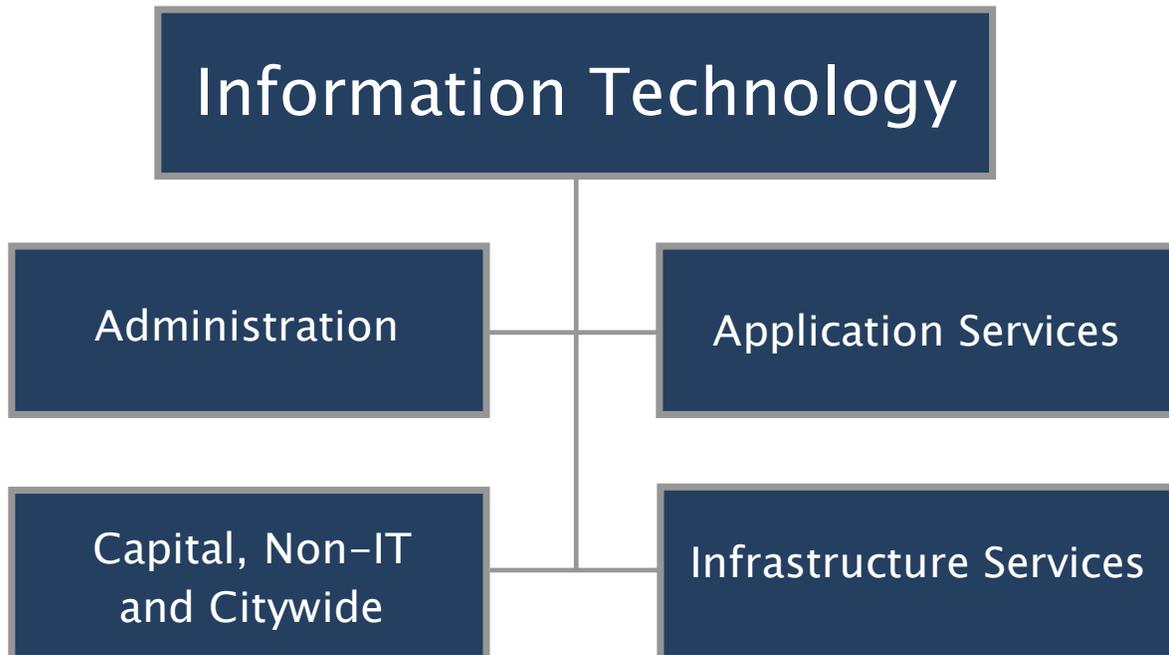


City of Boulder
Information Technology

2017 Recommended Budget
\$8,887,869

The mission of the Information Technology (IT) Department is to create an environment of seamless integration between people and technology. Our services include long-range technology planning; citywide hardware/software procurement; support for over 1,600 employees and PCs, 360 servers, and 160 databases instances; data management; disaster recovery and business continuity; systems security; nearly 200 miles of fiber optic network infrastructure; business analysis; custom application development; and support for numerous mission critical applications such as payroll, web technologies, and public safety.



Department Overview

Administration

- The IT Administrative Division provides general administrative support to the other divisions of IT. Staff also provides financial management, and administration of the Telecommunications Fund, IT Operating account and citywide Computer Replacement Fund which includes centralized purchasing of all computer related equipment and software.

Capital, Non-IT and Citywide Items

- The Capital, Non-IT and Citywide Items group includes funding for major citywide technology initiatives. The most notable item in this category is the funding for the IT Capital Improvement Plan.



Department Overview (Cont'd)

Infrastructure Services

- The IT Infrastructure Services Division provides a reliable and robust data and voice communications infrastructure supporting over 1,600 city employees, telephones, workstations, mobile devices, and over 360 servers providing voice, e-mail, Web, GIS, database and office productivity services.
- Infrastructure Services also takes a leadership role in the research, selection and implementation of new technologies to help improve city services.

Application Services

- The IT Application Services Division provides software support, application development, project management, data management, business analysis, software implementation, and reporting support to both the city's traditional, customer – facing municipal services (e.g. police, fire, land use, public works utilities, maintenance, etc.), its enhanced services (e.g. human services, open space, parks and recreation) and internal business operations (e.g. human resources, finance, payroll, sales tax, asset management, etc.).
- The division is increasingly focused on the use of new application and data analysis technologies to integrate systems and provide new, on-line services and digital information.

Table 7-31: Information Technology Summary Budget

	2015 Actual	2016 Approved	2017 Recommended
STAFFING			
Administration	3.50	3.00	3.00
Application Services	16.73	16.75	16.75
Infrastructure Services	15.45	19.00	19.00
City-Wide IT (non-departmental)	1.50	1.50	2.00
TOTAL STAFFING	37.18	40.25	40.75
EXPENDITURE			
Administration	\$ 653,791	\$ 505,202	\$ 506,547
Application Services	2,080,571	2,233,757	2,246,859
Infrastructure Services	2,198,261	2,685,758	2,668,676
City-Wide IT (non-departmental)	2,354,863	2,576,515	2,537,916
Capital Improvement Program	-	841,220	927,872
TOTAL EXPENDITURE	\$ 7,287,486	\$ 8,842,452	\$ 8,887,869
FUND			
General	\$ 5,044,005	\$ 6,198,017	\$ 6,024,381
Telecommunications	776,743	704,622	548,780
Computer Replacement	1,466,739	1,939,813	2,314,707
TOTAL FUNDING	\$ 7,287,486	\$ 8,842,452	\$ 8,887,869



2016 Accomplishments

- Led the city's new broadband initiative - ConnectBoulder - through facilitation of the Boulder Broadband Working Group (composed of community and city staff leaders), completion of a consultant-assisted Broadband Feasibility Study, and implementation of council's project direction.
- Expanded free public Wi-Fi, branded as ConnectBoulder, to Boulder Reservoir and Scott Carpenter Park.
- Completed the city's efforts to formally evaluate technologies and related functions required to support a potential electric utility both at the time of start-up and in support of the utility's longer-term Energy Future goals.
- Expanded the city's technology training program through the creative use of multi-modal training tools and techniques (classroom training, eLearning technologies and video productions).
- Completed the implementation of an eDiscovery tool to assist in the PUC filing and condemnation case supporting Boulder's Energy Future.
- Migrated the locally-installed e-mail infrastructure supporting over 1,600 users to a cloud hosted e-mail environment using Office 365.
- Migrated all city users to the Office 365 application suite.
- Upgraded 82% of the city computers to Windows 10 at with no licensing cost to the city utilizing Microsoft's free upgrade option which was available until July 29, 2016. This intensive effort ensures that most city computers are using the latest operating systems, avoiding significant licensing costs (estimated to be six-figures) to upgrade in the future.
- Began the rollout and training on the use of OneDrive cloud storage as a replacement to on premise storage of user personal data formally stored on their H: drive.
- Completed end-of-life replacement of the city's virtual server and Storage Area Network (SAN) infrastructure supporting over 300 servers and 340TB of storage.
- Completed full data security assessment of City of Boulder IT systems.
- Continued to lead the expanded use of mobile PCs to replace conventional desktop computers, improving "anytime, anywhere" computing services for staff.
- Fully implemented a new configuration management tool, SCCM, allowing centralized management of PC's, mobile devices, software deployments and device patch management.
- Extended the City's fiber optic data communication infrastructure to three new locations: Fire Station 3, Scott Carpenter Pool and the Brenton Building located at the former Boulder Community Hospital campus.
- Implemented new data network analytics software to better understand, manage and provided usage information for indoor and outdoor Wi-Fi networks.
- Implemented several new staffing, automation and process changes to continually improve the operation of the IT Service Desk
- Completed major systems upgrades for line-of-business applications including Utility Billing, the Parks and Recreation Class Registration system, the application supporting Municipal Court, the city's enterprise Document Management System, and the application supporting Sales Tax.



2016 Accomplishments (Cont'd)

- Expanded and enhanced the city's Internet applications by setting up tax payments via E-Complish.
- With Communications, led the complete redesign and implementation of significantly enhanced city intranet site called Boulder@Work.
- Continued to lead the implementation and expansion of the city's Open Data Initiative, including the publication of several new datasets and implementation of the city's first Open Data Policy.
- Entered into an agreement to create a consortium with the City of Golden for joint support of the Internet web content management tool.
- Led the procurement and implementation of a software package to create data visualizations and dashboards for the city's new performance measurement and reporting initiative.
- Implemented several analytics solutions including HR turnover analysis, a facility monitoring system, and the community profile.
- Worked collaboratively with the city's Communications Department to prioritize and implement recommendations from the website heuristics analysis that spotlighted improvements to the organization and usability of the city's websites.
- Assisted in the implementation of the third phase of the Transform Boulder Business Initiative (TBBI) with the launch of the HR open enrollment module, the rebuild of the current performance review system, and the stabilization and optimization of the new system.
- Assisted Parking Services in the implementation of a new Garage Management System.
- Project managed and staffed Phase 1 of the LandLink Replacement Project to replace outdated and increasingly unsupported software while enhancing permit and licensing automation for staff and the public.
- Assisted with the RFP and selection for a citywide Asset and Maintenance Management software solution, beginning implementation of the selected product.
- Completed Phase 1 of the GIS (geographic information system) architecture modernization project resulting in a more secure environment.
- Hired the city's first Chief Information Security Officer (CISO) and began the expansion of citywide security programs including mandatory training of all city computer users on security best practices.
- Completed the city-wide replacement of antivirus software, greatly improving our ability to limit the effects of Ransomware and "Zero-Day" virus attacks.
- Completed replacement of the city's email filtering system providing higher levels of security fortification, reliability and manageability.
- Completed a project to encrypt the hard disks of tablet PC's and key laptop devices.
- Completed end-of-life replacement of significant enterprise security systems, including Internet firewalls.



2016 Accomplishments (Cont'd)

- Utilizing new automated mobile device management tools, implemented standard security configurations for mobile devices attaching to city resources.
- Updated key city IT security policies.
- Enhanced the security of the city's applications by adhering to more stringent PCI compliance requirements for citywide credit card payment systems.

Key Initiatives for 2017

- Complete and begin implementation of updates to the citywide Information Technology Strategic Plan.
- Work with Finance and other city departments to implement the accepted recommendations of the IT internal service fund redesign project.
- Implement council-approved action plan for citywide broadband enhancements.
- Be prepared to begin implementation of approved elements of the Energy Future technology plan resulting from the automation assessment to ensure effective "day one" operation of a potential electric utility.
- Expand the city's technology training program through the creative use of multi-modal training tools and techniques (classroom training, eLearning technologies and video productions)."
- Improve fiber optic data infrastructure by implementing a redundant Internet connection.
- Continue the transition from conventional desktop computers to mobile PCs where possible, expanding the city's mobile computing initiative.
- Continue to implement enhancements to the IT Service Desk function including updates to service level agreements and enhancements to the service desk software program (Cherwell).
- Evaluate and implement new technologies and technical services in support of improved citywide data availability and analytics.
- Continue the expansion of datasets available through the IT-led Open Data Initiative.
- Implement the work plans related to the "LandLink" permits and licensing system replacement project, Asset and Maintenance Management software replacement initiative, as well as Parking Services permitting system.
- Expand the intergovernmental partnership supporting the city's Web content management tool by at least one additional member.
- Work with Police staff to complete 2016 activities associated with the replacement of the Police Records System.
- Support the implementation of Smart Clocks to enhance employee timekeeping for the Parks and Recreation Department.
- In conjunction with Finance, retire the Oracle Application Server Discoverer tool and implement a solution to enhance access the city's expanding data warehouse.



Key Initiatives for 2017 (Cont'd)

- Assess, streamline and consolidate in-house developed Java applications and SQL data-base instances where possible.
- Begin the retirement of legacy applications whose functionality can be addressed with newly-implemented enterprise software solutions.
- Complete major system upgrades for line-of-business applications including the applications supporting Utility Billing, the Parks and Recreation Class Registration system, Fire Management System and Munis Financial program.
- Citywide rollout of cloud collaboration and document management software.
- Working with the Communications Department, continue implementation of website improvements from the 2016 heuristics analysis.
- Expand the department's new business analysis function to improve departmental and citywide processes in coordination with automation projects.
- Continue implementation of the security fortification program begun in 2016, including expansion of employee education programs.

**Table 7-32: Information Technology Significant Changes
Between 2016 and 2017 Budget**

	2016 Approved Budget	2017 Recommended Budget	Total Change	2016 FTE	2017 FTE	FTE Change
GENERAL FUND						
Actionable Open Analytics	\$ -	\$ 10,000	\$ 10,000	-	-	-
Council Technology Support Position - Convert from Fixed-term to Standard	81,067	83,500	2,433	1.00	1.00	-
Applications Division Internship Program	-	18,275	18,275	-	-	-
Applications Support Position	-	67,440	67,440	-	1.00	1.00
Consulting/Engineering Support for Community Broadband Initiative	-	150,000	150,000	-	-	-
Security Enhancement Projects	-	72,000	72,000	-	-	-
Total Changes, Information Technology			\$ 320,148			1.00



Table 7-33: Information Technology Department Detail

	2015 Actual		2016 Approved Budget		2017 Recommended Budget		Variance - 2016 Approved to 2017 Recommended	
	Standard FTE	Amount	Standard FTE	Amount	Standard FTE	Amount	Standard FTE	Amount
	STAFFING AND EXPENDITURE BY PROGRAM							
Administration								
Department Administration	3.50	\$ 653,791	3.00	\$ 505,202	3.00	\$ 506,547	-	\$ 1,345
Subtotal	3.50	\$ 653,791	3.00	\$ 505,202	3.00	\$ 506,547	-	\$ 1,345
Application Services								
Custom Application Provision and Related eGovernment (Internet/Intranet)	4.70	\$ 586,322	3.00	\$ 401,818	2.75	\$ 401,372	(0.25)	\$ (446)
Geographic Information Systems	1.50	187,124	2.00	267,878	2.00	291,960	-	24,082
Packaged Application Support	1.14	142,214	2.00	267,878	2.00	290,666	-	22,788
Technology Training	8.34	1,040,410	8.75	1,171,968	9.00	1,128,801	0.25	(43,168)
Subtotal	1.05	124,501	1.00	124,214	1.00	134,060	-	9,846
Subtotal	16.73	\$ 2,080,571	16.75	\$ 2,233,757	16.75	\$ 2,246,859	-	\$ 13,102
Infrastructure Services								
Database Administration	1.20	\$ 184,211	1.20	\$ 198,811	1.20	\$ 207,839	-	\$ 9,029
Disaster Recovery/Planning	0.06	-	-	-	-	-	-	-
Emerging Technology Support	0.11	-	1.00	77,767	1.00	71,781	-	(5,986)
Network Administration	1.00	212,323	2.50	414,174	2.30	354,003	(0.20)	(60,171)
Security Administration	0.70	41,701	1.25	236,354	1.25	312,699	-	76,345
Server Administration	3.39	519,012	3.65	646,225	3.85	559,464	0.20	(86,761)
Telephone Systems Administration and Device Support	0.58	-	-	-	-	-	-	-
End-User Device and Office Automation Administration and Tier 2 Support	7.19	1,026,597	7.40	896,148	7.40	941,797	-	45,649
Help Desk (Tier 1) Support	1.22	214,418	2.00	216,279	2.00	221,092	-	4,813
Subtotal	15.45	\$ 2,198,261	19.00	\$ 2,685,758	19.00	\$ 2,668,676	-	\$ (17,082)
City-Wide IT (non-departmental)								
IT Capital Money		\$ -		\$ 404,036		\$ 404,036		\$ -
Telecom Connectivity		111,382		369,264		198,264		(171,000)
Citywide Telecommunications and Computer Replacement Programs - Non CIP	1.50	2,243,481	1.50	1,803,215	2.00	1,935,616	0.50	\$ 132,401
Subtotal	1.50	\$ 2,354,863	1.50	\$ 2,576,515	2.00	\$ 2,537,916	0.50	\$ (38,599)
Capital Improvement Program								
Capital Improvement Program		\$ -		\$ 841,220		\$ 927,872		\$ 86,652
Subtotal		\$ -		\$ 841,220		\$ 927,872		\$ 86,652
Total	37.18	\$ 7,287,486	40.25	\$ 8,842,452	40.75	\$ 8,887,869	0.50	\$ 45,417
EXPENDITURE BY CATEGORY								
Personnel		\$ 4,249,406		\$ 4,606,410		\$ 4,753,716		\$ 147,306
Operating		2,883,985		3,240,862		3,015,907		(224,956)
Interdepartmental Charges		103,848		123,341		122,625		(716)
Capital Improvement Program		23,406		841,220		927,872		\$ 86,652
Other financing Uses		26,841		30,619		67,749		\$ 37,130
Total		\$ 7,287,486		\$ 8,842,452		\$ 8,887,869		\$ 45,417
STAFFING AND EXPENDITURE BY FUND								
General	35.68	\$ 5,044,005	38.75	\$ 6,198,017	38.75	\$ 6,024,381	-	\$ (173,636)
Telecommunications	1.25	776,743	1.25	704,622	1.00	548,780	(0.25)	\$ (155,842)
Computer Replacement	0.25	1,466,739	0.25	1,939,813	1.00	2,314,707	0.75	\$ 374,894
Total	37.18	\$ 7,287,486	40.25	\$ 8,842,452	40.75	\$ 8,887,869	0.50	\$ 45,417