 26.6%]
- Medical - Respiratory [40 or 9.6%]
- Medical - Trauma [11 or 2.6%]
- Medical - Unresp / Uncon [42 or 10.1%]
- Medical - Violent [10 or 2.4%]
- Pallative - Immediate [2 or 0.5%]
- Pallative - Routine [88 or 21.1%]
- Pallative - Special [1 or 0.2%]
- Unclassified [15 or 3.6%]

With the deployment of FirstWatch in Toronto, officials have a new tool providing real-time information relating to Canada's largest EMS agency. Toronto's configuration of FirstWatch includes monitors for gastrointestinal, respiratory problems, sudden illness/death, neurological, chest pain and non-emergent "palliative" care transports of the sick throughout the community's elaborate health care system. These FirstWatch Triggers are designed to provide an early indicator for a community particularly sensitive after their experience with Severe Acute Respiratory Syndrome (SARS).

Regional Influenza Network (RIN) Trigger

Using FirstWatch, public health officials from 19 communities (representing 13 states) are tracking potential flu outbreaks by monitoring live calls to 9-1-1 Public Safety Dispatch Centers. Epidemiologists are monitoring for spikes in "flu- like symptoms" including respiratory problems, abdominal pain, headache and other indicators associated with possible flu cases. The RIN Trigger can monitor these symptoms whether they appear in a local jurisdiction, in regional geographic clusters, or across the entire population.

The built-in ability to aggregate data from different cities in real-time makes the RIN Trigger an even more powerful and timely tool for public health and public safety agencies.

Because FirstWatch monitors trends using real-time data, public health personnel know they can start to investigate and respond to an outbreak or seasonal sickness much earlier than if they were to wait for lab results or reports from doctors' offices. Participating RIN communities share data, (and related pattern criteria) which could indicate potential outbreaks, providing crucial hours or days of advance warning.

Map (above) shows current communities that are participating in the RIN network, including: Bergen County, NJ; Boone County (Columbia), MO; Bowling Green, KY; Charleston County, SC; Des Moines, IA; Ft Wayne, IN; Ft Worth, TX; Independence, MO; Johnson County, KS; Kansas City, MO; Macon, GA; Oklahoma City, OK; Plano, TX; Richmond, VA; Savannah, GA; Sedgwick County, KS; Sussex County, DE; Long Island, NY and Tulsa, OK.

Real-time analysis of Hospital, Poison Control and other data

In addition to monitoring 9-1-1 data, FirstWatch can be rapidly and easily deployed to monitor a variety of existing data systems including Hospital, Clinical, Poison Control Center and Paramedic Electronic Patien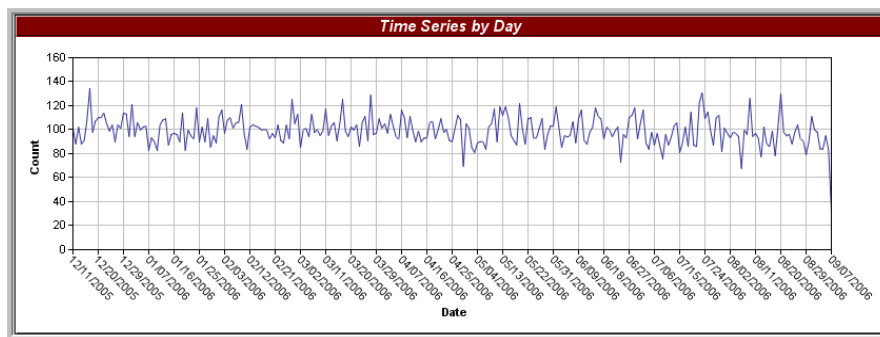t Care Reports (ePCR). Our flexible approach lets FirstWatch integrate directly (via read only) with existing data systems or re-ceive data pushed from a system using HL7, FTP, Web Services, or other acceptable methods.

FirstWatch can compile and merge data from multiple sources for analysis based on user defined criteria. To add to the flexibility of monitoring data, FirstWatch has free-text analysis tools designed to search through triage and diagnostic fields for clinical information with the built-in ability to handle misspellings, abbreviations and other coding systems like ICD9 and SNOMED.

These free-text tools also include several key attributes including the ability to build "regular expressions" that search for words and phrases in relation to other words. Using regular expressions improves syndrome grouping by programmatically accounting for the myriad of language variations.

The FirstWatch free-text tools allow authorized users to make instantaneous modifications to the program on-the-fly. Another strength of the FirstWatch Network is the ability to build your own free-text analysis package from scratch, or to import (or build) off a shared analysis package from other current users.

Bioterrorism (BT)

Translation of EMS Chief Complaints to CDC Bio-Surveillance Categories

Using Public Safety 9-1-1 call data for bioterrorism (BT) and health surveillance has created a new awareness of the value of emergency pre-hospital data. FirstWatch, a pioneer in Public Safety 9-1-1 call data analysis, has been actively monitoring real-time 9-1-1 call data since 1999. Now processing more than **20,000** real-time Public Safety encounters daily from systems throughout North America, FirstWatch is the largest real-time network of its kind.

Public Health Officials recognize that information from multiple data sources is required to develop the best assessment of a community's overall health. Public Safety 9-1-1 data brings a number of distinct benefits providing a very unique and timely perspective. Typically the geographic area covered by a 9-1-1 system is very large, many times comprised of a multi-city or county area. Other data sources, such as hospital emergency department data, represent a much smaller geographic footprint. Additionally, 9-1-1 data is processed in a very timely manner, typically within one or two minutes. Once processed, the 9-1-1 information includes not only specific chief complaint criteria, but also includes a geographically specific location which can be used to provide a precise location for the patient. The combination of a large service area, timeliness of information, and geographically validated location data (via FirstWatch) offers health officials a valuable situational awareness tool.

Patient information collected during a 9-1-1 call can vary from agency to agency. However, users of the Priority Dispatch ProQA, an automated expert algorithm system software, can gather a variety of health data including age, sex and acuity to categorize a patient into almost **300 condition determinants**. ProQA provides additional value by <u>ensuring consistency in the call screening process</u> where each incident is processed the same way.

FirstWatch is the only organization integrating real-time Command and Dispatch (CAD) data with ProQA data in a seamless interface. The system also includes supplemental screening tools designed to screen for exposure to Chemical, Biological, Radiological or Nuclear exposure (CBRN) and symptoms associated with severe respiratory syndrome, including information relating to recent travel to high risk locations. Public Safety and 9-1-1 teams are on the front lines of health emergencies, and FirstWatch provides real-time analysis and alerting.

Actual Events Chart

◆ Above Trigger — Trigger Calculation — Average Criteria Events — Actual Events — Min/Max Events

(y-axis: Calls, 0 to 20; x-axis: Hour Beginning, 03/22 to 23)

Syndrome-To-All Ratio Chart

◆ Above Trigger — Trigger Ratio — Average Event Ratio — Event Ratio

(y-axis: Ratio (Events/All Events), 0 to 0.7; x-axis: Hour Beginning, 03/22 to 23)

CUSUM Chart

◆ Above Trigger — h = 4.5 — Low — High

(y-axis: CUSUM Events, 0 to 6; x-axis: Hour Beginning, 03/22 to 23)
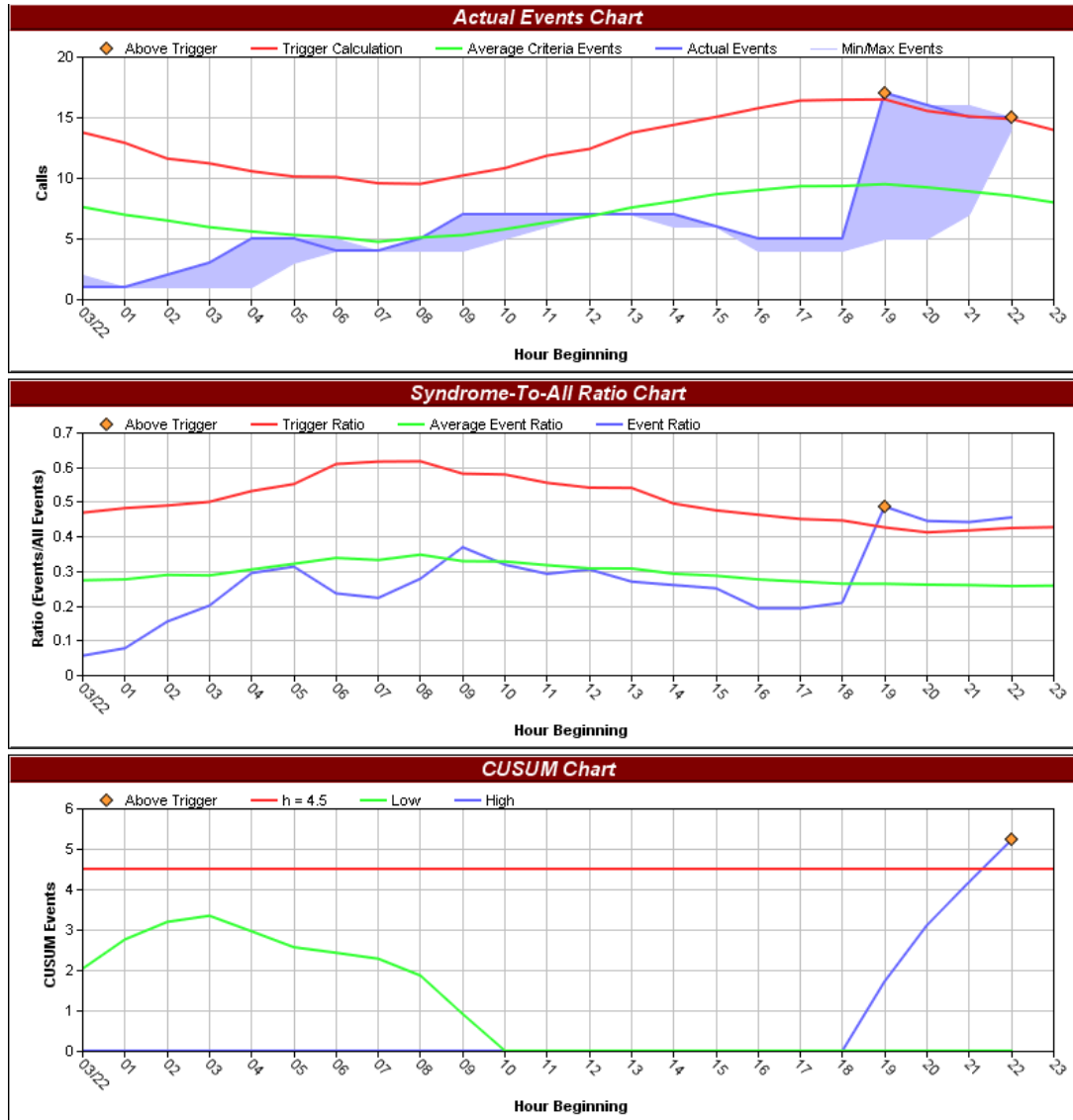
Food Borne Illness

In March 2006 Okaloosa County, FL Public Health & Safety officials were concerned when their FirstWatch Bio-surveillance Trigger registered an abrupt and significant jump in cases.

The increase in the call volume occurred when a number of patients experienced sudden and violent gastrointestinal problems after eating at a local seafood restaurant.

This alert analysis summary demonstrates how FirstWatch is a very early indicator of events. Early identification of events is crucial in the detection and treatment of public health events.

Chronology of this alert: as you see from data analysis charts (to left), the Actual Events analysis exceeded the user defined threshold/standard deviation level at 7pm as indicated by the Gold Diamond icon. The Syndrome-To-All Ratio Analysis (comparing data criteria selected to overall volume of calls) also exceeded the threshold at 7pm as indicated by the Gold Diamond icon. But based on the Trigger Alert for this particular customer, the actual Alert was generated at 10pm, when the Cumulative Summary Analysis along with the other two measurements all exceeded the user-defined threshold, as indicated by the Gold Diamond icon.

Once the user-defined limits had been exceeded, FirstWatch automatically sent an alert including charts, maps and related information, to authorized personnel via email, pager and fax.

FirstWatch Fire Trigger Examples

RAW Performance Triggers/Time Compliance Analysis:

- **Dispatch Time** – used to monitor the time it takes dispatchers to dispatch the initial call against a time standard.

- **Out of Chute/Reflex Time** – used to monitor the time it takes units to respond once they've been assigned / dispatched to an incident.

- **Response Time** – used to monitor the response time for an incident. There are many variables to start and stop clock times.

- **Time on Task** – used to monitor the total time a unit is on a call from time assigned/dispatched to the time the go is available or the call is cleared.

FirstWatch Fire Trigger Examples

Sentinel Event Detection Triggers:

- Suspicious fire activity
- Dumpster fire
- Grass/brush fire
- Vacant building
- Smoke investigation
- Vehicle fire
- Boat
- Tree
- Arson
- Fireworks
- Tree
- Transformer/Pole
- Illegal Burn
- Explosions
- Terrorism Sentinel

Situational Awareness Triggers:

- Strike Team assignment
- Hazmat/Chemical
- Task Force Request
- Arson Investigation
- Multi-Alarm Fires
- Commercial Structure
- Residential Structure
- Swift Water Rescue
  > X Engines responding

Trend/Pattern Analysis:

- Suspicious Fire Activity
- Suspicious Activity Analysis

Address Alert Triggers

Address Alert Summary

139 previous calls occured w/in 30 days at MORRISON HOTEL LOBBY 909 14th St, Plano, APT: None

New Incident Details:

Incident Details

fwCust_ID	14	Time_PhonePickUp	5/17/2005 6:52:29 PM
ID	447710	Time_FirstCallTakingKeystroke	5/17/2005 6:52:29 PM
FWTimeStamp	5/17/2005 4:54:44 PM	Time_CallEnteredQueue	5/17/2005 6:52:52 PM
Response_Date	5/17/2005 6:52:51 PM	Time_CallTakingComplete	5/17/2005 6:52:52 PM
Master_Incident_Number	PLPD05-07605A	Time_CallClosed	
Agency_Type	Police	Time_First_Unit_Assigned	
Jurisdiction	Plano PD	Time_First_Unit_Arrived	
Division	A Sector	Cancel_Reason	
Response_Area	Beat A1	Call_Disposition	
Problem	Diabetic Problem-F	EMD_Used	0
Priority_Number	3	CIS_Used	0
Location_Name	MORRISON HOTEL LOBBY	Determinant	
Address	909 14th St	ProQA_CaseNumber	
Apartment		Call_Is_Active	1
City	Plano	CreatedbyPrescheduleModule	
State		Caller_Type	
Postal_Code	75074	Location_Type	
County	COLLIN	Calc_Latitude	
Longitude	96703056	Calc_Longitude	
Latitude	33017778		

Incident Comments

| Performed By | Datetime | Comment |
| RWL | 5/17/2005 6:53:22 PM | wf drk clothes in lobby complaint thinks she's diabetic |

Unit Assignment and Transport

| Response Number | Radio Name | Time Assigned | Time Enroute | Time Staged | Time Arrived At Scene | Cancel Reason | Call Disposition |

Previous Incidents at 909 14th St, Plano, APT: None

Incident #	Time Sent To Queue	Pri	Problem	Call Disposition
PLPD05-075823	5/17/2005 12:51:26 PM	3	Assault-P	R2- Offense Report
TRU05-075780	5/17/2005 11:36:36 AM	4	Narcotics-P	TR2 - Offense Report
PLPD05-075764	5/17/2005 10:50:36 AM	3	Shooting-P	R3- Arrest Report
PLPD05-075737	5/17/2005 9:50:38 AM	3	Narcotics-P	R3- Arrest Report
TRU05-075493	5/17/2005 8:15:24 PM	4	Abandoned/Lost Property-T	TN9 - No Rpt/CompInt Contacted
PLPD05-075321	5/16/2005 2:44:22 PM	4	Narcotics-P	R2- Offense Report
PLPD05-075213	5/16/2005 10:39:41 AM	2	Assault-P	R2- Offense Report
PLPD05-074959	5/15/2005 8:10:31 PM	3	Burglary of Vehicle-P	R2- Offense Report
PLPD05-074777	5/15/2005 12:38:29 PM	4	Abandoned/Lost Property-P	R4- Information Report
PLPD05-074217	5/14/2005 2:35:20 PM	3	Meet Complainant-P	N9- No Report/ Compl Contacted

Address Alert Summary (left) provides real-time information on call, from selected address, or vulnerable / high profile location.

Authorized Users can drill into Incident & Disposition detail (below) for quick re-cap of previous calls from selected address.

In addition, the selected call is also plotted on a Map (insert detail to left) for easy geographic reference.

First responders are confronted with dangerous situations daily. It is common practice for responders to begin assessing a situation and developing an action plan, based on available information, while they are en-route to a scene. The FirstWatch Address Alert is designed to provide responders with real-time background information on selected addresses before they arrive. A routine response to an address with a patient experiencing chest pain may have been the site of a meth-lab bust, assault with a knife or other serious situation just hours, days or weeks earlier. This Trigger provides responders with information to protect themselves, request backup (or additional support) and ultimately allow for safer and better preparation on scene. Many agencies have the ability to review premise history. However, the process is manual, time intensive and requires busy dispatch personnel to make timely decisions on information that should be shared/communicated with the responding units en-route. FirstWatch automatically scans for address history without taking the dispatcher away from their other duties.

Arson Alert — Las Vegas

Officials in Las Vegas use FirstWatch to monitor for suspicious activity related to possible arsons. This FirstWatch Trigger looks for volumetric increases or geographic clusters of suspicious fire activity such as: dumpster fires, grass fires and vehicle fires. Fire officials are keenly aware that juvenile fire setters may escalate their dangerous behavior. This Arson Trigger is designed to quickly alert officials (in real-time) to suspicious patterns before trends escalate.
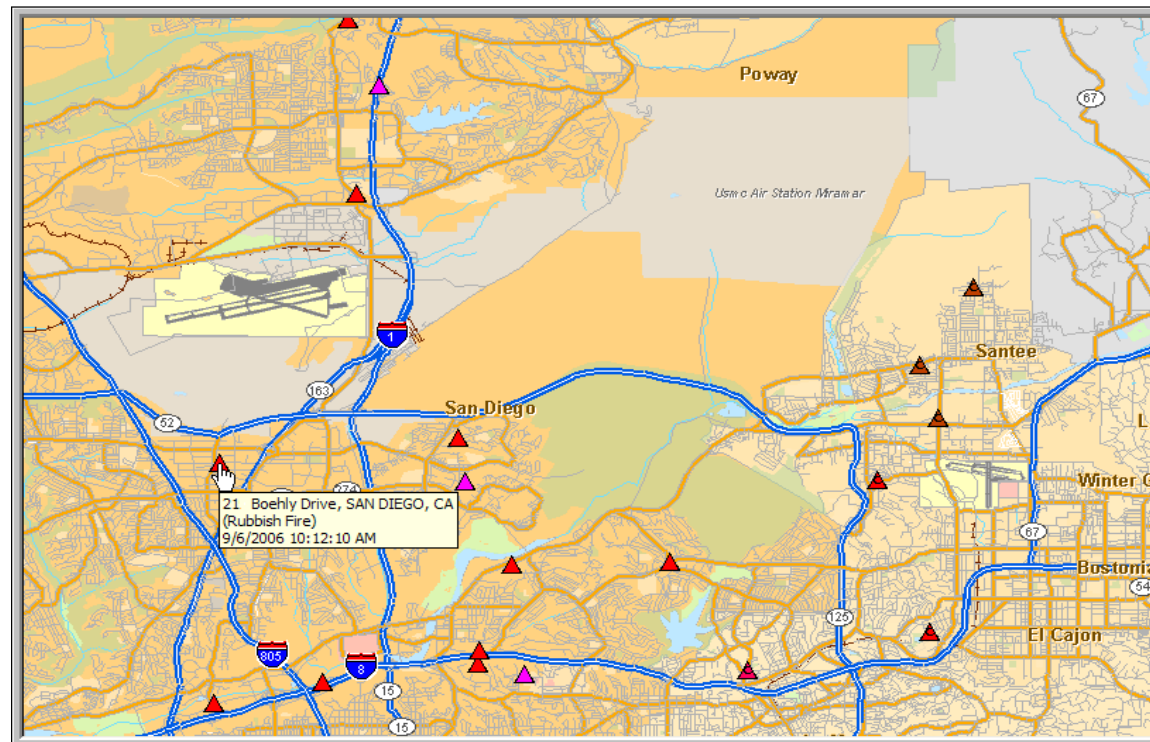
All Fires Trigger – San Diego County

Like many Southern California communities, San Diego is subject to ferocious wildfires that often impinge on the expanding urban areas of the county. Using FirstWatch, San Diego Fire Officials can view real-time information on all active fires across the county. FirstWatch pulls data from 9-1-1 centers serving the cities of San Diego, Oceanside and two regional JPA multi-jurisdictional 9-1-1 centers, serving 20 different agencies across San Diego County.

The All Fires Trigger pulls data from all four 9-1-1 centers (in real-time) across San Diego County and provides a single view of all active fire calls, including alerts indicating when shared assets such as wildfire strike teams, are committed to other scenes. This Trigger also allows the centers to gather real-time information from fire incidents along jurisdictional borders that often result in calls from concerned citizens.

This map (right) shows all reported structure, vehicle, wild land or other types of fires, by pulling real-time data from multiple agencies across San Diego County.

Law Enforcement Trigger Examples

➢**RAW Performance Triggers/Time Compliance Analysis:**

•<u>**Dispatch Time**</u> – used to monitor the time it takes dispatchers to dispatch the initial call against a time standard.

•<u>**Enroute Time**</u> – used to monitor the time it takes units to respond once they've been assigned / dispatched to an incident.

•<u>**Response Time**</u> – used to monitor the response time for an incident. There are many variables to start and stop clock times.

•<u>**Time on Task**</u> – used to monitor the total time a unit is on a call from time assigned/dispatched to the time the go is available or the call is cleared.

➢Sector Calls (A, B, C, D)
➢Demand Analysis
➢Operational, Command Staff or Supervisory Sentinel

Law Enforcement Trigger Examples

Sentinel Event Detection Triggers:

➢Hot Prowl Sentinel
➢Robbery Sentinel
➢Shots Fired
➢Bomb/Explosion Sentinel – Free Text
➢High Profile Location Sentinel
➢Homeland Security Sentinel
➢Major Incident Sentinel (>X units assigned)
➢Amber Alert
➢Officer Involved
➢Shooting/Stabbing/Death
➢Home Invasion – Geo-Fence Sentinel
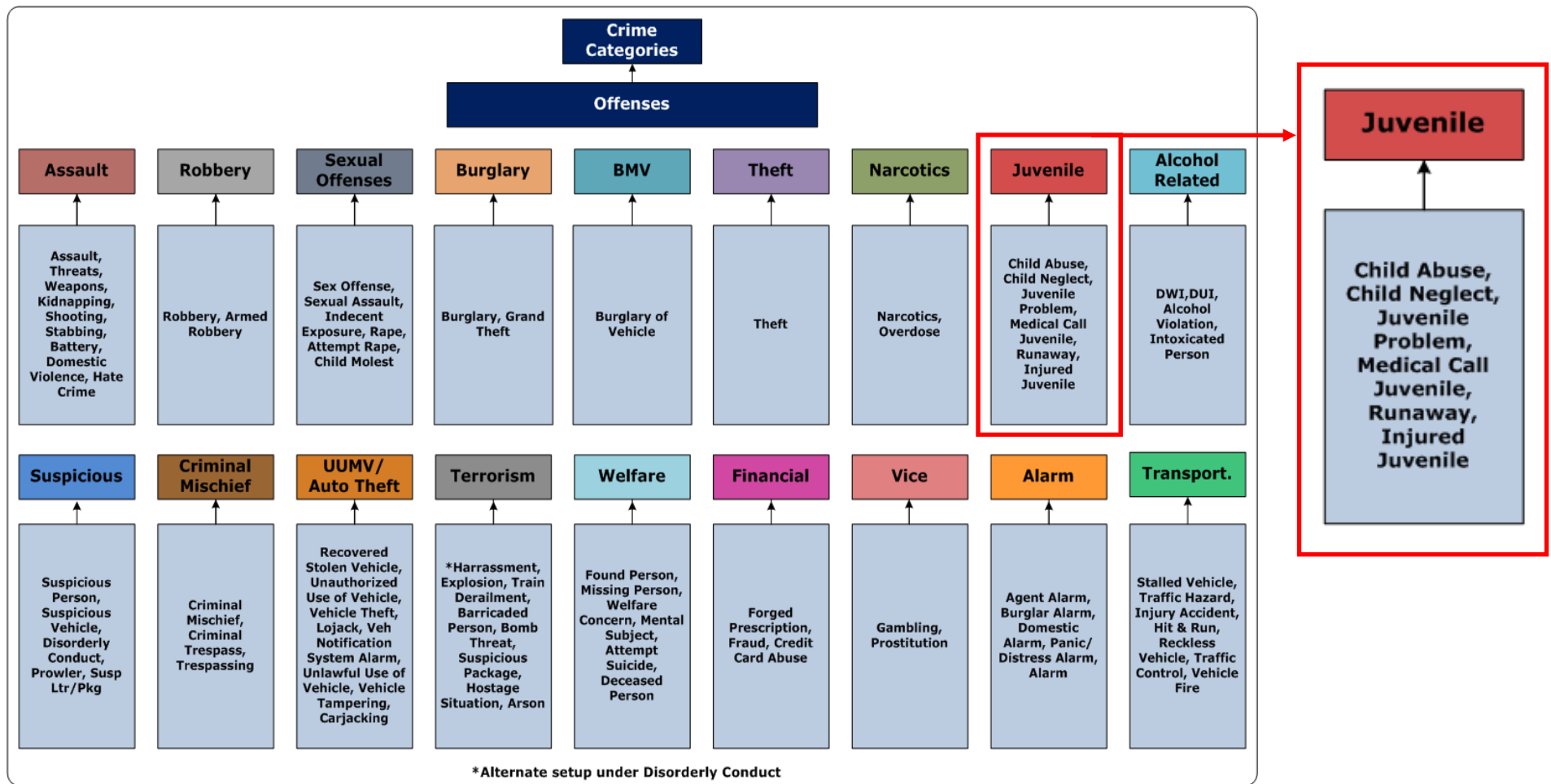➢Pediatric Drowning

Trend/Pattern Analysis:

➢BMV (Burglary in Motor Vehicle) – Geo-Cluster
➢Auto Theft Analysis
➢CAPERS Analysis
➢General Nuisance Analysis
➢Sex Crimes Analysis
➢Vice Analysis
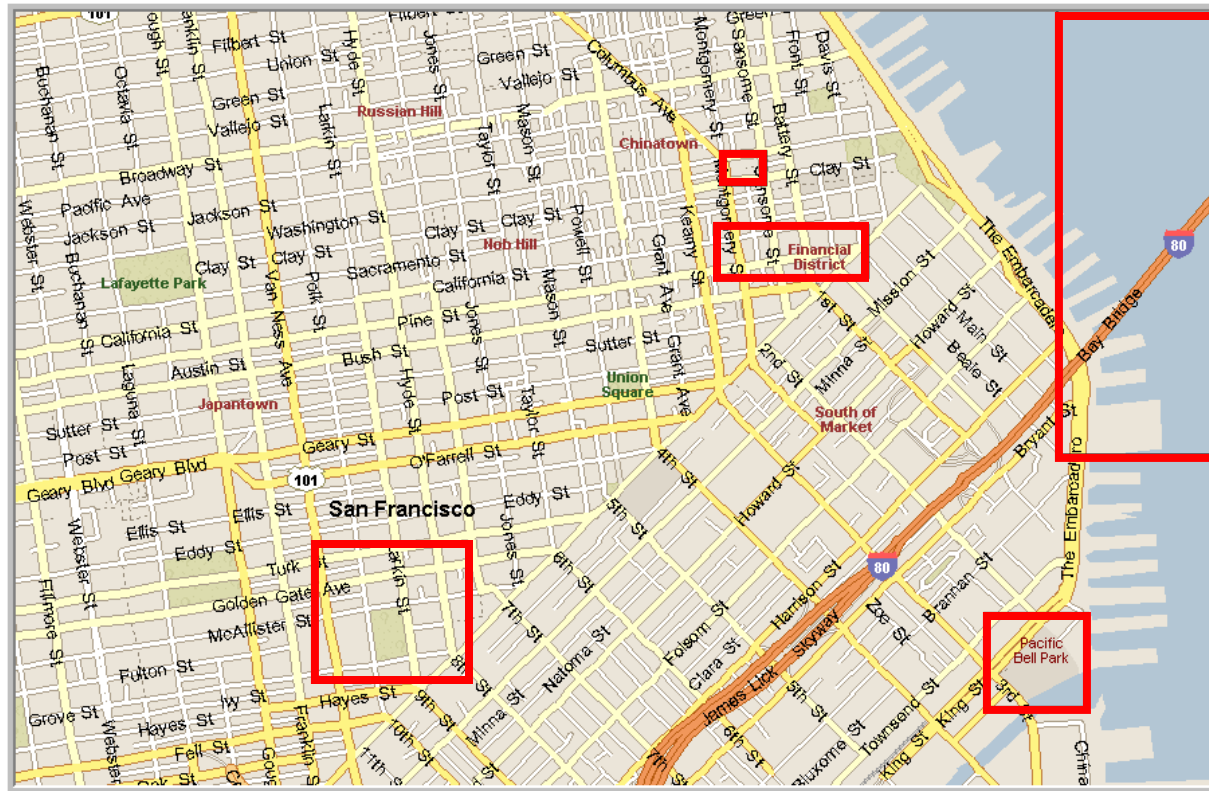➢Suspicious Activity Analysis

Situational Awareness Triggers:

➢All Calls
➢Situational Awareness
➢Auto Theft
➢Fights
➢Prowler
➢Robbery
➢Sex Crimes
➢Suspicious Activity
➢Transportation
➢High Profile Location Situational Awareness
➢Mass Casualty Incident (MCI) >X units on scene
➢Public Order
➢Changeable Address Search
➢Address Alert
➢Free Text—Hot Alert
➢Free Text—Watch List
➢Free Text—Vehicle Description
➢Free Text—Partial Plate

Crime Categories — Can match with Trigger definitions

Categorization developed by existing clients. The data relates to Crime Analysis Reporting under FBI Uniform Crime Reporting and other requirements. Categories and offenses will vary from client to client.

Crime Categories

Offenses

Assault	Robbery	Sexual Offenses	Burglary	BMV	Theft	Narcotics	Juvenile	Alcohol Related
Assault, Threats, Weapons, Kidnapping, Shooting, Stabbing, Battery, Domestic Violence, Hate Crime	Robbery, Armed Robbery	Sex Offense, Sexual Assault, Indecent Exposure, Rape, Attempt Rape, Child Molest	Burglary, Grand Theft	Burglary of Vehicle	Theft	Narcotics, Overdose	Child Abuse, Child Neglect, Juvenile Problem, Medical Call Juvenile, Runaway, Injured Juvenile	DWI, DUI, Alcohol Violation, Intoxicated Person

Suspicious	Criminal Mischief	UUMV/ Auto Theft	Terrorism	Welfare	Financial	Vice	Alarm	Transport.
Suspicious Person, Suspicious Vehicle, Disorderly Conduct, Prowler, Susp Ltr/Pkg	Criminal Mischief, Criminal Trespass, Trespassing	Recovered Stolen Vehicle, Unauthorized Use of Vehicle, Vehicle Theft, Lojack, Veh Notification System Alarm, Unlawful Use of Vehicle, Vehicle Tampering, Carjacking	*Harrassment, Explosion, Train Derailment, Barricaded Person, Bomb Threat, Suspicious Package, Hostage Situation, Arson	Found Person, Missing Person, Welfare Concern, Mental Subject, Attempt Suicide, Deceased Person	Forged Prescription, Fraud, Credit Card Abuse	Gambling, Prostitution	Agent Alarm, Burglar Alarm, Domestic Alarm, Panic/ Distress Alarm, Alarm	Stalled Vehicle, Traffic Hazard, Injury Accident, Hit & Run, Reckless Vehicle, Traffic Control, Vehicle Fire

*Alternate setup under Disorderly Conduct

Juvenile

Child Abuse, Child Neglect, Juvenile Problem, Medical Call Juvenile, Runaway, Injured Juvenile

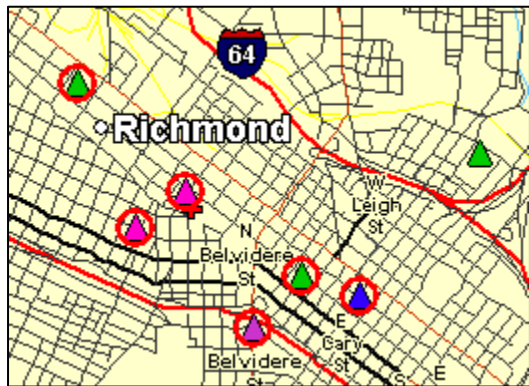# High Profile Location Triggers—San Francisco

The City of San Francisco includes a number of highly recognizable landmarks known throughout the world as well as other landmarks that are integral parts of the government and economy. The Golden Gate Bridge, Trans America Pyramid, United Nations Building, Federal Courthouse and the Financial District are a few of the monitored areas. Using FirstWatch Geo-spatial Analysis, officials are able to place a geo-fence (or perimeter) around specific landmarks with the intent of being notified of significant events or activities around any of the designated landmarks or districts. This Trigger provides a situational awareness perspective to rapidly notify officials of events occurring within any of their high profile zones.

Geographic Clusters of Incidents, by Type

MapShot Geo-Clusters

Data and Report from the FirstWatch™ Internet Server

Zoom to call: 6/23/2005 5:05:56 PM: From RAA

Geo Clusters: 6/23/2005 5:05:56 PM: From RAA

Map Size:

Active/Recent Geo-Clusters

FIRSTWATCH Bioterrorism (All Regions: Count, STA, CUSUM) (Combo2) Current Call Information

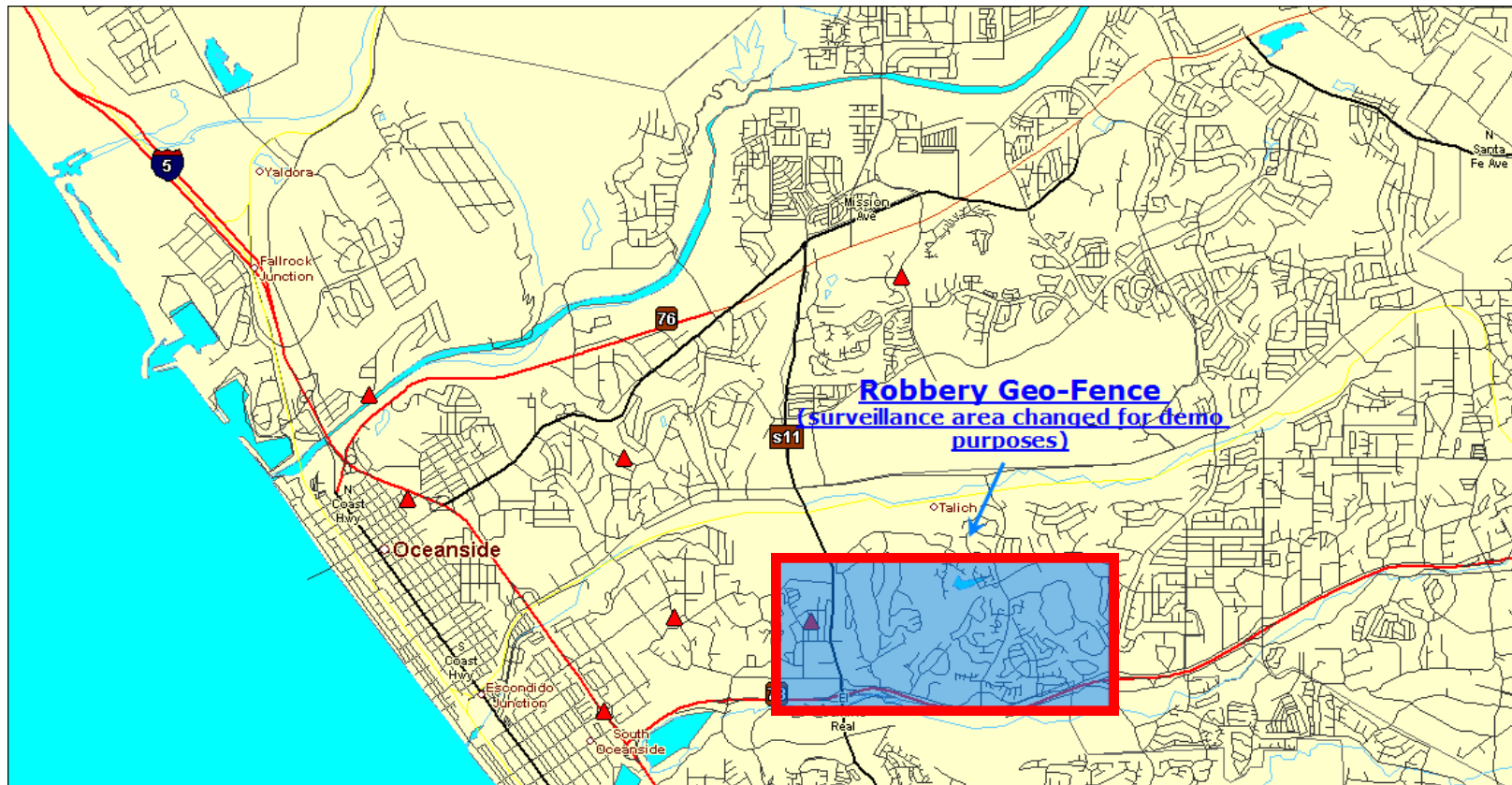Calls displayed represent active or performed calls between the hours of 6/23/2005 4:57:00 PM and 6/24/2005 4:57:00 AM

Data and Report from the FirstWatch™ Internet Server

GC	Time Sent To Queue	Pri	Problem	ProQA	Response #	Unit	Address/Location	Trans
●	6/23/2005 4:53:04 PM	2	263N - Sick Person	26A01	0526666	484	From **RAA**	1
●	6/23/2005 4:57:01 PM	0	1CP-CHEST PAINS		2005-24363		From **Heartland**	1
●	6/23/2005 5:05:56 PM	1	311Y - Unconscious/Fainting	31D03	0526670	476	From **RAA**	1

Burglary Geo-Clusters – Des Moines

For the 2005 National Governor's Conference in Des Moines, law enforcement officials used a variety of FirstWatch Triggers to prepare for the heightened security requirements of a National Special Security Event (NSSE). During that time a rash of burglaries occurred causing a FirstWatch Geo-Cluster Trigger to alert officials. Using the geographic pattern of burglaries identified by FirstWatch (along with exceptional police work), the detectives re-arrested the culprit who was a convicted felon recently released from detention.

Police Call Response Time Trigger — Plano PD

Plano PD Call Response Times Current Call Information

Calls displayed represent active or performed calls between the hours of 3/30/2008 9:18:43 PM and 3/31/2008 1:18:43 PM.

Data and Report from the FirstWatch[TM] Internet Server

Time Sent To Queue	Problem	Pri	Response Area	Unit	Asgn2Arr	Asgn2C	R2C	Call Disposition
3/30/2008 9:21:51 PM	Suspicious Person-P	2	Beat D5	4C	00:08:59	00:45:33	00:50:21	N9- No Report/ Compl Contacted
3/30/2008 9:21:51 PM	Suspicious Person-P	2	Beat D5	3C3	00:08:59	00:00:29	00:50:21	N9- No Report/ Compl Contacted
3/30/2008 9:21:51 PM	Suspicious Person-P	2	Beat D5	3C2	00:08:59	00:37:31	00:50:21	N9- No Report/ Compl Contacted
3/30/2008 9:22:19 PM	Traffic Stop-P	2	Beat C5	3C	00:00:00	00:10:31	00:10:31	CT - Clear Traffic Stop
3/30/2008 9:27:22 PM	Threats-P	2	Beat D5	3D6	00:16:38	00:33:48	00:42:25	N9- No Report/ Compl Contacted
3/30/2008 9:27:45 PM	Reckless Damage-P	3	Beat A4		00:00:00	00:00:00	00:02:41	N2- Duplication of Call
3/30/2008 9:27:48 PM	Traffic Accident/Prop Damage-P	3	Beat A4	3A1	00:05:46	00:38:20	00:41:39	R2- Offense Report
3/30/2008 9:27:48 PM	Traffic Accident/Prop Damage-P	3	Beat A4	3A	00:05:46	00:40:32	00:41:39	R2- Offense Report
3/30/2008 9:29:18 PM	Investigation-P	3	Beat D3	3D6	00:11:13	00:00:53	00:42:27	N9- No Report/ Compl Contacted

FirstWatch recognizes the need for tracking response times on law enforcement calls as well as EMS calls. The response time report includes calculations of the time the call is assigned to the time the officer arrives on scene, the time the call is assigned to the time the call is completed, and the time the call comes into the dispatch center to the time the call is completed. Self-initiated calls are filtered out to enable a more accurate picture for those calls dispatched.

Geo-Fence Sentinel Trigger – Oceanside Police

Oceanside Police Detectives experienced a rash of robberies, all within a particular region of the city. They asked FirstWatch if they could be notified whenever a robbery is reported within the defined hot-zone. Using FirstWatch, the task force drew a "virtual" geographic fence around the focus area and setup a Trigger to immediately and automatically notify key task force members anytime a robbery report is received from within the identified hot-zone.

Briefing Reports, by Sector — Plano PD

The Sector Triggers are presented at daily briefings or officers may log into FirstWatch and check the status of the previous 16 hours prior to shift. This enables oncoming shifts to see the activity that has occurred as well as what is in progress.

	Status	Std Dev	STA	CUSUM	Geo Cluster	Logged In
Plano PD - Sector A Calls	OK	85/131	---	---	---	---
Plano PD - Sector B Calls	OK	54/106	---	---	---	---
Plano PD - Sector C Calls	OK	70/107	---	---	---	---
Plano PD - Sector D Calls	OK	114/139	---	---	---	---

Plano PD - Sector A Calls Current Call Information

Calls displayed represent active or performed calls between the hours of 3/30/2008 8:50:34 PM and 3/31/2008 12:50:34 PM.

Data and Report from the FirstWatch™ Internet Server

GC	Geo Valid	Time Sent To Queue	Pri	Problem	Response Area	Address/Location	Call Disposition
	✓	3/30/2008 8:50:43 PM	2	Traffic Stop-P	Beat A5	96 Nancy Lane	CT - Clear Traffic Stop
	✓	3/30/2008 8:57:22 PM	2	Assist Fire Department-P	Beat A1	106 Clawson Drive	N9- No Report/ Compl Contacted
	✓	3/30/2008 8:57:35 PM	3	Traffic Accident/Prop Damage-P	Beat A1	210 McKeage Way	R1- Accident Report
	✓	3/30/2008 9:03:14 PM	3	Investigation-P	Beat A3	86 ProQA Avenue	CI-Clear Self Init. Investig
	✓	3/30/2008 9:07:11 PM	3	Runaway-P	Beat A5	213 Sharp Lane, 126, Plano	R2- Offense Report

Police Hot Alert — Free Text Analysis

FreeText Setup: Oceanside Hot Alert

+ Larger Font | + Smaller Font   FreeText Search   Print this Page

Matched	Categories	Event	Date/Time	Free Text
N	764665		2/24/2006 5:50:41 AM	RP STATES HE IS AFRAID OF THE CIRCUMSTANCES IN THE APT.....WHEN ASKED WHAT WAS GOING ON HE STATED HIS ROOMMATE WAS OUT OF CONTROL...... ▇▇▇ RP BEING VERY EVASIVE... BOLOD [SECTOR 3] Record #: 1 ▇▇▇ RP NOW STATES THAT HIS ROOMATE ▇▇▇ THREW THE RP AGAINST THE WALL AND LAMP CAUSING A LACERATION TO THE RPS. WRIS... 1142....BOTH SUBJS HBD ....NEG WPNS 6D 2 DETAINED 6D ,,,BOTH SUBJS 647F, NO PROSECUTION DESIRED
N	764666		2/24/2006 5:57:50 AM	# ▇▇▇ # 29....# 3 ▇▇▇.........#4 ▇▇▇...... DEA AND RP.....WILL NOT NEED ASSISTANCE OR GOING EMERGENCY TRAFFIC UNLESS PORBLEMS MAY ARISE....
				# ▇▇▇....715 HRS [SECTOR 1] Record #: 1

<-- **From:** 2/24/2006 5:50:41 AM **To:** 2/24/2006 1:19:29 PM --> Show All ▼ **Rows to Return:** 100 Query Again

Categories	Keywords/Phrases	EXCLUDED Keywords/Phrases	Regular Expression:
Hot Alert ▼	Riot	ROAdwY	
	Crips	Marriot	
Keyword/Phrase:	Bloods	ROAdwAY	
[_____] Add	Murder		
	Hostage		
EXCLUDED Keyword/Phrase:	Pursuit		
	mutual aid		
partial plate xyz-12 Add	AMBER Alert		
	Gun shot wound		
	Threat to kill		

Remove   Remove   Update Regular Expression

FirstWatch provides Oceanside crime analysts with a free-text sentinel tool to help them quickly receive alerts on key words or phrases contained in notes/comments received during the call-taking process. The text tool provides investigators with a dynamic way to target specific events and situations (on-the-fly) that are not normally classified during the initial report. Searching through notes/comments from an incident, the trigger can automatically look for information relating to gang activity, partial license plates, information on wanted vehicles, amber alerts, pursuits and more. One of the key real-time benefits of FirstWatch Free Text Trigger is that investigators can deploy or update new analysis/surveillance criteria in a matter of minutes.

Auto Theft Trigger — MapShot, Oceanside PD

The map plotting feature of FirstWatch Triggers enables users to have a visual correlation of what and where calls are occurring. Using the Auto Theft Trigger, tracking not only stolen vehicles but also locations of the recovered stolen vehicles has helped officers to pinpoint high-risk areas. This particular Trigger includes LOJACK and Vehicle Tampering in addition to Stolen Vehicle Information.

Active calls

- 10851 Stolen Vehicle
- 10851R Stolen Veh Report
- 215 Carjacking
- RSV Recovered Stolen Veh

Re-Draw

Stolen Vehicle Sentinel Trigger — Oceanside PD

Oceanside Police Stolen Vehicle Current Call Information
Calls displayed represent active or performed calls between the hours of 3/25/2008 10:41:04 AM and 4/4/2008 10:41:04 AM.
Data and Report from the FirstWatch™ Internet Server

GC	Geo Valid	Time Sent To Queue	Pri	Problem	ProQA	Incident #	Address/Location
🔴	✓	3/26/2008 3:54:45 PM	2	10851R Stolen Veh Report		0800033859	247 NENA Bridge
🔴	✓	3/26/2008 11:30:57 PM	2	10851R Stolen Veh Report		0800034033	275 Balestracci Parkway
🔴	✓	3/27/2008 8:55:48 PM	2	10851R Stolen Veh Report		0800034396	7 Clawson Drive
🔴	✓	3/29/2008 2:18:17 AM	1	215 Carjacking		0800034965	81 Farber Avenue
🔴	✓	3/30/2008 1:01:33 PM	2	10851R Stolen Veh Report		0800035564	205 Clawson Stre
🔴	✓	3/30/2008 1:19:49 PM	2	10851R Stolen Veh Report		0800035572	282 Microsoft Cou
🔴	✓	3/30/2008 1:48:11 PM	2	10851 Stolen Vehicle		0800035578	282 Microsoft Cou
🔴	✓	3/30/2008 4:02:30 PM	2	10851R Stolen Veh Report		0800035610	122 Irene Road
🔴	✓	3/30/2008 4:59:34 PM	2	10851R Stolen Veh Report		0800035620	52 Cooper Highw
🔴	✓	3/31/2008 12:31:06 AM	2	10851R Stolen Veh Report		0800035766	220 HiTech Highw
🔴	✓	3/31/2008 4:07:09 AM	2	10851R Stolen Veh Report		0800035792	93 NEMA Lane
🔴	✓	4/1/2008 3:47:33 PM	2	10851R Stolen Veh Report		0800036323	49 NENA Parkway
🔴	✓	4/2/2008 1:43:42 PM	2	10851 Stolen Vehicle		0800036660	192 NEMA Street
	✓	3/25/2008 11:29:30 AM	2	10851 Stolen Vehicle		0800033429	199 Surveillance

Besides being notified of events, geo-fences have been established to visually represent 3 or more calls that occur within a ½ mile diameter during a surveillance period of 10 days.

Because auto theft can include other call types, analysts at Oceanside recognized the need to identify stolen vehicle type calls separately. For this particular Trigger, they are notified every time there is a stolen vehicle call. Through the alerting, other local law enforcement agencies are kept abreast of any stolen vehicle activity occurring.

Recovered Stolen Vehicle Sentinel Trigger — Oceanside PD

Oceanside Police RSV Current Call Information

Calls displayed represent active or performed calls between the hours of 3/21/2008 11:53:47 AM and 3/31/2008 11:53:47 AM.

Data and Report from the FirstWatch™ Internet Server

GC	Geo Valid	Time Sent To Queue	Pri	Problem	ProQA	Incident #	Address/Location
	?	3/21/2008 5:33:55 PM	2	RSV Recovered Stolen Veh		0800031934	211 Orbacom Street, "HOLD", VISTA
	✓	3/23/2008 3:32:21 PM	2	RSV Recovered Stolen Veh		0800032786	101 Demo Street
	✓	3/26/2008 12:22:07 AM	2	RSV Recovered Stolen Veh		0800033680	263 Wong Road
	✓	3/28/2008 10:36:17 AM	2	RSV Recovered Stolen Veh		0800034584	15 Sharp Street
	✓	3/28/2008 2:36:05 PM	2	RSV Recovered Stolen Veh		0800034656	106 Clawson Drive
	?	3/28/2008 4:33:01 PM	2	RSV Recovered Stolen Veh		0800034703	51 APCO Lane
	✓	3/29/2008 3:00:10 PM	2	RSV Recovered Stolen Veh		0800035159	182 Kevin Avenue

Total Responses: 7

Because the Stolen Vehicle Trigger proved to be beneficial, Oceanside analysts took things a step further and requested a trigger dedicated to the Recovered Stolen Vehicle calls. This Trigger is setup to alert PD staff and other agencies whenever there is a recovered stolen vehicle along with the location of recovery. The Trigger includes the same geo-fence established in the Stolen Vehicle Trigger and can inform officials if there is a particular area where vehicles are being left.
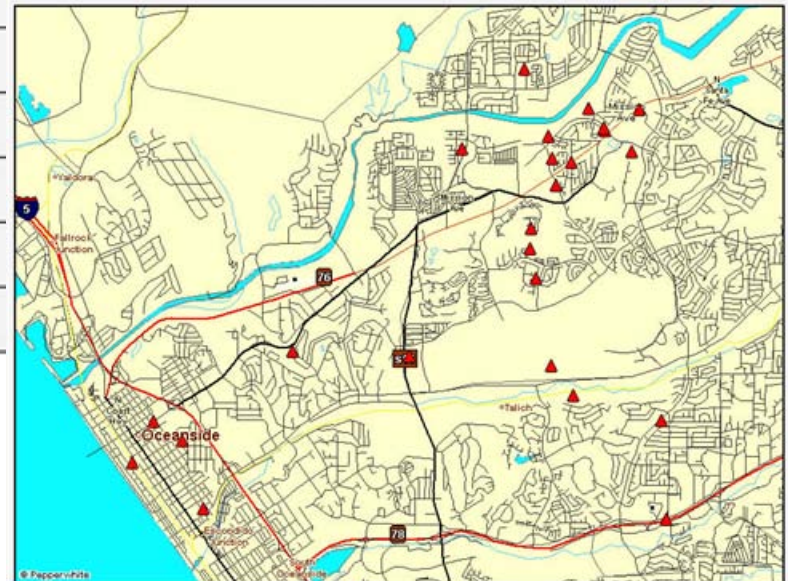
Gang Related Sentinel — Oceanside PD

Oceanside PD - Gang Related Sentinel Current Call Information
Calls displayed represent active or performed calls between the hours of 3/25/2008 and 3/31/2008 11:59:59 PM.
Data and Report from the FirstWatch™ Internet Server

Geo Valid	Time Sent To Queue	Pri	Problem	ProQA	Incident #	Address/Location
✓	3/25/2008 7:59:26 AM	4	Tagging 594 Report		0800033387	203 Academy Blvd
✓	3/25/2008 8:14:31 AM	4	Tagging 594 Report		0800033389	90 Solutions Blvd
✓	3/26/2008 11:23:36 AM	4	Tagging 594 Report			
✓	3/26/2008 12:24:38 PM	5	CKAREA Check Area			
✓	3/26/2008 5:06:49 PM	3	602 Trespassing			
✓	3/26/2008 5:28:31 PM	5	FYI For Your Info			
✓	3/26/2008 5:45:47 PM	4	Tagging 594 Report			

Law enforcement agencies throughout the United States deal with gang activity and have special units assigned to monitor events. Task forces at Oceanside requested a trigger specific to the monitoring of such events. This Trigger was designed to search call comments for key words and call types associated with local gangs. As is depicted in the map view, officers can visually identify areas with strong gang activity.
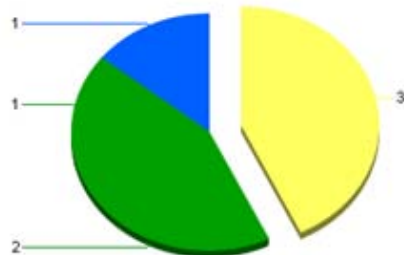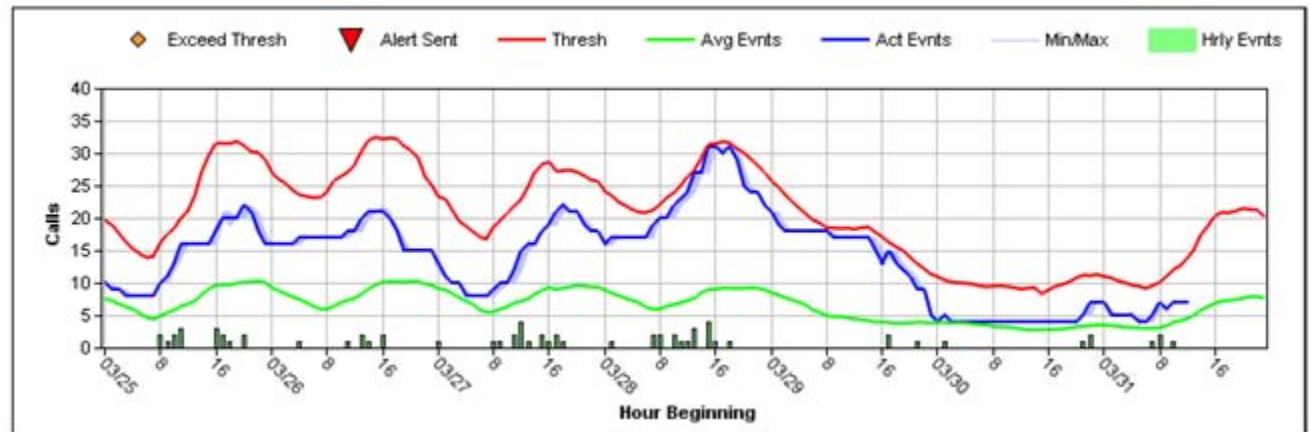
Location Type Calls — Plano PD

Plano PD - School Calls Current Call Information
Calls displayed represent active or performed calls between the hours of 3/30/2008 4:27:54 AM and 3/31/2008 12:27:54 PM.
Data and Report from the FirstWatch™ Internet Server

Legend:
- P2 - Traffic Stop-P [3 or 42.9%]
- P3 - Investigation-P [2 or 28.6%]
- P3 - Theft-P [1 or 14.3%]
- P4 - Criminal Mischief-P [1 or 14.3%]

Chart legend: Exceed Thresh, Alert Sent, Thresh, Avg Evnts, Act Evnts, Min/Max, Hrly Evnts

The location of call activity can be just as important as the call itself. Plano analysts requested a Trigger to be based on calls that occur at schools. The primary objective is to monitor those calls related to narcotics on school grounds. However, other types of activities can be helpful in identifying on-going issues at particular locations.

Real Time Demand Analysis

One of the many challenges faced by agencies is making the most effective use of the resources they have available. A common way to forecast needs for staffing, scheduling and resource deployment is to analyze historical patterns of demand for service, both by day of week and hour of day and geographically. This time proven approach is referred to as "Demand Analysis." Variations of this approach have been used for more than 20 years all around the world. In the past, the process of compiling and creating a complete temporal and geographic Demand Analysis was tedious, time-consuming, and too often, very manual.

Demand Analysis Chart

FirstWatch has created real-time, dynamically updated and calculated Demand Analysis Module which offers views of select customer data. The Demand Analysis calculations in the data can be downloaded into an Excel spreadsheet, *with all formulas intact*. We're working to enhance the Demand Analysis module by adding a Demand Consumption-based approach, as well as addressing geographical demands by creating up-to-the minute problem/solution maps for each hour of the day and each day of the week and/or other user-defined intervals.
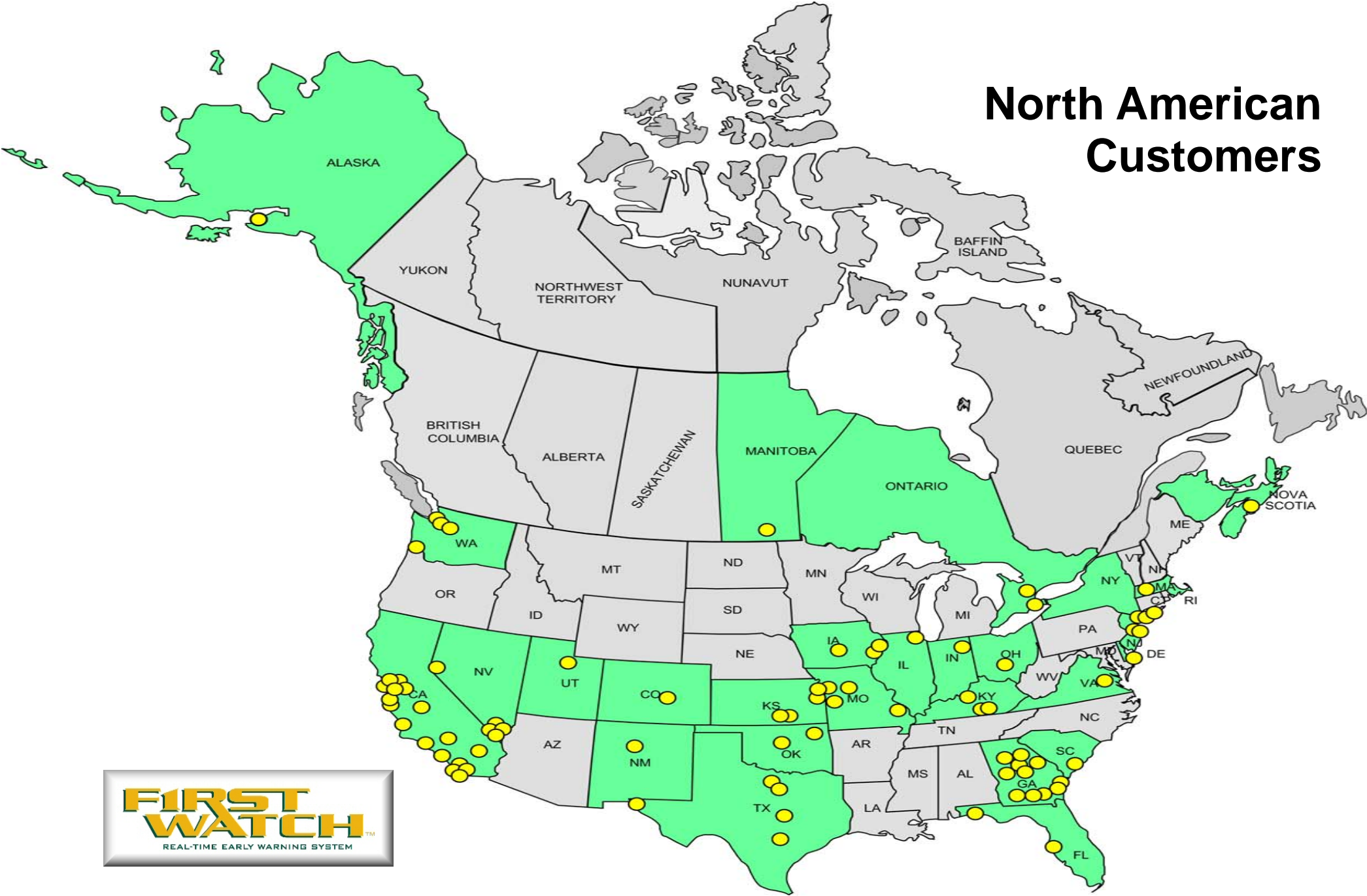
Clark County (Las Vegas) EMS Transport Status Dashboard

FirstWatch Enhancement Module

NEVADA Clark County Unit/Hospital Status – Include 911 Calls Only
2/24/2006 1:40:03 PM

Clark County Region A	Enroute	Arrived	Elapsed - Avg	Elapsed - Max
H1 SUMMERLIN HOSPITAL	0	0		
H11 MOUNTAIN VIEW HOSPITAL	1	0		
H4 UMC HOSPITAL	0	0		
H9 VALLEY HOSPITAL	1	0		

Clark County Region B	Enroute	Arrived	Elapsed - Avg	Elapsed - Max
H2 DESERT SPRINGS HOSPITAL	0	2	23:25	34:41
H5 NORTH VISTA HOSPITAL	1	1	58:50	58:50
H6 SUNRISE HOSPITAL	1	1	19:31	19:31

Clark County Region C	Enroute	Arrived	Elapsed - Avg	Elapsed - Max
H15 SPRING VALLEY	0	0		
H16 SOUTHERN HILLS HOSPITAL	0	0		
H7 ST ROSE - DE LIMA	1	2	25:39	27:22
H72 ST ROSE - SIENA	1	0		

Specialty Hospitals	Enroute	Arrived	Elapsed - Avg	Elapsed - Max
SUNRISE HOSPITAL - PEDS ER	0	0		
SUNRISE HOSPITAL - TRAUMA	0	0		
UMC - PEDIATRIC ER	0	2	21:18	37:14
UMC - TRAUMA	0	0		

Like many communities, public safety officials in the Las Vegas area are constantly challenged with hospital surge issues that tie up emergency units dropping off patients at local hospitals. As hospital turn-around times grow longer, emergency units are unavailable to respond to other emergencies, creating a serious problem. Using FirstWatch, Clark County EMS (CCEMS) developed a dashboard with information relating to all active patient transports in the County. The CCEMS Transport Status Dashboard pulls data from the County 9-1-1 Center, Henderson Fire Department and two private EMS providers. The dashboard lists each primary hospital, showing how many units are currently en-route to or at each facility. Additionally, the CCEMS dashboard provides the current average wait time and the maximum wait time. With the ability to view the real-time status of all area hospitals, officials are able to determine when it is appropriate to divert patients to other facilities. Result: improved care to patients, and faster turn-around times for emergency units.

North American Customers

For additional FirstWatch information including individual PDF's of Dashboard & Trigger examples, as well as Case Studies, Press Coverage, Informative Articles and a Map of North American FirstWatch Deployments, please visit us online at:

www.firstwatch.net

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