



Office of the City Manager

INFORMATION CALENDAR

May 28, 2019

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Savita Chaudhary, Director, Information Technology

Subject: Information Technology: Digital Strategic Plan (DSP), FUND\$ Replacement, and Website Update

INTRODUCTION

The purpose of the City of Berkeley Digital Strategic Plan & Roadmap (DSP) post implementation assessment is to take measure of the progress made since the launch of DSP in November 2016. The Digital Strategic plan was developed to fit the City of Berkeley's current and anticipated future technology needs and prioritize the initiatives based on City needs and goals. The DSP published in November 2016 identified a series of strategic business technology initiatives to be executed over a five-year timeline. The details can be found in the council presentation dated November 15, 2016, ([http://www.cityofberkeley.info/Clerk/City\\_Council/2016/11\\_Nov/Documents/2016-11-15\\_WS\\_Item\\_01\\_Digital\\_Strategic\\_Plan.aspx](http://www.cityofberkeley.info/Clerk/City_Council/2016/11_Nov/Documents/2016-11-15_WS_Item_01_Digital_Strategic_Plan.aspx)).

The DSP helps staff make informed decisions about where to best guide our resources most effectively, as well as outline our department goals and how we expect to measure our progress towards accomplishing them. In 2018 the City implemented the City's Strategic Plan and the DSP projects were adjusted to align with the new City's Strategic Plan. The plan serves as a crucial tool to not only measure our performance, but to push us to look at the possibilities of what we can and must be doing to continue innovating as we deliver projects and services to the City of Berkeley community.

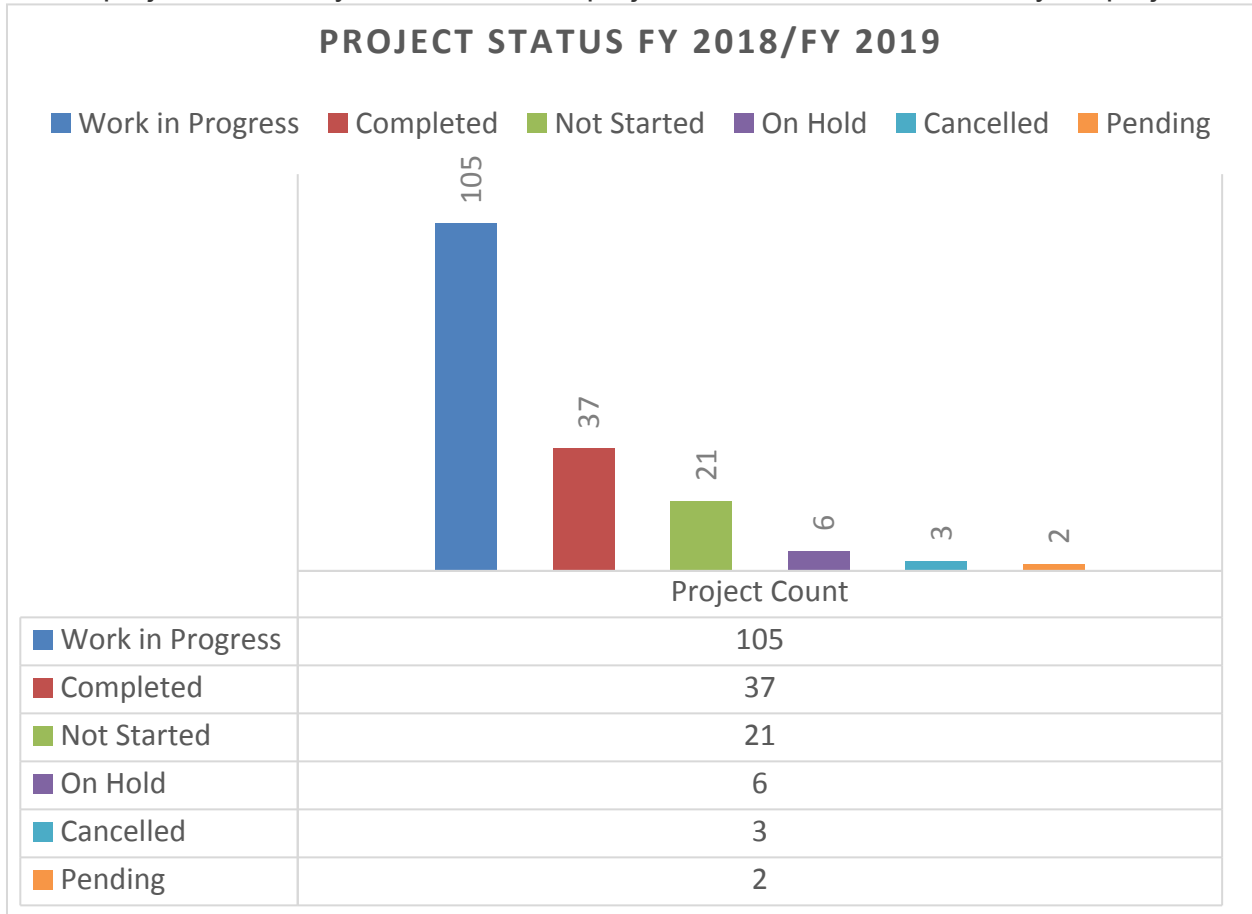
CURRENT SITUATION AND ITS EFFECTS

The Digital Strategic Plan is a Strategic Plan Priority Program, and helps to advance our City's Strategic goals.

FY 2018/ FY 2019

- Department of It (DoIT) is currently the lead department for 94 projects and is the Supporting multiple departments for an additional 80 projects
- This is in addition to the 5 Annual Infrastructure Replacement, 6 Annual Compliance Reporting Projects, and other baseline projects and tasks.

- PROJECTION: 57 Projects where DoIT is the lead department are being projected to carryforward as most projects in FY18/FY19 are multiyear projects



The implementation of various DSP projects helped improve the workforce mobility, business productivity and community access through implementation of various web portals such as Records Online, Building Eye, GIS Community Portal and added new datasets to Open Data Portal. The DoIT also implemented the practice of tracking Service Level Agreements. Some highlights for the FUNDS replacement and Website redesign projects are mentioned below and for detailed information please refer to the comprehensive report with the performance and service level agreement metrics.

**FUNDS Replacement:** In May 2017, the City conducted a rigorous Request for Proposal (RFP) process and selected Tyler Munis as the software to replace the Core Financial, Human Resources, and Payroll functions currently residing in FUNDS. The City also initiated the RFP process for a needs assessment to replace the remaining modules currently residing in the FUNDS system.

**In November 2018,** the City launched the Phase IA which included Chart of Accounts / General Ledger, Requisition, Purchase Orders, Contracts, Project Ledger, Accounts Payable Modules

**Project Challenges** - The project team had few setbacks with staffing challenges due to retirements and staff moving on to new roles within the organization. There is no dedicated team for the project. The team started with 7 dedicated team members. Mitigation plans included contracting with an outside project manager to assist with Phase 1A go-live and Phase 1C implementation. Both positive and negative lessons learned from Phase 1A have been documented. Due to the age of the existing financial system, data conversion was a challenge, and a significant portion of the data needed to be converted manually. These challenges are being addressed, and a new project plan is being developed including the additional requirements from the lesson learned from Phase 1A.

**In January 2019**, the City began working with Tyler to develop a timeline which includes launching Budget prep, Accounts Receivables, General Billing and Cashiering in **FY20**.

Payroll and HR modules are expected to go-live on **January 1, 2020**. This goal requires four consecutive successful parallel runs to test the new system.

**Website Redesign:** In February 2018, the City issued an RFP seeking a vendor to implement a complete redesign of Berkeley's website, including a new content management system and secure, high-performance offsite hosting. The RFP received a robust response, garnering over two dozen strong proposals. After three rounds of review by a multi-departmental evaluation team, the City selected Rolling Orange, Inc. to develop the new website.

The City started work with Rolling Orange in March 2019 with two full days of kickoff meetings. The vendor's team met with stakeholders representing every department, as well as City staff involved with key public service functions including 311, the Finance Customer Service Center, and Permit Service Center.

## BACKGROUND

The DSP development and planning process provides a five-year roadmap, which include phased and prioritized Information Technology initiatives. The DSP development process considered various paths that might be helpful for the City of Berkeley such as Online Services, 24x7x365 Services, Cloud Computing, Open Data/Transparency, Mobile Devices and Gov 2.0 Social Media. The DSP is a living document facilitating the effective planning, procurement, implementation and management of information systems at the City of Berkeley.

The City's Department of Information Technology has experienced significant changes over the last few years in terms of technology changes, staffing, and budget resources. Over the past few years we have seen a remarkable increase in citizen demand for web, mobile, and cloud technology. The DSP specified ways in which recommended technology solutions will improve the City of Berkeley's operations and overall service delivery, streamline operations to achieve cost efficiencies, and increased productivity, and support open and transparent governance. To be successful on a long-term basis,

the Digital Strategic Plan acknowledges current and expected trends in order to position the City to take advantage of new and emerging technologies in a timely manner.

The goals of the Digital Strategic Plan and Roadmap are to:

- Develop high performance/reliable IT infrastructure.
- Align IT initiatives with overall City strategic goals and City's Resilience Strategy.
- Invest in IT systems based on a rational and impartial assessment of tangible and intangible benefits - and a realistic assessment of project costs, benefits and risks.
- Reduce operational costs, while improving the quality of services delivered to customers
- Deliver IT services in a cost-efficient manner.

In 2018 the City implemented the City's Strategic Plan and the DSP projects were adjusted to align with the new City's Strategic Plan. The DSP will continue to be updated annually to accommodate and be in compliance with the changing laws and regulations, budget requirements, and organizational priorities which are in line with our Department's vision, mission, and values.

#### ENVIRONMENTAL SUSTAINABILITY

The adoption and implementation of the Digital Strategic Plan, although not directly related, will map out more mobile and web-based services for our community, which will reduce travel associated with on-site visits to City offices, and reduce the amount of paper used in place of online applications, payments, etc.

#### POSSIBLE FUTURE ACTION

Staff will provide annual updates for the Digital Strategic Plan (DSP) projects including the FUND\$ replacement, Website Upgrade and other key initiatives as identified by City's Strategic Plan progress to the Council.

#### FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

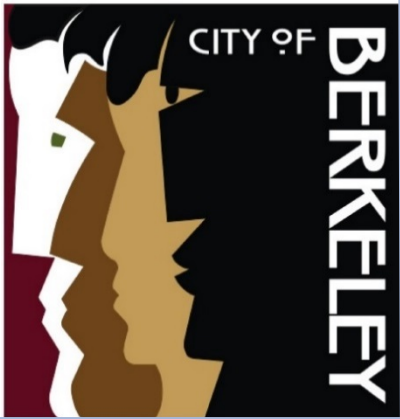
The Digital strategic plan will help City Council and staff throughout the organization to prioritize the projects scope, time, and resources to the City's Strategic Plan and the Resilience Strategy. The DSP recommends that each year's initiatives are aligned with the City's Strategic Plan, the Resilience Strategy, and the Budgeting process. The procurement process for the initiatives identified will need to follow the procedures as identified by the City Policy.

#### CONTACT PERSON

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#### **Attachments:**

1. Digital Strategic Plan (DSP) FY 2018 and 2019 Bi-Annual Update: Performance and Service Level Metrics



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Department of Information Technology  
Performance and Service Level Metrics  
Bi-Annual Update – FY18/FY19  
May 28, 2019



# Department of Information Technology



## Performance and Service Level Agreements Metrics Reporting



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## About Us

The Department of Information Technology serves our community by exploring, developing, implementing, and supporting effective and innovative use of technology through teamwork, collaboration, innovation, and accountability to our departmental partners.

The Department strives to provide the highest level of service to its customers through innovation and teamwork. Responsibilities include the planning, development, implementation, and support of the City’s technology infrastructure, while addressing the challenge of improving performance at various levels, as well as implementing next generation technologies to benefit our end users and providing excellent service to our community.

## Goals

- Develop high performance/reliable IT infrastructure.
- Align IT initiatives with overall City strategic goals and City’s Resilience Strategy.
- Invest in IT systems based on a rational and impartial assessment of tangible and intangible benefits - and a realistic assessment of project costs, benefits and risks.
- Reduce operational costs, while improving the quality of services delivered to customers.
- Deliver IT services in a cost-efficient and secure manner.

## Mission, Vision and Values

### Vision

Provide excellent customer service through innovative and intuitive solutions with a diverse workforce to enable City operations to connect and deliver quality solutions for the community.

### Mission

We provide cost-effective smart technology solutions to our business partners and community with integrity and commitment to excellence.

### Values

<p style="text-align: center;"><b>Leadership in Technology</b></p> <p>We use an enterprise approach to provide innovative technology solutions to facilitate delivery of services to the community.</p>	<p style="text-align: center;"><b>Be a Model of Customer Service</b></p> <p>We are committed to anticipate and exceed customer service needs and be flexible to address and resolve competing priorities.</p>
<p style="text-align: center;"><b>Integrity</b></p> <p>We are committed to transparency and respectful communication in our relationships.</p>	<p style="text-align: center;"><b>Collaboration</b></p> <p>We work together as a team to be a collaborative and inclusive partner with our clients and each other.</p>
<p style="text-align: center;"><b>Responsiveness</b></p> <p>We are responsible and accountable for our actions. We follow up and follow through.</p>	<p style="text-align: center;"><b>Effectiveness and Efficiency</b></p> <p>We use best practices to deliver projects on time and within budget.</p>

## Guiding Principles

1. **Leadership:** City management technology as a strategic enabler and utilize IT to improve the way City staff perform their jobs and deliver services to residents and businesses.
  2. **Communications:** foster effective communications between the City and constituents to keep all parties involved and informed on the progress of IT initiatives via its website, Open Data/ Citizen Engagement and other appropriate means.
  3. **IT Governance:** adopt a formal management process to ensure that IT initiatives are properly vetted for consistency with the Digital Strategic Plan (DSP) Roadmap, IT industry trends, are fiscally sound, are effective in improving operating efficiencies and customer service prior to proceeding with IT initiatives.
  4. **Enterprise Approach:** when procuring, implementing and managing the City's Information Technologies utilize state-of-the-practice technology ensuring investments are effectively leveraged across departments, employing economies of scale wherever possible. Information Technologies will foster cost containment and/or the highest return on investments possible.
  5. **Accountability:** create an environment that encourages accountability through service level agreements, performance measures and individual responsibility, including the City contracted service providers.
  6. **Proven Technology:** contemporary, proven technologies that maximize future options by emphasizing open standards, use Commercial Off-the-Shelf software wherever possible, and be web based, wireless ready, employing a Service Oriented Architecture, and geographic information system (GIS) enabled, where appropriate.
  7. **Efficiencies:** decisions regarding funding for technology initiatives based on a Business Process Improvement assessment producing a comprehensive business case.
  8. **Strategic Investments:** IT assets, systems, skills and support operations will be viewed as strategic investments critical in attaining City business objectives.
  9. **Partnerships:** with outside organizations to undertake collaborative efforts in the provision of information/services, and obtain expert advice and knowledge of IT trends.
  10. **Accessibility:** Implement technology that provides internal/external customers easy and timely access to information and services.
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# Performance Metrics

## Performance Metrics

### Technology Administration and Customer Service 311 Call Center Measures



### Baseline Services: Administrative Measures

- Completed 80+ technology contract renewals and amendments
- Initiated the Cyber Resilience Plan and Business Impact Assessment for applications
- Negotiated new three year Microsoft Enterprise Agreement
- Consolidated IT Infrastructure Asset Tracking including Software Licensing Enterprise Agreement Renewals
- Established a Cost Allocation plan for Technology Replacement Fund for technology acquisition and equipment replacement for the end of life infrastructure
- Developed budget projections for all projects identified for the Strategic Plan for FY20/FY21 and spread the cost over five years to align with City's budget cycle
- Executed the year 2 and year 3 of Digital Strategic Plan (DSP) initiatives and implemented Citywide project management tool including RRV prioritization methodology by collaborating with

executive leadership and City staff across all departments to ensure its integration with the City's Strategic Goals, City's Resilience Plan and Council Priorities

- Coordinated Tech Exchange Fair to address Digital Divide with Library, Office of Economic Development and HHCS
- Readjusted DSP priorities to align with City's Strategic Plan and established a new list of 48 New Projects and 57 Carryover Projects for FY20/ FY21
- Established policies and procedures to ensure optimum and uninterrupted service delivery by deploying IT Service Management and Project Portfolio Management Software and starting Technology Governance and Innovation Committee
- Developed an IT "people strategy" in collaboration with HR that aligns with the business and IT strategy. Both teams work together to continually look for leading-edge and innovative solutions to the recruitment, development and retention of the IT workforce
- Assisted City Auditor's office with various Audits with technology component
- **RFP's completed in the FY18 / FY19**
  1. Website Redesign
  2. Cyber Resilience Plan
  3. Erma Phase 2 Needs Assessment
  4. Civic Makers (Change Management – ERMA)
  5. Broadband Infrastructure Master Plan
  6. Irrigation Management System
  7. Recreation Registration System
  8. SharePoint / Intranet
  9. O365 Email Migration / OneDrive Migration
  10. Parking Management System
  11. Fuel Management System
  12. Fire EMS Billing
- **RFP's in Progress FY18 / FY19:**
  1. Capital Improvement Plan (CIP) Project Tracking
  2. Global Positioning / Telematics System (GPS)
  3. Public Records Act System
  4. FUND\$ modules replacement - Work Oder including facilities management
  5. FUND\$ modules replacement - Fleet management
  6. FUND\$ modules replacement - Zero waste solution
  7. FUND\$ modules replacement - Real property/leasing management
  8. FUND\$ modules replacement – Performance and Learning management

- **RFP's Upcoming FY 20/ FY 21:**

1. Digital Permitting System
2. Customer Relationship Management System
3. VoIP Phone System Maintenance and Support
4. Property Tax Assessment System
5. Business License Replacement
6. Others to be decided as budget and projects are approved for FY20/FY21

\*\*Refer to Project List attached

## Baseline Services: Customer Service 311 Call Center Measures

### **311 Mission:**

311 provides community members, businesses and visitors with a centralized Customer Service Center to resolve inquiries and concerns. We empower the community to easily connect with City government to obtain accurate quality information and services.

### **311 Vision:**

We strive to build a culture of “first call resolution” to resolve customer inquiries at the first point of contact through the use of advanced technology and robust municipal knowledge. We serve the community politely, accurately and comprehensively by collaborating with City departments and outside agencies to provide excellent city services.

### **311 Values:**

1. We are customer Service professionals; we conduct ourselves with integrity, and a true commitment to provide satisfaction to our community members.
2. We take responsibility for being attentive and creating a respectful interaction with our customers, and accept the other person’s ideas as true to them.
3. We do not ignore problems or mistakes; we work together to identify and solve them.
4. We help develop and support citywide policies, operational processes, and technology systems to promote value-added city services.
5. We get the job done!

### **311 Performance Report – FY 2018/FY 2019**

311 provides a first point of contact for City of Berkeley services and information, and was established to provide those who live, work and visit Berkeley easy City access to government service, report problems and ask general questions. Customer Service Specialists are trained across City wide services to provide answers to routine and non-routine questions, process payments and provide critical community services associated with refuse, sewer, traffic hazard incidents, environmental and much more. The 311 team has extensive knowledge of City Services, City Policy, Ordinances, Amendments, Resolutions and General Services. 311 provides excellent customer service that connects Community members with the City in a helpful and cost effective manner by using call center best practices and leading technology tools. Berkeley’s 311 center is focused on maximizing productivity, managing costs, and ensuring service levels and other industry standards are met.

Service requests processed in 311 Customer Service continues to increase yearly by 2% - 5% while staffing budget remains nearly flat. 311 hired a Customer Service Specialist III (CSSIII) in December 2018, due to extensive training on city wide services she will not be fully functional for 6 – 9 mos. and will not independently answer calls until July 2019. The increase in 311 call volume comes from an engage community and are generated in part by recently passed measures, ordinances and change in business practices within City Government. Examples from the past year include answering questions about Measure U1, (5 units or more), Ordinance for STR (Short Term Rentals), and change in refuse services for commercial businesses, as well as the centralized logging of homeless complaints.

The 311 staff will respond to an estimated 118,000 service requests in FY2019. Request for services are logged by phone (79%), On-Line Service Center (9%), Email (7%), Voice Mail (3%), See Click Fix Mobile Application (1%) and Mail/Other (1%).

**Table 1, Baseline Customer Service & 311 Call Center Stats**

Performance Measure	FY 2017	FY 2018	FY 2019 Projection
<b>TTL Incoming calls to 311<sup>1</sup></b>	95,211	91,660	93,000
<b>Calls Answered<sup>2</sup></b>	81,761	77,905	79,500
<b>Call Abandon Rate<sup>2 3</sup></b>	14%	15%	15%
<b>Online Service Requests<sup>4</sup></b>	6,227	10,152	11,595
<b>Emails, Voice Mail, Other<sup>5</sup></b>	11,230	13,487	14,184
<b>TTL 311 incoming contacts</b>	112,668	115,299	118,779
<b>1<sup>st</sup> Call Resolution<sup>6</sup></b>	80%	84%	84%
<b>311 CRM Cases</b>	37,900	37,154	38,673

<sup>1</sup> FY18: 3.7% decrease in incoming calls due to 311 using Direct Line call answering services from 8:00 – 8:30 and 4:30 – 5:00 pm (M-F), and during 311 staff meeting, desk hours and training.

<sup>2</sup> FY18: 4.7% decrease due to reduction in overall incoming calls (see #1) and increased call lengths due to bringing commercial refuse in-house.

<sup>3</sup> Increased abandon rate corresponds directly to extended call lengths, and staffs available to keep up with call volume with an average of 6.5 staff per day FY18. Increase in processing email and online service requests require staff time off phones to process.

<sup>4</sup> Online service center contacts increased 63% with Direct Line entering Community calls on line. (4,285 cases entered in FY18).

<sup>5</sup> With the varied ways to contact 311, VM and email increases as options for Community to contact 311. Callers have the ability to leave a VM message during the day and after hours. Email continues to grow as a method of reporting homeless cases, 311 is copied on Council and CMO communication and SeeClickFix users send pictures via email.

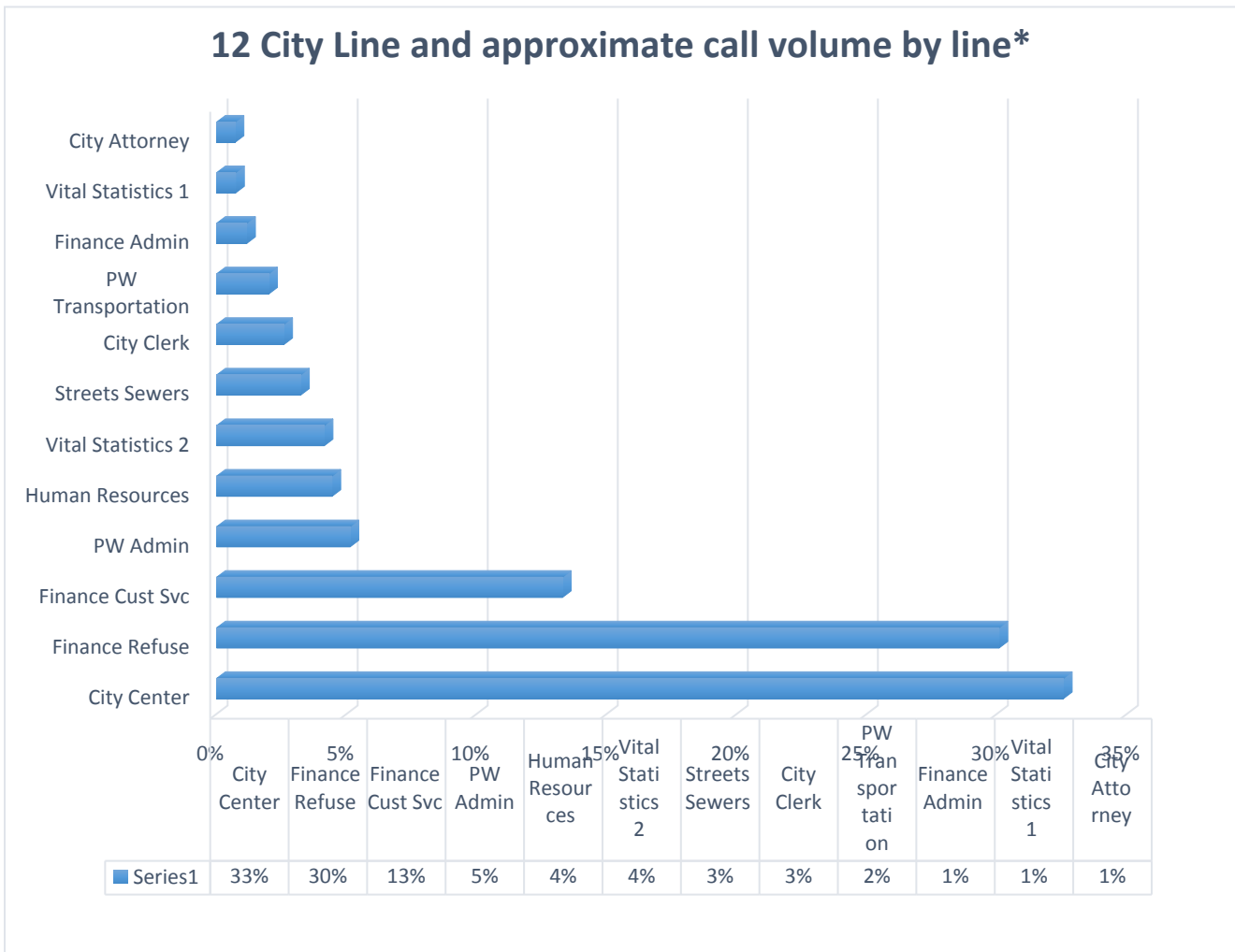
<sup>6</sup> First call resolution increase directly related to proactive training with Finance and PW, and consistently updating 311 Knowledge documentation.

\*Estimated incoming 311 calls will be reduced in FY19 and OLSC and Other volume will increase, as a result of Direct Line answering calls for 311 from 8:00am – 8:30am and 4:30pm – 5:00pm. This will allow 311 staff to work pending cases, manage the OLSC more effectively and balance credit card transactions nightly meeting audit requirements for Treasury.



**Table 2: 12 City Lines and approximate call volume by line \***

Department	Call Volume
City Center	33%
Finance Refuse	30%
Finance Customer Svc	13%
PW Admin	5%
Human Resources	4%
Vital Statistics 2	4%
Streets Sewers	3%
City Clerk	3%
PW Transportation	2%
Finance Admin	1%
Vital Statistics 1	1%
City Attorney	1%
<b>FY 2018 Total Calls</b>	<b>100%</b>



\*Call Volume from FY 2018

### **311 Challenges:**

The incoming service calls remain 311 main focus. On average 311 receives 400 calls a day. During Business License season and Residential Parking Permit (RPP) season, 311 calls will spike to 500 day. Average call length is approx. 4 – 6 minutes due to staff working in multiple systems and complexity of refuse and recycling calls. Average time to answer is 1:20 minutes, average time for customers to abandon is 1:01 minutes. Currently 311 answers 85% of all calls presented to the call center. Calls not answered will opt for voicemail or will abandon and call back at another time. FY2018 Abandon rate (Customer hangs up while waiting in phone queue) 15%, estimated FY2019 is also 15%.

- Due to lack of system integration, 311 work in nine different computer software systems to research, log and process service requests.
- Lagan cases are not always updated by COB PW, Finance, etc. teams with the status of the work being performed. Status is often done in FUND\$ or Accela only, leaving CRM incomplete.
- City online portal does not provide the Community with status of their service requests which requires them to call into the City for status.
- Council staff have requested read only access to Lagan and with current Lagan license limitations and lack of integration with WO system, Council does not have access to current CRM or status of service requests.
- On average 311 has 6.5 staff members out of 8 answering calls. 1.5 staff members a day are off phones with side work, breaks, and lunches or out of office/sick or vacation. Side work consists of 311 Online Service Center Service (OLSC) requests, Customer Service email, 311 voice mail, SeeClickFix mobile cases, closing ZW work orders cases in FUND\$ and Lagan CRM, maintaining and creating new 311 Knowledge documentation used by department to promptly answer calls.

### **Risks:**

- Community and businesses get frustrated with call wait times and abandon the call at about 1:00 minute wait time. They often get busy and do not call back, resulting in missed City services such as free garbage pick-up for missed pick-ups called in within 2 days of scheduled service day.
- 311 cannot balance workload and service needs with current staffing levels and lack of system integration.
- Community and City Staff cannot view service request status on-line and must call 311 and wait in call queue or email Customer Service for service status.
- City has to rely on SeeClickFix for mobile application which is not the most efficient mobile application.

### **Opportunities:**

Increasing 311 staff by 1 CSR in FY2019 will improve response time, increase number of calls answered and improve overall service handling to the public and business community via our four contact methods. If additional 311 staff was added in FY2020 we could efficiently focus on both

phones, (reducing abandon rate) and respond to OLSC and Customer Service email same day as received.

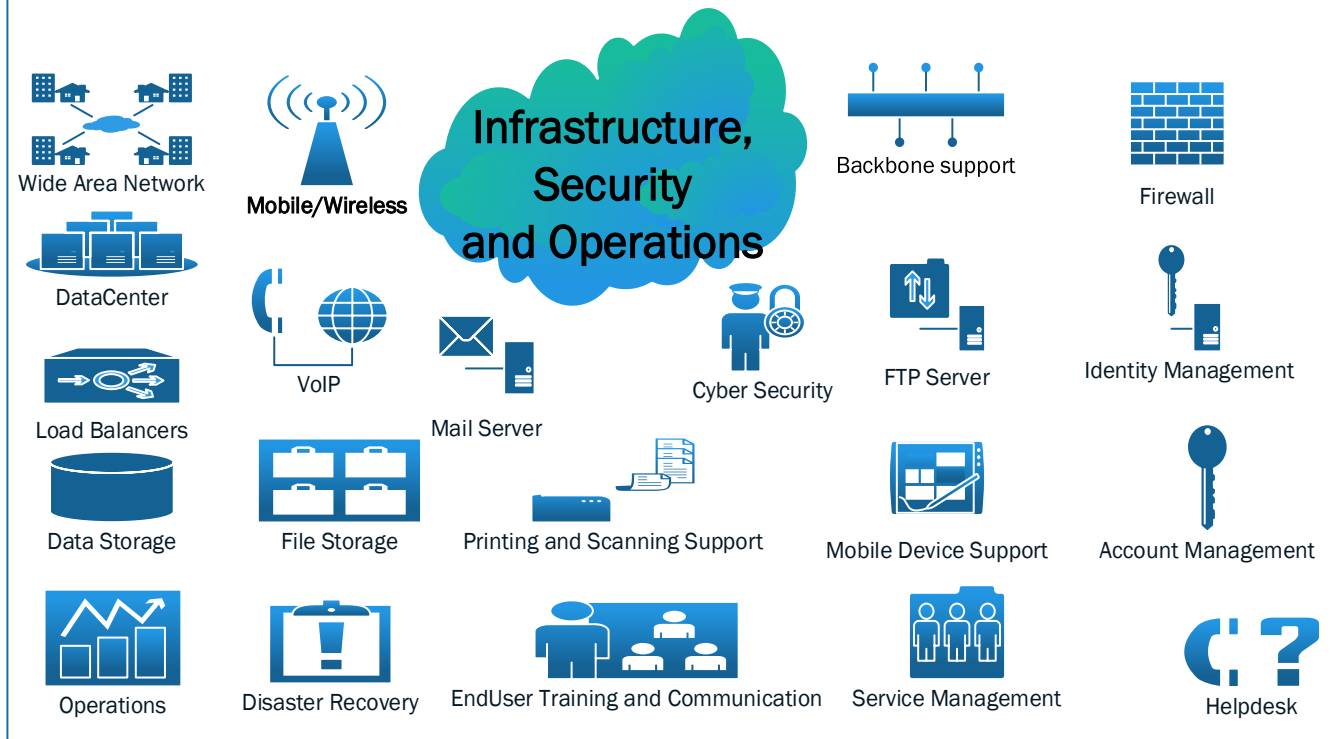
311 upgraded the Lagan CRM system in January 2019. The upgrade allows 311 and back office departments such as Public Works, Parks, etc. to change case classification type, reducing cases logged as Miscellaneous to streamline case handling and increase reporting accuracy. 311 will publish a request for proposal (RFP) for a new CRM system in FY2020. Requirements for new CRM will include:

- City of Berkeley branded Mobile device
- Public facing CRM portal for community and businesses to log service request via self-service portal and review status of tickets on-line
- Include future technology for option to communicate with community on-line, chat, and text if 311 is staffed accordingly
- On-line access for City Management and Council view CRM cases and work order status
- Embedded knowledge link for customer self-service and CSSIII case logging.

CRM and Work Order system(s) will be integrated for service requests and logging of service status. Integration between 311 and work orders systems will increase efficiencies for all departments, City Staff and Community.

## Infrastructure, Operations and Security Measures

### Infrastructure, Security and Operations



### Baseline Measures Infrastructure, Operation and Security:

**Baseline** services are included in the IT Cost Allocation Plan, and reflect work to maintain the City's general technology infrastructure. Staff members in this unit are responsible for:

- Help Desk for 200+ Applications
- 4,000+ Workstations & Telephones
- 300+ Servers, Routers, & Switches
- 400+ Printers/Scanners/Copiers
- Network Security & Protection
- Field Services at 42 City locations
- 24 hour Police & Fire Support
- Department of Justice (DOJ) Network Testing & Documentation
- Backups & Records Retention
- Implemented Change Advisory Board (CAB) to review and monitor system changes that impact the production servers

The DoIT Service Request and network systems provide real-time data regarding incoming requests, requestors and resolutions. See Table 3 below.

**Non-baseline** projects require new funding and aim to improve a specific business process; costs are funded by the sponsoring department. Once non-baseline projects are complete, associated maintenance usually becomes part of IT baseline services.

The Department of Information Technology uses the following performance measures to manage operations:

- A. **Baseline Service Metrics:** The Department of Information Technology (DoIT) uses ServiceNow and Customer Relationship Management (CRM) tool to provide real-time data on the type of service request, how the service request was relayed, who submitted the service request, and length of resolution. See Table 5 and Table 6 below.
- B. **Server Uptime: Metrics** collected using network management tools indicates the total “uptime” of the City’s server farm. See Table 5 below.
- C. **Lost Time:** Lost time is defined as unplanned absences, including sick leave.
- D. **Project Milestones:** The Department of Information Technology aims for a 90% rate of on-time project milestones.
- E. **Customer Service Surveys:** Reinstated in 2015, the Customer Service Surveys are automatically issued to clients whose DoIT Service Requests are completed and closed.

**TABLE 3:** Baseline Services: Network Operations & Help Desk

Performance Measure	FY 2017	FY 2018	FY 2019 Projection	FY 2020 Projection	FY 2021 Projection
<b>Calls Answered</b>	14,486	13,117	12,810	13,000	13,000
<b>1<sup>st</sup> Call Resolution</b>	48%	44%	50%	50%	50%
<b>Call Abandon Rate</b>	7.18%	6.38%	7.27%	5% <sup>3</sup>	5%
<b>Closed Help Desk Tickets<sup>1</sup></b>	13,080	11,389	12,262	13,000	13,000
<b>Customer Service Surveys<sup>2</sup></b>	322	627	1564	1600	1600
<b>Data Server Uptime<sup>2</sup></b>	99.886%	99.886%	99.999% <sup>3</sup>	99.999%	99.999%
<b>Phone Server Uptime<sup>2</sup></b>	99.999%	99.999%	99.9999% <sup>3</sup>	99.999%	99.999%

<sup>1</sup> A consistent 20% vacancy rate contributed to the decrease in ticket closures in FY18 and FY19. The last half of FY19 saw a 50% decrease in vacancy rate which contributes to the stabilization of the call abandon rate and number of closed Help Desk tickets.

<sup>2</sup> Changed customer service survey delivery in January 2018, which has led to an increase in survey responses.

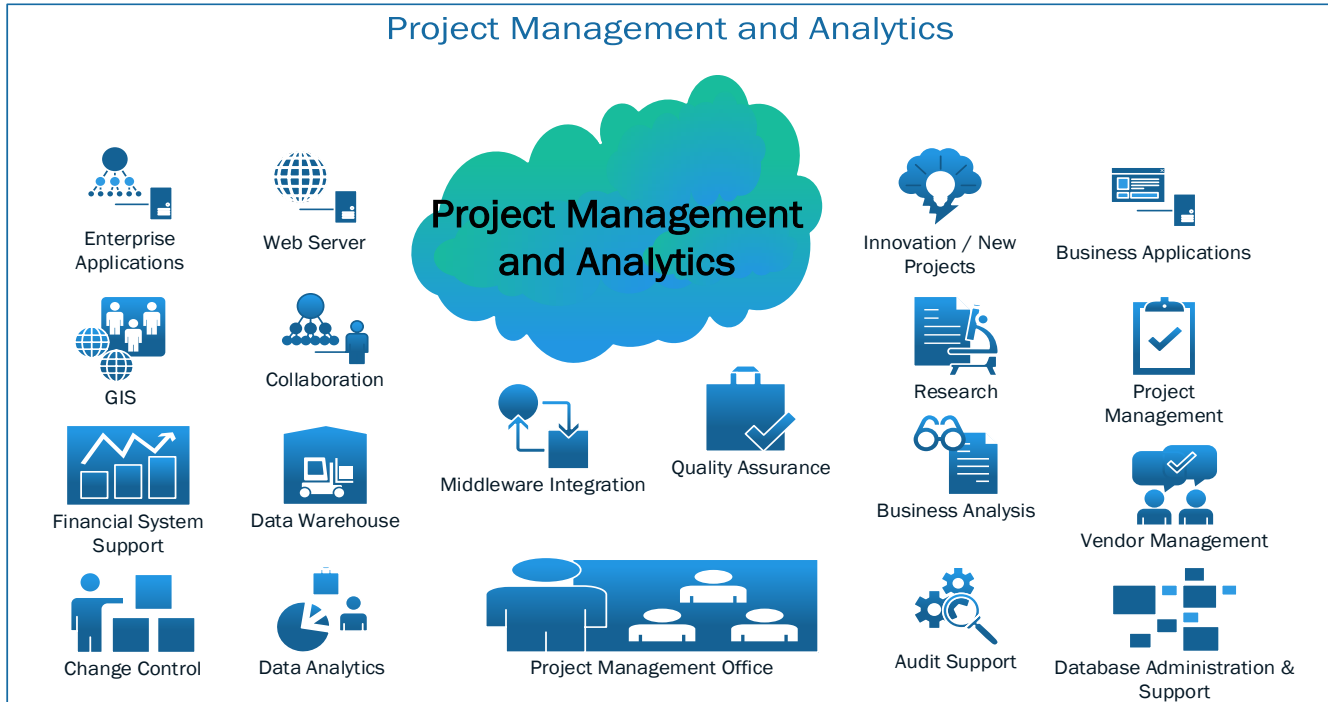
<sup>3</sup> Industry benchmark

**Annual Infrastructure Replacement Programs Update**

Annual Infrastructure Replacement Programs		
1	Computer Replacement	FY18 – Completed FY 19 – In Progress
2	Server / Storage Replacement Program	FY18 / FY 19 – Combined for Project “ Data Center Infrastructure Upgrade, Disaster Recovery Installation and Implementation”
3	UPS Upgrade / Replacement	FY18 – Completed FY 19 – In Progress
4	Wireless Equipment Upgrade / Replacement	FY18 – Completed FY 19 – In Progress
5	Network Devices Upgrade / Replacement	FY18 – Completed FY 19 – In Progress

\*\*All Non-Baseline Projects are listed under Projects Performance

## PMO and Analytics Measures



## Annual Reporting and Compliance Projects Update

1. Property Tax Reporting to Alameda County
2. Business License Renewal Cycle
3. HIPAA Security Risk Assessment Audits
  - a. Researched and Implemented Idera software that can provide HIPAA-compliant audit data for our HHCS software. Idera software was successfully implemented and provides details on any data updates (who and when for any data changes were made) in our on-prem software, such as the MTC incident logs.
4. TCM Program Cost Report Data and Audit Files
5. PHPIMS EHR Meaningful Use Attestation
  - a. This year efforts to document meaningful use resulted in a grant award of \$17,000.
6. Payment Card Industry (PCI) Compliance
7. Annual reporting for SB272 (Enterprise Catalogue) page on Website
8. Track ticket SLAs, project tasks for IT projects and project overall status for all City Strategic Plan projects and DSP projects.

\*\*All Non-Baseline Projects are listed under Projects Performance

### Open Data Portal Measures

Open Data Portal serves the community need for analytics with 102 Data Sets. In 2018, the most viewed and downloaded datasets are from the Berkeley Police Department. Most datasets are updated yearly or as needed. These datasets are update nightly:

- Berkeley PD - Calls for Service
- Berkeley PD Log – Arrests
- Berkeley PD Log – Jail Bookings
- 311 Cases
- Business Licenses

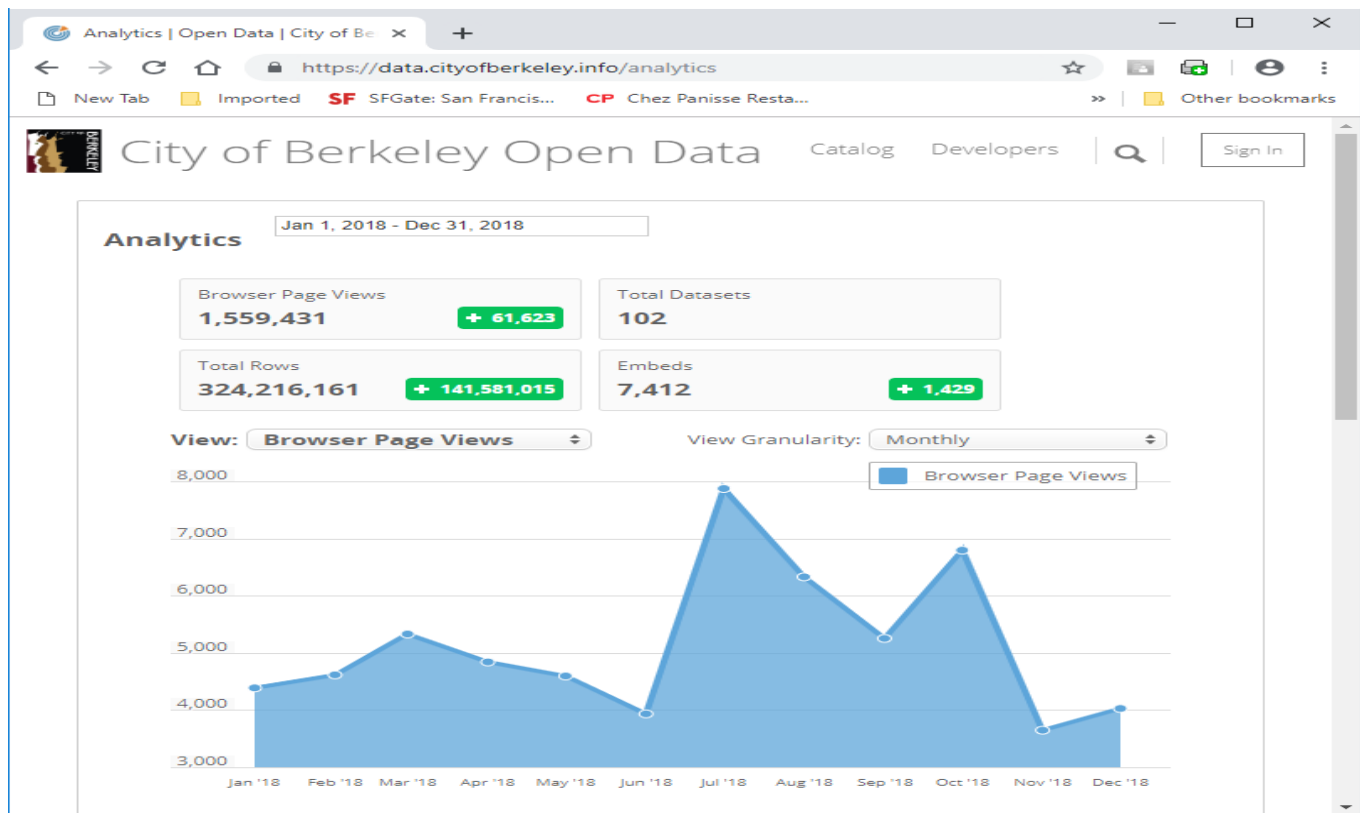
The Top 5 Datasets downloaded are:

- Berkeley PD Log – Arrests
- Business Licenses
- 311 Cases
- City of Berkeley Employee Salaries
- Berkeley PD - Calls for Service

Top searches are related to Zoning, Parcels, Street, and Building

Portal usage analytics are available publicly via the Open Data Portal at

<https://data.cityofberkeley.info/analytics>. See screenshots from analytics page below.





Browser: https://data.cityofberkeley.info/admin/analytics

City of Berkeley Open Data | Data Catalog | Create

#### Top Datasets

Name	Count
Berkeley PD Log - Arrests	12,202
Berkeley PD Log - Jail Bookings	6,607
Business Licenses	3,261
Berkeley PD - Calls for Service Heat Map	3,148
Berkeley PD - Calls for Service	2,877

[Show More](#)

#### Top Datasets Referrers

Name	Referrals
https://www.google.com	15,609
https://www.cityofberkeley.info	9,002
http://www.google.com	2,807
https://spotcrime.com	752
https://www.bing.com	334

[Show More](#)

#### Top Search Terms

Name	Count
zoning	68
parcel	57
street	52
building	51
parcels	47

[Show More](#)

#### Top Embeds

Name	Embeds
https://www.cityofberkeley.info	852
https://www.google.com	525
https://l.facebook.com	10
https://a11y_page_service.siteimprove.com	7
http://m.facebook.com	4

[Show More](#)

#### Top Applications

Name	Requests
Open311	42,692
DevBot Spelunker	5,390
Crawler	1,111
Jacob's test app	572
Davidpel-test1	431

[Show More](#)

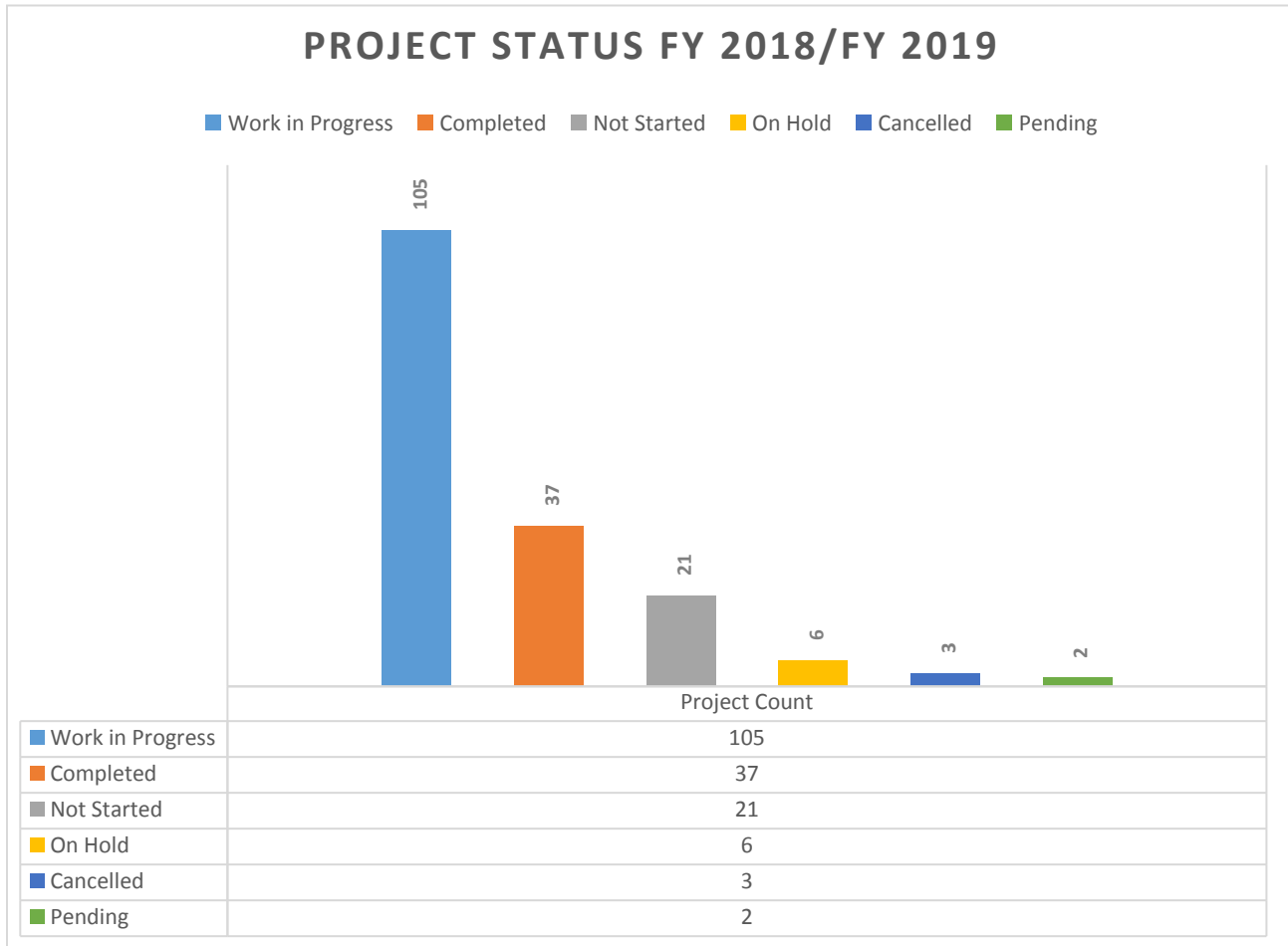
#### Top Downloads

Name	Downloads
Berkeley PD Log - Arrests	3,027
Business Licenses	695
311 Cases - RETIRED	383
City of Berkeley Employee Salaries - 2014	324
Berkeley PD - Calls for Service	286

[Show More](#)

## Projects Performance:

### Projects Metrics



#### FY 2018/ FY 2019

- IT is currently the lead department for 94 projects out of the 174 presented in the above chart. IT is the Supporting Department for the remaining 80 projects with other City Departments
- This is in addition to the 5 Annual Infrastructure Replacement, 6 Annual Compliance Reporting Projects, and other baseline projects and tasks.
- **PROJECTION:** 57 Projects where IT is the lead department are being projected to carryforward to FY20/FY21 budget cycle

#### FY 2020 / FY 2021

- IT is projected to be the lead department for 56 New and 57 Carryover Projects. Additionally, IT is the supporting department for approximately 43 additional projects with other City departments with total 156 projects.
- This is in addition to the 5 Annual Infrastructure Replacement, 6 Annual Compliance Reporting Projects, and other baseline projects and tasks.

## **Completed Projects FY 2018-2019 Highlights**

**New World Computer Aided Dispatch (CAD) Upgrade** – Upgrade the Computer Aided Dispatch (CAD) 911 system to Enterprise Version and to provide streamlined access to law enforcement and emergency service records, enhanced crime analysis tools, and online crime reporting services.

**Body Worn Cameras Deployment** – In collaboration with Police department acquired and installed the equipment, hardware, software and online storage necessary to implement Body Worn Cameras for Berkeley Police Officers. As of this report, we have 176 active body worn cameras.

**Vesta Upgrade** – Upgraded the Phone System from AT&T to respond to 911 calls

**Route Smart Application and Mobile Communications** – Study to determine the impact of adding commercial garbage route to the existing commercial and residential routes. Added commercial routes and updated routing pattern accordingly.

**Database of City Commissioners** – Launched a new database that enables the City to more efficiently track and update the composition of City Commissions and any vacancies.

**ServiceNow Project: Phase I** – Launched in January 2018 and implemented the following modules of the software:

- Helpdesk Modules (Incident Management, Change Management, Problem Management, Configuration Item Database)
- Service Catalog
- Knowledge Base – End users can research the self-help articles for minor IT related user help
- Online Service Portal for End Users
- Enterprise Portfolio Project Management (PPM)
  - Implemented a cloud-based enterprise wide Project Portfolio Management tool to manage project scope, timelines and budget.
  - Worked with City Clerk's office to automate RRV process for Council referral ratings
  - Uploaded City's Strategic Plan and Digital Strategic Plan Projects
  - Implemented Task Boards for Post project launch to track small projects and group tasks

The Phase 2 scheduled for FY20/FY21 will focus on the implementation of the modules: Software Asset Management, Hardware Asset Management, Resource and Release Management, Application Portfolio Management, Governance, Risk and Compliance for Cyber Security, Integration with various technology systems and Information Technology Performance Analytics.

**Lagan CRM Upgrade:** Upgraded CRM software from V7 to V14R2 provides new functionality of CRM system used by 311 and desktop light version used by City Service Departments. Twelve new features and functionality were added including reclassification of case categories, bulk add case notes, and bulk case closing, supports emails from CRM. The upgraded features improved efficiencies of case handling and reporting accuracy.

## Increasing Online Web Presence

### ***Berkeley Community Connection Portal***

311 Customer Service is proud to announce the newest Open Data application powered by 311 service requests.

The new portal named, [The Berkeley Community Connection](#) uses open data, technology and innovation to help Berkeley residents understand what is going on in their neighborhoods. 311 requests for service information is provided in an easily searchable format and depicted on a city map. Our Community can search by an address or filter by neighborhood and date range, and save the search by creating an alert to monitor changes over time. Under Pins, see the trends in service requests for refuse & recycling, graffiti and vandalism, government activity (encampments inquiries) and many more service classifications. This consolidated set of interactive maps allows the public to research topics that previously required a phone call, email, or even a visit to City offices. Other documents were previously only visible as PDFs – which didn't allow the public to see how different data sets related to each other. This significant project was a joint effort between the Department of Information Technology, Public Works, Parks Recreation and Waterfront, Police and Finance Department.

Visit - <https://berkeley.connect.socrata.com>

### ***Building Eye Portal***

The [Building Eye Portal](#), launched to the public in March 2018. The portal is an online mapping solution for City-issued permits to enable community members to search and review permit details and to easily identify permitting information based on address and business type. This significant project was a joint effort between the Planning and Development Department and the Department of Information Technology.

Visit - <https://berkeley.buildingeye.com/>

### ***GIS Community Portal***

The [GIS Community Portal](#), launched to the public in January 2019. The existing GIS web page had a legacy product known as “Parcel Popper” which allowed citizens to enter an address and receive information for a given property including regulations. The new portal features a custom widget that mimics the functionality of Parcel Popper but also includes additional features.

The GIS Community Portal allows residents, businesses, city officials, and developers the ability to better understand what zoning and land use policies apply to properties of interest to them, without the need to call staff necessarily.

Visit - <https://www.cityofberkeley.info/gisportal/>

### Records Online Portal

The [Records Online portal](#), launched to the public in August 2018. The new portal is more reliable and provides more search criteria to make it easier to find the documents you need. This significant upgrade to the public records portal was a joint effort between the City Clerk Department and the Department of Information Technology.

Records Online provides ready and transparent access to numerous City Documents including City Council minutes, resolutions, ordinances, staff reports, commission minutes, election results and voter pamphlets, and city contracts. Minutes and ordinances in Records Online date back to the early 1900's, resolutions go back to 1984, and staff reports are available back to 2005.

Visit - <https://www.cityofberkeley.info/recordsonline/paFiles/cqFiles/index.html>

### Wireless Expansion

Installed/replaced over 50 wireless access points (WAPs) across over a dozen City locations. COB laptops and City-issued cellphones will connect automatically. We also have guest Wi-Fi available for the public. Over the next two fiscal years we will be installing/upgrading WAPs at all City facilities, including adding WAPs in all conference rooms throughout the City.

<u>Site No.</u>	<u>Site Name</u>	<u>Site Address</u>	<u>Quantity WAP's</u>
1	Frances Albrier Recreation Center	2800 Park St, Berkeley, CA	2
2	Mental Health	1521 University Ave, Berkeley, CA	3
3	Mental Health	1535 University Ave, Berkeley, CA	1
4	North Berkeley Senior Center	1901 Hearst Ave, Berkeley , CA	4
5	South Berkeley Senior Center	2939 Ellis St, Berkeley, CA	3
6	West Berkeley Service Center	1900 Sixth St, Berkeley , CA	2
7	Transfer Station	1201 Second St, Berkeley, CA	3
8	Shorebird Nature Center	160 University Ave, Berkeley, CA	2
9	Public Health Clinic	830 University Ave, Berkeley, CA	3
10	MLK Youth Services (YAP)	1730 Oregon St, Berkeley, CA	2
11	Willard Swim Center	2701 Telegraph Ave, Berkeley, CA	1
12	Willard Clubhouse	2730 Hillegass St, Berkeley, CA	1
13	1947 Center Street	1947 Center St, Berkeley, CA	24

### ***Secondary Internet Connection***

The City implemented a secondary internet connection to provide redundancy in case one internet connection fails, and to increase internet bandwidth as City staff use more web-based tools and applications. In FY 2020, the City will implement load balancing technology to improve performance by balancing internet traffic across both internet connections.

In FY 2018, the City upgraded the AT&T internet bandwidth from 250 MB to 500 MB and deployed a secondary internet connection (Towerstream) (500 MB) at the Corporation Yard to serve as a backup internet connection in the event that the primary internet connection, located at City Hall, ever went down. Department of Information Technology (DoIT) staff have successfully tested failing over to the Towerstream internet connection to demonstrate the redundancy of the new solution.

In addition, the City has setup Corporation Yard staff to use the Towerstream internet connection as their primary internet connection. The City has also implemented load balancing technology for incoming internet traffic, so that both internet connections are sharing the load of incoming traffic to the City network.

In addition, the City plans to increase the bandwidth of both internet connections to 1 Gigabyte (GB), so that if either of them go offline, the remaining internet connection will be large enough to support the demands of City staff. The resilient design of the network and the redundancy will improve the reliability of the internet connection and increase employee productivity. The delivery method is also scalable and bandwidth changes will be easier to turn-up as needs change.

## In Progress Projects FY 2018 / FY 2019 Highlights

*Berkeley's 2018-2019 Strategic Plan identified the projects below to be part of the City's Digital Strategic Plan (DSP) Program under priority #9, "Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community:"*

### **Enterprise Resource Planning (ERP) Phase I (Core Financials and HR Payroll Modules)**

Implement the Tyler Munis Core Financials and HR Payroll Modules – Chart of Accounts, Accounts Payable / Accounts Receivables, Miscellaneous Billing, Contracts Management, HR Payroll, Electronic Timesheets. The core ERP Project team is also assessing current business practices, and identifying areas of business process improvement to optimize efficiency and return on investment of instituting a modern ERP.

**Website Redesign Request for Proposals (RFP) and System Selection** – In February 2018, the City issued an RFP seeking a vendor to implement a complete redesign of Berkeley's website, including a new content management system and secure, high-performance offsite hosting. The RFP received a robust response, garnering over two dozen strong proposals. After three rounds of review by a multi-departmental evaluation team, the City selected [Rolling Orange, Inc.](#) to develop the new website.

**SharePoint Intranet** - In March 2018, contracted with Emgage to design and implement design for a SharePoint intranet and provide a modern method for communications and for information sharing among City Staff. We reviewed work of four vendors and chose Emgage because of ease of use and clean design.

**Broadband Infrastructure Master Plan** – Release the RFP in Sep 2018 for engineering study, conduit assessment, evaluation of Capital Improvement Projects (CIP) and T1 Infrastructure Projects and develop a Broadband Infrastructure Master Plan and a Broadband implementation roadmap.

**Wireless Master Plan** – Expanded wireless to 13 City Sites and will be expanding to all 42 sites in the next 2 years. Public Wifi is now implemented and available at these 13 sites listed in the Appendices.

**Cyber Security Resilience Plan / Business Impact Assessment** – Develop a Cyber Resilience Plan in alignment with the City's Resilience Strategy, including software upgrade needs, policies and cyber security training for staff.

**Office 365 Migration Planning and Deployment** – Upgrade and migrate all City staff from current Office 2013 client to the most current Office 365 client. The project will be completed in Phases: Email, One Drive, SharePoint, Office suite. Completed the RFP Process in FY 19 and selected the vendor. In the planning phase and will be developing a project plan for migration.

**Capital Improvement Project Management Tracking** – Currently in the RFP process for vendor selection to Implement a Capital Improvement Project (CIP) tracking tool to better document and manage project implementation and related financial information.

**New Irrigation Management System** – Improve water efficiency by replacing 266 individual clocks/controllers for the City’s irrigation system in 52 parks and medians with one remote management system. The City of Berkeley will be able to manage the irrigation controllers and the system will allow to communicate via the cloud and automatically coordinate and regulate flow levels. The solution provides control and visibility over water usage. The system takes into account weather conditions and other irrigation factors such as slope and alters watering patterns for each sprinkler accordingly.

**Recreation Registration Software** – Implement the Recreation Registration Software, an online calendar utilized for coordinating a variety of recreation programs, to a cloud-based solution and increased efficiency for registering for PRW camps, events, location reservations

**NEMO-Q Replacement** – Implement a new Ticketing Queuing System in Permit Service Center and Finance Customer Service Center to prioritize queue based on customer service request type and streamline wait times

**Accela Phase Quick Fixes Implementation** – Conduct Success visit with Accela and in collaboration with the Planning department identify the functional areas in the need of improvement and develop a list of short, medium and long term fixes to improve features and functions for improved community benefits.

**Public Records Act (PRA) response software replacement project:**

The PRA software is designed to be an easy-to-use freedom of information act (FIOA) and public records portal, easily accessed by a link from the City Website. City of Berkeley PRA staff are able to receive, work and fulfill requests within a single repository. Community members and requestors can view responsive documents on file and open to the public through the self-service PRA portal, therefore reducing repetitive requests. Workflow and auto-generated reminders and redaction tools allows for better internal management and efficiencies.

**In November 2018**, the City issued an RFP seeking a vendor to implement a Public Records Act response software replacement, including a new online portal, content management system and secure, high-performance offsite hosting. The RFP received two responses. 311 Customer Service Center from Department of IT is leading this project. A project team comprised of members from City Clerk, City Attorney, Planning, Fire, Police, Public Works and IT Security have scored the proposals and participated in Software demonstration presentations. Final vendor selection will be concluded in April 2019 and will follow the City’s procurement processes to get Council Spending Authority approvals.

PRA Software project will start upon completion of the signed contract, estimated for May/June 2019 and the City’s PRA portal will be functional by end of the calendar year 2019.

**Customer Relationship Management (CRM) Replacement Project:**

The RFP for CRM System is planned to be released in the summer of 2019.



## Reinventing the IT Service Model

The City of Berkeley has made substantial progress since the completion of Digital Strategic Plan. While this assessment primarily focused on completed DSP IT Project Initiatives, it is worth noting that the success IT has had would not have been possible without the substantial effort made to restructure, retool and further develop the IT professionals at the City. The results achieved are the byproduct of reinventing the City's IT Service Model, providing technical and customer service skillset improvement trainings in order to optimize the effectiveness of IT staff focused on measurable results, has been the foundation for the City's progress.

### *Wins, Results & Transformational Change*

As noted in previous sections of this Assessment, the City's IT Department has completed an a wide range of technology initiatives of varying degrees of scale and complexity projects scheduled in FY 2018 and FY 2019. The following provides a partial list of significant results and "wins" the IT organization has delivered in addition to Projects Performance:

#### *IT Workforce Development: Invested more than 2,800 hours IT staff training:*

- 3C's City Core Curriculum Trainings
- Customer Service Training
- Project Management Institute Training
- Help Desk Institute Support Center Analyst Training
- Leadership (LDP) training
- Team Building Exercises
- Implemented Service Level Agreements with Departments
- Coaching with Consultant for management team
- Mentoring opportunities with other Directors for management team members

### *Organizational Results*

- Restructured IT Organization to Service based model and Instituted cross discipline teams to reduce risk and cross trained staff to provide systems support
- **Implemented process changes** based on industry standards and current trends to align technology with new workforce and community demands
- **Implemented Technology Governance and Innovation Team** to track projects portfolio and implemented procedures for the intake of new projects including resource allocation tracking and reprioritization of projects portfolio to manage changing needs.
- **Implemented Public Safety Technology Users Group** to track projects portfolio , determine possible shared technologies and determine priorities across Public Safety
- **Implemented Project Management Industry (PMI) standards** based training and developed templates and standardized project implementation processes to streamline and implement project portfolio management
- **Implemented Cost Allocation Plan** for Technology Replacement Fund for technology acquisition and equipment replacement for the end of life infrastructure. Consolidated IT Infrastructure Asset Tracking including Software Licensing Enterprise Agreement Renewals.

### *Industry recognition*

The city has received the following for its innovative initiatives and exceeding high rate of success in systems deployments:

- Municipal Information Systems Association of California (MISAC) Excellence Award 2017, 2018

### *Systems Results*

- Improvement in hardware inventory accuracy
- Increased Helpdesk coverage hours thus improving customer service for end users
- Improved workforce mobility, Business Productivity and Citizen Access via the following:
  - Implemented various web portals such as Records Online, Building Eye, GIS Community Portal and added new datasets to Open Data Portal
  - Implemented the practice of tracking Service Level Agreements
  - Skype for Business for Video Collaboration - bring remote participants into meeting spaces
- Improved technology in Conference rooms – Collaborated with Public Works on the technology and utilities needed for an up-to-date “conference” room. We then applied this model across the seven (7) different types of rooms the City has identified based on their size and uses. We are now preparing to pilot new technology options for four (4) rooms in Civic Center (Redwood, Cypress, Pepperwood, and Redbud). These rooms include digital whiteboards, screen share with editing, and full videoconference boards with built-in audio and video. Each room is equipped with Wi-Fi and electricity. Two will pilot a real-time scheduling pad. And, additional enhancements are scheduled during the pilot project.

### *Challenges*

The technological needs for the departments are growing exponentially and given this new landscape, new additional resources may be needed to provide effective implementation and ongoing support for the technology solutions deployed. Some of the other challenges are around Recruitment, Retention and Class specifications.

- Class Specifications are outdated and refer to early 1990 technologies and skill set. The Class specs don't reflect the current department skillset required and results in low retention rate for new employees
- Recruitment Statistics
  - 57 Recruitments in last 3 years for a staff of 45
  - Annual average of 11 vacant positions (24.4%)
- Staffing Challenges
  - Difficult to recruit – Expectation of Class Spec, Work and Skillset do not match
  - Lack of growth opportunities for staff
  - Lack of Space impacts productivity
- Project Implementations Impact
  - New technology deployed and increased helpdesk requests
  - Implementation of Short Term Rentals, U1 Measure, T1 Bond
  - Additional 311 calls





## Service Level Agreements Metrics

## Service Level Agreements Metrics

### Service Level Agreements Measures

**Service Now Incident Service Level Agreements** - Service Level Agreements for Incidents are derived from a combination of Impact and Urgency. Impact is defined by how many end users are affected (Single User, Workgroup, Site, or Citywide). Urgency is defined by the criticality of the issue (Low, Moderate, High, and Urgent):

Priority Resolution Times				
Priority Impact  Urgency Resolution Time 	<b>Citywide</b> Enterprise System Down Service lost at multiple locations Service lost at critical location Citizen access down for core service	<b>Site</b> Department wide system down Service down at one satellite location Citizen access down for ancillary service	<b>Workgroup</b> Divisional system down or degraded Service down for 2-15 users	<b>Single User</b> 1-2 individuals impacted
<b>Critical</b> No viable alternate solution Caller indicates emergency Security Breach causing high risk to data integrity and infrastructure Customers unable to perform core job functions or meet deadline	<b>P1</b>  <b>Response SLA: 15 min</b> <b>Resolution SLA: 8 hours</b>	<b>P1</b>  <b>Response SLA: 15 min</b> <b>Resolution SLA: 8 hours</b>	<b>P1</b>  <b>Response SLA: 15 min</b> <b>Resolution SLA: 8 hours</b>	<b>P1</b>  <b>Response SLA: 15 min</b> <b>Resolution SLA: 8 hours</b>
<b>High</b> Complex alternate solution Security breach causing moderate risk to data integrity and infrastructure Significant impact to core job functions or ability to meet deadline	<b>P1</b>  <b>Response SLA: 15 min</b> <b>Resolution SLA: 8 hours</b>	<b>P2</b>  <b>Response SLA: 1 hour</b> <b>Resolution SLA: 24 hours</b>	<b>P2</b>  <b>Response SLA: 1 hour</b> <b>Resolution SLA: 24 hours</b>	<b>P2</b>  <b>Response SLA: 1 hour</b> <b>Resolution SLA: 24 hours</b>
<b>Moderate</b> Alternate solution available Workaround is disruptive Significant impact to ancillary or infrequent job functions	<b>P2</b>  <b>Response SLA: 1 hour</b> <b>Resolution SLA: 24 hours</b>	<b>P3</b>  <b>Response SLA: 2 hours</b> <b>Resolution SLA: 3 business days</b>	<b>P3</b>  <b>Response SLA: 2 hours</b> <b>Resolution SLA: 3 business days</b>	<b>P3</b>  <b>Response SLA: 2 hours</b> <b>Resolution SLA: 3 business days</b>
<b>Low</b> Easy alternate solution Workaround is reliable and useable Failover in place Not service disrupting Customers are able to perform job functions unimpeded	<b>P3</b>  <b>Response SLA: 2 hours</b> <b>Resolution SLA: 3 business days</b>	<b>P4</b>  <b>Response SLA: 4 hours</b> <b>Resolution SLA: 7 business days</b>	<b>P4</b>  <b>Response SLA: 4 hours</b> <b>Resolution SLA: 7 business days</b>	<b>P4</b>  <b>Response SLA: 4 hours</b> <b>Resolution SLA: 7 business days</b>

**Average Resolution Time by Category**

We are working on our reporting against SLAs, on average, we close Incidents within 3 days. See the charts below for reference:

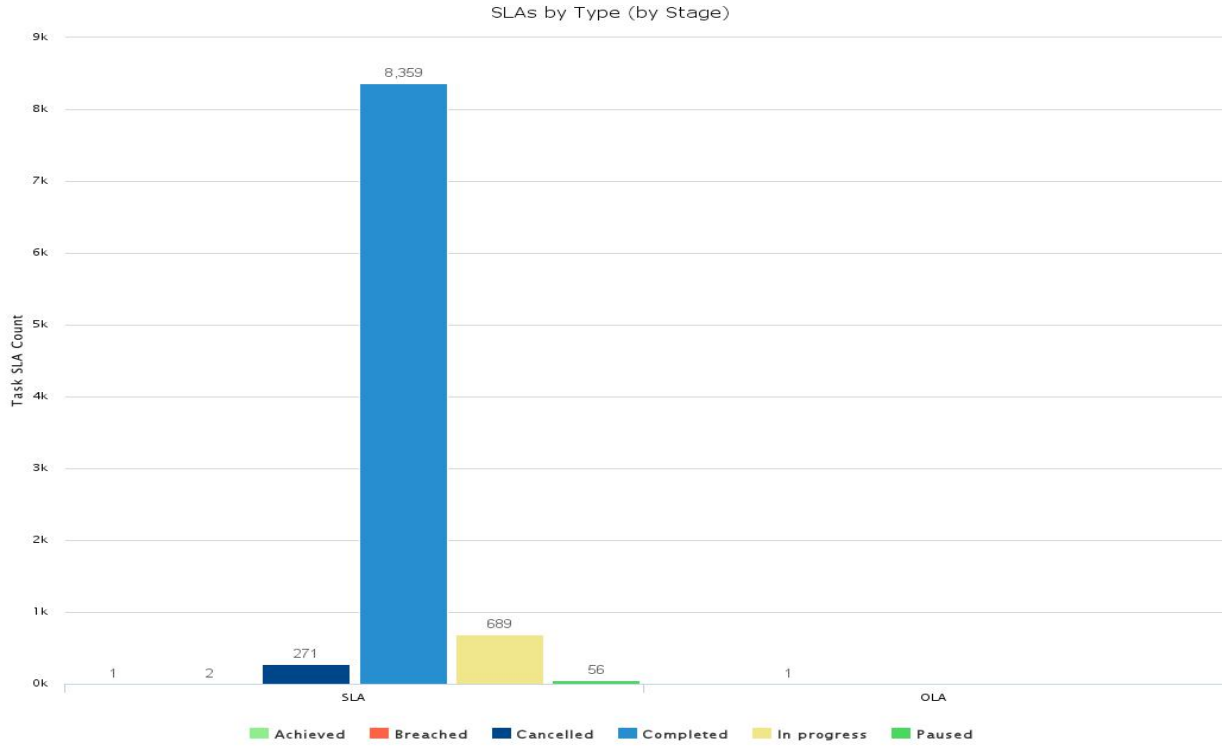
**Our average Incident Resolution Time is just under 3 days.**

**Over the period of 12 months there was a 30% SLA Breach rate.** Over 80% of Incidents that have breached an SLA have been resolved

**KPI - Average Incident Resolution Time by Category (All Status)**

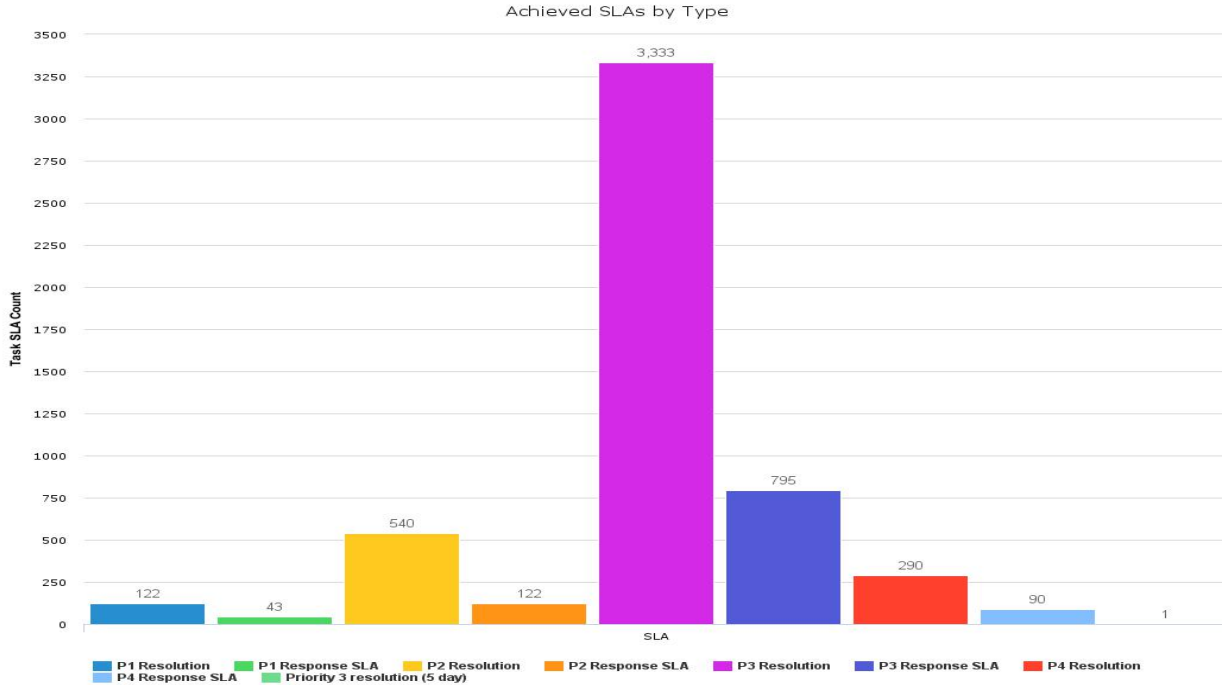
Category	Status			Average
	New	In Progress	Closed	
(empty)	10 Hours 2 Minutes	6 Days 5 Hours 13 Minutes	2 Days 23 Hours 16 Minutes	2 Days 23 Hours 20 Minutes
Computer	0 Seconds	0 Seconds	5 Days 7 Hours 27 Minutes	5 Days 7 Hours 27 Minutes
Inquiry / Help	0 Seconds	0 Seconds	2 Days 14 Hours 54 Minutes	2 Days 14 Hours 54 Minutes
Network Hardware	0 Seconds	0 Seconds	16 Hours 42 Minutes	16 Hours 42 Minutes
Login/Network Access	0 Seconds	0 Seconds	4 Days 13 Hours 57 Minutes	4 Days 13 Hours 57 Minutes
Other	0 Seconds	0 Seconds	5 Days 1 Hour 31 Minutes	5 Days 1 Hour 31 Minutes
Phone	0 Seconds	0 Seconds	9 Days 1 Hour 50 Minutes	9 Days 1 Hour 50 Minutes
Printer/Scanner	0 Seconds	0 Seconds	19 Hours 43 Minutes	19 Hours 43 Minutes
request	0 Seconds	9 Hours 15 Minutes	1 Day 17 Hours 4 Minutes	1 Day 16 Hours 55 Minutes
Software	0 Seconds	0 Seconds	9 Days 6 Minutes	9 Days 6 Minutes
<b>Average</b>	10 Hours 2 Minutes	5 Days 1 Hour 14 Minutes	2 Days 23 Hours 43 Minutes	<b>2 Days 23 Hours 46 Minutes</b>

SLA by Type by Stage



SLA definition Type	Task SLA Count Totals	Percentage of Count	
<b>SLA Total</b>	<b>9,378</b>	<b>99.99%</b>	
<b>OLA Total</b>	<b>1</b>	<b>0.01%</b>	
SLA definition Type	Stage	Task SLA Count	Percentage of Count
SLA	Achieved	1	0.01%
	Breached	2	0.02%
	Cancelled	271	2.89%
	Completed	8,359	89.13%
	In progress	689	7.35%
	Paused	56	0.6%
OLA	Breached	1	100%
<b>Total</b>	<b>9,379</b>	<b>100%</b>	

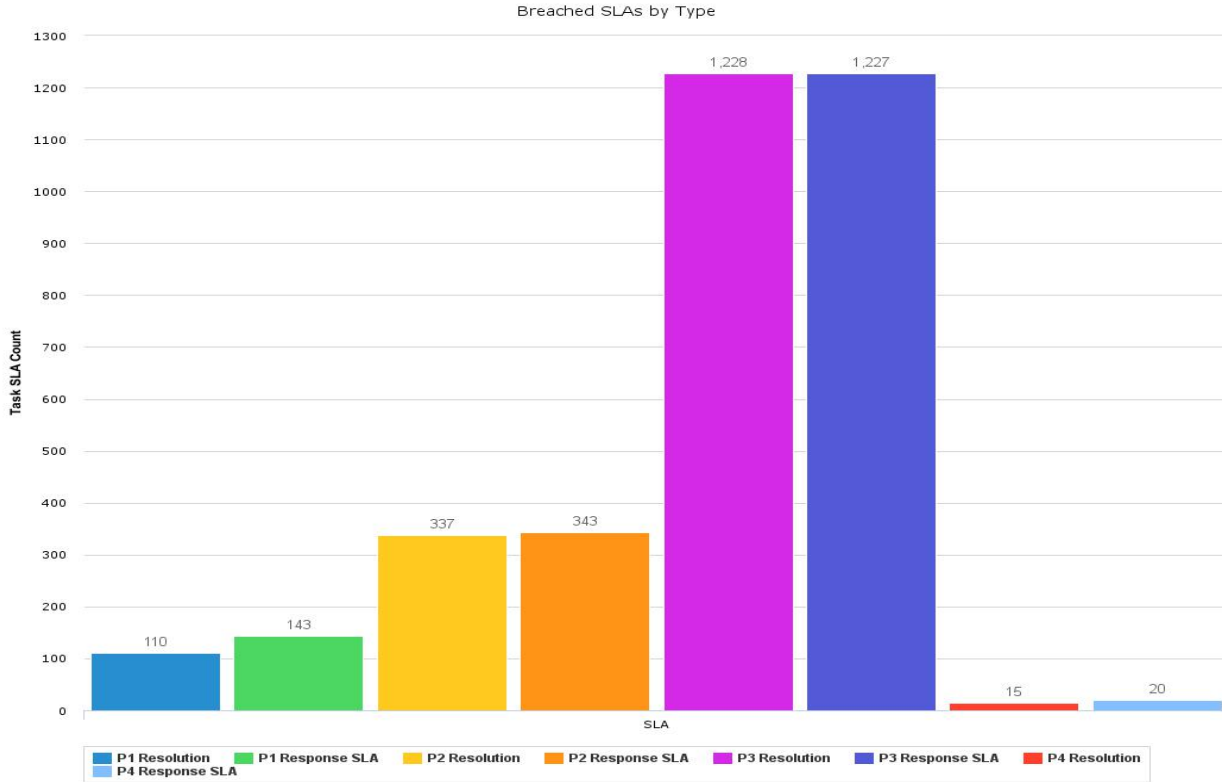
SLA's Achieved by Type



SLA definition Type Totals	Task SLA Count Totals	Percentage of Count
<b>SLA Total</b>	<b>5,336</b>	<b>100%</b>

SLA definition Type	SLA definition	Task SLA Count	Percentage of Count
<b>SLA</b>	P1 Resolution	122	2.29%
	P1 Response SLA	43	0.81%
	P2 Resolution	540	10.12%
	P2 Response SLA	122	2.29%
	P3 Resolution	3,333	62.46%
	P3 Response SLA	795	14.9%
	P4 Resolution	290	5.43%
	P4 Response SLA	90	1.69%
	Priority 3 resolution (5 day)	1	0.02%
<b>Total</b>		<b>5,336</b>	<b>100%</b>

SLA's Breached by Type



SLA definition Type Totals	Task SLA Count Totals	Percentage of Count
----------------------------	-----------------------	---------------------

<b>SLA Total</b>	<b>3,423</b>	<b>100%</b>
------------------	--------------	-------------

SLA definition Type	SLA definition	Task SLA Count	Percentage of Count
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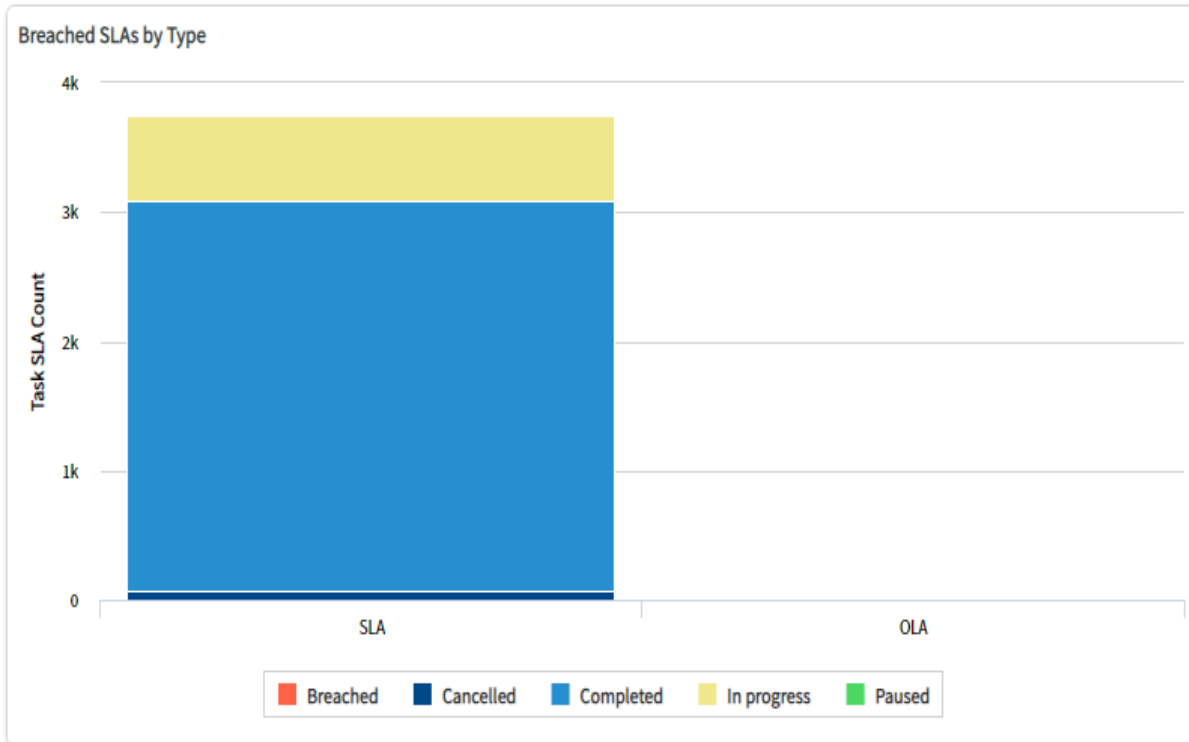
<b>SLA</b>	P1 Resolution	110	3.21%
	P1 Response SLA	143	4.18%
	P2 Resolution	337	9.85%
	P2 Response SLA	343	10.02%
	P3 Resolution	1,228	35.87%
	P3 Response SLA	1,227	35.85%
	P4 Resolution	15	0.44%
	P4 Response SLA	20	0.58%

<b>Total</b>		<b>3,423</b>	<b>100%</b>
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### SLA's Breached Incidents Resolution

Over 80% of our breached Incidents have since been resolved:



### Contact US

#### Hours of On-site Support:

8:00 am- 5:00 pm

Monday-Friday

#### After Hours Support:

24 hrs. X 7 days

Critical Systems only

#### Self-Service Portal:

<http://cityofberkeley.service-now.com/sp>

**Phone:** 510-981-6525

(After hours support, press 0)

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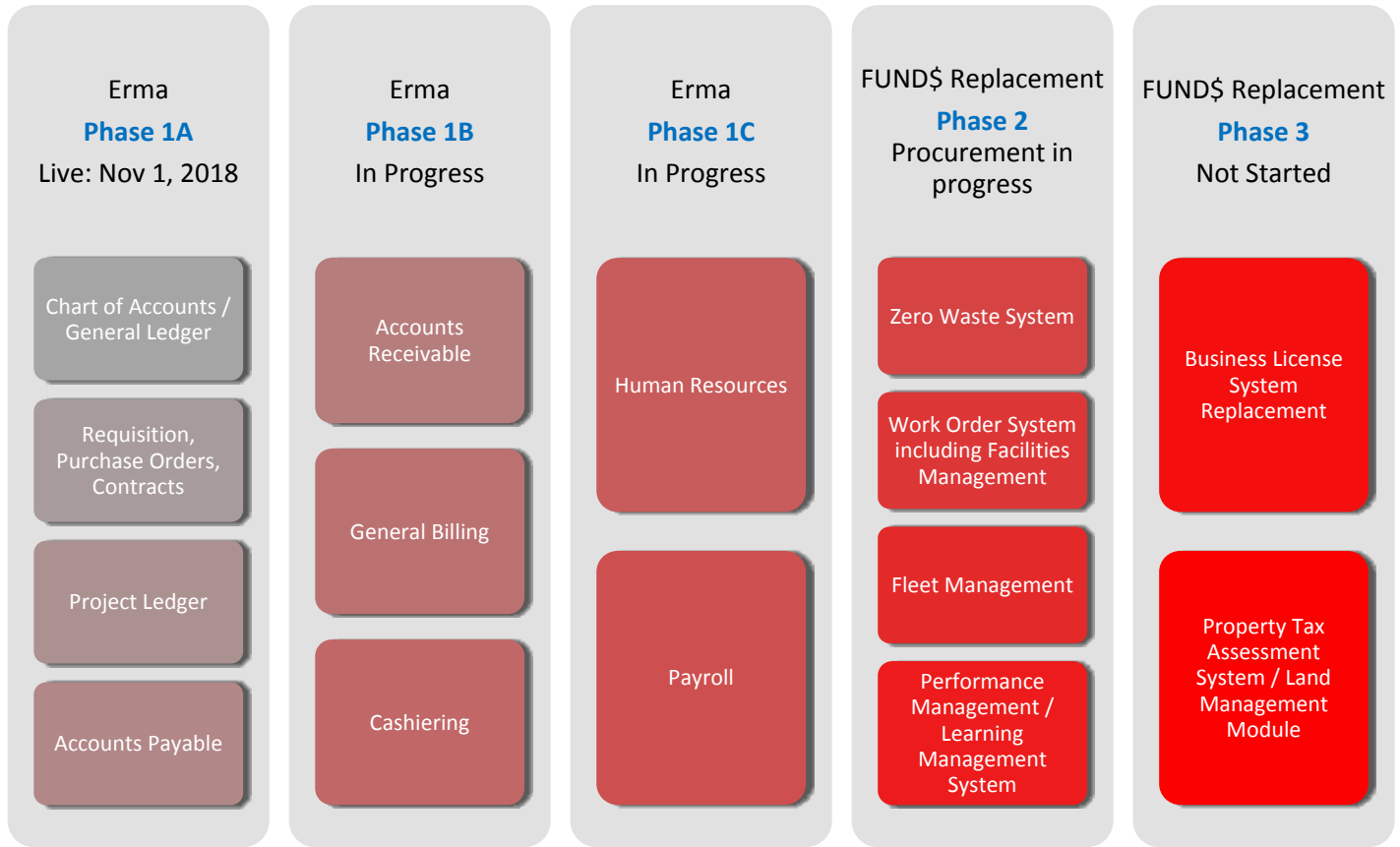
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## Appendices

### 1. FUND\$ Replacement Project

#### FUND\$ Replacement Project - Phase I: Enterprise Resource Planning (ERP)

Enterprise Resource Planning (ERP) Phase 1 is scheduled to implement a new software solution to address core financials, Human Resources and Payroll services. The project plan spans 3 years of the Digital Strategic Plan (DSP) and plans to be fully implemented by the end of FY2020. Each module is defined in the narrative below.



#### Phase I: Enterprise Resource Planning (Erma) - Core Financials and Human Resources / Payroll

In May 2015, the City contracted with the Government Finance Officers Association (GFOA) to conduct a needs assessment of its systems and processes including a review of its current financial processes, and for identification of areas for improvement and recommended business process changes.

The City determined that a new enterprise system will improve integration, reporting and roll-up capabilities, and organizational processes, and allow for the implementation of business process best practices. Discussions with GFOA included organizational and functional scope, as well as the development of functional requirements the City should seek in the new ERP system. From the

resultant project planning activities, the City has made many strategic future business process decisions based on best practices that are to be included in a system's implementation. Accordingly, the City intends to incorporate and implement the requisite high-level processes into its new enterprise system.

**In February 2016** the City hired a Project Manager to conduct a full replacement of all modules in the current ERP system known as FUND\$.

**In May 2016**, the City released an RFP and in June the City co-located a core team of Functional Leads throughout the City to work on the project. All positions are tied to the project duration and funding.

**In May 2017**, The City completed a rigorous RFP and contract negotiation process and selected Tyler Munis as the software to replace core financial, Human Resources and Payroll functions currently residing in FUND\$. The limited installed functionality and lack of integration between existing systems requires that staff utilize many shadow systems to support key business processes. With this Project, the City aims to improve business processes, gain efficiencies, simplify and standardize use of systems, and install core public sector ERP functionality. The following needs statement and goals were outlined in the RFP:

The Project's key goals and success indicators include the following:

- Improvement to business processes
- Implementation of business processes based on best practices
- Implementation of grant, project and budgeting processes and functionality
- Improvements to and updating of outdated technology
- Improvements of system and data integration to stand-alone systems where possible
- Elimination of duplicate data entry
- Provide access to source data and user-friendly reporting tools
- Reduce paper use
- Broaden employee self-service capabilities
- Broaden vendor self-service capabilities

The City purchased the following Tyler Munis modules:

- Accounting
- Accounts Receivable
- CAFR Statement Builder
- Capital Assets
- Cash Management
- Contract Management
- eProcurement
- Executime Time and Attendance
- General Billing
- Human Resources & Talent Management
- IVR Gateway
- Munis Analytics & Reporting
- Payroll with Employee Self Service
- Project & Grant Accounting
- Purchasing
- Tyler Cashiering
- Tyler Content Manager
- Tyler Forms Processing

**In November 2018**, the City launched the Phase 1A which included Chart of Accounts / General Ledger, Requisition, Purchase Orders, Contracts, Project Ledger, Accounts Payable Modules

**Project Challenges** - The project team had few setbacks with staffing challenges due to retirements and staff moving on to new roles within the organization. There is no dedicated team for the project. The team started with 7 dedicated team members. Mitigation plans included contracting with an outside project manager to assist with Phase 1A go-live and Phase 1C implementation. Both positive and negative lessons learned from Phase 1A have been documented. Due to the age of the existing financial system, data conversion was a challenge, and a significant portion of the data needed to be converted manually. These challenges are being addressed, and a new project plan is being developed including the additional requirements from the lesson learned from Phase 1A.

**In January 2019**, the City began working with Tyler to develop a timeline which includes launching Budget prep, Accounts Receivables, General Billing and Cashiering in **FY20**.

Payroll and HR modules are expected to go-live on **January 1, 2020**. This goal requires four consecutive successful parallel runs to test the new system.

#### **Change Management and Training:**

The ERP team works closely with the Steering Committee, which provides leadership for the business process changes that go along with implementing a modern ERP. While many changes will coincide with the new system, the change management team in collaboration with lead departments, is working throughout implementation to identify and facilitate adoption of changes that will create immediate efficiencies. The ERP team is also engaging in focused change management initiatives to optimize City staff readiness and identify potential areas of risk or low adoption rates and working to mitigate those risks.

The City has also identified additional needs required to support the level of change the City is experiencing. To address these additional needs, Staff have engaged with a third-party vendor to assist with the development of an additional communications plan, a comprehensive and department-specific training plan relevant to the phase of the FUND\$ Replacement module which Staff are implementing, and process documentation materials that resonate with staff to address questions and business processes and support change management with specific action items to support adoption of the new ERP.

#### **FUND\$ Replacement Project - Phase II**

**In August 2017**, the City released an RFP for a consultant to conduct a needs assessment to guide the replacement of the additional modules in FUND\$: namely: Work Order and Asset Management, Fleet and Facilities, Real Property/Lease Management, Property Tax Software, Refuse Billing, Business licenses, Performance Management and Learning Management. The Needs Assessment includes assessment of current gaps, developing a roadmap for improved business systems to achieve operational excellence, development of requirements and scope for related RFPs and vendor analysis for applicants.

The goal of the FUND\$ Replacement project Phase II is to replace the outdated functionality of the existing FUND\$ system with contemporary and strategic application software. It represents the continuation of the ERMA/Tyler Munis Finance System implementation, except this phase focuses

on Public Works: Work Orders, Asset Management, Fleet Management, Real Property Lease Management and Human Resources: Performance/Learning Management technologies.

**In February 2018**, the phase II was kicked off in parallel to the Phase I. After a RFP process Thirdwave was selected to so the needs assessment and business process requirements. The project was structured in five phases:

1. Ongoing Project Management
2. Discovery Phase
3. Software Requirements Gathering Phase
4. Request for Proposal & Procurement Phase
5. Vendor Selection & Contract Negotiation Phase

February 2019 through April 2018, Requirements definition included holding nineteen (19) Rapid Workflow® workshops. Staff attendance and input was outstanding. Seventy-nine (79) City staff/management representing all of the departments in the project participated, with some staff participating in numerous workshops (anywhere from 2 to 9, and IT Application Portfolio Coordinators, participating in as many as twelve (12) workshops). Consequently, total workshop participation consisted of 176 City staff, an impressive level of end user engagement. Business processes assessed in the project include those listed below:

- |  |   |
|--|---|
| 1. Public Works, Fleet Work Orders                 | 11. Public Works, Zero Waste Start Stop     |
| 2. HR Performance Management                       | 12. Public Works Inventory Management       |
| 3. HR Learning Management                          | 13. Public Works, Zero Waste Start Stop     |
| 4. Public Works, Streets Work Orders               | 14. Public Works, Work Order Reports        |
| 5. Public Works, Asset Management, Depreciation    | 15. Parks Landscape Maintenance Work Orders |
| 6. Public Works, Traffic Meter Maint. Work Orders  | 16. Public Works Interfaces                 |
| 7. Public Works, Facilities, Parks Work Orders     | 17. Fixed Asset Management (Equipment)      |
| 8. Public Works, Forestry Work Orders              | 18. Fixed Asset Management (CIP)            |
| 9. Public Works, Vehicle Replace Internal Bill WOs | 19. HR Performance & Learning Management    |
| 10. Public Works, Owned Lease Management           |   |

### **Procurement process in progress at various stages**

**October 2018**, included the development and posting of four solicitations and subsequent procurement activities, including pre-bid conferences, issuance of addendum. The RFPs were posted for the following systems:

- Zero Waste System
- Work Order System including Facilities Management
- Fleet Management
- Performance Management / Learning Management System

➤ Real Property Leasing and Management Solution

To facilitate the evaluations, cross departmental teams were created specific to the software. The vendor selection process is in progress and it is estimated that all vendors will be selected and spending authority approvals will be presented to Council by **June/July 2019**. The detailed timelines will be shared once the vendor selection process is completed.

**FUND\$ Replacement Project - Phase III**

The ERMA Phase 1B and HR Payroll along with the Phase II Projects will require lot of staff time from multiple departments. The largest impact will be for the Departments of Information Technology, Public Works, Planning and Finance departments. Due to resource limitations it was decided to postpone these projects to second half of FY 2020 and FY 2021. Once HR Payroll goes live we will be conducting business requirements gathering workshops, developing timelines and working on procurement process for these projects and get back to Council with updates next year.

**Not Started**

- Business License
- Property Tax Assessment

## 2. Website Redesign Update

Berkeley's 2018-2019 Strategic Plan identified a new City website as the first goal under priority #9, "Be a customer-focused organization that provides excellent, timely, easily-accessible service and information to the community:"

*Create a new design, look and information architecture for the City website so that it is interactive and serves and prioritizes the needs of the community, including a focus on increasing the number and types of transactions and services available online.*

### FY 2018 Key Activities

#### Vendor Selection

In February 2018, the City issued an RFP seeking a vendor to implement a complete redesign of Berkeley's website, including a new content management system and secure, high-performance offsite hosting. The RFP received a robust response, garnering over two dozen strong proposals. After three rounds of review by a multi-departmental evaluation team, the City selected [Rolling Orange, Inc.](#) to develop the new website.

Rolling Orange is a Bay Area company specializing in government and higher education websites. Their previous work includes websites for the [City of Hayward](#), [BART](#), [San Francisco Arts Commission](#), [San Francisco Assessor-Recorder](#), and [UC Berkeley](#). The evaluation team was impressed with Rolling Orange's strong track record of work for other local agencies. City Council approved the contract award on October 30, 2018.

Rolling Orange is creating a new visual design and information architecture for new City website, which will run on the Drupal content management system. Drupal is widely used across all levels of government, and powers the websites of the [Berkeley Public Library](#), [BART](#), and [City and County of San Francisco](#), to name a few.

#### Web Content Standards

In public outreach about the website, the top complaint from community members was the poor quality of web content. Survey respondents reported finding the City's web content too voluminous, dense, hard to read, and often outdated. To ensure that the new website is useful and helpful to visitors, the City has developed a set of policy documents that will govern management of web content going forward. These include:

- **Website Policy:** defines operational objectives for the City of Berkeley website, lays out clear processes governing the creation and maintenance of web content, and defines citywide digital accessibility standards.
- **Content Strategy:** serves as a tool to guide decisions about content throughout its lifecycle, sets standards for how web content is used to meet business objectives and satisfy community needs, and creates benchmarks against which we can measure success.



- **Web Style Guide:** establishes citywide standards for web content, grounded in online readability best practices and outlines core writing principles intended to ensure consistency and high quality in content throughout the website.

The draft content standards were shared with stakeholders and web contributors in every department, and are currently being revised to reflect feedback received during this review period. They are expected to be finalized in May 2019.

### Citywide Web Content Review

In preparation for transition to the new website, the City has embraced the opportunity for a long overdue “spring cleaning.” From November 2018 through March 2019, the project team engaged in a collaborative process with staff citywide to sort through existing web content and identify what is required for the new website, and what has outlived its usefulness.

To facilitate the evaluations, the team developed a set of objective scoping criteria which was used in concert with site analytics, search data, and user feedback to make decisions on a page-by-page basis.

### Rolling Orange kickoff

The City started work with Rolling Orange in March 2019 with two full days of kickoff meetings. The vendor’s team met with stakeholders representing every department, as well as City staff involved with key public service functions including 311, the Finance Customer Service Center, and Permit Service Center.

## FY 2019 / FY 2020 Focus

### Website Design

In the coming year, Rolling Orange will be building out the new website based on the digital strategy work completed over the past year. The cornerstone of this work is a shift from an internal-focused website that is organized according to the City’s bureaucratic structure to one grounded in user needs, and structured to reflect the ways community members interact with the City. Additionally, the new website will feature mobile responsive design, improved search functionality, greater ease of use for staff, and a fully incorporated calendar that allows us to better showcase the many events put on by the City.

*Launch of the new website is planned for spring of 2020.*

### Content Production

Concurrent with the construction of the new website by Rolling Orange, the City is re-writing all its web content to conform to the newly developed web content standards. To minimize the burden on staff, most of the new content will be written by contracted web copywriters working in collaboration with department subject experts. The copywriting team is being selected through a competitive bidding process, with proposals currently under evaluation. *The content production process is expected to begin in summer 2019.*

### 3. Accela Civic-Platform Implementation

The City of Berkeley began implementation of the Accela Civic Platform in July 2012. Accela is primarily used by the Planning (Building and Land Use), Public Works, Fire and the Finance departments. The Accela Civic-Platform Implementation will address Land Management, License and Case Management, Asset Management and Accela Citizen Access.

To date the City has implemented the following modules: Land Management, License and Case Management, Asset Management and Accela Citizen Access. Below are descriptions of each module.

Some additional enhancements were implemented such as Short Term Rental (STR) online zoning certificate application and payment, Sewer Asset Management Enhancements, Business License Renewal enhancements and Right of Way Management.

#### Land Management Module:

- **June 2013 Zoning Permits** - Full cycle permit workflow from initial permit application intake, to review by all agencies across the City as well as revisions, collection of all agencies fees, and zoning permit issuance.
- **December 2015 Building Permits, Housing Code Enforcement, and ePlansoft Plan Check** - Full cycle permit workflow from initial permit application intake, to review by all agencies across the City as well as revisions, collection of all agencies fees, and building permit issuance. [Due to Challenges with Software, decommissioned ePlansoft \(June 2016\)](#)
- **Public Works Permits** - Full cycle permit workflow from initial permit application intake, to review by all agencies across the City as well as revisions, collection of all agencies fees, and public works permit issuance.
- **Fire Permits** - Full cycle permit workflow from initial permit application intake, to review by all agencies across the City as well as revisions, collection of all agencies fees, and fire permit issuance.

#### License and Case Management (September 2013):

- Business License Registration
  - Licensing and Case Management (Licensing)
  - [Integration: Business License Application w/ Lagan \(decommissioned in July 2015\)](#)
  - Business License Application and renewal are processed in Accela.
- Online Business License Renewal – Pilot
  - Provide the ability for one business type to renew their business license online by reporting and making payments on tax due. The pilot program is limited to one business type, the program will be re-evaluated to include additional business types.
- Tax Collections - Business Licenses Renewal
  - During the business license renewal process, business are required to report and pay taxes on their gross receipts, all done in Accela.

**Asset Management:**

- **September 2013** Sewer Asset Management implemented and Integration: Lagan (311 software)
- **April 2015** City Sewer assets including Private Sewer Lateral (PSL) are managed in Accela
- Accela Mobile Office (AMO) for Sewer Asset Management **Delivered on time but was abandoned about 12 months ago around April 2017 because Accela's Java Script libraries are not compatible with mobile devices web browser**

**Accela Citizen Access (ACA):**

- **June 2014** Zoning Permit Applications and Payments thru ACA
  - Accela Citizen Access
  - Integration: Official Payments (online payment gateway)
- Enables online submission of online zoning permits including revisions and checking permit status
- Enables online submission of online building permits including revisions and checking permit status
- Online submission of Short Term Rental (STR) zoning permits
- Submission, payment and issuance of fully automated minor building permits

**In 2017 following enhancements were made to the Accela Application:**

- **Short Term Rental (STR) online zoning certificate application and payment**
  - Implementation of new STR ordinance, zoning permit requirement
- **Sewer Asset Management Enhancements**
  - Enhancements identified by staff after the initial implementation
- **Business License Renewal Enhancements**
  - Enhancements identified by staff after the initial implementation
- **U1 Measure**
  - Expand of the use of Accela Land Management Module to facilitate implementation of U1 program and tax collection
- Accela UI upgrade to v8.03 (March 2017)
- Accela Minor Permits (March 2017)
- Accela IVR (April 2017)
- Accela Ad Hoc Reporting (May 2017)
- E3 Program – DocuSign, E3 built-out in AA (June 2017)

The City continues to identify areas of improvement within the Accela solution. The Department of Information Technology has worked diligently alongside client departments to identify areas of improvements, with a focus on improving the customer experience and realizing potential internal efficiencies. In early 2018, Staff engaged in a customer success visit with Accela, with the goal to review how the City of Berkeley usage of existing modules and provide recommendations for areas of improvement. Accela made 3 recommendations: Quick and Immediate Fixes, Short Term Fixes and Long Term Fixes. Staff are currently in the process of implementing Quick and Immediate fixes which has the most impact on staff and the public and these are on track to be completed by December 2019.

## 4. Cyber Resilience Plan Update

The Cyber Resilience Plan (CRP) is an important part of establishing the strategy, methodical approach, and evolving cyber-security program for the City of Berkeley. This CRP aligns with the City's vision of reducing cyber-risk exposure, maturing cyber-security capabilities, technologies and systems, and effecting efficient regulatory compliance. The new CRP shall specify ways in which recommended solutions will improve the City of Berkeley's operations and overall service delivery, streamline operations to achieve cost efficiencies and increased productivity, and support open and transparent governance.

The City's Cyber Resilience Program is to be built around five (5) core focal points: (1) the unique balance of data privacy, transparency and security that defines a California municipality and Berkeley in particular; (2) a program that is designed to include, create new and/or evolve existing functions that are key across each focal area; (3) that set of policies and rationale that facilitate a thriving and resilient cyber program; (4) the foresight, monitoring, response and mitigation that are essential in cyber incidents up through events impacting technology's role in enabling continuity of government as well as the delivery of a smart-city services; and (5) training that builds, matures and nurtures a culture of cyber reliance across all departments and levels of the municipality.

More Specifically:

- (1) **Data Transparency, Data Privacy and Data Security** – Creation of a program driven by a data classification and controls framework that enables uncontentious and judicious availability, access, management and monitoring of data relating to contractual, local, State and other relevant code/definitions of “private” (or “confidential”) data, including but not limited to criminal, EHD and HIPAA, PII, PCI, and City of Berkeley ordinances and vehicles (e.g., Memorandums, boilerplate contracts, NDAs, business license form), and align to the California Public Records Act.
  - Will drive capability, and security, and application requirements.
  - Will address the public's right to know, data exchange (e.g., interagency) and situations where data privacy is compromised, data is stolen, held hostage, illicitly altered.
- (2) **Program Functional Design** – Creation of a foundational program that contains the leading cyber security programmatic elements to meet today's cyber resilience needs. This focus will include strategy and objectives, the business of the cybersecurity program, its organizational structure, budgeting, process, communications plan, governance, and more. This focus area will also be designed for the evolution of the program aligned with City of Berkeley's transformation into an increasingly smart city.
- (3) **Policy and Rationale** – Creation of a Charter for the cyber resilience organization and the set of policies, methodologies, processes which it will provide, as well as the vehicles it will execute (e.g., contract pro forma, enterprise security architecture, test plans, etc.). Will include a cyber risk assessment function which will provide the rationale for when risk assessments need to occur and the selection of controls. This focus area will plan for the establishment of the cyber resilience policy, governance surrounding the policy, cyber resilience participation and gateways in City business work efforts and projects, and cyber

resilience compliance and testing, security optimization and effectiveness metrics – e.g., Key Performance Indicators (KPI's).

- (4) **Monitoring, Response & Mitigation** – This focus area seeks to mature and integrate the City of Berkeley's cybersecurity incident response and management capabilities (IR), and support for City and Departmental emergency management plans and organizations, including but not limited to DoIT's Business Continuity and Disaster Recovery, DoIT's participation in City Continuity of Government (CoG)/Continuity of Operations (COOP) and Community-centric Emergency Response (DOC / EOC / OES). It will address Business Impact Analysis (BIA), Business Recovery, Resumption and Contingency, the maintenance, execution and coordination of local and regional Plans, table top and other exercises, and communications plans.
  
- (5) **Training and Culture** – Creation of a security awareness program that changes the culture within and across the City of Berkeley through both basic end-user awareness training for all staff at all levels as well as IT staff. The CRP should identify the strategic benefits as well as the reasons and value factors and propositions for each department and staff member of the City of Berkeley (including "what's-in-it-for-me"). This focus area may include computer-based training (CBT) within its mix of awareness days/open-house days, Video trainings, communications schedules and campaigns, reinforcement tools/vehicles, and topical/functional sessions and workshops. And, the efforts will be designed to reduce the risk of known attacks targeting people and processes (e.g., anti-phishing training, "CEO-fraud," secure use of the Internet, etc.) as well as to provide individual and cultural-change effectiveness and optimization measuring and reporting.

The CRP will assess current gaps and evaluate the City's current cyber resilience posture, capabilities, and technology environment, including services provided, cybersecurity and application portfolio, infrastructure tools, organizational readiness, funding, product lifecycles, and service methodology. Department of IT will be evaluating the Disaster Recovery and Business Continuity Procedures and recommend the resources required.

The final task is to develop an implementation plan that addresses the most critical cyber resilience needs over the next five years, and serve as a crucial tool to not only measure our performance, but to push us to look at the possibilities of what we can and should be doing to continue innovating as we deliver projects and services to the City of Berkeley community. The CRP will be a living document which will be updated every three to five years and will help us identify the organizational priorities in line with our Department's vision, mission and values.

## 5. Business Impact Assessment (BIA)

This is the first time that the City of Berkeley has ever conducted a Business Impact Assessment (BIA). Performing a Business Impact Assessment (BIA) is a thorough and comprehensive undertaking.

The BIA looks at our city: (a) services as well as (b) the resources and technologies that we use to support those services. For example, some of our city services include: answering phone calls at the public safety call centers, health clinical activities, conducting building inspections, etc... And, some of the resources and technologies we use include: applications, internet access, city networks, etc... The BIA takes a look at all of these so that, in a disaster, the most critical ones are provisioned first and foremost, aiding a smoother recovery.

There are five critical questions being asked of each City Department and of senior executive team (SET) within our BIA:

1. What is the criticality of each of the activities we do in the City of Berkeley? Which ones of yours are designated as “essential functions”?
2. What is your Department’s and the City-wide priority to resume each of the processes listed in #1?
3. Following a major disruption or disaster, how soon must time-sensitive City services resume in order to avoid significant adverse impacts on the City and its community members?
4. What resources and technologies are needed to support the time-critical operations and minimize potential services interruption?
5. What are the magnitude of financial, operational, reputational, or legal impacts that arise from extended down-time?

The answers to each of these questions directly impacts the scope and priorities of the Cyber Resilience Plan (CRP) fourth focus area (monitoring, response and mitigation) and the development of disaster recovery (DR) policies, processes and metrics (a component of the third focus area of the CRP). We are also leveraging the BIA to begin to identify the sensitivity of information within the City. This collected information will, in turn, be used to inform our planned data transparency, data privacy, and data security work efforts and milestones (CRP focus area #1).

## 6. Geographical Information Systems (GIS) Master Plan Update

The Geographical Information Systems (GIS) Master Plan was developed in FY 2017 with a 5 year roadmap of GIS data assessment and data layers, to support services provided by these City of Berkeley Programs. A list of 7 projects was decided in collaboration with City departments for the FY 2018 execution.

### **FY 2018 – GIS Projects Status update**

#### **GIS Newsletter**

The inaugural issue of the GIS Newsletter, [The Pin Drop](#), debuted this year. The next issue is due later this quarter. Topics will include the launch of the GIS Community Portal and the Esri Disaster Preparedness Workshop.

The GIS newsletter markets our successes and services and, in general, increases communications around GIS. It provides transparency and accountability by keeping stakeholders and community members in the loop through easily accessible media.

#### **GIS Community Portal**

The GIS Community Portal, <https://www.cityofberkeley.info/gisportal/>, launched to the public in January 2019. An Off Agenda Memo was shared with Council and the News Release was posted on the city website.

The existing GIS web page had a legacy product known as “Parcel Popper” which allowed citizens to enter an address and receive information for a given property including regulations. The new portal features a custom widget that mimics the functionality of Parcel Popper but also includes additional features.

The GIS Community Portal allows residents, businesses, city officials, and developers the ability to better understand what zoning and land use policies apply to properties of interest to them, without the need to call staff necessarily

#### **GIS Data Assessment**

The GIS Data Assessment project was completed in June and the documents are [here](#). The assessment allows the City to have a comprehensive snapshot of the quality and completeness of all GIS data and establish a benchmark of data accuracy. It also allows the City to plan and prioritize improvements to its extensive data repository. The final report will include an Excel table of price estimates for improving the data layers ordered by Department.

#### **GIS Mobile Plan**

The GIS Mobile Plan was completed in September. Document is [here](#). The mobility of GIS and the use of mobile technology to view, edit and analyze geospatial data, as well as make decisions in the field is a critical factor in building a true citywide, enterprise-wide, scalable, and enduring GIS.

#### **Policies and Procedures Documentation**

The GIS Governance Policies document was completed in September. Document is [here](#). The GIS Best Practices & Standard Operating Procedures was completed in December. Document is [here](#).

Standard operating procedures and policies detail the ways in which GIS technologies are to be manipulated in order to meet user needs. They prevent redundancy in data compilation and unnecessary effort. Adoption also decreases organizational liability.

## **GIS Department Projects**

### **Density model of Southside – Planning Department**

The GIS Intern created a density model of the zoning districts R-S and R-SMU. Land Use Planning wants to determine which buildings should be encourage to build with higher density standards.

Planning will leverage the model to analyze density and consider zoning changes and land-use options. The tool can also be used for engagement. Zoning can be complex and confusing, and this offers a way to visualize that complex information.

### **Daytime Population Mapping & Statistical Analysis – Health, Housing & Community Services Department**

In partnership with IT, the Public Health Division utilized the statistics tool, R, and GIS to create an interactive application of statistics and mapping of the daytime population (and daily transitions from night to day) in Berkeley.

### **Community input map – Public Works Department**

The City's Pedestrian Master Plan update process began in 2018 and continues through 2019. The Transportation Division is soliciting feedback via an interactive wikimap, <http://wikimapping.com/wikimap/Berkeley-Pedestrian-Master-Plan.html#.W1EIL9hKiys> . They invite the community to show us where and why you walk in Berkeley by drawing and commenting on the map.

### **Tree Inventory Project**

There was a need by the forestry folks to update tree species and their respective common names as drop down menus or picklists to an existing tree inventory application using GIS. Staff figured out how to get the data choices needed into the app in a way that makes it easy for the forestry folks to update the GIS data layer from the field.

## **GIS Trainings and Workshops**

### **GIS 101 Training**

Ten staff from across departments attended VTA class "GIS 101 for New Employees" early this year. The GIS Coordinator taught the course. Staff learn the fundamentals of GIS and how to access the city's Enterprise GIS resources.

### **GIS Orientation for new Planning staff**

Six new staff from the Planning Department attended a special GIS 101 with an emphasis on Planning GIS in June. The GIS Coordinator taught the course.

### **GIS Disaster Preparedness & Resiliency Workshop**

Co-hosted by IT and our GIS vendor, Esri, over 20 participants from cities and counties around the Bay Area joined us for a hands-on GIS disaster preparedness and resiliency workshop. We discussed recent disasters in our region and learned how to best prepare our GIS for a natural disaster.



### **Mobile GIS Training**

The GIS Coordinator participated in a hands-on Mobile GIS training in November for City staff with our GPS vendor and our Esri technical advisor. The GIS Coordinator also conducted a classroom Mobile GIS training for City staff in November.

### **Desktop training**

The GIS Coordinator led a GIS Desktop Users training in best practices and standard operating procedures in December.

### **GIS Community Portal Trainings**

The GIS Coordinator conducted hands-on training in September for City staff in Planning and Fire whose use the Parcel Conditions application.

### **Census 2020**

The GIS Coordinator attended the California State Data Center annual meeting in October. This year's meeting focused on the 2020 Census and provided an update on the status of LUCA for California.

### **Esri User Conference**

The GIS Coordinator and other city staff attended our GIS vendor's conference in July.

## 7. Broadband Infrastructure Master Plan

**In Fall 2017**, the RFP was released to develop a Broadband Infrastructure Master Plan

**In parallel, October 2017 - March 2018**, OED and IT engaged Marty and Nutter Consulting to undertake additional research on the nature of Berkeley's digital divide and potential solutions (as offered by local partners and other US cities). Both consultants' research findings were presented to City staff and external community partners on May 1, 2018 at a meeting hosted by OED and IT.

**March 2018**, Kimley-Horn was selected as the Broadband Infrastructure Master Plan vendor. The final plan is expected to be completed by summer 2019 and the City will have the roadmap it needs to recruit private-sector partners to assist with the build-out of the City's fiber network. The final report will include the assets the City has available and the financial models of different options for partnerships with other public and/or private entities.

**June 2018**, Department of IT and Office of Economic Development presented the findings of Marty How and Nutter Consulting to the Council in a work session.

May 2018 – Nov 2018, the consultant has reviewed the Marty and Nutter Consulting's digital divide research and gathered additional information on the broadband infrastructure needs of municipal, community, and business users through City staff workshops, business group meetings, and user surveys. Kimley-Horn has also conducted field investigation into the condition of traffic signal interconnect conduit, City facilities, and utility/street light poles for broadband network readiness and will be gathering information regarding existing and planned broadband infrastructure assets owned by the City, other public agencies, and private entities within City Limits in the months ahead.

**Mar 2019**, a draft findings and recommendations report was presented to City staff for review and feedback. The final report will include recommended network design to address user needs, identify gaps, and develop prioritized initiatives and projects, including recommendations for any revisions to existing City policies and practices. The City Staff is currently reviewing the draft report and once the details are finalized the final report will be summarized with recommendations and presented to Council in the summer of 2019.

### **Berkeley Tech Exchange FAIR**

**September 15, 2018** - Access to a computer and high-speed internet are more important than ever to the success of the Bay Area's students, job seekers and families. 53% of adults with incomes less than \$30,000 have broadband at home, compared to 93% of those with incomes above \$75,000 (Pew Research Center). In the Bay Area alone, 47% of low-income families don't have access to a computer at home.

To address this crucial need, the Berkeley Library, City of Berkeley, Tech Exchange and Comcast Internet Essentials partnered in hosting a Berkeley Tech Fair on September 15th, 2018. Library shared info about its own tech training courses.

The fair was sponsored by Comcast and Tech Exchange provided information on Training, Free refurbished computers for participants, and Information about low cost internet programs (\$10/month). The residents needed to be part of Supplemental Nutrition Assistance Program

(SNAP)\*\* and Cal Fresh Programs. The Berkeley Tech Fair successfully attracted an **attendance of approximately 300**. Among these, 125 attendees walked away with a high-quality refurbished computer, representing just a portion of Bay Area residents who are “digitally dark.”

\*\*\*SNAP offers nutrition assistance to millions of eligible, low-income individuals and families and provides economic benefits to communities.

## 8. Upcoming Projects FY20 / FY21 (includes Carryover from FY18 /FY19)

\*\*Refer to Project List Attached

## USEFUL LINKS

### + Digital Strategic Plan (DSP)

- [IT DSP Findings & Recommendations](#)- Identify a comprehensive set of possible management, business process improvement, and Information Technology initiatives.
- [Vol 2: Implementation Roadmap](#) - Provide final proposed and prioritized initiatives, budget estimate, 5-year timeline, and cost allocation plan.
- [Annual DSP Update 2017](#) – Information Report - Sep 19, 2017

+ [Berkeley Community Connection Portal](#) – City’s Open Data set powered by 311 requests for service information and enables community members to search by an address or filter by neighborhood and date range, and save the search by creating an alert to monitor changes over time is provided in an easily searchable format and depicted on a city map.

+ [Geographical Information Systems \(GIS\) Master Plan](#) - The document reflects a combination of Needs and Data Assessment, Technology and Organizational Readiness Assessment, and identifying a roadmap for GIS implementation and Tactical Plan that is technologically strategic, operationally responsive, and fiscally responsible. It addresses the unique requirements of the mission critical geospatial business needs of the City and its constituents, visitors and business community as a whole.

+ [GIS Community Portal](#) - Provides GIS interactive maps and map pdf’s. All data, information, and maps are provided "as is" without warranty or any representation of accuracy, timeliness or completeness.

+ [GIS Map Room](#) - City's Geographic Information System (GIS) resources via an interactive map.

+ [Open Data Portal](#)- City's Open Data Portal serves community and provides 102 data sets.

+ [Online Permits Portal](#) - Implement an online mapping solution for City-issued permits to enable community members to search and review permit details and to easily identify permitting information based on address and business type.

+ [Online Services Center \(311\)](#) - Contains information on various online services.

+ [Records Online](#) - Records Online contains Election information, Ordinances, Resolutions, Agendas, Meeting Minutes, Contracts, Communications and other City documents.

Goal	Supporting Department(s)	Title	Description	Planned Start/End	New or Carryover
Provide an efficient and financially-healthy City government	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works	Digital Strategic Plan & Roadmap	Phase II:  91 projects, both new and carryover	Various	Both
Provide an efficient and financially-healthy City government	Parks Recreation & Waterfront, Public Works	FUND\$ Replacement: Fleet Management System	To implement the fleet management system, customer requests and work orders, preventive maintenance, resources, and inventory, best practices and regulatory compliance	7/2019-7/2021	New
Provide state-of-the-art, well-maintained infrastructure,	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing &	Backup System	To replace our current enterprise backup product (Barracuda) with a more stable and expandable backup solution. The need is for a	7/2019-7/2020	New

Goal	Supporting Department(s)	Title	Description	Planned Start/End	New or Carryover
amenities, and facilities.	Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works		software solution that has the ability to expand when needed and can provide very quick restores.		
Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities.	Citywide	Data Center Infrastructure Upgrade, Disaster Recovery Installation and Implementation	To replace our current server and storage infrastructure in both the City Hall and Public Safety Building Data Centers with a dependable, fault tolerant, restorable and DR (disaster recovery) failover solution. With a hyper-converged solution we can have a single solution for managing the 250 virtual servers in the City of Berkeley. This includes combining the CPU, RAM, and storage within the same fully supported infrastructure.	07/2019-6/2020	New
Provide state-	Citywide	Load	To implement a load balancing	07/2019-	New

Goal	Supporting Department(s)	Title	Description	Planned Start/End	New or Carryover
of-the-art, well-maintained infrastructure, amenities, and facilities.		Balancers	to meet common expectations of the end user for all applications – performance, experience, quality of service – no matter whether are hosted internally, externally, or in the cloud through consistent, dynamic, and application-centric delivery of network and application traffic.	6/2020	
Provide an efficient and financially-healthy City government	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works	GIS Master Plan	Year 2 of GIS Master Plan: <b>Multiple projects</b> , both new and carryover, including GreenCity GIS (interactive map application integrated with GIS asset management for Parks), Here Data (resource for base map data and routing for Public Safety and other departments), Panoramic – Imagery (360 degree panoramic imagery for rights-of-way)	07/2019-6/2020	New
Provide an	City Attorney, City	Master	Address management system	2/2020-	New

Goal	Supporting Department(s)	Title	Description	Planned Start/End	New or Carryover
efficient and financially-healthy City government	Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works	Address Database	to replace FUND\$ land management module	2/2022	
Provide an efficient and financially-healthy City government	Finance	FUND\$ Replacement: eProcurement	Implement an electronic procurement system	7/2019-7/2020	New
Provide an efficient and financially-healthy City government	Citywide	Analytics Now	Implement a analytics tool for reporting	7/2019-7/2021	New
Provide an efficient and financially-	Citywide	KnowBe4	Provide cyber security training to staff	7/2019-7/2021	New



Goal	Supporting Department(s)	Title	Description	Planned Start/End	New or Carryover
healthy City government					
Provide an efficient and financially-healthy City government	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation & Waterfront, Planning & Development, Police, Public Works	Single Sign-On	Enable end user to login from anywhere using one login	7/2019-7/2021	New
Provide an efficient and financially-healthy City government	Health Housing & Community Services	NextGen Electronic Practice Management (EPM) Electronic Health Record System	Implement major upgrades needed to meet changing healthcare requirements & strategic enhancements targeted to improve health clinic workflow	07/2019-07/2020	New
Provide state-of-the-art,	Office of Economic Development, Public	Broadband Infrastructure	Develop master plan to improve infrastructure for high	3/2018-07/2019	Carryover

Goal	Supporting Department(s)	Title	Description	Planned Start/End	New or Carryover
well-maintained infrastructure, amenities, and facilities	Works	Master Plan	speed internet citywide		
Create a resilient, safe, connected, and prepared city	City Manager's Office	Cyber Resilience Strategy	Multiple Projects related to Cyber Resilience, Cyber Security and Disaster Recovery: Develop Cyber Resilience Plan and Business Impact Assessment in alignment with City's Resilience Strategy, including software upgrade needs, policies and cyber security training for staff	07/2019-06/2019	Both
Provide an efficient and financially-healthy City government	City Attorney, City Clerk, City Manager's Office, Finance, Fire & Emergency Services, Health Housing & Community Services, Human Resources, Information Technology, Parks Recreation &	FUND\$ Replacement: E-signatures	E-signatures and improving contract routing process for e-signatures	07/2019-07/2021	New

Goal	Supporting Department(s)	Title	Description	Planned Start/End	New or Carryover
	Waterfront, Planning & Development, Police, Public Works				
Provide state-of-the-art, well-maintained infrastructure, amenities, and facilities.	Citywide	Annual Infrastructure Replacements	5 Annual Replacement Programs for technology equipment replacement	Various	New
Provide an efficient and financially-healthy City government	Citywide	Annual Reporting and Compliance	6 Annual Reporting and Compliance Programs for meeting state and grant funding requirements	Various	New

