



## Information Technology Division 2017 Strategic Execution Plan



# LOS ANGELES UNIFIED SCHOOL DISTRICT

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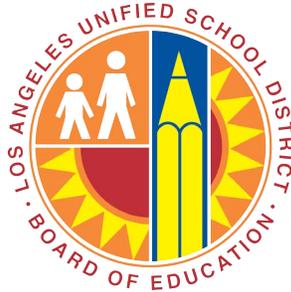
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## 2017 Information Technology Division

### Strategic Execution Plan

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**SHAHRYAR KHAZEI**  
Chief Information Officer

Dear students, families, employees, and community members:

Our Board of Education and Superintendent are committed to investing in technology that will pave the path for our students to succeed in college, their careers, and beyond. With this in mind, I am pleased to present the Information Technology Strategic Execution Plan (SEP) for 2016-2017.

The SEP is a comprehensive roadmap that guides all technology projects critical for supporting teaching and learning in the Los Angeles Unified School District. The following pages provide complete details of efforts underway to modernize the infrastructure our schools rely on to support our students.

With this plan, our Information Technology Division is committed to implementing solutions that provide our schools with the infrastructure and equipment they need to teach all students the skills they will need for success in the 21<sup>st</sup> century workforce.

Respectfully yours,

Shahryar Khazei  
Chief Information Officer

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2016-2017  
STRATEGIC EXECUTION PLAN

# OVERVIEW



# EXECUTIVE SUMMARY

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The Information Technology Division is responsible for building and maintaining the technology needed to support 21st century teaching and learning in the Los Angeles Unified School District.

## Mission

We enable student achievement and operational efficiency through deployment of appropriate technical solutions for our students and their families, our employees, and the community. This includes the following bond programs:

- Classroom Technology Modernization Program
- School Network Modernization Program
- Safety, Communications and Security Modernization Program
- Student Information Systems Modernization Program
- Disaster Recovery and Business Continuity Program

## Vision

We are a high performing, customer-focused, proactive, and innovative division that supports the needs of LAUSD, providing appropriate and effective technological solutions to facilitate each student's path to college and career readiness.

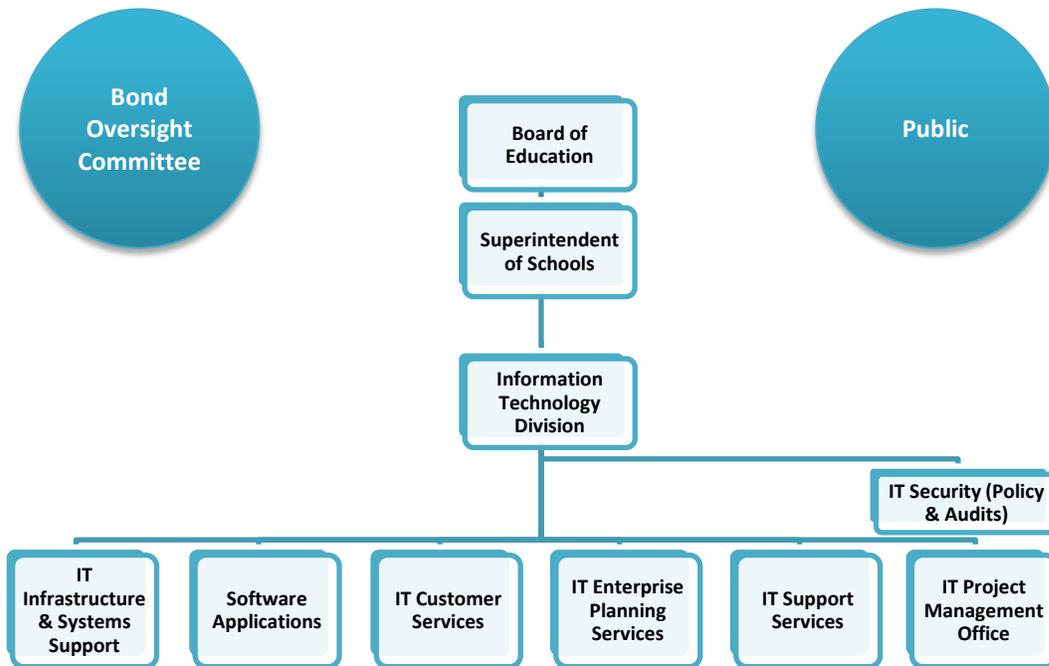
## Guiding Principles

Everything we do in the Information Technology Division is aligned to the priorities set by the Board of Education, Superintendent, and is in concert with industry, state, and national standards. Four guiding principles for our division guide our work: 1) improving governance and transparency, 2) making IT easier to understand and work with, 3) aligning our initiatives to a comprehensive enterprise architecture, and 4) the support and development of the people who make it happen. Through these principles, we strive to accomplish the following key goals:

- Optimize the information and communication infrastructure needed to support a high-performance 21st century learning environment
- Increase efficiencies and effectiveness freeing up resources for the classroom.

# Organizational Overview

The Los Angeles Unified School District and Information Technology Division are organized as follows:



## Board of Education

The seven members elected to the Los Angeles Unified School District Board of Education (Board) are responsible for setting District policies, including those that guide the actions of the Information Technology Division (ITD). The Board also provides approval during various stages of the projects executed by ITD.

## Superintendent of Schools

The Superintendent of Schools, selected by the Board, is responsible for the District's day-to-day operations and execution of Board policy. Part of the Superintendent's cabinet, the Chief Information Officer facilitates development and delivery of technological services and programs to support instruction and increased business operational efficiencies. Also part of the Superintendent's cabinet, the Chief Executive Officer, Project Management and Digital Innovation provides direction to the My Integrated Student Information System (MiSiS) project.

## School Construction Bond Citizens' Oversight Committee

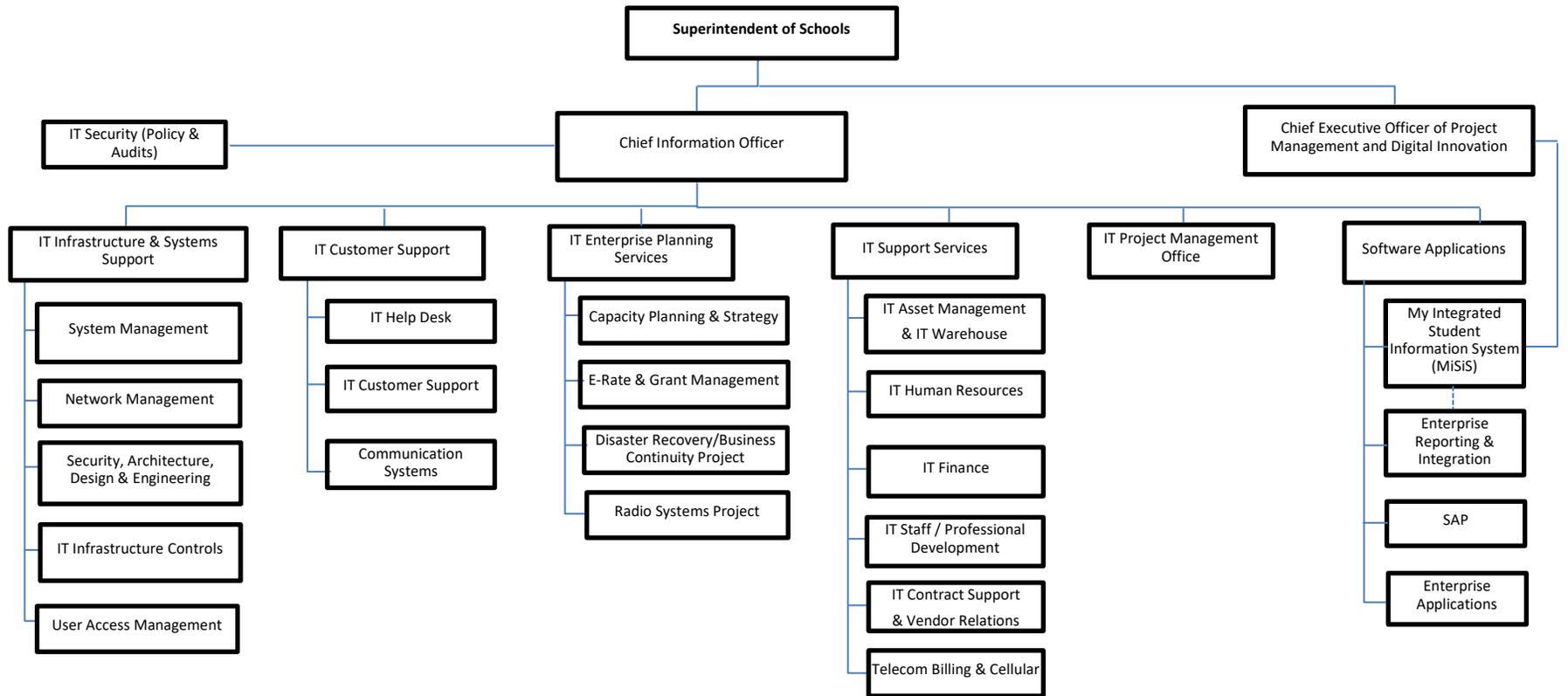
As required under LAUSD voter-approved bond measures, the Board has established a Bond Citizens' Oversight Committee (BOC) to advise on the efficacy of bond fund expenditures and program development. Committee members represent a broad constituency and provide an independent review of bond-funded

programs. The BOC also reviews every project funded by local bond measures including budget, scope, and schedule prior to action by the Board.

## Information Technology Division

The Information Technology Division is responsible for supporting the District's instructional mission and operations through deployment of the most current, robust, user-friendly, and cost-effective technology solutions. There are four key areas within the division:

- 1) **IT Security (Policy & Audits)** is responsible for the identification of IT security risks and development and implementation of corresponding policies to protect the District's information systems and data; conduct of assessments on the District's information systems and practices to minimize IT risks; and ensuring that ITD is in compliance with District security policies, industry best practices and existing laws and regulations.
- 2) **IT Infrastructure and Systems Support** is responsible for all aspects – conception, architecture (alignment with District goals), design and engineering, testing, selection, implementation and maintenance – of the District's IT infrastructure. Though many of the functions delivered by this group are not directly visible to school users, the group's efforts are critical to the proper functionality of every piece of classroom technology and business systems throughout the District.
- 3) **Software Applications** is responsible for the maintenance of all systems in the District including those that impact student and student achievement (i.e. student information, cafeteria management and library management systems) and those that drive business efficiency, including the enterprise resource planning system that is responsible for budget, payroll, procurement tracking and other business functions.
- 4) **IT Customer Services** is responsible for technological customer support via "hotline" – telephone and online chat – and deployment of field services personnel to schools and offices to resolve issues related to computing devices, software applications, and communication systems (public address/ intercoms, telephone, radio, local area network, security, etc.).
- 5) **IT Enterprise Planning Services** is responsible for the District's network capacity planning and strategy, E-rate and grant management, disaster recovery and business continuity project and radio systems project.
- 6) **IT Support Services** provides support to all areas of the Division in terms of finance, purchasing, human resources and other areas.
- 7) The **IT Project Management Office** provides oversight of ITD's project portfolio to ensure proper alignment of projects to District strategy, establish and maintain project management standards, identify cross-project dependencies, provide executive reports on project status, escalate risks and issues for timely resolution to keep projects on track, and capture project learnings for continuous improvement.



2016-2017  
STRATEGIC EXECUTION PLAN  
**PROGRAMS**



# Program Goals and Scope

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The respective goals and scope for the Classroom Technology Modernization Program; the School Network Modernization Program; the Safety, Communications, and Security Modernization Program; the Student Information Systems Optimization Program; the Cafeteria Management System Point of Sale Technology Upgrade Project; and the Disaster Recovery and Business Continuity Program are detailed in this section.

## Classroom Technology Modernization Program

The Classroom Technology Modernization Program is a technology-enabled learning environment that promotes active engagement of students in their studies and immediate timely information access for their families, educators, and administrators.

The key components of the program include investment in:

- Classroom technology devices;
- Instructional leadership support and professional development;
- A learning management system that delivers online lesson plans and instructional tools;
- Upgrades to the District's email systems that allows all LAUSD stakeholders to communicate more effectively;
- School networks capable of transporting educational content from the internet into the classroom and from teachers to students as well as among groups of students; and
- Improvements to the District's centralized network infrastructure to capture and transmit information critical to teachers and administrators.

## The Instructional Technology Initiative (ITI)

The Instructional Technology Initiative (ITI) exists to support school leaders District-wide in developing and designing instructional programs to leverage digital tools. The vision of ITI remains that all schools use technology as a tool to differentiate and personalize instruction, increase academic rigor, and build student ownership of learning using a portfolio of student-centered school models. ITI's mission is to prepare all students to be digital learners who use technology as a tool to graduate ready for success in college and careers. The initiative's vision and mission are accomplished through provision of technology instructional leadership support and professional development to staff.

## School Network Modernization Program

The District operates on the largest computing network of any K-12 organization in the United States. There are two key categories of projects included in the School Network Modernization Program: 1) Core Network Modernization, which consists of critical updates to the foundation of the network on which all schools rely, and 2) Local Area Network Modernization, which is optimization of the network equipment within each school building, ensuring that bandwidth and wireless requirements are met.

The School Network Modernization Program is designed to optimize the hardware required to address communication requirements to ensure safety concerns are met and to maximum operational efficiency. To meet increasing demand for internet access in the classroom, schools need 1) adequate bandwidth – the size of the virtual pipeline through which information flows to and from each classroom, and 2) high-density wireless, which enables a large number of students and teachers to access the network simultaneously without slowing it down. Current funding equips schools with the hardware necessary to address both of these key components.

The School Network Modernization Program leverages previous investments and controls costs by building on, integrating, and maximizing existing systems and utilizing the most advanced and proven technologies, while maximizing limited bond and E-rate dollars (a federal program designed to subsidize connectivity in schools and libraries).

## Core Network Modernization

The Core Network refers to the foundational infrastructure on which all school networks rely and serves as the virtual backbone for the entire LAUSD network. The Core Network facilitates school access to the Internet and educational and business applications and is comprised of equipment and software in the Wide Area Network (WAN) and the Centralized Network Operations Center (NOC). All network traffic including online assessments, email, educational applications, and the Internet must flow through the District's core network. Monitoring and management enables ITD to identify and resolve problems proactively ensuring student access to essential instructional resources.

The scope of Core Network Infrastructure includes:

**Email and Collaboration System:** Upgrades the District's email, productivity, and collaboration services to a cloud platform;

**Identity Management System:** Implement a single system that provides a uniform process for District-wide user log-in authentication and authorization to access the District network and all District applications;

**Network and Data Center Performance Monitoring and Management:** Purchase and install tools needed to manage and optimize the performance of the school networks;

**Mobile Access Management:** Controls information by channeling all mobile data through a secure, easily managed, and monitored server;

**School Shared Network Components:** Upgrade or install network equipment to provide the bandwidth necessary to meet increased classroom demand for media-rich interactive lesson plans, assessments, and internet usage;

**Performance Monitoring and Management:** Provides District-wide visibility of the entire wired and wireless data network to provide a better end-user experience to students and teachers;

**Video Infrastructure:** Build a shared video solution for schools to address, store, view, and load videos and use videoconferencing;

**Cyber Security:** Improves the District's data security and the safety of the overall computing environment by providing solutions to filter inappropriate websites, protects application servers from attacks originating via outside access, and reduces the risk of potential exposure of private/personal data;

**School Wide Area Network (WAN) Availability and Out of Band Management:** Ensure that at least 99% of District schools have Internet connectivity at the beginning of the instructional day by implementing hardware and software to allow for centralized oversight of school site network equipment for troubleshooting and remote issue resolution. The system also provides a secondary connection to the District's network enabling continuity of critical business functions in the event of a primary network outage; and

**IP Address Planning:** Implement the necessary management system to support the District's current and future use of electronic devices, including, but not limited to, computers, tablets, printers, smartphones, access points, routers, etc.;

**Data Center Network Upgrades:** Replace the District's existing network up to 40GB network component to enable high speed server-to-server communication between the District's primary Data Center, disaster recovery site, network nodes and schools.

## Local Area Network Modernization

A Local Area Network (LAN) refers to the equipment and cabling inside a school building that provide students, teachers, and staff connectivity to the Internet and instructional resources, such as printers, copiers, smart boards, projectors, etc. LAN equipment has a finite useful life. With limited funding available, there is a delicate balance between meeting instructional needs, ensuring reliability and availability and replacing obsolete network equipment.

As of December 2016, 100% of the 461 school network modernization projects and 100% of the wireless network modernization projects have been completed. Additionally 100% of the network equipment upgrade projects in the 2015 E-rate Applications have been completed. The 150 network equipment upgrade projects in the 2016 E-rate Application are on schedule and an additional 65 network equipment upgrade projects to be included in the 2017 E-rate Application were approved by the Board of Education on October 16, 2016 (BOE 168-16/17). See Appendix A for the full list of projects that are planned or in progress.

In addition to meeting current instructional access needs, ITD is piloting networks that include telephone, audio visual, public address, intercommunication, and notification services. Provisioning all these services on the traditional network is called Network Convergence. In Network Convergence, a single network "pipe" is used to add various types of networking equipment in order to deliver all forms of communication services. The primary goal of such integration is to deliver better services and lower costs to the District. This technology is similar to what is found in many homes today whereby service providers deliver phone, television, and Internet access all on the same wiring.

11 of the 12 pilot LAN modernization projects that include Network Convergence have been completed. Work under these projects included replacement of obsolete and failing telephone, public address, and intercommunication equipment and addition of these services onto the data network. The 11 pilot projects completed are 109th Street Elementary School, 118th St Elementary School, Avalon Gardens Elementary School, Dorris Place Elementary School, Garvanza Elementary School, Kim Elementary School, Raymond Avenue Elementary School, Ritter Elementary School, San Gabriel Elementary School, Strathern Elementary School, and Wilshire Park Elementary School. The remaining pilot project is at Marlton Elementary. Due to the unique communication needs of Marlton's Deaf and Hard of Hearing ("D/HH") students and school staff, the project scope is more complex than that of the other 11 pilot projects. Almost all of the planned improvements have been completed and these components are functioning and being used, but a few items are still being completed.

ITD also completed school site IT system condition surveys at all LAUSD K-12 school sites (Approved BOE #388-13/14) to determine the extent that existing infrastructure can be reutilized to reduce future projects' costs.

## Safety, Communications and Security Modernization Program

As the steward of the District's safety, communications, and security systems—including handheld radios, public address, and alarm systems—ITD is responsible for maintaining the inventory of equipment and upgrading and replacing equipment as necessary. The division's ongoing work is focused on identifying the most modern and cost-effective solutions enabling the District to ensure the safety of its students and employees. Our current efforts in this realm are focused on upgrades to radio systems and equipment necessary to ensure safe communication among those responsible for student safety and compliance with Federal Communications Commission mandates.

### Radio Systems Project

Radio systems are a vital part of the District's goal to provide instruction in a safe and nurturing environment. Emergency first responders, school administrators, and bus drivers—among others—rely on these systems to ensure communication of emergency information to the proper audiences without fail. The District has two radio systems with different Frequency Bands. Two bands are used due to the limited frequencies available on each band and the number of users.

The new Federal Communications Commission (FCC) regulations require organizations to update the configurations on radio devices to use narrower channels, thereby opening up the airwaves for more users – a process known in radio technology as “Narrowbanding.” Due to the age of the District's systems, this requires updating infrastructure and replacing obsolete equipment or reprogramming newer equipment. The narrowbanded frequencies will be used by the school bus transportation division for daily communications and by school police and central support divisions during emergencies without interfering with other systems in the Southern California region.

Limited frequency availability creates challenges because different types of radio equipment are used based upon the frequencies. In addition, the operational needs of various users differ and require unique consideration in the project. To ensure that all challenges are addressed and all needs are met, the Radio Governance Committee has been formed to provide direction, guidance, and oversight for this project. The committee includes representatives from schools, School Police, ITD, Transportation, Food Services, School Operations, Facilities, and the Office of Environmental Health and Safety.

## Student Information Systems Optimization Program

The My Integrated Student Information System (MiSiS) project is the replacement of legacy student information systems with the goal of providing a single and comprehensive system, built on modern technologies, that meets the needs of our teachers, administrators, school-based staff, students, and families. MiSiS provides a unified platform to support critical school activities like student enrollment, master scheduling, grade reporting and transcripts, student athletics, student testing, student support, and program management, among others.

The Student Information Systems Optimization program benefits the District in that it:

- Provides a consistent data collection mechanism across schools;
- Provides daily centralized/automated attendance reporting;
- Provides longitudinal student tracking across all grade levels, schools, and programs;
- Facilitates constructive conversations about each student’s educational progress among parents/guardians, teachers, and administrators; and
- Ensures compliance with all applicable special education laws as mandated by the Modified Consent Decree

## My Integrated Student Information System

The My Integrated Student Information System (MiSiS) project is the integration of K-12 student information systems into a unified platform. The modernized platform provides increased flexibility, usability, and cost effectiveness.

In information technology terms, an integrated system links together different software applications to function together as one whole system. MiSiS, formerly ISIS, is an integrated student information system composed of:

- K-12
- Early Education – EESIS – ControlTec
- Adult SIS – AIM
- Special Ed – Welligent
- Reporting – MyData
- Ancillary Functions – Interfacing Systems

Information from each of these systems, as well as adjunct applications, such as Student Transportation, Cafeteria Management, etc., will be linked through scheduled interfaces, minimizing redundancies and ensuring that students and families receive appropriate services. Data reporting tools such as MyData are made possible by MiSiS and facilitate collaboration among teaching staff as well as conversations among teachers, counselors, and parents around current and comprehensive student data. Reports identified as critical, operational and real-time required will be provided via the application’s Ad Hoc reporting capability. All other reports will be prioritized for delivery via either the MyData environment or the End User Reporting environment underway as a separate ITD initiative.

## Cafeteria Management System – Point of Sale Technology Upgrade Project

The District’s Cafeteria Management System (CMS) is a software program designed to improve productivity, increase reporting accuracy, and decrease and eliminate manual cafeteria processes. CMS improves productivity, increases meal claim reimbursements from the State through accurate reporting, decreases and eliminates manual cafeteria processes and manual staff labor, provides accurate student meal activity

information to parents and more importantly increases service line efficiency for students thus ensuring that students are nurtured and well fed in a timely manner.

The main objective of the CMS Point of Sale (POS) Technology Upgrade Project is to replace aging and failing point of sale devices and cafeteria manager desktops. It aims to renew tracking software licenses to help recover equipment in cases of theft and vandalism thus reducing replacement costs. It renews a 5-year repair/replace warranties to minimize downtime, and renews Microsoft software licenses to acquire continuous support. This project will address and meet the CMS One Source software minimum requirements to make use of the software's full functionality. Finally, this project will ensure that the POS system equipment complies with IT Security and Standards.

The project scope is to replace approximately 2,400 POS at 700 schools in the District. The scope is divided into three phases. Phase 1 is targeted to replace approximately 900 POS across 357 elementary schools whose warranties and licenses already expired as of June 2016. Phase 2 will replace approximately 1,500 remaining POS devices whose licenses and warranties are expiring since July 2016 up to March 2017.

## Disaster Recovery and Business Continuity Program

All of the District's mission critical information systems—including student transportation, payroll, food services, school police, facilities, and student information—are dependent upon the operability of the District's applications and technology infrastructure. All systems are linked to the Data Center, which serves as the information hub of the entire technology network and is located in Downtown Los Angeles in District headquarters. The Data Center is currently without a redundant or failover site, meaning that an unexpected disaster—such as a fire or earthquake—could cause severe damage to the infrastructure; thereby, crippling all of the District's critical systems.

The District's Disaster Recovery and Business Continuity (DR/BC) Program is designed to address this problem by rolling out solutions on which the District can rely in the event of a disaster. Disaster Recovery refers to the ability of the District to "bounce back" expediently in the event of a disaster. Currently, it could take weeks to months to recover from even a minor disaster; the District's aim is to reduce that to a period of less than 24 hours. Business Continuity refers to the District's ability to continue operating during a time when critical systems are in the process of being recovered.

## Disaster Recovery and Business Continuity Project

The project consists of two phases – Data Recovery and Business Continuity. An overview of each phase is provided below.

### **Phase 1: Data Recovery**

Phase 1, Data Recovery, focuses on loss prevention of high priority business and educational data by storing an extra copy of that data on disk at a small, backup location site. This strategy entails three categories of activities: identification of a suitable backup site (site selection), execution of the necessary infrastructure upgrades to that backup site (infrastructure upgrades), and identification and implementation of optimal data replication technologies (data replication).

### **Phase 2: Business Continuity & Disaster Recovery**

Phase 2, Disaster Recovery, focuses on ensuring technology-reliant business and education processes could continue if a disaster were to take place in the main Data Center. This goal is accomplished by provisioning a Container Based Data Center as a secondary (“failover”) site with modernized and consolidated Data Center technologies. The District will also set up a tertiary (“disaster recovery”) co-located data center site located out-of-state tertiary to mitigate risks involving a large earthquake in the Los Angeles region. In the event of disruption or disaster, business and educational operations will continue from the “failover” or “disaster recovery” site. As part of Phase 2, ITD is also performing an in-depth analysis to identify systems that need modernization.

# Funding/Cost

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## Overview

The Information Technology Division bond program addresses the District's needs for increased capacity for 21<sup>st</sup> century teaching and learning as well as increased operational efficiency maximizing resources that can be used directly for classrooms. Three local bonds (Measures K, R, and Y) passed by the voters within LAUSD boundaries provide the majority of the funds. A fifth local bond, Measure Q, which passed in 2008, is anticipated as the primary funding source for future capital projects. General Fund and federal E-rate funding comprise the balance of program funding.

Bond program funds cannot be used for school operations or administrative support tasks such as general administration, teachers' salaries, materials, and/or supplies for general or instructional use. Allowable uses include:

- Modernization
- Renovation
- Construction
- Increase of capacity in classrooms or specialized facilities such as libraries
- Land purchase and relocation to enable school use

Each project budget may include several or all of the following major components depending on the scope of work: land acquisition, design, construction, testing, inspection, and other costs such as project management and environmental remediation. Projects can be funded with one source, or in many cases, using multiple funding sources.

## Cost Management

Cost management efforts are an integral part of the culture for the team executing and managing the bond program. ITD's systems, policies and procedures, and highly qualified staff provide proper controls, approvals, and reporting of project execution status, costs and funding sources. While industry best practices are used to deliver projects within budget, cost forecasts require diligent revision due to unforeseen conditions, changes to scope, economic forces, and the availability of qualified contractors.

## Funds Management

The Information Technology Division (ITD) works proactively to maximize available program funds. Projects are designed not only to comply with school needs, State mandates and District guidelines, but also to take full advantage of eligibility for federal E-rate discounts for services supporting telecommunications and internet access for schools. Successful completion of the bond program can only be achieved through active funds management of a financially unified program. ITD staff manages the use of all funding sources, including

application for and management of federal E-rate discounts, in a manner that enables all funding to be utilized and insures compliance with all applicable laws, regulations and policies.

Specific funding sources are allocated and managed to meet the requirements of individual projects and managed programs. Additionally, when a project requires funding but the intended source is not available, projects are sometimes funded with an alternative source until the permanent source of funds is available (for example, the future sale of State bonds). Once the permanent funding source is received, the initial funding source is returned.

## Source of Funds

The current bond program is valued at approximately \$837 million. The primary funding sources are local bonds totaling approximately \$743 million, 89% of total program funding. Other sources include Federal E-rate reimbursements and General Fund.

<b>Information Technology Division Bond Program</b>	
<b>Local Bond Funds</b>	
Measure K	\$46,500,002
Measure R	\$372,268,316
Measure Y	\$143,714,736
Measure Q	\$ 180,619,062
<b>Total Local Bond Funds</b>	<b>\$743,102,116</b>
<b>Other Funds</b>	
E-rate	\$87,752,784
General	\$6,279,271
<b>Total Other Funds</b>	<b>\$94,032,055</b>
<b>TOTAL SOURCES</b>	<b>\$837,134,171</b>

## Uses of Funds

Uses of funds are reported below by project area. Commitments and Expenditures are through December 31, 2016.

<b>Information Technology Division Bond Program</b>			
<b>Project Use of Funds</b>	<b>Current Expected Uses</b>	<b>Commitments</b>	<b>Expenditures</b>
Instructional Technology Initiative	\$166,377,723	\$21,398,455	\$140,979,268
Local Area Network Modernizations	\$329,277,173	\$75,348,287	\$253,928,886
Radio Systems	\$31,656,991	\$11,924,519	\$19,732,472
Core Network Upgrades	\$53,439,812	\$13,460,731	\$39,979,081
My Integrated Student Information System	\$174,140,725	\$66,289,320	\$107,851,405
Disaster Recovery and Business Continuity	\$73,941,747	\$34,437,083	\$39,504,664
Virtual Learning Complex Planning	\$4,000,000	\$373,557	\$3,626,443
Cafeteria Management System Equipment Replacement	\$4,300,000	\$2,700,453	\$1,599,547
<b>TOTAL PROGRAM USES OF FUNDS</b>	<b>\$837,134,171</b>	<b>\$221,434,440</b>	<b>\$615,699,731</b>

### Budget changes in 2016:

- **Instructional Technology Initiative:** Increased by \$4,000,000, approved April 12, 2016 in BOE 363-15/16
- **My Integrated Student Information System:** Increased by \$40,300,000, approved April 12, 2016 in BOE 320-15/16
- **Cafeteria Management System Equipment Replacement:** New project with budget of \$4,300,000 approved May 10, 2016 in BOE 406-15/16

# Management

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The Information Technology Division's management team consists of highly skilled program and project professionals with years of experience in deployment and installing of technological solutions. Included on these teams are engineers with extensive experience in the District's information technology infrastructure and data systems. The programs' staff operates on three basic principles:

- Accountability
- Solution-oriented decision processes
- A commitment to continuous improvement

## Program Management

The bond program is managed to examine core areas of interest such as planning, program execution, measurement of performance, and rapid deployment of corrective action. Program management further focuses on budget, schedule, and business processes as well as policies and procedures.

To support the execution of core management principles, program management personnel within ITD deliver the following functions and provide the support needed to accomplish the program's goals:

- **Design Oversight** – Coordinate and maintain quality assurance of engineering professionals' efforts to ensure compliance with industry and District specifications, objectives, and policies.
- **Procurement** – When applicable, contract for design and installation services by working with legal and procurement staff to ensure the use of appropriate contracting vehicles and adherence to federal, state, and local laws and policies. Contract types include, but are not limited to, California Multiple Award Schedule (CMAS) contracts, public works, professional services, and other competitively bid procurement contracts.
- **Construction/Installation Management** – Coordinate and maintain quality assurance of installation contractors and in-house technicians. Ensure that specifications, objectives, and policies are utilized; deficiencies and claims are minimized; and all required documentation is completed and delivered to the appropriate District divisions.
- **Cost Management** – Manage programs and budgets to ensure that program resources are optimized and that funds are properly allocated.

## Design Guidelines

The LAUSD Project Design Guidelines articulate the basic tenets included in the design of all information technology projects. These are:

- Right-size the solution
- Standardize equipment (where possible) to reduce maintenance and support costs

- Upgrade and replace equipment that is at its “end-of-life” to reduce maintenance costs due to high failure rates
- Design for the long term and consider life cycle costs
- Maximize the use of space by centralizing data, voice, and video systems
- Design for convergence, allowing multiple solutions to be addressed at once, thus reducing installation and long term maintenance cost
- Design for flexibility
- Specify affordable, durable, sustainable materials and equipment

## Reporting

ITD provides full disclosure of its methods, data, and implementation performance for the programs of this Strategic Execution Plan with mandated oversight requirements. The following guidelines outline the Division’s reporting standards:

- Establish baseline information on scope, schedule, and budget, then measure current performance against these baseline metrics
- Report to stakeholders in relevant, easy-to-understand reports
- Provide early warning of potential variances from anticipated results so that decision makers are presented with mitigation options in a timely manner
- Post all reports on a District website for ease of distribution

### Board of Education and Bond Oversight Committee Reports

#### **Strategic Execution Plan**

The annual update outlines the current program status. The plan contains detailed information on projects, including key milestones and schedules, budgets, management and cost controls, and early warning systems. In addition, the annual update identifies last year’s performance data and delineates the remaining program activities.

#### **Status Reports**

Quarterly reports are provided detailing baseline information and project status. Items tracked include project start and completion status, projected expenditures and implementation activities, summary status information by project, and other items of interest.

#### **Exception Reports**

Exception reports are presented as needed, focusing on potential problems. Examples of situations generating exception reports are:

- A change order on a project exceeding 10% of the original construction award
- A specific information technology project budget exceeding 5% of the baseline cost

2016-2017  
STRATEGIC EXECUTION PLAN

# EXHIBITS



# Deliverables Summary

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The sections below provide a brief summary of activities related to the scope, schedule, and budget for each Bond program. Scope refers to activities completed to date and activities yet to be completed. Schedule refers to timeline for completion of remaining activities. Budget refers to the amount of allocated funding expended to date and amount outstanding; all expenditures are through December 31, 2016.

## Classroom Technology Modernization Program

### Instructional Technology Initiative

#### Project Scope and Schedule

The following list includes all ITI activities, including those that are partially or not at all bond funded.

- PROFESSIONAL LEARNING
  - The model of practitioner schools was developed and implemented by ITI at 40 schools; the model identifies schools that are focused on building their instructional design capacity as it relates to leveraging digital resources to personalize learning for all students.
  - The practitioner schools currently serve as pilot sites for the District's learning management system, Schoology.
  - ITI developed and implemented a three-day Instructional technology cohort program to support all schools District-wide in developing a plan for implementing digital tools and resources aligned with their school's goals. Four cohorts were held during 2016, which trained a total of 530 participants. Alignment with the task for recommendations served as a foundation.
  - ITI expanded professional learning opportunities to all educators District-wide, which resulted in 556 teachers engaging in instructional technology trainings.
  - ITI also focused on building capacity among Division of Instructional team members to ensure instructional practices were aligned District-wide.
- 1:1 DISTRIBUTION
  - During Spring 2016, ITI partnered with various departments such as MMED, SPED and the Mastery Learning team to calibrate instructional practices and ensure efforts are aligned District-wide.
  - All 1:1 initiative distributions and associated efforts were completed by January 2016. The construction of safe rooms for all 1:1 schools was completed, and all 1:1 schools now have a knack box for the summer storage process. Workflows and job aides were collaboratively created by ITI and ITD in order to build school site capacity around summer storage and distribution processes. Schools were also supported in transitioning to using Destiny as the system of record for check-in and check-out processes for devices. Fall 2016 served as the first semester where school site distributions were facilitated by the school site staff with as-needed support from ITI and ITD.
  - ITI supported the provisioning of additional devices to middle schools for SBAC testing, Primary Schools for access to technology, and 1:1 ITI schools for Expanded Transitional Kindergarten (ETK) and Transitional Kindergarten (TK) programs.
- ITI TASK FORCE

- The ITI Task Force Recommendations were published in June 2016 and presented to the Board for review. The recommendations have served as the foundation for all ITI efforts, which are focused on academic rigor, learner agency, and developing learner-centered learning environments.
- The ISTE Standards for Students were formally adopted by the District via the ITI Task Force efforts in developing the recommendations.
- **COMMUNITY AND DISTRICT-WIDE PARTNERSHIPS**
  - California Emerging Technology Fund (CETF) - School2Home Program
    - School2Home (S2H) is a program focused on assisting low-performing middle schools and helping them successfully integrate technology into their teaching and learning efforts to improve academic outcomes. The program is managed by the California Emerging Technology Fund (CETF), a not-for-profit foundation with the mission of closing the digital divide across California. School2Home currently supports 7 District middle schools and is prepared to support a cohort of 6 newly identified District middle schools. School2Home will provide program management support along with funding for the implementation of key program components.
  - International Society for Technology in Education (ISTE)
    - A Memorandum of Understanding between ISTE and ITI was established to explore a variety of areas of mutual purpose between the District and the International Society for Technology in Education (ISTE) as the District works toward implementation of the 2016 ISTE Standards for Students.
  - Common Sense Media
    - In partnership with Common Sense Media, ITI is supporting educators in this work by providing a comprehensive toolkit, including grade-appropriate lesson plans about digital citizenship, activities that can be implemented school-wide, and materials to engage parents, guardians, and communities.
  - Collaborated with MMED in the creation of an application process in order to facilitate the distribution of Kajeets and Chromebooks in the Summer and Fall of 2016.
- **EDUCATION TECHNOLOGY GRANT**
  - ITI administered the Educational Technology Grant, which was a competitive grant program, through which selected schools made investments in instructional technology resources, and the District matched their investments by providing them with devices.
  - The purpose of this grant was to: 1) encourage use of instructional technology; 2) promote collaboration between schools around the use of instructional technology; and 3) invest in schools that have not yet received devices from the District.
  - A total of 242 schools were awarded a grant District-wide.
- **COMPUTER SCIENCE**
  - ITI coordinated a Computer Science Education Week event at Madison Middle School to create District-wide awareness, where students featured their computer science projects for invited school and community leaders in December 2016.
  - ITI facilitated the recruitment and expansion of high schools offering Exploring Computer Science & AP Computer Science Principles in addition to creating an awareness campaign for the upcoming Computer Science Discoveries course for middle schools.
  - ITI Computer Science Coordinator participated in the state-level focus group meetings discussing the California Computer Science standards creation.
- **DIGITAL CITIZENSHIP**

- Digital Citizenship Week was successfully carried out with a signature event held at Griffin Ave Elementary School, which was comprised of a student performance and guests from the Disney channel who facilitated a presentation on digital safety and citizenship.
- Four schools have been recognized as Digital Citizenship Certified schools, which is the goal for all practitioner schools.
- **ONLINE GRADEBOOK PILOT**
  - ITI created on-boarding and professional development materials, such as the scope and sequence, and provided training to school staff to assist the 17 Online Gradebook Pilot (OGP) schools sites in meeting all green light milestone indicators for continued piloting of the learning management system in collaboration with ITD and the Schoology team.

## Project Budget

The project budget increased by \$4,000,000, approved April 12, 2016 in BOE 363-15/16.

	Budget	Commitments	Expenditures
<b>Instructional Technology Initiative</b>	\$166,377,723	\$16,900,490	\$149,477,233

# School Network Modernization Program

## Core Network Modernization

### Project Scope and Schedule

#### Identity Management

- Core project scope (migration to Forefront Identity Manager for all four populations) is 100% complete
- The SSO Self-Service and Account Management (SSAM) application was transitioned to operational support by the Enterprise Applications group in July 2016
- Active Directory (AD) upgrade is being performed as a standalone project using internal resources
  - The original vendor will be reducing the original project cost to account for the removed scope
  - The remaining funds will be utilized to complete automation of Office 365 licensing and Exchange Online provisioning which were de-scoped from original vendor
  - The refined requirements were an outcome of the expanded licensing options from the new Office 365 contract, which were not available at the time the original scope was documented

## **Email and Collaboration System**

- Core project scope (Migration of e-mail for Employees and Non-employees) is 100% complete
  - School Police and Office of Inspector General remain on premise
- Final invoices have been paid in preparation for project closeout
- Project was completed in October 2016. Migrated a total of 104,894 accounts.

## **Mobile Access Management (Network Access Control)**

- 100% of schools are authenticated by Mobile Access Management (MAM) system
- Completed testing of health checks and posture assessments of endpoint devices by the MAM system
- Completed implementation of wireless guest access at schools
- 100% (721 of 721) of schools are using a shared device (non-personal login) profile

## **Performance Monitoring & Management of the Wired and Wireless Infrastructure**

### Wireless:

- 100% of school wireless network devices are added to the Airwave network monitoring and management system
- All school network switches are added to the Airwave system
- All 71 Early Education Centers (EEC) are added to the Airwave system

### Wired:

- Created dashboards and reports using Fluke (provider of network test and monitoring solutions) to track network utilization and data transmission rates for Digital Math Programs
- Completed Fluke configuration and implementation for the application programming interface (API) to access database
- Completed measurements for Clean-up and Top N Report Automation in Infosim, an enterprise network monitoring tool for operational/non-operational status, temperature, types of components, bandwidth availability and usage of the network. Infosim also has reporting abilities to allow for collection of historical data regarding these categories.
- Completed Infosim user training
- Added additional District applications like Bus Operations Application and Imagine Learning to monitor metrics
- Added fail-over monitor for site with backup WAN connections

## **Video Infrastructure**

- Completed pilot testing at 3 schools (Valley Academy of Arts and Sciences HS, Madison MS and Gulf ES)
- Selected solution to pilot at 50 schools with Learning Management System (Schoology).

## **Out of Band Management**

- Completed 20% (50 of 250) installations of out of band management
- Completed 16% (40 of 250) installation of the power monitor cable

## **Shared Network Components (Wide Area Network [WAN] Core Upgrades)**

- Phase 3 to complete configuration of Border Gateway Protocol (BGPs) for LA and Gardena nodes and routers at 352 school sites
  - 73% (278/352) school sites completed – remaining 74 to be completed June 2017
  - 64% (568/830) AT&T Switch Ethernet (ASE) school sites are completed to date
- An additional 220 school sites (Phase 4) will be configured by Q1 2018

## **Data Center Network Upgrades**

- Completed Data Center High Level and Low Level Design
- Project will not begin until secondary backup center is in progress and near operational to reduce risk of impacting instructional network access

## **Data Center Monitoring & Management (BMC Software)**

BladeLogic Network Automation (BNA), BladeLogic Server Automation (BSA), BMC ProactiveNet Performance Management (BPPM) Tools

- Deployed True Site Operations Manager (TSOM) 10.1 environment to support Synthetic Web Transactions, automated processes that determine availability of web-based services. This tool allows for external monitoring of activity of the service to determine mission critical availability.
  - Deployed Synthetic Web transaction monitoring for MiSiS, Parent Portal, and other Web sites
  - Configured alert notifications of availability errors of synthetic web transactions
- Applications are operational and in post-production support; new features and capabilities are being explored for end-user business case fulfillment

## **IT Service Management (ITSM)**

- Trained over 400 IT support staff and created training guides and videos for using Remedy
- Trained all non-IT groups (Payroll [multiple], My Professional Growth, Student Testing, Student Discipline and Expulsion Support , Library Textbook Services, Truck Ops, Job Cost, Surplus Warehouse, My Professional Network, Food Services, Classified Employment Services Branch, Facilities, Materiel Management Branch [multiple], Accounts Payable [multiple])
- 48 online request forms in production (for self-service users to submit requests for both IT and non-IT issues/requests)
- 261 ticket templates in production, designed to meet the needs of various support groups.

- Rolled out Service Management, Incident Management, Change Management, Asset Management (partial), and Knowledge Management modules along with Smart Reporting and Smart IT (pilot)
- Completed the development, testing, and implementation of 29 enhancement requests (with 7 enhancements in progress)
- Upgraded to Remedy version 9.1. (BMC Remedy Action Request System).
- On-boarded a consultant for developing enhancements to Remedy On Demand
- On-boarded 149 support groups to Remedy (1,098 support staff)
- Over 700,000 network assets are loaded into Remedy

### **Internet Protocol (IP) Address Planning Project**

- In process of performing iterative upgrade on IP Address Planning servers from 2003 to 2008 to 2012

### **Cyber Security Projects:**

- Security Analytics system has been installed and initial tuning has been completed. Advanced tuning was also completed by the first quarter of 2016.
- 100% (58 of 58) agents installed on production servers for Data Discovery project
- Implemented the Security Information and Event Management (SIEM) solution that provide visibility for threat detection, focusing on the actionable list of suspected incidents. The SIEM delivers detailed access and user activity delivering surveillance throughout the entire IT infrastructure. The SIEM analyzes the log data to identify malicious activity so it can be stopped quickly, preventing or minimizing damage to the organization.
- Implemented the Web Application Firewall (WAF) solution that provides protection against threats, application vulnerabilities, and zero-day attacks. The WAF protects the District's web-based applications exposed to the Internet. The WAF solution will increase the level of security to protect application servers.
- Implemented a web filtering solution that provides filtering of inappropriate websites to meet the District's obligation under the Children's Internet Protection Act (CIPA). The web filtering solution is a secure web gateway that protects every device, user and organization from sophisticated Internet threats.
- Deployed a data discovery tool to identify all Personally Identifiable Information (PII) fields on various applications and platforms. Installed the sensors on all production servers in order to audit all database activities including queries, results, authentication activity and privileged escalations.

The Core Network Modernization Project Schedule is being revised as follows:

<b>Project</b>	<b>% Complete</b>	<b>Estimated Substantial Completion (Original)</b>	<b>Estimate of Substantial Completion (Revised)</b>	<b>Reason for Revision</b>
Monitoring and Management – Wired & Wireless	96%	Q3 2016	Q4 2017	The Infosim project requires additional licenses. P.O. process only started after BOE approval of C-801 contract in December 2016.
Video Infrastructure	40%	Q1 2017	Q4 2017	Procurement process only started after BOE approval of C-801 contract in December 2016.
Out of Band Management	62%	Q4 2016	Q2 2017	Installation delayed due to C-801 approval. P.O. process only started after BOE approval of C-801 contract in December 2016.
Shared Network Components (WAN Core Upgrades)	70%	Q4 2016	Q1 2018	Implementation of centralized data center WAN Core components delayed due to prolonged vendor testing of equipment and delayed release of software to support purchased hardware.  Phase 2B has been completed. As part of Phase 2C (School MPLS Configuration) testing must be performed at school sites. In order to minimize disruption to instructional schools (configuration cannot be done while school is in session), the project/testing schedule was pushed out beyond the end of the school year.
Data Center Network Upgrades	50%	Q1 2017	TBD	Project will not begin until secondary backup center is in progress and near operational to reduce risk of impacting instructional network access.
Mobile Access Management (Network Access Control)	89%	Q3 2016	TBD	Deployment of Mobile Access Management to Disaster Recovery (DR) site is contingent upon DR project POD implementation schedule.
IP Address Planning	73%	Q1 2019		No Revision

Project	% Complete	Estimated Substantial Completion (Original)	Estimate of Substantial Completion (Revised)	Reason for Revision
Email and Collaboration System	100%	Q2 2016	Q4 2016	Delays were caused by Public folder migration deployment strategy. New strategy for decommissioned or transferred some mail enabled public folders to shared resource mailboxes, rather than migrate them as is.  Delays were also caused by a larger than expected delta of new employees and last remaining batches had to be planned and migrated.
Identity Management System	95%	Q2 2016	Q2 2017	Project completion timeline was extended due to refined scope. This is necessitated by the expanded licensing options from the new Office 365 contract, which were not available at the time the original scope was documented.
Infrastructure Monitoring & Management Integrated Data Center Tools  Data Center Monitoring & Management (BMC)	100%	Q2 2016	Q1 2017	BNA/BSA/BPPM delay was due to the need for additional licenses to allow further enablement of network (BNA) and server (BSA) automation as well as event/performance (BPPM) monitoring.  ITSM delay was due to a freeze on development during upgrade activities (Apr. 1 through May 31). In addition, post-upgrade issues have created a need to increase the project end date.
Cyber Security	100%	Q2 2016	Q4 2016	Project schedule delay was due to the lack of resources. The lead Database Administrator left the District and it took a while to get the replacement up to speed. Project is now complete.

## Project Budget

	Budget	Commitments	Expenditures
<b>Core Network Program</b>	\$53,439,812	\$13,460,731	\$39,979,081

## Local Area Network Modernization

- Completed all 461 school full Network Modernization and Convergence Projects
- 100 percent of the wireless network modernization projects have been completed
- All K-12 schools are connected to the internet with scalable fiber
- 100 percent of the 2015 E-rate/Bond funded Network Equipment Upgrade projects are complete

- 2016 E-rate/Bond funded Network Equipment Upgrade projects are on schedule to be completed December 2017
- 2017 E-rate/Bond funded Network Equipment Upgrade projects were approved in October 2016  
(See [Appendix for additional information](#))

## Safety, Communications and Security Modernization Program

### Radio Systems Program Information

#### Project Scope and Schedule

- **800 MHz Radio System Re-banding project – Completed**
  - Rebanding completed – final invoicing is in process
- Currently gathering requirements from School Police and Transportation Divisions for Radio System Upgrades

#### Project Budget

	Budget	Commitments	Expenditures
<b>Radio Systems Project</b>	\$31,656,991	\$11,924,519	\$19,732,472

## Student Information Systems Optimization Program

### My Integrated Student Information System

#### Project Scope and Schedule

- Received approval of additional funding to sustain the project through June 2017 to correct bugs and functional gaps, collect requirements from business owners and end users, ensure that MiSiS is ready for critical school milestones, continue to stabilize MiSiS and improve performance, provide the functional capabilities needed by schools, and improve the user-interface
- Developed, tested, and released over 2,600 software fixes/enhancements into MiSiS across 34 releases
- In August 2016, MiSiS brought on an application managed services vendor, Infosys, to provide long-term sustainability for MiSiS development and technical support. Microsoft is transitioning off the project at the end of December 2016 and into 2017.
- The Parent Access Support System (PASSport)—a one-stop shop for parents and guardians to access student information, including attendance, grades, schedule, and emergency information—went live

for all schools and is being rolled out district-wide. Student test data, bus route information, and Special Education IEPs are scheduled for inclusion this year.

- Phase 2 of the Online Gradebook Pilot launched this year with 54 schools. The Online Gradebook is part of a learning management system provided by a third party software vendor that will be integrated with MiSiS. During the 2016-2017 school year training will be delivered to all schools using the train-the-trainer model.
- MiSiS Dashboards including Norm Day Enrollment, English Learner, LCFF/Meal Codes are live in the system, with graduation progress and attendance dashboards scheduled for release this year.
- Certify Tool was launched in August 2016 to identify data errors in MiSiS and notify schools. Additional business rules will be added throughout the year.
- Phase 1 of the MiSiS-Charter Project launched, with project completion planned for 2018

### Project Budget

The project budget increased by \$40.3M in bond funding as reflected in BOE Report 320-15/16, approved on April 12, 2016.

	Budget	Commitments	Expenditures
<b>My Integrated Student Information System</b>	\$174,140,725	\$66,289,320	\$107,851,405

## Business Systems Optimization Program

### Cafeteria Management System - Point of Sale Technology Upgrade Project

#### Project Scope and Schedule

- Project approved by the Board of Education on May 10, 2016
- Phase 1: Replacement of 900 Point of Sale (POS) devices
  - Completed in October 2016 with 900 POS devices successfully installed at 357 schools
- Phase 2: Replacement of 1500 POS devices
  - 156 POS devices have been installed at 46 schools
  - Estimated completion is March 2017

### Project Budget

	Budget	Commitments	Expenditures
<b>Point of Sale Technology Upgrade Project</b>	\$4,300,000	\$2,700,453	\$1,599,547

# Disaster Recovery and Business Continuity Program

## Disaster Recovery and Business Continuity Project

### Project Scope and Schedule

- **Phase 1: Data Recovery – Completed in June 2014**
- **Phase 2: Business Continuity and Disaster – In Progress:**
  - Completed F5 load balancer modernization project
  - Completed site preparation and design for modular data center (POD) site in Van Nuys
  - Decommissioned majority of IBM AIX platform to save power, floor space and costs
  - Decommissioned majority of legacy storage units by migration to HP 3PAR 7400 series
  - Achieved 60% server consolidation on Intel HP C7000 and VMware Platform
  - Decommissioned approximately 90% of end of life servers
  - Secured LA city approvals for civil and electrical plans for construction
  - Transportation Division’s draft business continuity plan completed

### Project Budget

	Budget	Commitments	Expenditures
<b>Disaster Recovery and Business Continuity</b>	\$73,941,747	\$34,437,083	\$39,504,664

2016-2017  
STRATEGIC EXECUTION PLAN

# APPENDIX



# Appendix A: Network Equipment Upgrade Projects

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Projects approved October 14, 2014 in BOE 094-14/15 and October 16, 2016 in BOE 168-16/17. The tables on the following pages show the project budget and scheduled completion date for network equipment upgrade projects. E-rate applications will be filed for potential E-rate discounts.

**List of 150 Schools for Projects to Replace or Upgrade IT Network Equipment  
2016 E-rate Applications**

Loc Code	Site Name	Board District	ESC	Last Network Upgrade	Anticipated Completion	Estimated Total
5857	107TH ST EL	7	S	5/26/2010	Q3 2017	\$ 217,356
7082	10TH ST EL	2	C	9/21/2010	Q4 2017	\$ 169,448
5884	112TH ST EL	7	S	4/29/2010	Q3 2017	\$ 108,088
5887	122ND ST EL	7	S	5/13/2010	Q3 2017	\$ 165,672
3767	15TH ST EL	7	S	12/30/2009	Q3 2017	\$ 127,440
7301	24TH ST EL	1	C	5/11/2009	Q2 2017	\$ 133,104
3959	42ND ST EL	1	W	8/3/2010	Q4 2017	\$ 67,496
3932	49TH ST EL	7	C	7/19/2010	Q3 2017	\$ 198,004
3795	59TH ST EL	1	W	9/22/2010	Q4 2017	\$ 94,400
6795	68TH ST EL	7	S	12/23/2009	Q3 2017	\$ 202,016
6781	6TH AVE EL	1	W	12/2/2010	Q4 2017	\$ 163,784
6644	74TH ST EL	1	W	6/1/2010	Q3 2017	\$ 131,452
7398	ALTA CALIFORNIA EL	6	NW	3/25/2010	Q3 2017	\$ 207,444
2082	ALTA LOMA EL	1	W	11/18/2010	Q4 2017	\$ 153,400
2369	AMBSDR-GLOBAL EDUC (see 7771)	2	C	7/15/2009	Q2 2017	\$ 96,760
7771	AMBSDR-GLOBAL LDSHP	2	C	7/15/2009	Q2 2017	\$ 155,288
2123	ANGELES MESA EL	1	W	9/1/2010	Q4 2017	\$ 98,884
8852	ANGEL'S GATE HS	7	S	1/25/2010	Q3 2017	\$ 21,240
2151	ANNANDALE EL	5	C	12/16/2010	Q4 2017	\$ 71,744
4356	ANTON EL	2	E	9/14/2009	Q2 2017	\$ 202,252
2164	APPERSON EL	6	NE	7/27/2009	Q2 2017	\$ 105,256
2178	ARAGON EL	5	C	6/25/2010	Q3 2017	\$ 99,356
8028	AUDUBON MS	1	W	9/9/2010	Q4 2017	\$ 168,268
8531	AVALON HS	7	S	7/20/2009	Q2 2017	\$ 27,140
6886	BACA ARTS ACAD	7	S	7/21/2010	Q3 2017	\$ 159,772
8038	BANCROFT MS	4	W	8/5/2010	Q4 2017	\$ 204,612
2288	BANDINI EL	7	S	4/21/2010	Q3 2017	\$ 86,140
8529	BANNING SH (multiple schools)	7	S	9/16/2009	Q2 2017	\$ 608,880
5562	BARRETT EL	1	S	6/16/2010	Q3 2017	\$ 245,204
3577	BELLINGHAM EL	6	NE	8/30/2010	Q4 2017	\$ 138,532
2397	BELVEDERE EL	2	E	11/16/2010	Q4 2017	\$ 202,488
8047	BELVEDERE MS	2	E	6/8/2010	Q3 2017	\$ 320,016
8057	BERENDO MS	2	C	6/4/2010	Q3 2017	\$ 245,912
8754	BRAVO MEDICAL MAG	2	E	11/5/2010	Q4 2017	\$ 439,432
2521	BRIDGE EL	2	E	12/14/2009	Q3 2017	\$ 69,148
2534	BROADWAY EL	4	W	12/3/2010	Q4 2017	\$ 107,144
8066	BURBANK MS	5	C	6/19/2009	Q2 2017	\$ 216,884
8075	BURROUGHS MS	1	W	2/23/2010	Q3 2017	\$ 440,140

Loc Code	Site Name	Board District	ESC	Last Network Upgrade	Anticipated Completion	Estimated Total
2685	CABRILLO EL	7	S	10/30/2009	Q2 2017	\$ 98,176
2699	CAHUENGA EL	2	C	6/8/2010	Q3 2017	\$ 145,612
7401	CARDENAS EL	6	NE	10/21/2009	Q2 2017	\$ 139,948
8090	CARNEGIE MS	7	S	10/18/2010	Q4 2017	\$ 207,444
8575	CARSON SH (multiple schools)	7	S	1/13/2009	Q2 2017	\$ 620,680
2939	CARSON-GORE ACADEMY	1	W	6/21/2010	Q3 2017	\$ 154,816
8094	CARVER MS	5	C	3/31/2010	Q3 2017	\$ 249,452
7761	CDS JOHNSON (DOROTHY V.)	7	S	NO	Q4 2017	\$ 19,116
2959	CHANDLER EL	3	NE	10/23/2009	Q2 2017	\$ 133,812
7715	CHAVEZ LA ARTES (multiple schools)	6	NE	12/14/2010	Q4 2017	\$ 477,664
3041	CHEREMOYA EL	4	W	8/27/2010	Q4 2017	\$ 68,676
8688	CHEVIOT HILLS HS	1	W	10/20/2010	Q4 2017	\$ 22,534
3068	CIENEGA EL	1	W	6/15/2010	Q3 2017	\$ 163,784
3164	COLFAX EL	3	NE	7/27/2009	Q2 2017	\$ 154,108
8102	COLUMBUS MS	3	NW	4/29/2010	Q3 2017	\$ 186,440
8516	CORTINES SCH OF VPA	2	C	1/21/2009	Q2 2017	\$ 392,704
8596	CRENSHAW SH	1	W	8/31/2010	Q4 2017	\$ 252,284
8104	DANA MS	7	S	9/29/2009	Q2 2017	\$ 353,056
3397	DELEVAN DRIVE EL	5	C	2/3/2009	Q2 2017	\$ 120,360
8110	DODSON MS	7	S	6/28/2010	Q3 2017	\$ 444,388
3466	DOMINGUEZ EL	7	S	5/21/2010	Q3 2017	\$ 136,644
8112	DREW MS	7	S	1/29/2009	Q2 2017	\$ 239,304
8614	EAGLE ROCK HS	5	C	8/16/2010	Q4 2017	\$ 606,756
8578	EAGLE TREE CONTN HS	7	S	1/21/2009	Q2 2017	\$ 34,220
8788	EARHART HS	3	NE	12/13/2010	Q4 2017	\$ 28,792
8113	EDISON MS	7	S	3/19/2009	Q2 2017	\$ 282,964
8770	EINSTEIN HS	6	NW	1/20/2009	Q2 2017	\$ 16,992
8118	EL SERENO MS	2	E	5/6/2009	Q2 2017	\$ 308,216
3548	ELIZABETH LC	5	E	9/23/2010	Q4 2017	\$ 421,496
6873	ESCALANTE EL	5	E	2/26/2010	Q3 2017	\$ 147,736
2383	ESPERANZA EL	2	C	10/18/2010	Q4 2017	\$ 184,316
2942	ESTRELLA EL	7	C	2/19/2010	Q3 2017	\$ 131,688
8876	EVERGREEN HS	6	NE	7/22/2010	Q3 2017	\$ 24,780
3822	FIGUEROA EL	7	S	6/15/2010	Q3 2017	\$ 109,504
8132	FOSHAY LC	1	C	4/10/2009	Q2 2017	\$ 467,752
8650	FREMONT SH	7	S	4/7/2009	Q2 2017	\$ 549,644
8137	FROST MS	3	NW	8/12/2009	Q2 2017	\$ 363,912
8679	GARFIELD SH	2	E	6/25/2010	Q3 2017	\$ 575,368
8160	GOMPERS MS	7	S	10/11/2010	Q4 2017	\$ 181,012
8168	GRIFFITH MS	2	E	5/7/2009	Q2 2017	\$ 337,244

Loc Code	Site Name	Board District	ESC	Last Network Upgrade	Anticipated Completion	Estimated Total
8686	HAMILTON SH-COMPLEX	1	W	10/28/2010	Q4 2017	\$ 709,888
4431	HARDING EL	6	NE	10/28/2009	Q2 2017	\$ 118,236
4681	HARMONY EL	5	C	11/15/2010	Q4 2017	\$ 170,864
4466	HAWAIIAN EL	7	S	7/15/2010	Q3 2017	\$ 157,648
8645	HIGHLAND PARK HS	5	C	3/27/2009	Q2 2017	\$ 19,588
8179	HOLLENBECK MS	2	E	5/6/2010	Q3 2017	\$ 299,956
8182	HOLMES MS	3	NW	9/16/2010	Q4 2017	\$ 367,216
8652	HOPE HS	7	S	3/20/2009	Q2 2017	\$ 22,892
2944	HUERTA EL	2	C	6/9/2010	Q3 2017	\$ 112,336
8189	IRVING MS	5	C	3/19/2009	Q2 2017	\$ 144,904
2943	JONES EL	2	C	10/13/2009	Q2 2017	\$ 86,612
8208	KING MS	5	C	6/8/2009	Q2 2017	\$ 393,412
8727	KING-DREW MED MAG	7	S	12/15/2009	Q3 2017	\$ 379,252
6869	KNOX EL	7	S	10/23/2009	Q2 2017	\$ 224,672
7399	KORENSTEIN EL	6	NE	10/19/2009	Q2 2017	\$ 136,408
8501	LA HS ARTS @RFK	2	C	7/15/2009	Q2 2017	\$ 97,232
2543	LAFAYETTE PARK PC	2	C	8/19/2010	Q4 2017	\$ 33,512
8217	LAWRENCE MS	3	NW	10/30/2009	Q2 2017	\$ 349,044
8226	LE CONTE MS	4	W	7/28/2010	Q3 2017	\$ 209,804
8729	LINCOLN SH (multiple schools)	2	E	4/12/2010	Q3 2017	\$ 379,960
4973	LORNE EL	6	NW	10/8/2009	Q2 2017	\$ 138,532
1948	LOWMAN SP ED CTR	6	NE	3/31/2010	Q3 2017	\$ 34,456
5014	LOYOLA VILLAGE EL	4	W	3/31/2009	Q2 2017	\$ 91,096
2544	MACARTHUR PARK VPA	2	C	8/18/2010	Q4 2017	\$ 127,912
8228	MACLAY MS	6	NE	6/29/2009	Q2 2017	\$ 206,028
8235	MARINA DEL REY MS	4	W	10/4/2010	Q4 2017	\$ 168,976
8425	MARK TWAIN MS	4	W	8/27/2010	Q4 2017	\$ 161,660
8611	MENDEZ LC MATH/SCI	2	E	6/25/2009	Q2 2017	\$ 155,996
3500	MIDCITY PRESCOTT MAG	1	W	9/7/2010	Q4 2017	\$ 59,472
8238	MILLIKAN MS	3	NE	8/11/2010	Q4 2017	\$ 518,020
8666	MONETA HS	7	S	9/28/2009	Q2 2017	\$ 22,534
7402	MOSK EL	4	NW	7/15/2010	Q3 2017	\$ 123,192
8916	MT LUKENS HS	6	NE	7/14/2009	Q2 2017	\$ 22,420
8264	NIGHTINGALE MS	5	E	7/8/2009	Q2 2017	\$ 194,228
8513	NORTHRIDGE ACAD SH	3	NW	1/25/2010	Q3 2017	\$ 256,768
8283	NORTHRIDGE MS	3	NW	8/18/2010	Q4 2017	\$ 193,520
6868	OBAMA GLBL PREP ACAD	1	C	5/14/2010	Q3 2017	\$ 202,960
5153	ORCHARD ACADEMIES (multiple schools)	5	E	5/12/2010	Q3 2017	\$ 216,412
6005	PARK AVE EL	5	E	5/3/2010	Q3 2017	\$ 143,724
1953	PEREZ SP ED CTR	2	E	1/28/2009	Q2 2017	\$ 75,992

Loc Code	Site Name	Board District	ESC	Last Network Upgrade	Anticipated Completion	Estimated Total
8909	PHOENIX HS	4	W	7/14/2010	Q3 2017	\$ 22,534
8107	PORTOLA MS	4	NW	5/22/2009	Q2 2017	\$ 430,700
8731	PUEBLO DE LA HS	2	E	4/12/2010	Q3 2017	\$ 21,948
8807	RAMONA HS	2	E	3/9/2009	Q2 2017	\$ 22,534
7783	RFK NEW OPEN WLD ACAD	2	C	7/15/2009	Q2 2017	\$ 270,692
5385	RIORDAN PC	5	C	10/25/2010	Q4 2017	\$ 59,708
8867	RIVERA LC(SRHS #2 multiple sites)	7	S	11/15/2010	Q4 2017	\$ 105,256
8702	SAN ANTONIO HS	5	E	9/3/2009	Q2 2017	\$ 24,544
8850	SAN PEDRO SH	7	S	6/25/2010	Q3 2017	\$ 645,224
7404	SANTANA ARTS ACADEMY	6	NW	7/8/2010	Q3 2017	\$ 136,880
8206	SCH VIS ARTS/HUM@RFK	2	C	7/15/2009	Q2 2017	\$ 106,908
8363	SEPULVEDA MS	6	NW	7/8/2010	Q3 2017	\$ 383,500
6671	SHENANDOAH EL	1	W	7/29/2010	Q3 2017	\$ 113,516
6753	SIERRA PARK EL	2	E	12/21/2010	Q4 2017	\$ 115,640
6905	STANFORD PC	5	E	9/7/2010	Q4 2017	\$ 37,288
8396	SUN VALLEY MS	6	NE	7/31/2009	Q2 2017	\$ 246,856
8093	SUN VALLEY SH	6	NE	8/5/2009	Q2 2017	\$ 148,444
8406	SUTTER MS	4	NW	7/7/2010	Q3 2017	\$ 270,692
8883	THOREAU HS	4	NW	9/28/2010	Q4 2017	\$ 24,780
7178	TOLAND WAY EL	5	C	5/5/2010	Q3 2017	\$ 86,376
8606	TORRES (multiple schools)	2	E	8/3/2010	Q4 2017	\$ 528,404
7260	TWEEDY EL	5	E	11/8/2010	Q4 2017	\$ 159,064
7780	UCLA COMMUNITY SCH	2	C	7/15/2009	Q2 2017	\$ 238,124
7390	VALLEY ALTERN MAG	3	NW	7/31/2009	Q2 2017	\$ 142,780
7400	VISTA DEL VALLE ACAD	6	NE	8/6/2010	Q4 2017	\$ 106,672
8481	WEBSTER MS	4	W	9/8/2010	Q4 2017	\$ 122,720
2542	WHITE EL	2	C	9/15/2010	Q4 2017	\$ 81,656
8487	WHITE MS	7	S	8/21/2009	Q2 2017	\$ 398,840
8490	WILMINGTON MS	7	S	3/26/2010	Q3 2017	\$ 343,616
6872	WISDOM EL	7	S	4/26/2010	Q3 2017	\$ 221,604
8493	WRIGHT MS	4	W	8/21/2009	Q2 2017	\$ 153,164
8598	YOUNG HS	1	W	12/1/2009	Q3 2017	\$ 9,204

**List of 65 Schools for Projects to Replace or Upgrade IT Network Equipment  
2017 E-rate Applications**

Loc Code	Site Name	Board District	ESC	Anticipated Start	Anticipated Completion	Total Project Budget
7722	ANGELOU COMM FN ARTS	7	C	Q1 2018	Q2 2018	\$119,306
2269	BALBOA G/HA MAG (EL)	3	NW	Q4 2017	Q1 2018	\$99,862
2438	BERTRAND EL	6	NW	Q3 2017	Q4 2017	\$99,862
6867	BRIDGES SCHOOL	7	S	Q2 2018	Q3 2018	\$144,236
2740	CANFIELD EL	1	W	Q3 2017	Q4 2017	\$98,263
3123	CLOVER EL	1	W	Q4 2017	Q4 2017	\$101,513
6342	COEUR D ALENE EL	4	W	Q3 2017	Q4 2017	\$105,708
5016	COUGHLIN EL	6	NE	Q3 2017	Q4 2017	\$112,173
3329	DAHLIA HTS EL	5	C	Q4 2017	Q1 2018	\$99,862
3340	DARBY AVE CHARTER (EL)	3	NW	Q4 2017	Q1 2018	\$88,513
3438	DIXIE CYN COMM CHTR (EL)	3	NE	Q1 2018	Q2 2018	\$99,862
7667	DYMALLY SH TAD (HS)	7	S	Q2 2018	Q3 2018	\$101,509
3545	EL ORO WAY CHTR CES	3	NW	Q3 2017	Q4 2017	\$157,903
3640	ESHELMAN ES	7	S	Q3 2017	Q4 2017	\$109,612
3890	FLORENCE AVE EL	7	E	Q1 2018	Q2 2018	\$98,896
4055	GARDEN GROVE EL	6	NW	Q3 2017	Q4 2017	\$88,513
4110	GAULT ST EL	3	NW	Q3 2017	Q4 2017	\$88,513
2385	GRATTS LA FOR YS	2	C	Q4 2017	Q1 2018	\$98,263
4425	HARBOR CITY EL	7	S	Q4 2017	Q1 2018	\$109,612
8713	HAWKINS SH C/DAGS	1	W	Q2 2018	Q3 2018	\$154,613
4473	HAYNES CES	3	NW	Q4 2017	Q1 2018	\$99,862
4616	HUMPHREYS AVE EL	2	E	Q3 2017	Q4 2017	\$98,896
4671	IVANHOE EL	5	C	Q4 2017	Q1 2018	\$99,862
2311	POINDEXTER LAMOTTE EL	1	C	Q1 2018	Q2 2018	\$118,280
4764	LANAI RD EL	4	NW	Q1 2018	Q2 2018	\$99,862
2312	LAWSON ACADEMY/SOUTH REGION EL #11	1	W	Q2 2018	Q3 2018	\$118,280
8921	LEGACY SH STEAM	5	E	Q2 2018	Q3 2018	\$152,417
4904	LOGAN ST EL	5	C	Q3 2017	Q4 2017	\$110,244
4982	LOS ANGELES EL	2	C	Q4 2017	Q1 2018	\$98,896
4986	LOS FELIZ EL	5	C	Q1 2018	Q2 2018	\$109,612
5068	MAIN ST EL	7	C	Q1 2018	Q2 2018	\$98,896
8866	MARQUEZ SH HPIAM	5	E	Q2 2018	Q3 2018	\$148,754
5178	MARVIN EL	1	W	Q3 2017	Q4 2017	\$98,896
5247	MENLO AVE EL	1	C	Q2 2018	Q3 2018	\$98,896
8760	MIDDLE COLLEGE HS	1	W	Q2 2018	Q3 2018	\$94,360
2313	MOORE M/S/T ACAD (EL)	7	S	Q2 2018	Q3 2018	\$77,768
5411	MT WASHINGTON EL	5	C	Q4 2017	Q4 2017	\$99,862
5425	MULTNOMAH ST EL	2	E	Q2 2018	Q3 2018	\$109,612
5438	MURCHISON ST EL	2	E	Q1 2018	Q2 2018	\$110,244
5173	NAVA LA SCH	2	C	Q1 2018	Q2 2018	\$134,646
5452	NESTLE AVE CHARTER (EL)	4	NW	Q4 2017	Q1 2018	\$99,862
2378	NUEVA VISTA EL	5	E	Q4 2017	Q1 2018	\$137,739
2302	OBAMA EL	6	NE	Q2 2018	Q3 2018	\$90,111
6068	PINEWOOD AVE EL	6	NE	Q3 2017	Q4 2017	\$98,263

Loc Code	Site Name	Board District	ESC	Anticipated Start	Anticipated Completion	Total Project Budget
2306	PLAYA VISTA EL	4	W	Q2 2018	Q3 2018	\$81,269
2384	POLITI EL	2	C	Q4 2017	Q1 2018	\$110,244
2303	PORTER RANCH SCHOOL	3	NW	Q1 2018	Q2 2018	\$97,332
8868	RANCHO DOMINGZ PREP	7	S	Q4 2017	Q1 2018	\$125,153
2308	RIDE EL SMART ACAD (ES)	5	C	Q2 2018	Q3 2018	\$77,768
6315	RIVERSIDE DR CS (EL)	3	NE	Q2 2018	Q3 2018	\$145,994
6370	ROSEMONT AVE EL	2	C	Q4 2017	Q1 2018	\$123,244
6425	ROWAN AVE EL	2	E	Q1 2018	Q2 2018	\$98,896
6884	ROYBAL-ALLARD EL	5	E	Q2 2018	Q3 2018	\$138,027
6493	SAN PASCUAL EL	5	C	Q1 2018	Q2 2018	\$109,612
6699	SHERMAN OAKS EL CS (EL)	3	NE	Q4 2017	Q1 2018	\$94,993
8577	SOTOMAYOR LA LARS	5	C	Q1 2018	Q2 2018	\$119,306
6918	STATE ST EL	5	E	Q1 2018	Q2 2018	\$110,244
7408	SYLMAR LDSHP ACAD (MS)	6	NE	Q2 2018	Q3 2018	\$138,750
7192	TOLUCA LAKE EL	4	NE	Q3 2017	Q4 2017	\$98,263
7370	UTAH ST EL	2	E	Q1 2018	Q2 2018	\$110,244
8898	VALLEY ACAD ARTS/SCI	3	NW	Q4 2017	Q1 2018	\$185,970
8943	WESM HLTH/SPORTS MED (HS)	4	W	Q2 2018	Q3 2018	\$142,056
7699	WESTMINSTER AVE EL	4	W	Q3 2017	Q4 2017	\$98,263
2309	WILLOW AVE EL	5	E	Q1 2018	Q2 2018	\$78,361
7904	WOODLAWN AVE EL	5	E	Q4 2017	Q1 2018	\$98,896