November 20, 2012

LOS ANGELES FIRE DEPARTMENT

BRIAN L. CUMMINGS
FIRE CHIEF

November 8, 2012

BOARD OF FIRE COMMISSIONERS
FILE NO. 12-195

TO: Board of Fire Commissioners

FROM: Brian L. Cummings, Fire Chief

SUBJECT: PRELIMINARY REPORT – TASK FORCE ON INFORMATION AND DATA ANALYSIS

FOR INFORMATION ONLY:	_____ Approved	_____ Approved w/Corrections	_____ Withdrawn
	_____ Denied	_____ Received & Filed	_____ Other

For Information Only

On June 27, 2012, the Fire Chief formed the Task Force on Information and Data Analysis composed of public and private leaders for their knowledge, vision, public policy experience, and diversity of professional and organizational expertise.

The multi-disciplinary task force, comprised of sworn and civilian Fire Department personnel, with specialized technical assistance provided by subject matter experts from the RAND Corporation, University of Southern California, and the Los Angeles Police Department including a liaison from the Fire Commission, spent four months analyzing response time data.

The task force reviewed the Controller's Audit and was directed to refine processes for presenting clear, consistent and easily understood information regarding response times, as well as establishing measurements and benchmarks.

The Fire Department embraces the preliminary report to develop a system that will enable data to be shared with members of the public and Department in a transparent manner.

Board report prepared by Assistant Chief Patrick Butler Chair Task Force IDA.

Attachment

LOS ANGELES FIRE DEPARTMENT

BRIAN L. CUMMINGS
FIRE CHIEF

November 2, 2012

TO: Brian L. Cummings, Fire Chief

FROM: Patrick I. Butler, Assistant Chief
Special Operations Division

SUBJECT: PRELIMINARY REPORT - TASK FORCE ON INFORMATION AND DATA ANALYSIS

Executive Summary

During recent months, a number of issues arose that brought to question the reliability of response times reported by the Los Angeles Fire Department. In order to address these concerns, and to ensure public confidence, Fire Chief Brian L. Cummings, with the full encouragement and support from the Board of Fire Commissioners, appointed a task force to identify potential issues and provide recommendations and solutions related to the Department's information and data analysis. This Task Force on Information and Data Analysis ("Task Force IDA") is comprised of subject matter experts from within the LAFD, and works in close conjunction with technical advisors from RAND and USC. Fire Commissioner Alan J. Skobin serves as the Fire Commission liaison and provides guidance, support, and leadership. Additionally, the subcommittee included recommendations from Mr. Jeff Godown, who formally served as a performance and data management consultant for the department and who identified some issues and provided support.

Task Force IDA established three separate tracks, each with specific and measurable objectives: Track 1- Data Accuracy/Interpretation, Track 2 – Research Plan and Development of FIRESTATLA[1], a data driven and accountability system, which will enable the LAFD to use leading-edge technology and innovative management techniques to enhance Department performance, accountability and transparency. Track 3 - Implementation of FIRESTATLA and other performance measurements.

In order to effectively address the first track of data accuracy and interpretation, the Task Force subcommittee developed a process which included problem definition,

[1]FIRESTAT / management system / Los Angeles Fire Department council file: 12-0240 - Motion moved by Councilmember Mitchell Englander

methodology, identification of data sources, analysis, testing, and implementation. This report is primarily focused on Track 1, Data Accuracy/Interpretation.

The initial research required analysis of approximately 2.4 million incident records collected between January of 2007 and March of 2012, as well as recent data from July, August and September of 2012.

As a result of our initial analysis the subcommittee identified issues in the following four areas and have implemented short-term solutions and provided recommendations for longer-term solutions: 1) LAFD Computer Aided Dispatch, 2) Training/Education, 3) Integration and Synchronization, and 4) Technology. Additionally the Task Force conducted an emergency response time analysis.

1) The LAFD Computer Aided Dispatch system (CAD) is a 30 year old system that was designed and implemented for dispatching emergency resources. During the last 30 years, it has had several hardware and software upgrades, including a new platform which was upgraded through reverse engineering in 2002. The LAFD CAD was not designed for the demand of today's data reporting requirements and has limitations with many current technologies. It is an event-driven system with human interaction that captures transactions and inputs from callers, dispatchers, and responding units. While it can be used to provide data-based reports, the use should be limited in scope and only with a complete understanding of reporting criteria. Through initial analysis, the subcommittee found problems with the reporting system and the reporting criteria. These problems have since been identified and corrections implemented to ensure accurate reporting.

The corrections include several programming changes as well as establishing criteria for incident coding and separating non-emergency responses as recommended in the Controller's Audit[2]. In addition, the subcommittee developed and implemented a Standards Management System to identify and flag data anomalies. A new report[3] is now generated that supervisors and analysts can then use to determine the nature of these anomalies, which may be caused by human error, process inefficiency, and/or unique aspects of Los Angeles. Because the time-stamping process from the time LAFD takes the call to resources arriving at the scene is currently not completely automatic, and there are other steps that involve human interaction, human errors will continue to occur. However, once they are identified, the involved procedure, whenever possible, will be modified in order to reduce the frequency of occurrences. Similarly, should an anomaly be due to inefficiency of the existing process, efforts are being implemented for process improvements.

[2] http://controller.lacity.org/stellent/groups/electedofficials/@ctr_contributor/documents/contributor_web_content/lacityp_020450.pdf
[3] Outside Standards Report - Developed by FirstWatch and the LAFD

The new Standards Management System developed by the subcommittee, with properly defined categories will provide a constant feedback loop for identifying and correcting anomalies. With these short term implementations, the existing CAD system can now provide more accurate data than before, and the department can use it for limited reporting purposes until enhancements to CAD system are made. Further, all prior reporting data should not be relied upon until they are properly recalculated and validated with the new recommended changes.

2) Training/Education - The statistical analysis of data by LAFD department staff who are not trained in this field led in part to inaccurate reporting. A general lack of data knowledge, interpretation, and understanding of the CAD systems can magnify this problem.

It became apparent that policy decisions based on data requires professional analysts to work more closely with policy makers to improve decision making and eliminate ambiguity. Until the selection, development and formal training of LAFD staff who work in a number of disciplines including data analysis are accomplished, future data-based decisions should include input from the Task Force.

3) Integration and Synchronization - The data which the LAFD relies on to make certain public safety decisions is managed, maintained, and accessed by multiple departments. The Information Technology Agency (ITA) maintains the CAD data production, and both the LAFD Management Information Systems Division (MIS) and Planning Section share and access these data through a sub-set of data bases and filtering reports. To achieve accuracy and accountability, all participants who play a role in data reporting, should be well integrated and synchronized. The LAFD needs to improve its processes of integration and synchronization with ITA. ITA has trained and qualified experts, many with over 25 years of experience in this field. It is essential that upon finding data anomalies, a thorough investigation and cross checking with ITA should occur. In the past, there have been cases where ITA employees with expert knowledge in data management and interpretation were never accessed by LAFD staff. In addition there were times when both agencies used different interpretations, which led to different conclusions.

Until a formal integration process is in place, all Fire Department requests for CAD data reports and interpretation should be routed through the LAFD Metropolitan Fire Dispatch and Communications Division which will vet these with the Public Safety Dispatch Division from the Information Technology Agency.

4) Technology - There are a number of technologies available that can enhance public safety and reduce response times, and are at varying degrees of progress in the department. These technologies include; Fire Station Alerting System (FSAS), Computer Aided Dispatch System (CAD), Global Positioning Systems(GPS), Automatic Vehicle Locating Systems (AVL), Geographic Information Systems (GIS), Automatic

Resource Recommendation Software (ARRS),and Traffic Pre-emption Systems. Currently, the Department does not have GPS or AVL in all of its units and is in the process of replacing the FSAS. A team outside the scope of the Task Force was assembled to assess the current CAD system and make recommendations for a future system.

The Department should develop a comprehensive technology-based strategic plan to address these and other needs. While technology is not a substitute for human interaction and decision making, it can certainly enhance efficiency in the operational aspects of resource dispatch and deployment.

Response Time Analysis

Because the initial focus of the subcommittee was aimed at data accuracy and interpretation, a baseline analysis of the department's emergency response time was conducted to better understand and identify problems. After running preliminary tests with the new changes and recommendations in place, the subcommittee conducted an emergency response time analysis for the month of September 2012 and arrived at the following results:

The average[4] total response time for all 911 emergency incidents in the City of Los Angeles from the time a 911 call is received by an LAFD dispatcher to the time the first unit arrives on scene is 6 minutes and 47 seconds (6:47)

Using the NFPA 1710 national standard for fire department response time performance the following are the preliminary results: EMS 60.9% and Fire 61.3%.

Accurate reporting of response time is an important tool in assuring the best possible emergency service for the City of Los Angeles. An accurate understanding of how quickly first responders are able to get on scene at emergencies is important for Fire Department management, city policy makers, and the public to determine the appropriate allocation of resources for the Los Angeles Fire Department.

Recommendations

Thus far the Task Force subcommittee has recommended and implemented (those marked with an asterisk below) the following recommendations as a result of our research, which we recommend should be adopted and implemented by the department.

- *Report total emergency response times to be from the time of call receipt by the LAFD to the time of the first unit on scene, according to guidelines set forth by NFPA 1221[5] and NFPA 1710[6].

[4] City wide average is used in this method to establish a baseline but not as a statistical inference or performance indicator.

- *Establish clear and unambiguous definitions and standards for all terms, such as coding of incident types, used in the CAD data base.
- *Adopt the Standards Management System to flag, trap, and mitigate data anomalies in the areas of 1) call processing time, 2) turnout time, and 3) travel time.
- *Expand the current use of FirstWatch®[7] to include and continue near real time monitoring of CAD data with an emphasis on response time analysis.
- *Expand the current use of Palantir Gotham™[8] and/or other appropriate systems to aggregate and integrate databases for the purpose of department performance analysis.
- *Expand the current partnership with RAND Corporation to include policy analysis, operations research, and provide recommendations for technology enhancements and process improvements.
- Adopt and implement minimum training and education requirements for LAFD analysts.
- Establish a specific data analysis unit within the LAFD which includes technical assistance from outside experts and academics.
- Maintain continual analysis of CAD data.
- Develop and implement a publicly accessible website that provides response times by community and district.
- Integrate the LAFD Metropolitan Fire Dispatch and Communications Division with the Public Safety Dispatch Division from the Information Technology Agency into a single entity to mirror the model used by LAPD in TEAMS II.
- In order to provide consistency, maintain the current command team at Metropolitan Fire Dispatch and Communications Division until the programming changes and technology upgrades are in place.
- Determine and analyze the call processing and transfer time from the LAPD Public-Safety Answering Point (PSAP) to LAFD.
- Report response times by district, community and other geographical areas.
- Develop a process and coding system to identify transitional calls and responses (Emergency to Non-Emergency and Non-Emergency to Emergency).
- Analyze call processing and consider separating Card 33, 37, and other time intensive protocols for the purposes of analysis.
- Implement programming changes that restrict out of sequence MDC entries.

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[5] National Fire Protection Association 1221 - Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (New Changes Adopted 2012)
[6] National Fire Protection Association 1710 - Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special operations to the Public by Career Fire Departments 2010 Edition
[7] FirstWatch® a syndromic surveillance program and real-time early warning system.
[8] Palantir Technologies is a software company that produces the Palantir Gotham™ and Palantir Metropolis™ platforms for analyzing, integrating, and visualizing data, including structured, unstructured, relational, temporal, and geospatial data.

Background

On July 7, 2012, Fire Chief Brian L. Cummings, with the full encouragement and support from the Board of Fire Commissioners assembled the LAFD Task Force on Information and Data Analysis ("Task Force IDA") to identify potential issues and provide recommendations and solutions related to the Department's information and data analysis. This Task Force on Information and Data Analysis ("Task Force IDA") is comprised of subject matter experts from within the LAFD, and works in close conjunction with technical advisors from RAND and USC. Fire Commissioner Alan J. Skobin serves as the Fire Commission liaison and provides guidance, support, and leadership. Additionally, the subcommittee included recommendations from Mr. Jeff Godown, who formally served as a performance and data management consultant for the department and who identified some issues and provided support.

The Task Force mission statement is: To develop systems, policies, and processes to accurately and transparently capture, measure, analyze, and report the inputs, outputs and outcomes of our Department. This real time accurate information will enhance leadership and policy decisions and allow our internal and external stakeholders to see and measure our performance, initiate discussion and dialogue, as well as develop and disseminate best practices throughout the Department.

Task Force IDA established three separate tracks, each with specific and measurable objectives. Each track has a subcommittee assigned to develop systems, policies, and processes to address each objective.

Track 1- Data Accuracy/Interpretation

- Conduct an analysis on LAFD data collection and review coding of incident types.
- Develop a consistent methodology for differentiating and coding emergency and non-emergency incidents.
- Develop a single agreed upon system for data processing and reporting of the statistical information.
- Analyze data, draw comparisons, and suggest policies and practices that might produce improvements in our system.

Track 2 – Research Plan and Development of FIRESTATLA

- Identify best practices in data collection and analysis from other fire departments and academia, and look for opportunities to apply these models in our organization.
- Determine what areas of the organization can benefit from data analysis.

- Seek input from the various segments of the Department and ensure that the field and operational level provide feedback.
- Determine resource needs and which Bureaus, Divisions, Sections, Units should be responsible.
- Determine how to gather performance data from other areas of the Department (e.g. OT, Work Comp, etc.) and develop a framework for objective and transparent analysis and decision making.

Track 3 - Implementation of FIRESTATLA

- Implement real time data analysis tools in order to report accurate and timely data.
- Implement leadership and accountability strategies that use data and other metrics (e.g. gap analysis) to drive continuous process improvement in the organization.
- Implement a consistent format for dialogue across the organization where data and other metrics can be discussed to help form the basis for improvements, changes, and best practices.
- Develop a method for disseminating best practices throughout the Department.
- Implement a publicly accessible system (website) to access real time information on response times and other performance data that the public wants to know.

Scope

This preliminary report has been developed to provide an overview, progress, and recommendations specifically related to Track 1 - Data Accuracy and Interpretation in the following 4 areas 1) LAFD Computer Aided Dispatch 2) Training/Education 3) Integration and Synchronization 4) Technology. Additionally the Task Force subcommittee conducted an emergency response time analysis.

The subcommittee assigned to data accuracy and interpretation is primarily a team which consists of members from public agencies, private enterprise, academia, and research institutions. These include; the Los Angeles Fire Department (LAFD), the Los Angeles Police Department (LAPD), Information Technology Agency (ITA), FirstWatch®, Palantir Technologies, USC, and the RAND Corporation.

Methodology

In order to effectively address data accuracy and interpretation, the team developed a process to define the problem, establish a methodology, identify data sources, and analyze data, testing, and implementation. Primary methods included; direct observations, interviews, qualitative and quantitative analysis. The initial steps required team members to analyze 2,425,582 incident records from January 1, 2007 to March 26, 2012 as well as 64,000 records from July, August, and September of 2012. Once a potential issue was identified, the team selected solutions and implemented these in a

test bed "sandbox" server to test their findings. If the issue was resolved, the solution(s) would be tagged, identified with a number and implemented into the "live" data base.

Findings

A public-safety answering point (PSAP), is a call center responsible for answering calls to an emergency telephone number for police, fire, rescue, and ambulance services. In the City of Los Angeles, the LAPD serves as the PSAP and is the initial 911 receiving point of emergency calls for service. If the call requires a fire department response, the call is then transferred to the Metropolitan Fire Dispatch and Communications Division. In 2011 the LAFD responded to approximately 373,000 incidents[9].

LAFD Computer Aided Dispatch- The computer aided dispatch system is designed primarily to dispatch, and maintain the status of resources in the field. In the LAFD CAD system, fire department dispatchers receive calls for service from various sources; one source is the Enhanced 911 (E911), which is interfaced with the computer and automatic number identification automatic location identification (ANI-ALI). This system automatically inputs the telephone number and address of the caller into the CAD, eliminating the time required to manually locate the address and facilitating the process of request for service. As the dispatcher gains information on the type of call through a series of questions, it is manually entered into the CAD system. When the CAD system has sufficient information to recommend a response algorithm; it will do so by issuing the recommendation for the approval of the dispatcher. (See Attachment C for Call Processing and Response Time Continuum)

Apart from E911, there are several other ways in which the public and other agencies can call and request emergency service. Those include; calls via 10 digit numbers, calls transferred from another PSAP, calls from a third party, out of state calls, and other methods. Calls that originate outside of E911 do not have ANI-ALI and require dispatchers to verify and manually enter the address, which increases call processing time and ultimately increase total response time. Cell phone calls require more time to validate the address and location of the caller.

In addition, a CAD system manages resource status and interfaces with a records management system to capture and retain incident data. The central focus of a CAD system should be aimed at making the job of the 911 call takers, dispatchers, resource controllers and first responders faster, safer and more efficient so that the public receives fast and effective service. While these objectives are critical, accurate statistical reporting and analysis should not be compromised, because they are the indicators whether objectives are met and or better met.

[9] 11-10-2011 LAFD Fire Facts

The use of trained and qualified personnel and the partnership with outside private enterprises such as FirstWatch® , is essential when interpreting reports and making data-based decisions from the CAD system. The CAD system requires continual software and programming upgrades/changes, each of which may consider and exclude different types of data anomalies. It is important to make clear what is excluded from the calculation of the response time and explain why these anomalies are treated and displayed separately.

The LAFD CAD is over 30 years old and certain enhancements and improvements to the LAFD system could improve both the dispatching, response, and reporting aspect. It may also have some limitations that can no longer be adapted to adequately and reliably interface with new systems and technologies. An LAFD dispatcher should always be able to process calls and provide pre-arrival instructions without completing a large number of steps. Anything that can be auto-populated or automated with the latest technology such as the capabilities of geographic information systems (GIS) and automatic vehicle location (AVL) or other service enhancements should be implemented.

The overall system uses a combination of technology and human interaction to effectively dispatch resources and provide service. This human interaction also presents areas for human error to occur. Three areas were identified where human error could impact dispatching and data capturing: 1) Call Processing, 2) Dispatching, and 3) Responding.

During call processing, dialogue between the requesting party and dispatcher can create conditions for error. Some examples include unknown address/location, type of emergency, language barrier, third party information, and other information that requires the dispatcher to verify and cross check the information, each of which further delays dispatch. Additionally, some calls require special detailed instruction for processing, including lost hikers, inter-facility transports, locating caller, Emotional Content and Cooperation Score (ECCS-level), or other necessary time required to effectively dispatch the resources.

During dispatching, the dispatcher has to initiate a series of command prompts and maintain situational awareness for other calls pending in the queue. This manual interaction is subject to human error and has the potential to delay a dispatch.

During response, the responding units manually update their status and push buttons on a mobile data computer (MDC) to signal and trigger a time stamp when they are enroute to a call (ENR), on-scene of a call (ONS) and then available from the call (AVI). These data are captured by the CAD and essentially determine this segment of the response timeline. If a firefighter forgets to push the button or the radio signal is interrupted due to radio coverage or a system outage, then this time sequence may be incomplete or incorrect. The subcommittee found approximately 150 records per month

that appeared to have out of order, incomplete, or negative time stamps. These are being analyzed and are identified by the Standards Management System. Programming changes that restrict MDC out of sequence entries may eliminate some of these errors.

One of the initial action items for the subcommittee was to analyze response time data to identify patterns and outliers. During this process, it was discovered that there were instances where the data inaccurately reported some response times to take as long as 28 hours to arrive on scene. This was clearly a mistake. By homing in on these outliers and drilling down into these incidents, the subcommittee determined that certain programming changes to the computer aided dispatch system (CAD) caused the reporting side of the CAD to generate data that was inaccurately interpreted.

The programming changes that affected these reports were the result of prior programming changes that were designed to address issues, which the subcommittee found had caused unintended second and third order effects.

As reported in the City Controller's Audit[10], the Department did not have a consistent method for differentiating and coding emergency responses and non-emergency responses. This issue was addressed by the subcommittee and resolved by adopting a single standard which clearly defines these types of responses. Using this new standard the department will be able to more accurately report response times and perhaps recalculate previously-reported inaccurate data that have drawn public attention. Additionally the subcommittee identified transitional calls; those that can originate as an emergency call/response and then are downgraded to non-emergency or upgraded from non-emergency to emergency are not easily identified and should be assigned a separate code in the CAD when this takes place because they can skew data.

The following is a list of issues that were discovered and programming changes that have been implemented to enhance reporting criteria[11]:

- WRS Override - Subsequent responding units overriding the initial on-scene time.
- Date Stamp Clock - Some data fields had an additional 24 hour time stamp added.
- Dropped Records - The MIS data base had missing records due to a routine data push.
- Emergency and Non-Emergency criteria - Controller's Audit found errors in criteria.
- Pended Calls - Dispatcher training has been implemented.
- Address Command Prompt - Incorrect/old address data on the command line caused faulty time stamp.

[10] http://controller.lacity.org/stellent/groups/electedofficials/@ctr_contributor/documents/contributor_web_content/lacityp_020450.pdf
[11] These programming changes will be monitored with the SMS to ensure compliance.

Issue	Description	Impact	Solution	Implementation
WRS Override	Subsequent responding units overriding time stamps	Caused reports to include the time stamp from the last transaction. Led to inaccurate reporting by LAFD	Programming changes will capture the time stamp from the first unit when querying reports	Yes
24 hour Date Stamp Clock	Some data fields had an additional 24 hour time stamp added	Caused certain incidents to show more than 24 hour response times	Programming changes will eliminate the 24 hour date stamp from these incidents. Outside Standard Report will flag these occurrences.	Yes
Emergency and Non-Emergency Criteria	Not all incidents are clearly identified as Emergency or Non-Emergency	Causes the reports to include calls for Non-Emergency service which impacts response time reporting	LAFD adopted a standard list that separates these types of calls	Yes
Pended Calls	Emergency calls are sometimes manually processed and a dispatcher may forget to dispatch a pending call in the queue	Causes a delay in dispatching	Dispatcher training and Outside Standard Report will flag these occurrences.	Yes
Address Command Line Prompt	Incorrect/old address data on the command line caused faulty time stamp.	Causes wrong time stamp to be included in the report and can either show positive or negative response times	Current solution being beta-tested.	No *Outside Standard Report will flag these occurrences.*

Dropped Records	MIS data base was found to have missing records due to a routine data push.	Caused missing records on the reporting side. Including out of sequence AVI time stamps.	ITA staff is restoring records through archives/tapes and will analyze for additional issues. Programming changes are being implemented.	On-going - progress includes 1 year of back data already in the restoration process

Training/Education-The Department relies on data to make certain operational and public safety decisions. While it has some very experienced personnel in terms of emergency operations, it lacks professional experience in the areas of statistical analysis and data interpretation. While the inaccurate reporting of response times was caused by a full array of problems described above, inexperienced personnel do increase human errors. Having conducted direct observations and interviews with Department personnel in the LAFD Planning Section, the subcommittee found that there were no formal education or professional certificates required to serve in these positions. Establishing clear performance metrics and blending practical experience with theory through professional courses or advanced degrees in statistics and operations research will enhance data-based decisions in the LAFD.

Integration and Synchronization- The data which the LAFD rely on to make certain public safety decisions is managed, maintained, and accessed by multiple departments. The Information Technology Agency (ITA) maintains the CAD data production and the LAFD Management Information Systems Division (MIS) and Planning Section shares and accesses these data through a sub-set of data bases and filtering reports. In order to prevent a situation where there may be competing or different priorities, the Public Safety Dispatch Division from the Information Technology Agency should be re-assigned from ITA to the LAFD under the formal command of Metropolitan Fire Dispatch and Communications Division. This re-alignment will ensure a single point of direction and eliminate the potential impacts from organizational shifts in priorities.

Technology- How to improve the overall level of the department's technology and equipment has become a very important issue at present. There are several technologies available that can enhance public safety and reduce response times. These technologies include; Fire Station Alerting System (FSAS), Computer Aided Dispatch System (CAD), Global Positioning Systems(GPS), Automatic Vehicle Locating Systems (AVL), Geographic Information Systems (GIS), Automatic Resource Recommendation Software (ARRS) and Traffic Pre-emption Systems.

Many fire departments have a paradoxical relationship with technology. While one should embrace the ideas of new technology, real time information and analysis tools, it is also important to understand that technology can sometimes be unreliable and may create a dependence which can compromise decision making and impact service. The combination of these two downsides could be problematic. To address this concern, technology should be designed and built to enhance service delivery and reduce human error, but not to replace the necessary experience and decision making skills that firefighters have developed.

Currently the department is taking steps to replace the Fire Station Alerting System (FSAS) and CAD. The FSAS is the system that controls the fire station dispatch audio, signal lights, and other fire station alerting hardware and software. This proposed system should decrease incident turnout times through early pre-alerting of first responders, prior to actual dispatch recommendation and voice dispatch phase. Additionally it may decrease human error during a pre-alert or dispatch phase through text-to-speech technology to fire stations and to first responders available on radio in the field. The FSAS may also create efficiencies and reduce dispatcher stress through the use of text-to-speech technology, lessening time for dispatchers to vocalize dispatches and concentrate on CAD dispatch recommendations and essential voice radio traffic on tactical channels.

In September of 2012, the department initiated the first step towards developing a future CAD system. This initial step included the development of a CAD assessment team, who will develop criteria and conduct a specific needs assessment before proceeding with a request for proposal. Improving, upgrading, or replacing the CAD will facilitate integration with several other technologies that will enhance dispatching and improve reporting and records management. For example, there are certain technology improvements that could reduce human error in responding units, like "geofencing". A geo-fence could be dynamically generated, as in a radius around an address, location, or predefined set of boundaries. Once a dispatch is received and the apparatus is moving above a certain speed, the system automatically transmits the signal to the CAD and triggers an enroute time stamp, instead of having to push a button. Also, when the apparatus is within a certain distance of the address, it will automatically trigger an on-scene stamp and decrease human error if someone forgets to press the button. This type of technology can automatically handle many of the manual prompts.

Another CAD integrated technology is Automatic Resource Recommendation Software (ARRS). In this system the resource recommendation decision is based on the real-time location providing quicker emergency responses and better allocation of resources. The department has taken the initial steps towards implementing AVL into the existing CAD and will pursue integration with ARRS.

Advancements in traffic management technology include the Traffic Pre-emption Systems, which allows the normal operation of traffic lights to be preempted by an

emergency vehicle. This system is designed to help reduce response times and enhance traffic safety by stopping conflicting traffic and allowing the emergency vehicle right-of-way.

The subcommittee recommends that the department continue to upgrade and replace their systems as well as adopt and implement many of these new technologies to improve safety, service, and reduce response times.

Response Time Analysis[12] - While the initial focus of the subcommittee was aimed at data accuracy and interpretation, a baseline analysis of the Department's emergency response time was conducted to verify that the programming changes and Standards Management System were accurate. After running preliminary tests with July and August data, the subcommittee ran the same test with the new changes and recommendations in place for September and determined the following results:

The average[13] total response time for all 911[14] emergency incidents in the City of Los Angeles from the time a 911 call is received by an LAFD[15] dispatcher to the time the first unit arrives on scene is 6 minutes and 47 seconds (6:47). This time includes the average call processing time of 1 minute and 42 seconds.

The response time analysis was based on the following criteria:

- All emergency responses (Fire/Other/EMS) within the month of September 2012; from the time a call is received via a 911 call by the LAFD dispatch center to the time the first until arrives on scene of the incident address. This total response time for this calculations includes; call processing time, turnout time, and travel time.
- Removing records that had negative time records or out of sequence time stamps, which are being reviewed as part of the subcommittee's recommendations.

The subcommittee also broke down these calls into Fire and EMS and compared them to the NFPA 1710 performance standard, which states that *"the fire department shall establish a performance objective of not less than 90 percent for the achievement of each turnout time and travel time objective specified in 4.1.2.1".*

Using the criteria for Emergency Medical Services and Fire the following are the results for the month of September 2012[16]:

[12] See Attachment A - *FirstWatch September Response Time Data Review - LAFD Task Force IDA*
[13] Average is used in this method to establish a baseline but not as a statistical inference or performance indicator.
[14] Calls received via 911 lines were analyzed in this test because they include an initial time stamp.
[15] This number does not include the call transfer time from the LAPD PSAP to LAFD.
[16] Note: Using only 1 month of data as a baseline - sample size may not be indicative of a larger set.

EMS

- Average Response Time (HH:MM:SS): *00:05:01*
- Median[17] *00:04:40*
- Mode[18]*00:04:45*
- Count of Calls *Within 5* Minutes: *12,216 (60.9%)*
- Count of Calls *Over 5* Minutes: *7,836 (39.1%)*

Fire

- Average Response Time (HH:MM:SS): *00:05:38*
- Median[19] *00:04:49*
- Mode[20] *00:04:52*
- Count of Calls *Within 5:20* Minutes/Seconds: *1,130 (61.3%)*
- Count of Calls *Over 5:20* Minutes/Seconds: *713 (38.7%)*

NFPA 1710 Response Time Standard 2010
90% Achievement for EMS/Fire excluding ALS

Emergency Incident	Turnout Time	Travel Time	Response Time
Emergency Medical Services - First Resource	60 seconds	240 seconds	300 seconds (5 minutes)
Fire - First Resource	80 seconds	240 seconds	320 seconds (5 minutes 20 secs.)

Using the Standards Management System - Minimum and maximum time stamps were also analyzed to determine causal factors in any type of large variance of separation. The maximum and minimum sample also referred to in our analysis as the largest observation, and smallest observation, are the values of the greatest and least elements of the data set. Using this approach as another method to analyze data, the department can focus on outliers to determine causal factors, human error, process inefficiency, resources, and/or unique aspects of Los Angeles

Limitations of this Report

This preliminary report only sampled emergency incidents from July, August and September of 2012, and conducted an average total response time (Call Processing, Turnout, and Travel Time) as well as baseline EMS and Fire calls for September 2012. While the sample of data may be too small to make any specific inferences; the

[17] The numerical value separating the higher half of the sample data from the lower half.
[18] The value that appears/occurs most often in the sampled data.
[19] *Ibid*
[20] *Ibid*

department will be able to conduct additional response time analysis by specific queries, such as EMS, Fire, and other types of incidents with the recommendations in place.

The subcommittee did not analyze the department deployment plans[21] and did not apply those factors to the scope of this analysis.

Further Research

The subcommittee recommends that the department continue to analyze response times and other data as well as compare these numbers within a larger sample size. Additionally, the department should analyze response times in different communities and fire station districts. This research can be achieved by expanding the use of the RAND Corp., USC, FirstWatch®, Palantir Technologies and other industry experts, as well as establishing an LAFD Data Analysis Unit with trained personnel. Continued testing and analysis will be required to identify and ensure that data anomalies are properly addressed.

FIRESTATLA - In April of 2012, Councilmember Mitchell Englander introduced a motion directing the department to develop and implement FIRESTATLA, a data driven performance and accountability system which will enable the LAFD to use leading-edge technology and innovative management techniques to identify gaps and enhance department performance. The Task Force has undertaken the lead for development and implementation of this important program, which will transition this to the department once it is developed. While the primary focus of the Task Force thus far has been data accuracy and interpretation, a separate committee of the Task Force has made significant progress in developing the framework for FIRESTATLA with the support and guidance from Chief Brian Cummings, Fire Commissioner Alan J. Skobin and John Neuman, the LAPD Senior Management Analysts and Assistant Commanding Officer of the Real-Time Analysis and Critical Response (RACR) Division[22].

Commissioner Skobin, who formerly served as an LAPD Commissioner for 9 years, has tremendous background in public safety and was integrally involved with performance improvements and institutional reform at the LAPD. His experience, along with that of John Neuman, who has a depth of knowledge and experience, and was recently assigned to assist with FIRESTATLA, will provide the necessary foundation for the Task Force to develop the vital framework and strategy for FIRESTATLA. FIRESTATLA will use data as the foundation for transparency, accountability, and development of best practices.

[21] Modified Coverage Plan(MCP) - Enhanced Modified Coverage Plan (EMCP) - Deployment Plan (DP)
[22] Detailed to the LAFD with the support of LAPD Chief Charlie Beck, and facilitated by the Deputy Mayor for Homeland Security and Public Safety.

The Task Force plans to issue a public report on its progress and strategy for implementation of FIRESTATLA. The target date for completion of this report is early December 2012.

Conclusion

This preliminary report identified issues with the current CAD system, data accuracy, and interpretation. The subcommittee implemented solutions and recommendations that will allow the department to once again report response times. With the implementation of new technologies, FIRESTATLA, Standards Management System, training and developing a formal structure for analysis and reporting, the subcommittee is confident that the department will be able to accurately, transparently, and reliably report response times, and to ensure public confidence.

Patrick I. Butler, Assistant Chief
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Acknowledgements

The following is the list of subcommittee members and advisory teams that contributed to the content of this preliminary report or provided advisory support.

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References and Attachments

Attachment A - FirstWatch - September Response Time Data Review -LAFD Task Force IDA - 10/10/2012 (Preliminary Report)

Attachment B - Outside Standards Report (Example)

Attachment C - Call Processing and Response Continuum

FirstWatch - September Response Time Data Review
LAFD Task Force IDA - 10/10/2012

Attachment A

Contents

FirstWatch - September Response Time Data Review
LAFD Task Force IDA - 10/10/2012

Overview

Response Time Analysis for September, 2012

The basis of the criteria used in following response time analysis is centered on information provided by the Task Force IDA sub-committee. Asking the question: How long does it take to get a resource to a 911 emergency call from the time that it is received by LAFD? There are two specific segments that we are focused on for this report: 1) Alarm Call Processing - Initial 911 to WRS and 2) Response Time - WRS to 1st Unit On Scene.

Summary of Analysis

Criteria

FirstWatch Trigger Source for Analysis: Task Force IDA - LAFD - Response Time 5 mins

- Date Range: Between September 1, 2012 00:00:00 and September 30, 2012 23:59:59
- All Fire and EMS emergency calls that came in on a 911 phone line, excluding specified non-emergency calls types. (Also referred to as "*Overall"* in this report)
- *Excludes* the following *non-emergent* Incident types:

  11A1,12A2,12A2E,12A3,12A3E,13A1,13A1C,16A1,16A2,16A3,17A0G,17A1,17A1G,17A1J,17A2,17A2G,17A2J,17A3,17A3G,17A3J,17O1,17O1J,18A1,1A1,20A1,20A1C,20A1H,21A1,21A2,22A1,22A1A,22A1B,22A1M,22A1X,22A1Y,23O1V,24O1,25A1,25A1B,25A1V,25A1W,25A2,25A2B,25A2V,25A2W,26A1,26A10,26A11,26A12,26A13,26A14,26A15,26A16,26A17,26A18,26A19,26A2,26A20,26A21,26A22,26A23,26A24,26A25,26A26,26A27,26A28,26A3,26A4,26A5,26A6,26A7,26A8,26A9,26O10,26O11,26O12,26O13,26O14,26O15,26O16,26O17,26O,8,,26O19,26O2,26O20,26O21,26O22,26O23,26O24,26O25,26O26,26O27,26O28,26O3,26O4,26O5,26O6,26O7,26O8,26O9,27A1G,27A1S,27A1X,29A1,29A1A,29A1M,29A1U,29A1X,29O1,2A1,2A1I,2A1M,2A2,2A2I,2A2M,30A1,30A2,36A0,36A1A,36A1B,36A2A,36A2B,36A2C,3A1,3A2,3A3,4A1,4A1S,4A2,4A2S,5A1,5A2,7A3,7A3E,7A3F,8A1,8O1,8O1B,8O1C,8O1G,8O1M,8O1N,8O1R,8O1S,8O1U,9B1,9B1A,9B1B,9B1C,9B1D,9B1E,9B1F,9B1G,FO,ENG,ILLEGAL,INVEST,INVESTA,INVESTF,INVESTL,INVESTM,INVESTP,INVESTT,LOST,SAFEH,SAFES,TIRE,TOW,TRK,TSI,VIP.

- Calls must have an Initial 911 and 1st Unit On Scene timestamp to be a qualified record.
- Measured against 5 minute (300 seconds) response time standard (60 seconds for Alarm Call Processing and 240 seconds for turn-out and travel time)
- No specific unit type or capability designation is used for filtering criteria. We are evaluating all resource types.

Dataset

- September 2012 - Total Overall Calls: ***22,049***
- Total Records Removed with Errors: ***154 (0.7%)***
    - *Bad or irregular records based on items identified in discussions - i.e. > 1st Unit Enroute timestamp before 1st Unit On Scene, and data entry errors for the September data set.* ***Recommend not focusing on these specific calls, since a low percentage.***
- Total Calls Evaluated (Errors Removed): ***21,895***

Alarm Call Processing - Initial 911 to WRS

- Average Initial 911 to WRS - Alarm Call Processing (HH:MM:SS): Time: ***00:01:42***
- Count of Calls ***Over*** 90 Seconds: ***10,994 (50.2%)***
- Count of Calls ***Within*** 90 Seconds: ***10,901 (49.8%)***

Incident Turnout Times - WRS to 1st Unit Enroute

- Average Incident Turnout - WRS to 1st Unit Enroute(HH:MM:SS): ***00:00:57***

Incident Response Times - WRS to 1st Unit On Scene

- Average Response Time (HH:MM:SS): ***00:05:05***
- Count of Calls ***Over 5*** Minutes: ***8,650 (39.5%)***
- Count of Calls ***Within 5*** Minutes: ***13,245 (60.5%)***

Incident Response Times EMS - WRS to 1st Unit On Scene

- Average Response Time (HH:MM:SS): ***00:05:01***
- Count of Calls ***Over 5*** Minutes: ***7,836 (39.1%)***
- Count of Calls ***Within 5*** Minutes: ***12,216 (60.9%)***

Incident Response Times Fire - WRS to 1st Unit On Scene

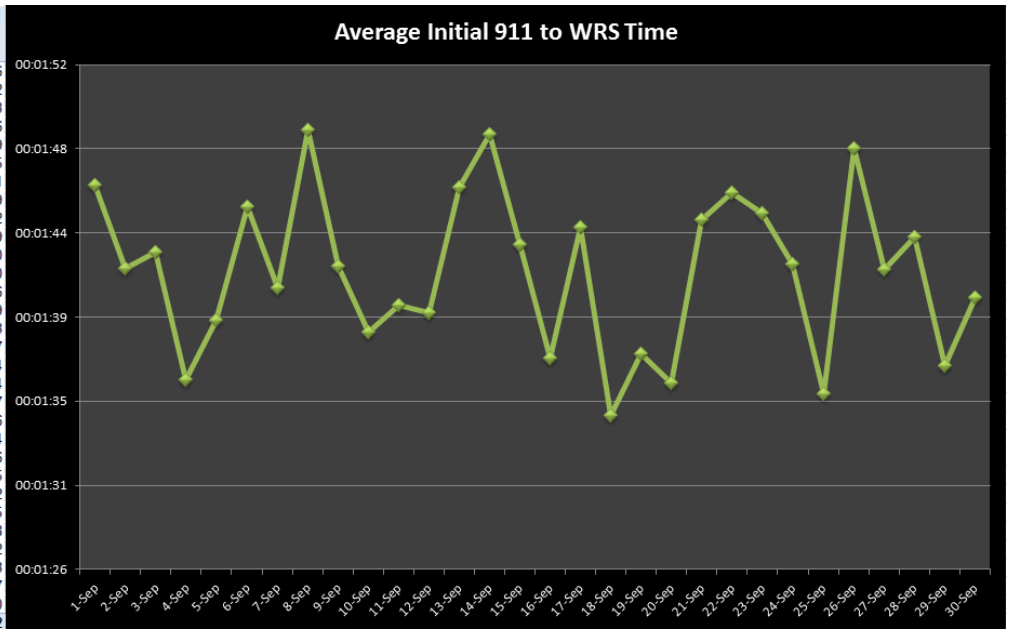
- Average Response Time (HH:MM:SS): ***00:05:38***
- Count of Calls ***Over 5:20*** Minutes/Seconds: ***713 (38.7%)***
- Count of Calls ***Within 5:20*** Minutes/Seconds: ***1,130 (61.3%)***

FirstWatch - September Response Time Data Review
LAFD Task Force IDA - 10/10/2012

Alarm Call Processing Charts

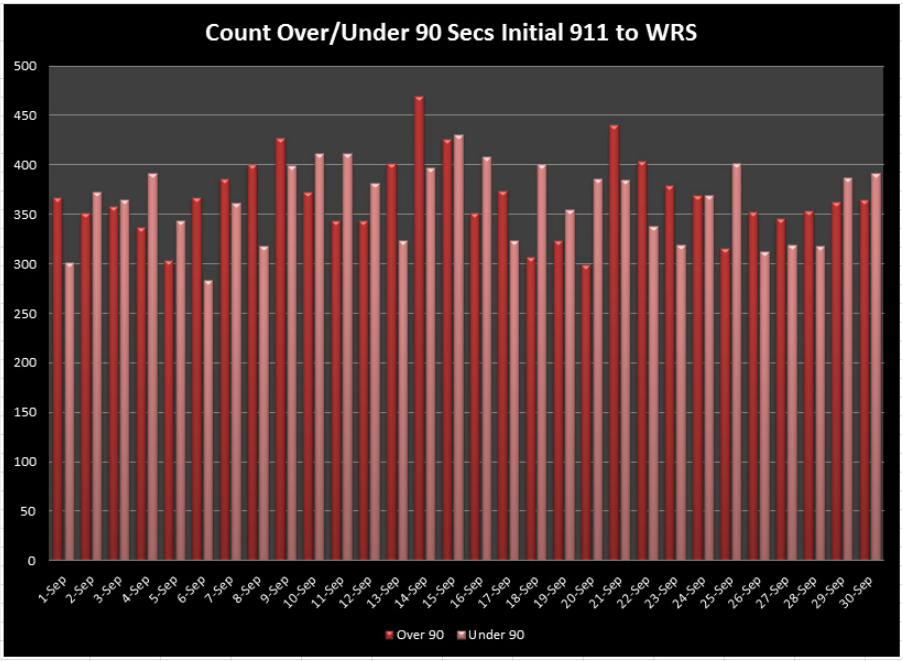
Average Initial 911 to WRS Time (Alarm Call Processing Time)

Row Labels	Average of Initial 911 to WRS (HH:MM:SS)
1-Sep	00:01:46
2-Sep	00:01:42
3-Sep	00:01:43
4-Sep	00:01:36
5-Sep	00:01:39
6-Sep	00:01:45
7-Sep	00:01:41
8-Sep	00:01:49
9-Sep	00:01:42
10-Sep	00:01:39
11-Sep	00:01:40
12-Sep	00:01:40
13-Sep	00:01:46
14-Sep	00:01:49
15-Sep	00:01:43
16-Sep	00:01:37
17-Sep	00:01:44
18-Sep	00:01:34
19-Sep	00:01:37
20-Sep	00:01:36
21-Sep	00:01:44
22-Sep	00:01:46
23-Sep	00:01:45
24-Sep	00:01:42
25-Sep	00:01:35
26-Sep	00:01:48
27-Sep	00:01:42
28-Sep	00:01:43
29-Sep	00:01:37
30-Sep	00:01:40
Grand Total	00:01:42



Count of Under/Over 90 Second Alarm Call Processing

Count of Incident #	Column Labels		
Row Labels	Over 90	Under 90	Grand Total
1-Sep	367	301	668
2-Sep	351	373	724
3-Sep	358	365	723
4-Sep	337	392	729
5-Sep	303	344	647
6-Sep	367	283	650
7-Sep	386	361	747
8-Sep	400	318	718
9-Sep	427	399	826
10-Sep	372	411	783
11-Sep	344	411	755
12-Sep	344	382	726
13-Sep	401	323	724
14-Sep	469	397	866
15-Sep	426	430	856
16-Sep	351	408	759
17-Sep	374	323	697
18-Sep	307	400	707
19-Sep	323	355	678
20-Sep	299	386	685
21-Sep	440	385	825
22-Sep	404	338	742
23-Sep	379	319	698
24-Sep	369	369	738
25-Sep	316	401	717
26-Sep	352	312	664
27-Sep	346	319	665
28-Sep	354	318	672
29-Sep	363	387	750
30-Sep	365	391	756
Grand Total	10994	10901	21895
Percentage	50.2%	49.8%	

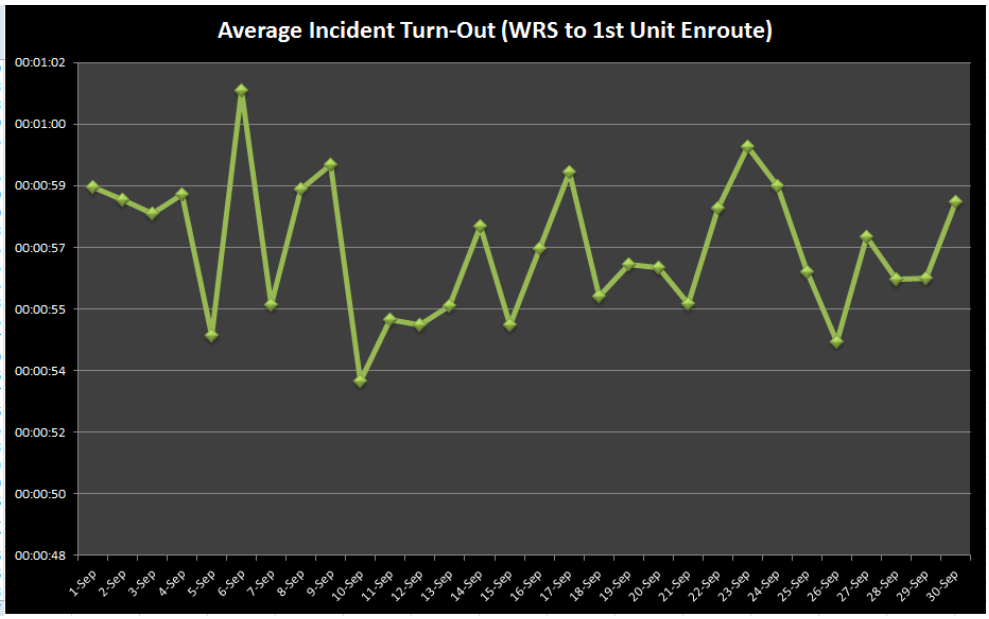


FirstWatch - September Response Time Data Review
LAFD Task Force IDA - 10/10/2012

Incident Turn Out Times Charts

Incident Turnout - Overall (WRS to 1st Unit Enroute)

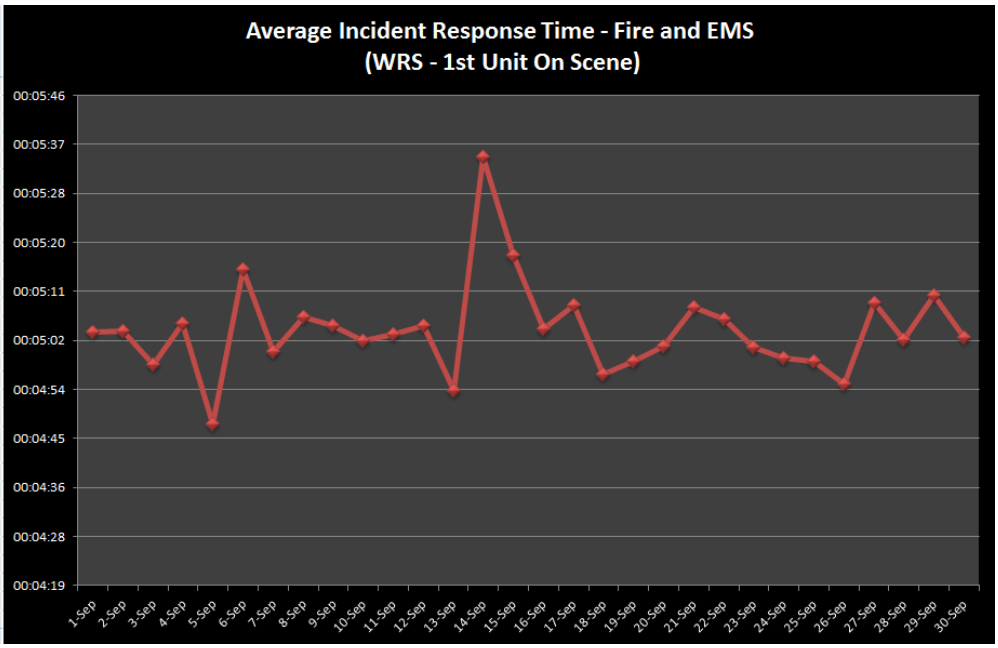
Row Labels	Average of WRS To 1st ENR(D HH:MM:SS)
1-Sep	00:00:59
2-Sep	00:00:58
3-Sep	00:00:58
4-Sep	00:00:59
5-Sep	00:00:55
6-Sep	00:01:01
7-Sep	00:00:55
8-Sep	00:00:59
9-Sep	00:00:59
10-Sep	00:00:53
11-Sep	00:00:55
12-Sep	00:00:55
13-Sep	00:00:55
14-Sep	00:00:58
15-Sep	00:00:55
16-Sep	00:00:57
17-Sep	00:00:59
18-Sep	00:00:56
19-Sep	00:00:57
20-Sep	00:00:56
21-Sep	00:00:55
22-Sep	00:00:58
23-Sep	00:01:00
24-Sep	00:00:59
25-Sep	00:00:56
26-Sep	00:00:54
27-Sep	00:00:57
28-Sep	00:00:56
29-Sep	00:00:56
30-Sep	00:00:58
Grand Total	00:00:57



Incident Response Times Charts

Average Response Time - Overall (WRS to 1st Unit On Scene)

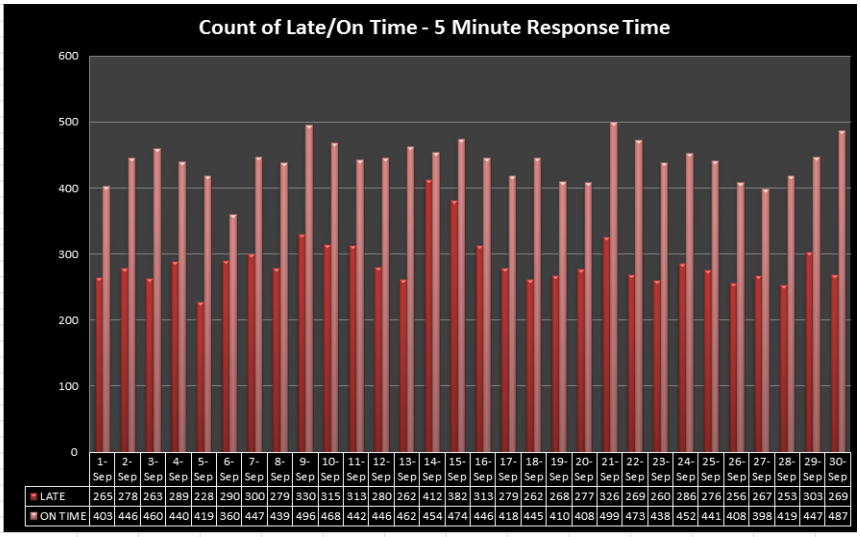
Row Labels	Average of WRS to 1st ONS (HH:MM:SS) (Response Time)
1-Sep	00:05:04
2-Sep	00:05:04
3-Sep	00:04:58
4-Sep	00:05:05
5-Sep	00:04:48
6-Sep	00:05:15
7-Sep	00:05:00
8-Sep	00:05:07
9-Sep	00:05:05
10-Sep	00:05:02
11-Sep	00:05:03
12-Sep	00:05:05
13-Sep	00:04:54
14-Sep	00:05:35
15-Sep	00:05:17
16-Sep	00:05:04
17-Sep	00:05:09
18-Sep	00:04:57
19-Sep	00:04:59
20-Sep	00:05:01
21-Sep	00:05:08
22-Sep	00:05:06
23-Sep	00:05:01
24-Sep	00:04:59
25-Sep	00:04:59
26-Sep	00:04:55
27-Sep	00:05:09
28-Sep	00:05:03
29-Sep	00:05:10
30-Sep	00:05:03
Grand Total	00:05:05



FirstWatch - September Response Time Data Review
LAFD Task Force IDA - 10/10/2012

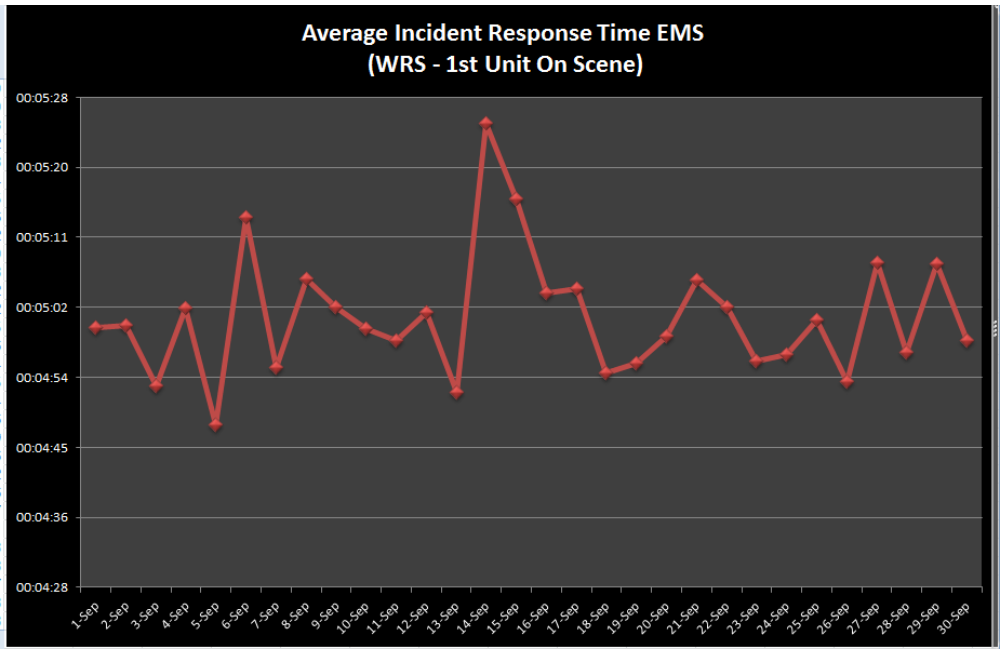
Count of Calls Over/Under 5 Minute (300 SECS) Response Time- Overall (WRS to 1st Unit On Scene)

Count of Incident #	Column Labels		
Row Labels	LATE	ON TIME	Grand Total
1-Sep	265	403	668
2-Sep	278	446	724
3-Sep	263	460	723
4-Sep	289	440	729
5-Sep	228	419	647
6-Sep	290	360	650
7-Sep	300	447	747
8-Sep	279	439	718
9-Sep	330	496	826
10-Sep	315	468	783
11-Sep	313	442	755
12-Sep	280	446	726
13-Sep	262	462	724
14-Sep	412	454	866
15-Sep	382	474	856
16-Sep	313	446	759
17-Sep	279	418	697
18-Sep	262	445	707
19-Sep	268	410	678
20-Sep	277	408	685
21-Sep	326	499	825
22-Sep	269	473	742
23-Sep	260	438	698
24-Sep	286	452	738
25-Sep	276	441	717
26-Sep	256	408	664
27-Sep	267	398	665
28-Sep	253	419	672
29-Sep	303	447	750
30-Sep	269	487	756
Grand Total	8650	13245	21895
Percentage	39.5%	60.5%	



Average Response Time EMS (WRS to 1st Unit On Scene)

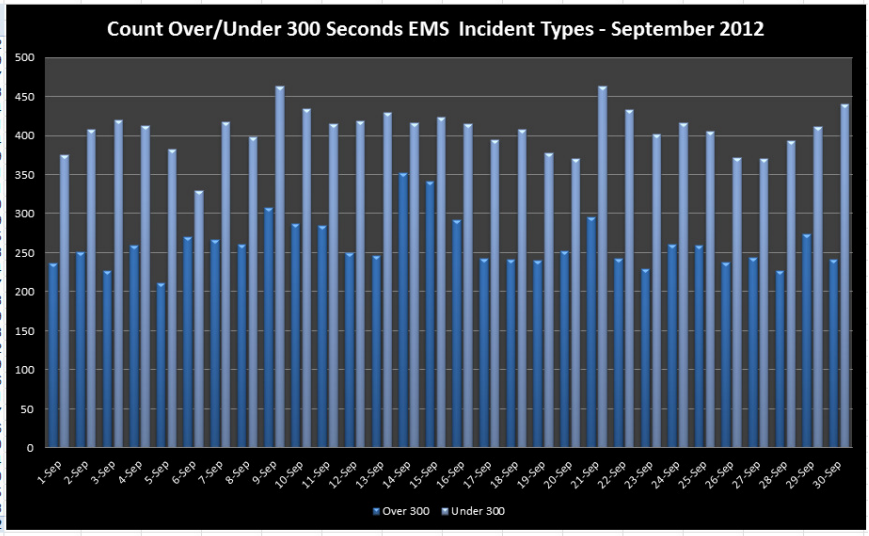
Row Labels	Average of WRS to 1st ONS (HH:MM:SS) (Response Time)
1-Sep	00:05:00
2-Sep	00:05:00
3-Sep	00:04:53
4-Sep	00:05:02
5-Sep	00:04:48
6-Sep	00:05:14
7-Sep	00:04:55
8-Sep	00:05:06
9-Sep	00:05:02
10-Sep	00:05:00
11-Sep	00:04:58
12-Sep	00:05:02
13-Sep	00:04:52
14-Sep	00:05:25
15-Sep	00:05:16
16-Sep	00:05:04
17-Sep	00:05:05
18-Sep	00:04:54
19-Sep	00:04:56
20-Sep	00:04:59
21-Sep	00:05:06
22-Sep	00:05:02
23-Sep	00:04:56
24-Sep	00:04:57
25-Sep	00:05:01
26-Sep	00:04:53
27-Sep	00:05:08
28-Sep	00:04:57
29-Sep	00:05:08
30-Sep	00:04:58
Grand Total	00:05:01



Count of Calls Over/Under 5 Minute (300 SECS) Response Time EMS (WRS to 1st Unit On Scene)

WRS to 1st Unit On Scene

Count of Incident #	Column Labels		
Row Labels	Over 300	Under 300	Grand Total
1-Sep	237	375	612
2-Sep	251	408	659
3-Sep	227	420	647
4-Sep	260	413	673
5-Sep	211	383	594
6-Sep	271	330	601
7-Sep	267	417	684
8-Sep	261	398	659
9-Sep	308	463	771
10-Sep	287	434	721
11-Sep	285	415	700
12-Sep	250	419	669
13-Sep	246	429	675
14-Sep	352	416	768
15-Sep	341	423	764
16-Sep	292	415	707
17-Sep	243	395	638
18-Sep	241	408	649
19-Sep	240	378	618
20-Sep	252	370	622
21-Sep	296	463	759
22-Sep	243	433	676
23-Sep	229	402	631
24-Sep	261	416	677
25-Sep	260	406	666
26-Sep	238	372	610
27-Sep	244	370	614
28-Sep	227	393	620
29-Sep	274	411	685
30-Sep	242	441	683
Grand Total	7836	12216	20052
Percentage	39.1%	60.9%	



Response Time Intervals EMS

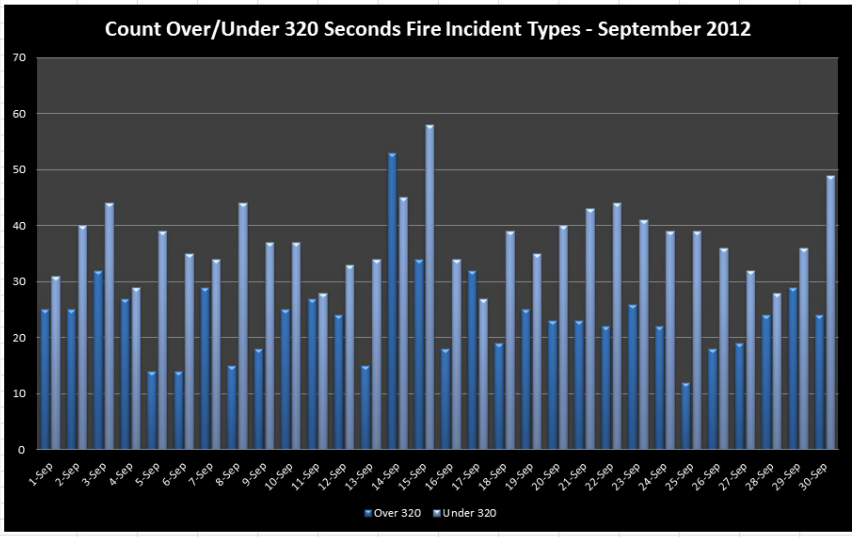
WRS to 1st Unit On Scene - EMS INC TYPES

RespTime In Min	Count of Incident #	% of Grand Total
<1 or (blank)	64	0.32%
1-6	15485	77.22%
6-11	4122	20.56%
11-16	261	1.30%
16-21	89	0.44%
21-26	21	0.10%
26-31	6	0.03%
31-36	2	0.01%
36-41	2	0.01%
Grand Total	**20052**	**100.00%**

Count of Calls Over/Under 5:20 Minute (320 SECS) Response Time Fire (WRS to 1st Unit On Scene)

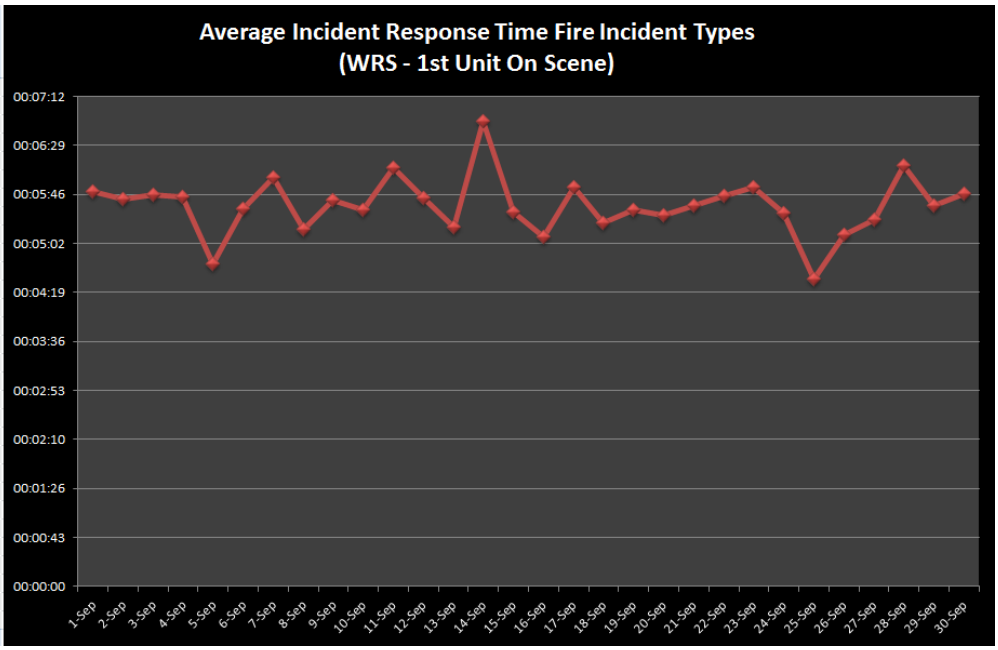
WRS to 1st Unit On Scene

Count of Incident #	Column Labels		
Row Labels	Over 320	Under 320	Grand Total
1-Sep	25	31	56
2-Sep	25	40	65
3-Sep	32	44	76
4-Sep	27	29	56
5-Sep	14	39	53
6-Sep	14	35	49
7-Sep	29	34	63
8-Sep	15	44	59
9-Sep	18	37	55
10-Sep	25	37	62
11-Sep	27	28	55
12-Sep	24	33	57
13-Sep	15	34	49
14-Sep	53	45	98
15-Sep	34	58	92
16-Sep	18	34	52
17-Sep	32	27	59
18-Sep	19	39	58
19-Sep	25	35	60
20-Sep	23	40	63
21-Sep	23	43	66
22-Sep	22	44	66
23-Sep	26	41	67
24-Sep	22	39	61
25-Sep	12	39	51
26-Sep	18	36	54
27-Sep	19	32	51
28-Sep	24	28	52
29-Sep	29	36	65
30-Sep	24	49	73
Grand Total	713	1130	1843
Percentage	38.7%	61.3%	



Average Response Time Fire (WRS to 1st Unit On Scene)

Row Labels	Average of WRS to 1st ONS (HH:MM:SS) (Response Time)
1-Sep	00:05:48
2-Sep	00:05:42
3-Sep	00:05:45
4-Sep	00:05:43
5-Sep	00:04:44
6-Sep	00:05:33
7-Sep	00:06:00
8-Sep	00:05:15
9-Sep	00:05:40
10-Sep	00:05:32
11-Sep	00:06:09
12-Sep	00:05:43
13-Sep	00:05:17
14-Sep	00:06:50
15-Sep	00:05:30
16-Sep	00:05:08
17-Sep	00:05:52
18-Sep	00:05:21
19-Sep	00:05:32
20-Sep	00:05:27
21-Sep	00:05:36
22-Sep	00:05:44
23-Sep	00:05:52
24-Sep	00:05:29
25-Sep	00:04:31
26-Sep	00:05:10
27-Sep	00:05:23
28-Sep	00:06:11
29-Sep	00:05:36
30-Sep	00:05:46
Grand Total	00:05:38



Response Time Intervals Fire

WRS to 1st Unit On Scene - Fire Inc Types

RespTime In Min	Count of Incident #	% of Grand Total
<1 or (blank)	14	0.76%
1-6	1274	69.13%
6-11	451	24.47%
11-16	66	3.58%
16-21	25	1.36%
21-26	9	0.49%
26-31	2	0.11%
31-36	1	0.05%
36-41	1	0.05%
Grand Total	**1843**	**100.00%**

Response Time Review - Outside Standard Responses

Attachment B

Criteria:

Date Range: to

Total Response Time is measured as Initial 911 received to First Unit On Scene. Using 8 minute as the standard.

8 Minutes used for initial analysis only – secondary analysis will include other standards

Total Records:		Average:		Average:		Average:		Average:		Average:		Average:
134		00:00:22		00:02:06		00:02:28		00:01:04		00:06:18		00:09:50
Incident Number	Initial 911 Time	Initial 911 to Creation	% of RT	Creation to WRS	% of RT	Initial 911 to WRS	% of RT	WRS to 1st ENR	% of RT	1st ENR to ONS	% of RT	Total Response Time
[redacted]	10/14/2012 1:09:19 AM	00:00:30	3%	00:01:20	7%	00:01:50	9%	00:02:20	12%	00:15:29	79%	00:19:39
	10/14/2012 6:23:52 PM	00:00:23	2%	00:01:20	7%	00:01:43	9%	00:00:51	5%	00:16:07	86%	00:18:41
	10/14/2012 3:42:28 PM	00:00:26	2%	00:00:27	2%	00:00:53	5%	00:00:44	4%	00:16:42	91%	00:18:19
	10/14/2012 2:05:11 PM	00:00:20	2%	00:00:58	5%	00:01:18	7%	00:00:59	5%	00:15:38	87%	00:17:55
	10/14/2012 8:19:31 AM	00:00:29	3%	00:00:07	1%	00:00:36	3%	00:02:15	13%	00:15:02	84%	00:17:53
	10/14/2012 5:03:37 PM	00:00:53	5%	00:08:37	50%	00:09:[illegible]	56%	00:00:59	6%	00:06:37	39%	00:17:06
	10/14/2012 6:42:38 PM	00:00:05	1%	00:01:51	11%	00:01:56	12%	00:00:36	4%	00:13:34	84%	00:16:06
	10/14/2012 12:22:05 PM	00:00:37	4%	00:00:12	1%	00:00:[illegible]	5%	00:01:17	8%	00:13:59	87%	00:16:05
	10/14/2012 8:30:32 AM	00:00:33	4%	00:00:55	6%	00:01:[illegible]	10%	00:00:58	7%	00:12:06	83%	00:14:32
	10/14/2012 7:56:32 AM	00:00:06	1%	00:05:14	40%	00:05:20	41%	00:01:08	9%	00:06:28	50%	00:12:56
	10/14/2012 8:14:47 PM	00:00:12	2%	00:04:11	33%	00:04:23	34%	00:00:42	5%	00:07:43	60%	00:12:48
	10/14/2012 4:53:41 PM	00:00:28	4%	00:02:[illegible]	[illegible]%	00:02:38	21%	00:01:15	10%	00:08:40	69%	00:12:33
	10/14/2012 8:18:23 PM	00:00:30	4%	00:02:12	18%	00:02:42	22%	00:00:43	6%	00:08:42	72%	00:12:07
	10/14/2012 1:41:36 AM	00:00:24	3%	00:02:18	19%	00:02:42	22%	00:00:16	2%	00:09:06	75%	00:12:04
	10/14/2012 2:32:30 PM	00:00:12	2%	00:01:08	9%	00:01:20	11%	00:01:18	11%	00:09:25	78%	00:12:03
	10/14/2012 5:47:52 PM	00:00:13	2%	00:07:11	60%	00:07:24	62%	00:00:10	1%	00:04:25	37%	00:11:59
	10/14/2012 9:56:02 PM	00:00:26	4%	00:06:21	53%	00:06:47	57%	00:01:26	12%	00:03:46	31%	00:11:59

EXAMPLE

Dispatch Center

Field Resources

Attachment C

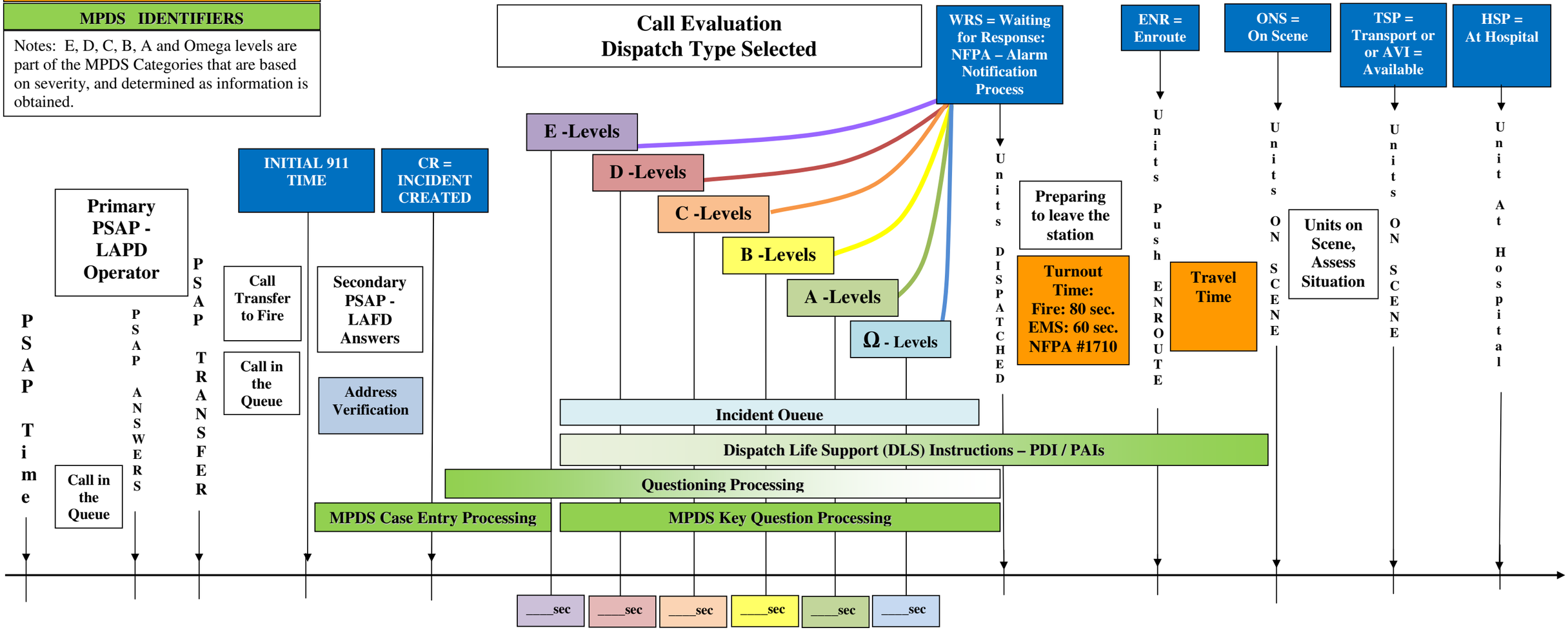
Los Angeles Fire Department
Information and Data Analysis Task Force
911 Call Processing & Response

CAD IDENTIFIERS

NFPA #1710 IDENTIFIERS

MPDS IDENTIFIERS

Notes: E, D, C, B, A and Omega levels are part of the MPDS Categories that are based on severity, and determined as information is obtained.



LAFD RESPONSE TIME
AED ≤ 4 MIN. ALS ≤ 8 MIN. First Engine Co. ≤ 4 MIN. First Full Alarm Assignment ≤ 8 MIN.

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