



Special Meeting

January 27, 2017

**1 Dr. Carlton B. Goodlett Place, City Hall, Room 305
San Francisco, CA 94102**

AGENDA

1. Call to Order by Chair
2. Roll Call
3. Approval of Meeting Minutes from November 17, 2016 (Action Item)
4. Chair Update
5. CIO Update
6. Discussion: FY2018-22 Information & Communication Technology Plan
7. Update: Upgrade the Network (Dept. of Technology)
8. Major IT Project Update: Citywide Radio Replacement Project (Dept. of Emergency Management)
9. Public Comment
10. Adjournment

3. Approval of Minutes

Action Item

4. Chair Update

COIT CALENDAR PREVIEW

Date	Meeting Type	Activity
January 27	COIT	Review of vision, goals, and financial recommendations
February 3	Budget & Performance Subcommittee	Final ICT Plan Review
February 9	COIT	Review initiatives, other strategies. Final Review & Approval
February 16	Special COIT Meeting	(only if needed)
March 1	ICT Plan is proposed to the Board of Supervisors	
March 3	Budget & Performance Subcommittee	Begin Enterprise Budget Project Review

5. CIO Update

6. Discussion: FY2018-22 Information & Communication Technology (ICT) Plan

ICT PLAN FY 2018-22 OVERVIEW

The ICT Plan provides strategic direction for the City and County of San Francisco to plan, fund, and implement technology projects over the next five years.

1. Identify areas of strategic importance and initiate collective action.
2. Provide direction for strategic investment.

VISION

San Francisco technology supports easy to use and accessible services for every resident, visitor, business, and employee.

GOALS

Goal 1 – Support, Maintain, & Secure Critical Infrastructure

Goal 2 – Increase Efficiency & Effectiveness of City Operations

Goal 3 – Improve Access & Transparency to Local Government

ICT PLAN: ONGOING INITIATIVES

Goal 1 – Support, Maintain, & Secure Critical Infrastructure

- Network – Department of Technology
- Data Centers – Department of Technology
- Cybersecurity – Cybersecurity Program
- Disaster Recovery – Department of Emergency Management

ICT PLAN: ONGOING INITIATIVES

Goal 2 – Increase Efficiency & Effectiveness of City Operations

- Strategic Sourcing & Procurement – Office of Contract Administration
- Hiring - TechHire
- Data Sharing & Architecture – DataSF
- Centralizing Customer Service – SF311

ICT PLAN: ONGOING INITIATIVES

Goal 3 – Improve Access & Transparency to Local Government

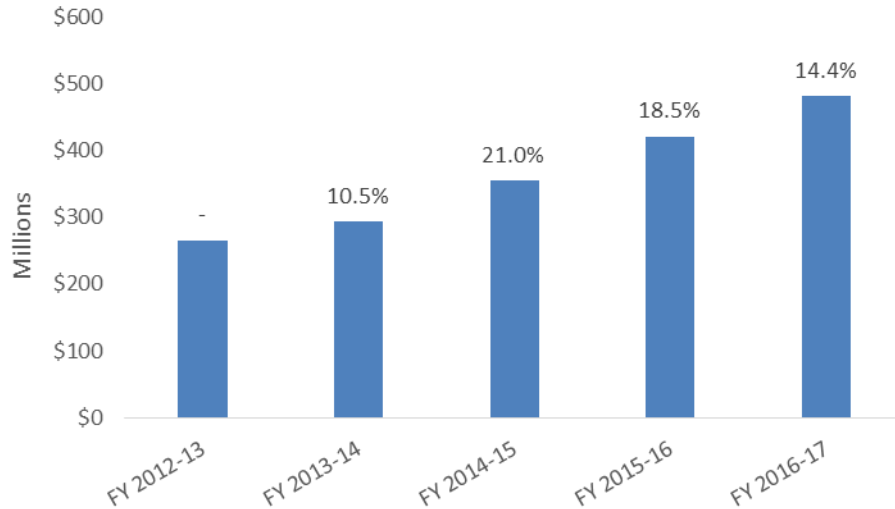
- Digital Services – Digital Services Team
- Digital Inclusion – Public Library & SFConnected

FUTURE INITIATIVES

- City Experience
- Strategic Sourcing & Procurement
- Data Architecture
- Policy Implementation:
 - Cybersecurity
 - Disaster Preparedness, Response, Recovery, and Resiliency (DPR3)

OVERVIEW: CITY TECHNOLOGY BUDGET

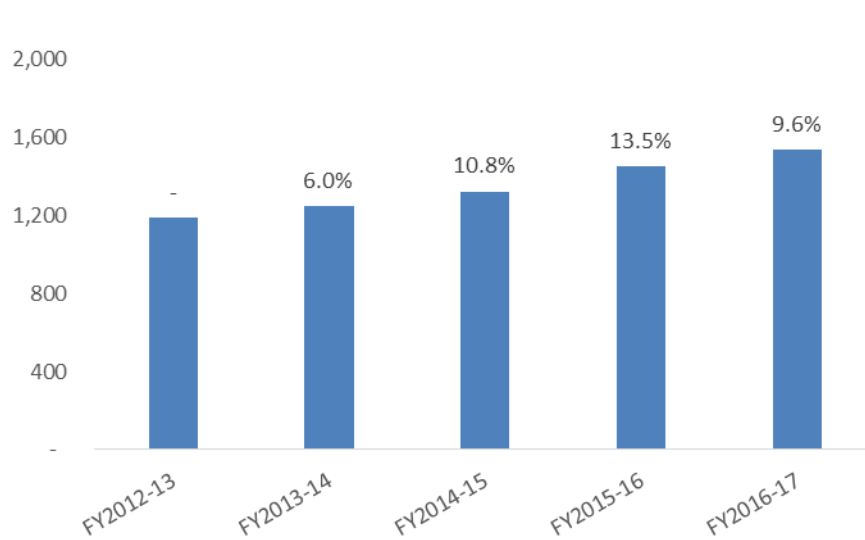
IT Budget by FY (Percent Growth)



Year	IT Budget	Total Budget	% IT
FY12-13	\$265.6M	\$7.4B	3.6%
FY13-14	\$293.5M	\$7.9B	3.7%
FY14-15	\$355.1M	\$8.6B	4.1%
FY15-16	\$420.9M	\$8.9B	4.7%
FY16-17	\$481.5M	\$9.6B	5.0%

OVERVIEW: CITY TECHNOLOGY STAFFING

IT FTE by FY (Percent Growth)



Year	IT Jobs	Total Salary	% Growth
FY12-13	1,190	\$129.9M	-
FY13-14	1,249	\$137.8M	6.0%
FY14-15	1,324	\$152.6M	10.8%
FY15-16	1,453	\$173.1M	13.5%
FY16-17	1,536	\$189.8M	9.6%

FINANCIAL SUMMARY

Projected COIT Allocation

	FY17-18	FY18-19	FY19-20	FY20-21	FY21-22	TOTAL
Annual Project	11.7	12.8	14.1	15.5	17.1	71.2
Major IT	18.6	20.5	22.5	24.7	27.2	113.5
TOTAL	30.3	33.3	36.6	40.3	44.3	184.7

Note: All figures in \$ millions.

- COIT's allocations are projected to grow by 10% each year

MAJOR IT PROJECT UPDATES

	TOTAL
Major IT Allocation	113.5
Projected Requests	113.5
F\$P	-
Radio Replacement	31.7
Property Assessment & Tax System	52.9
Emerging ICT Needs	28.9

Note: All figures in \$ millions.

POTENTIAL FUTURE MAJOR IT PROJECTS

- **Voice over Internet Protocol (VoIP):** The Department of Technology is investigating the benefits of replacing all the City's telephone systems towards more cost-effective VoIP solutions.
- **Citywide Customer Relationship Management:** 311 is investigating the pursuit of a single system to better coordinate customer information in an effort to create a seamless service experience across departments.
- **Voting System Replacement:** The Department of Elections is currently investigating alternative voting systems, including the possibility of building an open-source system.
- **Mainframe Replacement:** City departments continue to use a legacy mainframe system to support their operations. The Department of Technology is investigating replacement options.
- **Universal Broadband:** The City is currently investigating building a fiber-optic network to connect every household and business in San Francisco.

MAJOR IT PROJECT – RECOMMENDATIONS

- Recommendation 1: COIT recommends the City continue to grow the Major IT Project allocation by 10 percent annually.
- Recommendation 2: A comprehensive planning and scoping phase should precede investment for future Major IT Projects to better understand total lifecycle costs and returns.
- Recommendation 3: COIT should sequence funding of Major IT Projects on the basis of risk, project readiness, and cost-effectiveness.

FINANCIAL OVERVIEW

FY18-22: 158 Project Requests over next 5 years

Annual Allocation vs. General Fund Requests

	FY17-18	FY18-19	FY19-20	FY20-21	FY21-22	TOTAL
Annual Allocation	11.7	12.8	14.1	15.5	17.1	71.2
General Fund Requests	28.5	23.7	23.4	22.3	19.3	117.2
DIFFERENCE	(16.8)	(10.9)	(9.3)	(6.8)	(2.2)	(46.0)

Note: All figures in \$ millions.

ANNUAL ALLOCATION – RECOMMENDATIONS

- Recommendation 1: COIT recommends the City continue to grow the Annual Project Allocation by 10 percent annually.
- Recommendation 2: The Annual Project Allocation should support technology projects that replace or enhance existing services and promote eventual cost savings.
- Recommendation 3: The City should set aside a separate funding source for the continual refreshment of IT hardware.

Upgrade the Network

COIT

January 27, 2017



SAN FRANCISCO
DEPARTMENT OF
TECHNOLOGY

Strategic Alignment in Three Areas



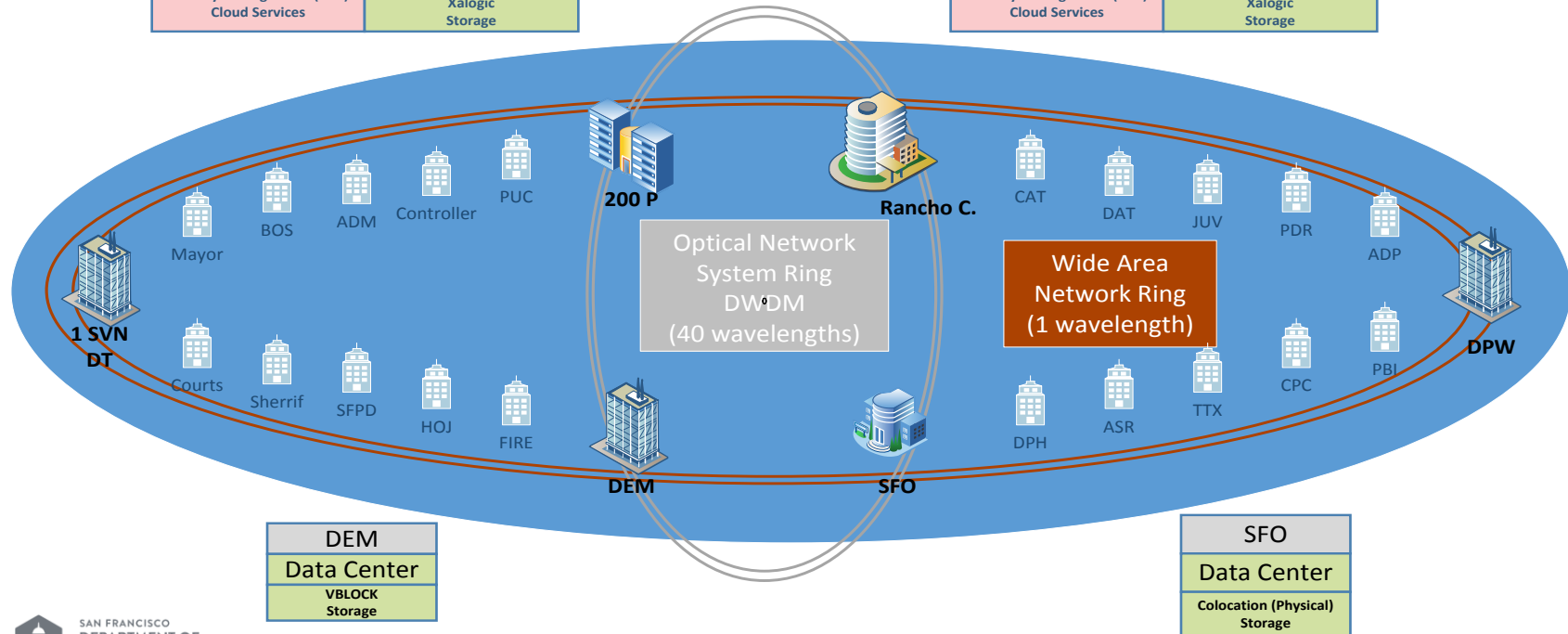
The goal of **Update the Network** is to have a scalable, secure, resilient, high-availability network that can accommodate the demands of data from future applications, video, cloud providers, and mobility.

- Strengthening our cybersecurity to help protect the City's network from hacking and ransomware attacks
- Improving the City's infrastructure to ensure faster connections and create backup routes for more reliable WiFi, VPN and connectivity to Data Centers
- Deploying new hardware and monitoring to ensure the City has updated equipment to support it's growing needs

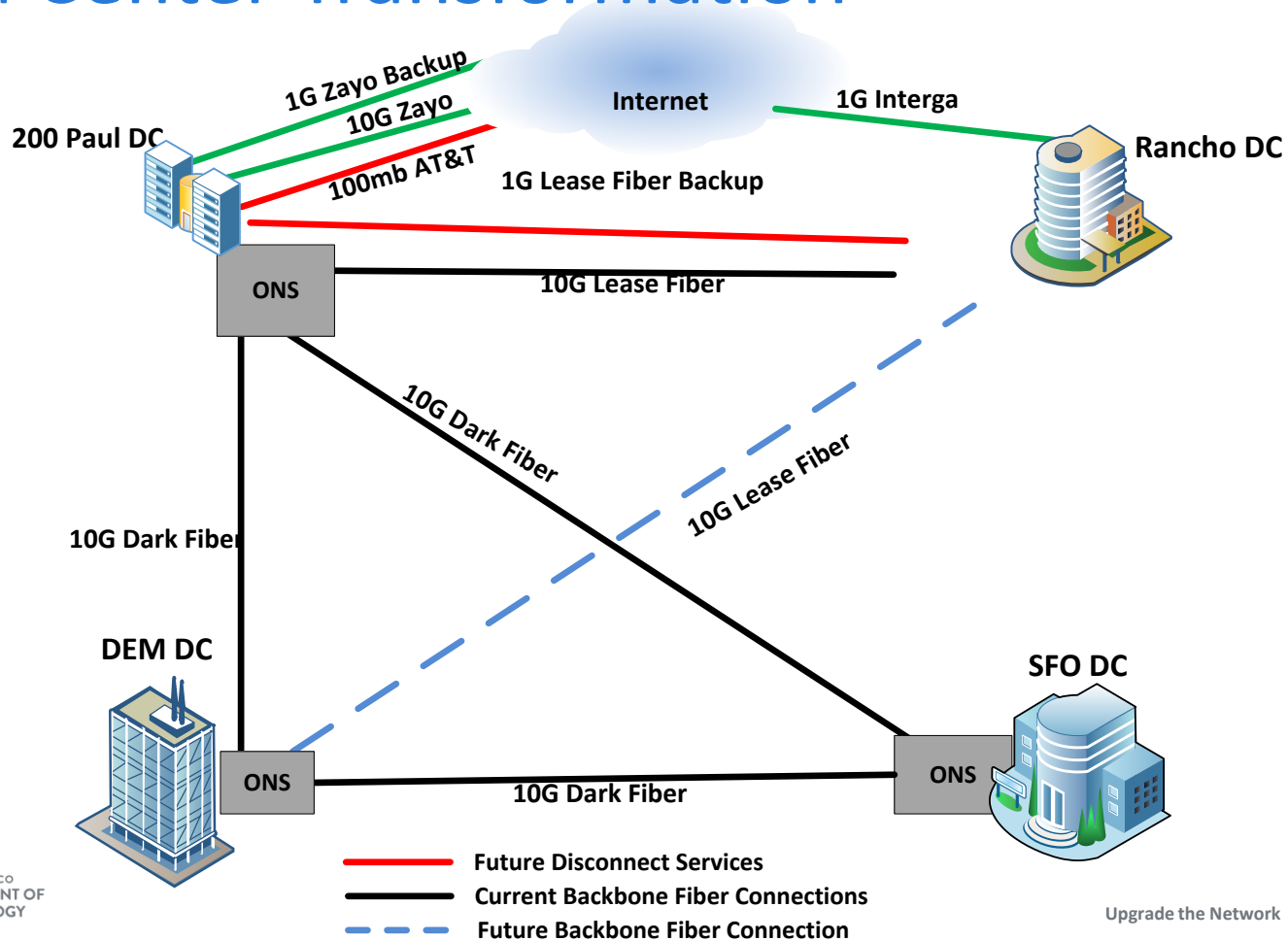
Data Center Transformation

Data Center 1	
External Internet	Data Center
AirWatch Services VOIP Services VPN Services Internet Services WebApps in CCSP DMZs Identity Management (SSO) Cloud Services	VBLOCK eMerge FSP IAM CWAD Mainframe Xalogic Storage

Data Center 2	
External Internet	Data Center
AirWatch Services VOIP Services VPN Services Internet Services WebApps in CCSP DMZs Identity Management (SSO) Cloud Services	VBLOCK eMerge FSP IAM CWAD Mainframe Xalogic Storage



Data Center Transformation



Accomplishments Since September 2016



Completed Cisco ASR **internet edge router** upgrades at 200 Paul Avenue and Rancho Cordova data centers

Benefit

Improve QoS across the WAN, Assist in providing compliance (HIPAA, PCI., etc). Enhance application security, secure without creating bottle necks.



Installed and cut over to new Cisco ASA **edge firewalls** at 200 Paul Avenue and Rancho Cordova data centers

Benefit

Inspect traffic flows at high speeds for attack prevention, policy enforcement, deliver a self-defending architecture. Policy enforcement.



Installed new Cisco ASA **VPN firewalls** at 200 Paul Avenue and Rancho Cordova data centers

Benefit

Increase security by having a robust solution (multifactor authentication) Assist with the City's Disaster Recovery implementation.



Completed Cisco N7K **core switch** upgrades and supervisor repairs at 200 Paul Avenue and Rancho Cordova data centers

Benefit

Assist with device consolidation, less data center footprint. Simplified deployment reducing TCO and assist with automating operations.

Accomplishments Since September 2016



Upgraded **internet connection** at 200 Paul from 1GB to 10GB

Benefit

Provide HA (High Availability) and DR (Disaster Recovery) for internet connectivity.



Installed FireEye IPS/IDS **network security** appliances at 200 Paul Avenue

Benefit

Inspect traffic flows at high speeds for attack prevention, policy enforcement, deliver a self-defending architecture.
Inspect traffic flows at high speeds for attack prevention, policy enforcement.

Next Steps 2017



Enable Cisco FirePower & FireEye IPS at 200 Paul and Rancho Cordova

Benefit

Increase security by having scalable enterprise solution (Intrusion prevention, security policy enforcement) monitor all traffic within the city network.



Onboard Controller, HSA, ADP and other key depts. onto Cisco VPN AnyConnect solution

Benefit

Increase security by having a robust solution (multifactor authentication) Assist with the City's Disaster Recovery implementation.



City Hall & Fox Plaza network switches and UPS

Benefit

Increase reliability and expandability and prevent power interruptions.



Operationalize new dark fiber procurement between DEM and Rancho Cordova via Cisco ONS

Benefit

Help with major initiatives; VOIP, Cloud Disaster Recovery and Enterprise systems (Emerge, F\$P, SSO, etc.)

Next Steps 2017



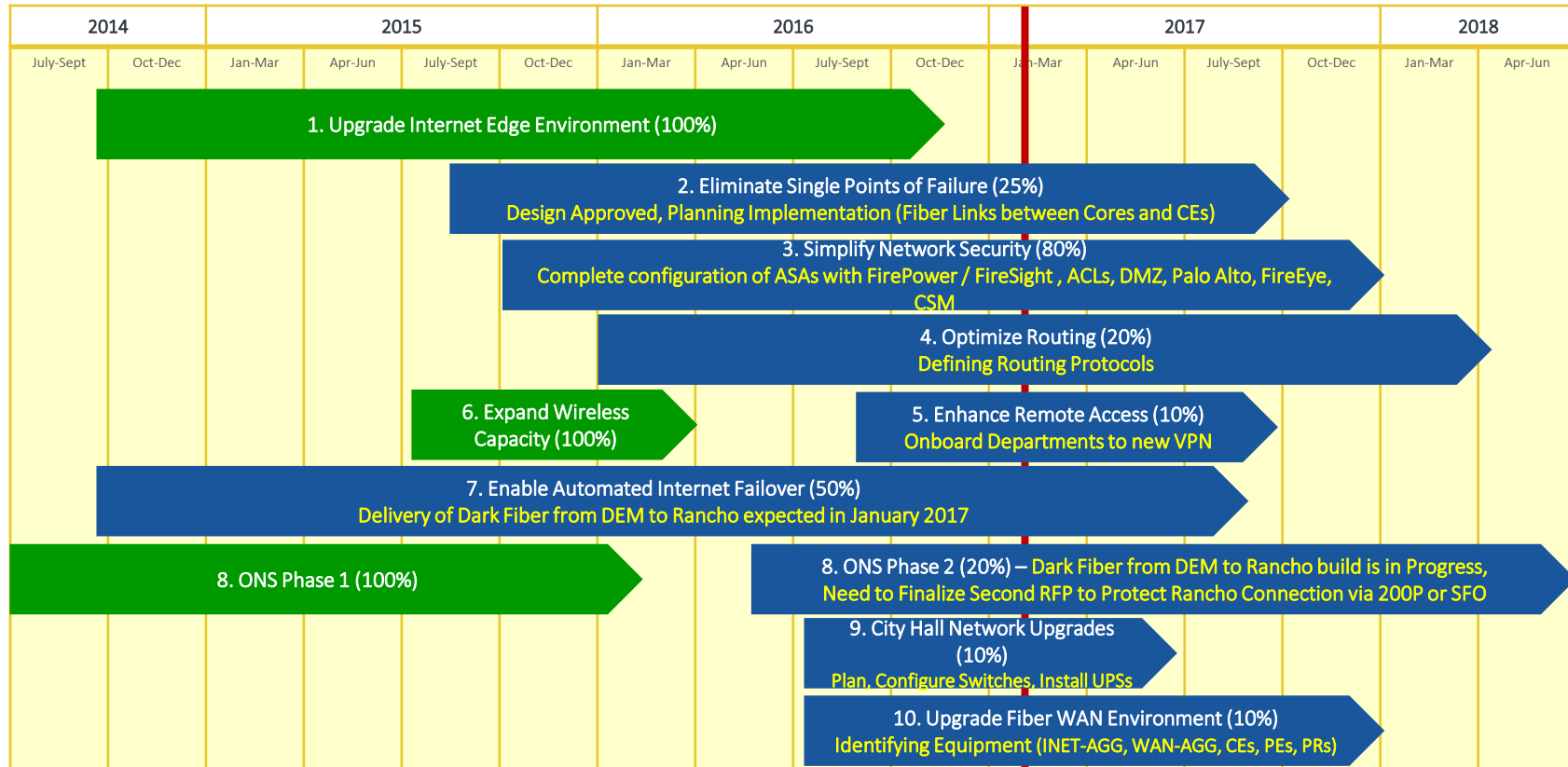
Eliminate logical Single Point of Failure in WAN & simplify Routing

Benefit

Providing redundant paths, increasing bandwidth and segmentation using QoS.

Schedule

Today



8. Citywide Radio Replacement Project

Department of Emergency Management

800MHz Citywide Emergency Radio System Replacement Project

SAN FRANCISCO DEPARTMENT OF EMERGENCY MANAGEMENT

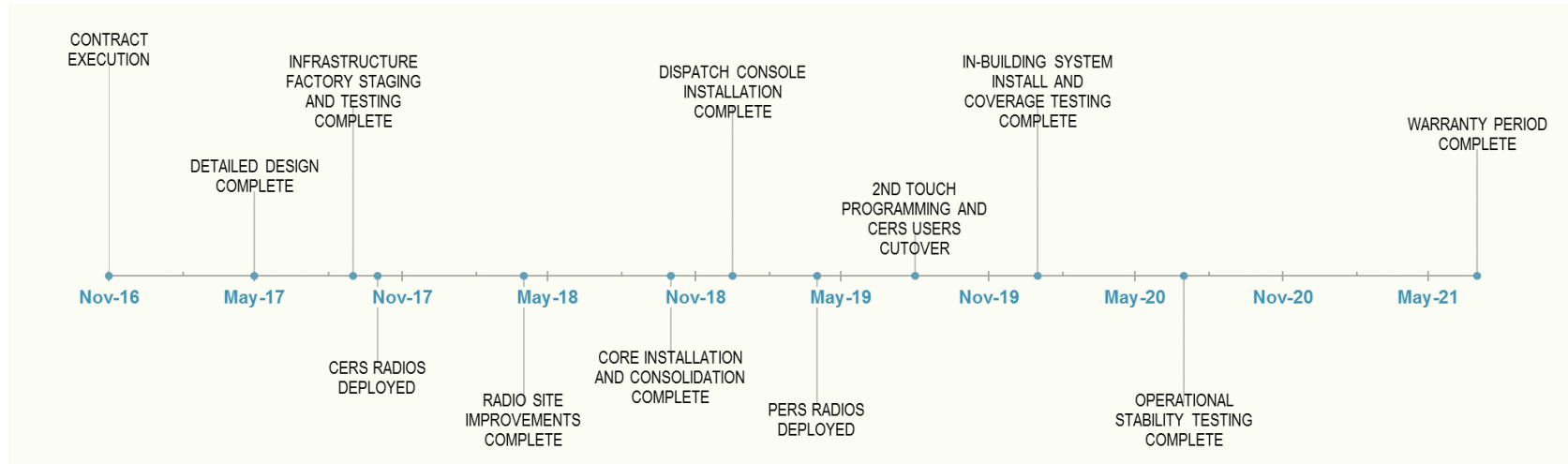
Project Accomplishments in FY16-17

- Executed the System Purchase and Installation Agreement (P-600) for a not-to-exceed amount of \$48M with Motorola Solutions
- Executed a \$28M, 18-year Maintenance and Upgrade Agreement (P-540) with Motorola Solutions
- Secured \$34.2M in financing through Bank of America
- Shipped 2,540 Radios for SFPD, SFFD, SFSD, DEM, DT, DPW and ADP
- Bid out \$2.7M in Civil/Construction work with DPW for Radio Site Improvements
- Close to finalizing 3 radio site leases (South Hill, VA Hospital, and Bayview) to allow City to start work (OMP, SF State, Bernal Heights still open, and Clay Jones is complete)

800MHz Citywide Emergency Radio System Replacement Project

SAN FRANCISCO DEPARTMENT OF EMERGENCY MANAGEMENT

Project Schedule







800MHz Citywide Emergency Radio System Replacement Project

SAN FRANCISCO DEPARTMENT OF EMERGENCY MANAGEMENT

Start Date: April 2014

End Date: Sept. 2020

Total Project Cost*	Total COIT Funding To Date*	Total Other GF Funding	Total NGF Funding	Total NGF + GF Funding	Total Spent
\$74,018,060 *not including cost to finance	\$29,880,000 *FY14-FY18	\$5,127,000	\$34,184,000	69,191,000	12,000,000

	Status	Comment
Scope		Project Scope includes Public Safety (CERS) and Public Services (PERS) radio & system upgrade. De-scoped South Hill new tower construction.
Schedule		Project Detailed Design Review phase to be substantially complete by April 2017 Portable Radios being distributed to SFPD end users DPW civil work still in bid process
Budget		Below original projection of \$78M Civil work – bid response higher than engineers estimate, but able to cover with contingency, de-scoping and delay of Clay Jones Generator Project
Risks		VA Site Relocation/SHPO Approval Twin Peaks Tower Construction DPW Civil/Construction Work at all sites Radio Site Leases BART Underground Radio Coverage Solution (ISSI)

800MHz Citywide Emergency Radio System Replacement Project

SAN FRANCISCO DEPARTMENT OF EMERGENCY MANAGEMENT

BUDGET

	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-27
Project Management, Salary & Fringe	\$ 1,283,533	\$ 1,317,915	\$ 1,353,671	TBD	TBD
Department Workorders	\$ 700,000	\$ 700,000	\$ 700,000		
Infrastructure Costs (Other)	\$ 1,110,925	\$ 1,110,925	\$ 1,063,906		
Subscriber Costs (Other)	\$ 793,420	\$ 793,420			
Contingency	\$ 650,000	\$ 650,000	\$ 650,000		
SUBTOTAL	\$ 4,537,879	\$ 4,572,260	\$ 3,767,578		
Finance Payments for Vendor Contract	\$ 3,777,522	\$ 3,777,522	\$ 3,777,522	\$ 3,777,522	\$ 3,777,522
TOTAL	\$ 8,315,401	\$ 8,349,782	\$ 7,545,100	\$ 3,777,522	\$ 3,777,522

Notes:

- Four project staff positions until FY19-20 and consulting/technical support fees
- \$11M in carryforward will be applied to Motorola Contract – performance based milestone payments

9. Public Comment
