

# LOS ANGELES FIRE DEPARTMENT



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FIRE CHIEF

February 4, 2020

BOARD OF FIRE COMMISSIONERS  
FILE NO. 20-012

TO: Board of Fire Commissioners

FROM:  Ralph M. Terrazas, Fire Chief

SUBJECT: LAFD COMPUTER AIDED DISPATCH (CAD) STATUS REPORT

FINAL ACTION:	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Corrections	<input type="checkbox"/> Withdrawn
	<input type="checkbox"/> Denied	<input type="checkbox"/> Received & Filed	<input type="checkbox"/> Other

## SUMMARY

As requested by the Board of Fire Commissioners on December 20, 2019, the Information Technology Bureau (ITB) is providing this report on the status of Department's Computer Aided Dispatch (CAD) System.

For more than 30 years the LAFD has used a custom CAD system, built and maintained by LAFD staff. During this time the Department has made considerable investments in both keeping the technology up-to-date as well as evolving the system's capabilities to meet the Department's ever-changing operational needs. This report provides an update of the current state since our last report and specific objectives for 2020.

## RECOMMENDATION

That the Board:  
Receive and file.

## FISCAL IMPACT

None.

## DISCUSSION

### LAFD CAD in 2019

In addition, to the normal day-to-day operational support and maintenance, the focus of 2019 was primarily on the completion of the CAD infrastructure upgrade which started in 2018. In 2019, all of the remaining legacy hardware, database and operating system software was upgraded, including those that support back-up, testing and training environments. The completion of this upgrade helped to ensure that the CAD system will continue to operate on the fastest, most reliable and up-to-date equipment and software available.

In 2019, ITB also made considerable progress in enhancing the LAFD CAD by completing over 75 software enhancements including: updates to dispatch algorithms; improved caller location services with the integration of RapidSOS; updates to swift water rescue pointes; enhancements to cycle team dispatch and tracking; changes to how mutual aid assignments are dispatched outside of the City; updated HazMat incident notifications; updates to the CAD map to provide better situational awareness; enhancements to the Tiered Dispatch System (TDS); changes required for the CAD client software to be Windows 10 compatible; and major improvements to the back-up (eCAD) system.

In 2019, ITB also completed the hiring and training of additional support staff in order to eliminate all remaining skills gaps and remove dependencies on outside contractors.

### **Focus for 2020**

In 2020 the ITB CAD support team's focus will be in three major areas, in addition to the ongoing day-to-day support and minor enhancement workload. The first is a full re-write of how locations are managed and processed by CAD. Originally developed more than 25 years ago, before modern Geographical Information Systems (GIS) and mapping software, the current CAD system address verification relies on a large tabular database that contains the names and address ranges of all streets, common place names and other location information. This system, while fast, is increasingly difficult and time consuming to maintain and is not directly compatible with the Department's more robust GIS mapping capabilities. In 2019, the plan is to complete the replacement of this sub-system with a full integration to LAFD's GIS using the most modern tools available, creating a seamless platform for managing all of the Department's location and geospatial assets. This will mean that there will be one single source of 'truth' for all location and mapping needs and that the CAD will be able to identify locations in a much more accurate and timely manner. This work will also include a full update of the CAD dispatch map, creating many new features that will help call takers and dispatchers better manage incidents.

The second major project for the CAD team in 2020 will be the integration of a new Fire Station Alerting System (FSAS). Phase one of this project began in 2019 with the upgrade of the FSAS network from analog phone lines to a modern, high-speed (LA City) fiber network. As that first phase comes to an end, the second phase to replace the more than 25-year-old alerting system components with a modern, commercial-off-the-shelf solution begins. In this project the CAD team and FSAS contractor will work together to seamlessly integrate the new system with the LAFD CAD and replace the last remaining vulnerabilities of our FSAS. Having the new system in place will lay the groundwork for many new future possibilities and greatly enhance how the Department alerts and notifies resources.

The third major project in 2020 will be the completion of the Windows 10 upgrade for all of the CAD client workstations. With this upgrade, all of the CAD workstations at MFC and OCD will be replaced, and the CAD client software will be re-written to be fully Windows 10 compliant. In addition to the security and longevity benefits of a Windows 10 compliant client, the re-writing of the CAD client also makes it possible, and much easier, to add features and make enhancements to the user-interface in the future.

### **The Future of LAFD CAD – Beyond 2020**

With respect to CAD, the Department remains optimistic and very well positioned for the next three to five years. In the coming years we will continue to focus on providing excellent support for the day-to-day operations and enhancements needed to meet changing demands as well as continue to focus on new major, such as upgrades to the voice radio system, continued advancement of AVL-based dispatch, and changes to the way historical CAD data is stored and the tools that are used for reporting. Our eventual goal is to fully replace the current “incident archive” system with PowerBI and other advanced analytics tools making it easier to create timely and accurate visuals (dashboards) and statistical reports. The CAD and FireStat teams are also collaborating to find new tools that can provide even more predictive, near-real-time analysis of response time coverage and resource availability, taking into account both historical trends as well as current, up-to-the-minute sensor data from traffic, hospitals and other sources – all to help make resource management more accurate and timely.

Over the course of the next two to three years, the CAD team and ITB leadership will continue to explore and evaluate the CAD marketplace as well as visit and collaborate with our partners in the region and across the country to identify any new features, technologies or full solutions that might be applicable to the LAFD.

Board report prepared by Scott B. Porter, Chief Information Officer.