February 6, 2018

LOS ANGELES FIRE DEPARTMENT

RALPH M. TERRAZAS
FIRE CHIEF

January 24, 2018

BOARD OF FIRE COMMISSIONERS
FILE NO. 18-016

TO: Board of Fire Commissioners

FROM: Ralph M. Terrazas, Fire Chief

SUBJECT: LAFD INFORMATION TECHNOLOGY BUREAU (ITB) MIDYEAR UPDATE

FINAL ACTION:			
_____ Approved	_____ Approved w/Corrections	_____ Withdrawn
_____ Denied	_____ Received & Filed	_____ Other

SUMMARY
This is the mid-year update to the Board of Fire Commissioners of the LAFD's Information Technology Bureau's (ITB) progress on the 2016-2017 IT Strategic Plan.

As part of the original IT strategic planning process, the Los Angeles Fire Department (LAFD) defined five strategic imperatives to guide technology decision making and inform how technology was expected to support the department. As part of each planning cycle, the LAFD Chief Information Officer (CIO) works closely with the Fire Chief and executive staff to create a set of IT Initiatives that supports the objectives of the Strategic Plan. As part of the 2015 – 2017 planning period, the Department identified ten initiatives that it would focus on. As the new strategic plan is developed and adopted, the IT strategic plan will be updated to align with any changes in the Department's objectives or priorities.

RECOMMENDATION
That the Board:
Receive and file.

FISCAL IMPACT
There is no fiscal impact inasmuch as this report is for informational purposes only.

DISCUSSION
This is a report of progress on each of the ten IT Initiatives as of January 31, 2018.

1. Enhance IT Service Delivery
The purpose of this initiative is to create a responsive and agile IT organization by establishing governance and organizing personnel so that IT can continuously deliver advanced transformative technologies to the LAFD. During this reporting period, the following progress has been made in this area:

- Reorganized IT Bureau to consolidate development resources
- Hiring to fill vacant programmer, systems and geographic information systems positions
- Implementing governance for receiving and prioritizing new IT project requests
- Implementing agile development practices and tools
- Implementing system performance monitoring and service level reporting
- Reviewing and updating IT policies relating to security, use and compliance

2. Enhance Reporting and Analytics Capability

The purpose of this initiative is to create reporting and analytic capability by consolidating data, improving data governance and implementing new tools for performance visualization and decision making with more self-service capabilities for operational units. During this reporting period, the following progress has been made in this area:

- Replaced the Palantir reporting and dashboards with Microsoft PowerBI
- Implementing a consolidated reporting and analytics platform around PowerBI
- Implementing new consolidated data storage from multiple sources for reporting
- Replacing legacy, static reports with interactive, self-service dashboards
- Implementing ePCR data for reporting and analytics
- Exploring opportunities in machine learning and augmented-intelligence analytics

3. Enhance Emergency Response Systems

The purpose of this initiative is to enhance Computer Aided Dispatch (CAD) and related emergency response systems to improve resource management and utilization using modern technology such as Automatic Vehicle Locator (AVL), mapping and real-time operational analytics. During this reporting period, the following progress has been made in this area:

- AVL field test in November, continued development in December and January
- Initial AVL operational implementation planned for March 2017
- CAD map replacement project in final testing, limited rollout expected in February
- Enhancing eCAD to improve system upgrades and operational transitions
- Mobile Data Computer (MDC) AVL-related software enhancements for deployment end of January

4. Enhance Dispatch Communications and Continuity of Operations

Enhance critical systems resilience and business continuity capabilities by upgrading Operations Control Dispatch, E911 phone system and remote dispatch capabilities. During this reporting period, the following progress has been made in this area:

- Planning for e911 phone upgrade, preliminary conversations with the State

5. Replace Fire Station Alerting

Upgrade the fire station alerting systems (FSA) and station network infrastructure including wide, local and wireless network. During this reporting period, the following progress has been made in this area:

- Working with Information Technology Agency (ITA) to complete testing of 'hybrid' fire station alerting plan
- Working with ITA to design network upgrade to replace older 'leased lines'
- Current plan is to replace existing FSA network by end of this FY

6. Replace Fire Inspection and Prevention Systems

The purpose of this initiative is to modernize fire inspection systems by replacing the many separate, disparate systems, with a single integrated system delivering operational efficiency, remote access and situational awareness. During this reporting period, the following progress has been made in this area:

- Enhancements to Development Services system to enable remote capabilities
- Enhancements to Brush Clearance (BCU) system in preparation for 2018 season
- Evaluating alternatives and developing plan for enterprise fire inspection system

7. Enhance Workforce Management Systems

The purpose of this initiative is to modernize the human capital management systems including those that support recruitment, hiring, training, staffing, scheduling and risk/injury management. During this reporting period, the following progress has been made in this area:

- Develop LAFD "HR-Related" as-is and future state architecture
- Develop of Network Staffing System (NSS) capabilities model
- Begin NSS replacement project, Request for Proposal development
- Develop plan to retire several small, silo systems and replace with Critical Systems Application platform
- Participate in citywide PAYsr and Human Resources Systems initiatives

8. Create Voice Radio System Maintenance Plan

The purpose of this initiative is to develop a long-term plan for the support of LAFD's voice radio system infrastructure. During this reporting period, the following progress has been made in this area:

- Purchase 3500 new portable radios, to be deployed to the filed in next 6 months
- Working with ITA and Motorola to develop five-year voice radio maintenance plan
- Working with ITA to continue support and maintenance of current radio system

9. Implement Fleet and Asset Management Systems

The purpose of this initiative is to enhance the ability to manage the LAFD fleet and supply inventory. During this reporting period, the following progress has been made in this area:

- Working with General Services Department and ITA to implement citywide M5

fleet management system

10. Modernize Application and Technology Infrastructure

The purpose of this initiative is to enhance fundamental systems infrastructure to support growing technology demands. During this reporting period, the following progress has been made in this area:

- Working closely with Microsoft and ITA to implement enterprise PowerBI
- Plan to move analytics and reporting infrastructure to Microsoft GovCloud
- Plan to upgrade critical CAD server and other infrastructure
- Plan to build software development test lab at Metropolitan Fire Communications (MFC)
- Plan to upgrade fire station fiber network to increase bandwidth to support FSA

AVL Project Update

The AVL dispatch project is in-progress and on track. The first phase of the mobile data network (MDN) upgrade is complete. In this first phase of the MDN upgrade, installation was completed for new MDC software and new radio modem equipment which included updated GPS technology. The LAFD also began to actively monitor and analyze the AVL data in preparation for the next phases of the project. To date, the LAFD has collected and analyzed more than 45 million AVL-related records from the LAFD fleet and continues to process tens of thousands of AVL messages per day. As a result of this monitoring, the LAFD identified and replaced malfunctioning equipment throughout the LAFD fleet, mostly broken antennas, missing cables or dead GPS units. The LAFD now monitors the health and status of the AVL equipment and replaces or repairs defective items as they are found.

A short field test of AVL dispatch system was conducted from October 31 to November 6, 2017. As a result, changes to MDC and CAD software were identified and developed in December 2017 and January 2018. These changes are currently being tested and the next citywide field test of AVL is planned for March 2018.

The LAFD has completed development of a new CAD map to replace the two maps currently being used at MFC with a single, more advanced map that uses the latest GIS and mapping technology. This new CAD map is in the final stages of testing and scheduled for implementation in early February 2018. Along with AVL, the new map is expected to provide MFC dispatchers and call takers with more features and improve CAD and AVL integration.

The MDN upgrade, the AVL-CAD system software development, and the new CAD map were each a prerequisite to fully implementing AVL for dispatch. Now that these projects are complete, the LAFD's plan is to incrementally release changes to CAD so that certain dispatch recommendations will use a unit's AVL-reported location instead of the estimated distance from the closest fire station. The LAFD expects that the more precise unit location information from AVL will not only improve response times, but will also greatly enhance field operations and MFC's ability to manage LAFD resources.

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