ATTACHMENT 4

KMPG Report: Business Case for a Standalone IT Department

Business Case for a Standalone IT Department

AUTHORIZED FOR DISTRIBUTION

2021

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Executive Summary

Executive summary (slide 1 of 2)

Background: The August 2019 General Services review recommended the County to establish ICT as a standalone department

Analysis: In July/August 2020, KPMG interviewed 7 departments and studied 10 peer CA counties

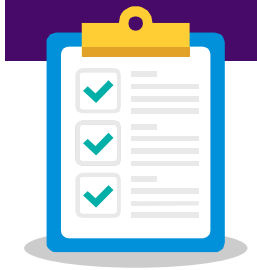
- *Key strengths:* ICT staff are good collaborators, effective at delivering "core services" like network
- *Key challenges:* ICT's ability to deliver value, current technology sprawl across the County
- *Key opportunities:* ICT can expand its "core services," serve where IT needs are countywide, and provide considerable effectiveness in meeting technology needs across the County

Target State: Based on KPMG findings, a "charter" was written to describe the intent of a standalone IT Department (ITD)

- *Vision:* To be a partner and innovator in support of our County's Mission
- *Mission:* Shift IT from being largely decentralized to a "hybrid" model
- *Goal:* Provide a hub for shared IT solutions and services to drive efficiency and simplification
- *Objectives:* Six key outcomes expected of the future IT Department

Executive summary (slide 2 of 2)

Benefits: Twenty-five effectiveness, efficiency, and security outcomes were identified that a standalone IT Department can achieve



Pre-Requisites: In order to establish a standalone IT Department, 11 pre-requisites were identified

Roadmap: Eight fiscal quarters after commencing the pre-requisite activities, the IT Department will have largely been established

Investment: There is an incremental investment to build and operate a standalone IT Department, achieve the identified benefits, and manage IT in a manner more consistent with our peer group

- *One-time:* $5.68M-8.79M to complete the pre-requisites
  - $1.60M-2.10M for Phase 1 (first 3 fiscal quarters after start)
  - $4.08M-6.69M for Phase 2 (fiscal quarters 4+ after start)
- *Net Impact to Operating Expense*:* +$6.73M-7.57M (+32-36% over FY20/21 ICT spend of $20.96M) in additional annual spend, primarily on Labor to staff the IT Department at a level consistent with Peer Counties scaled for the size of the County of Santa Barbara

*Note: Timing of the operating expense increase depends on pace of hiring, likely reaching estimated amount sometime 12 fiscal quarters after start.

KPMG

Findings & Target State

Key excerpts from almost 100 pages of analysis and supporting exhibits in the full Business Case (available upon request)

The KPMG study identified strengths as well as important opportunities and challenges for IT as a standalone department

Strengths

- ICT staff are largely viewed as easy to work with and good problem solvers
- There is considerable appreciation for critical ICT services such as:
  - Countywide network
  - Problem resolution
  - Infrastructure hosting
  - Deployment of various countywide solutions (e.g., SmartSheet, DocuSign, Skype)

Opportunities

- Expand “core services” like infrastructure and cybersecurity
- Formalize consulting services like innovation and enterprise architecture
- Provide countywide and multi-department systems and solutions
- Determine which IT positions can be ICT-led vs Department-led

Challenges

- There are inconsistent views on the value provided by ICT
- ICT is viewed as being on the critical path for urgent service delivery and that this can frustrate other departments
- There are concerns about the availability of IT skills in the local market
- It is difficult to achieve efficiency and effectiveness goals simultaneously
- The county has significant technology sprawl (e.g., lack of standards)

Source: KPMG interviews with CoSB department leaders (July/August, 2020); County of Santa Barbara Countywide Operational Review_General Services” (KPMG 2019); “WTC_CoSB Final Report” (WTC 2019)

A “charter” was written to describe the intent of a standalone IT Department

Overview of the IT Department (ITD) Charter

Vision

To be a **partner and innovator** in support of our County’s Mission

Mission

Shift IT from being largely **decentralized to a “hybrid” model**

Goal

Provide a hub for **shared IT solutions and services to drive efficiency and simplification**

Guiding Principles

Objectives

- *Expand ownership to include countywide and multi-department solutions*
- *Provide Infrastructure and Platform as a service (IasS and PaaS) to all departments*
- *Mature IT Portfolio Management Office to represent a portfolio view for the County*
- *Establish an end-to-end IT security function to serve all departments*
- *Expand technical support services for smaller departments (0-5 IT ppl) and integrate standards for consistency across the County*
- *Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department*

Source: Countywide Technology Strategic Plan 2018-2022 (2018), KPMG analysis

The IT Department (ITD) can be a hub for shared IT services countywide, with objective-driven functions and services as conceptual foundation

Objectives and conceptual scope of services:

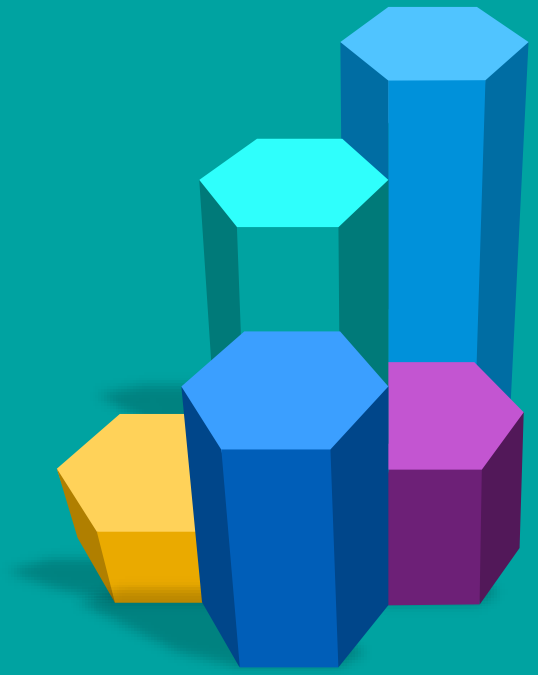
Functions & Objectives	Solutions	Infrastructure & Operations (I&O)	Portfolio Management	Cybersecurity	Technical Support	Information Executive
	Objective: *Expand ownership to include countywide and multi-department solutions*	**Objective:** *Provide Infrastructure and Platform as a service (IasS and PaaS) to all departments*	**Objective:** *Mature IT Portfolio Management Office to represent a portfolio view countywide*	**Objective:** *Establish an end-to-end IT security function to serve all departments*	**Objective:** *Expand technical support services for smaller departments and integrate standards countywide*	**Objective:** *Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department*
Services / Solutions / Families	Back office Apps	Datacenter	Countywide Calendar	Security Strategy	For departments with 0-5 IT Headcount:	IT Strategy
	Billing systems	Cloud Vendor Mgmt	Monitoring & Tracking	Security Standards	Desktop Support	IT Finance
	ServiceNow	Network	Governance	Security Architecture	Help Desk (Tier 1)	IT Vendor Mgmt
	Office 365 (Email)	Telephony	PMO Standards	Security Operations	End User Computing	Enterprise Architecture
	Integrations	Public Safety Radio Network		Security Assurance	For departments with 6-30+ IT Headcount:	Innovation
	Energy Management	CSBTV		Access Mgmt	Desktop Support Standards	Customer Relations
	Productivity & Collab.			Security Awareness	End User Computing & Mobile Device Mgmt. Standards	
	Existing Dept Solutions			Risk & Compliance		
	Geographic Info. Systems					

Note: Communications will be part of the IT Department

Source: KPMG analysis, KPMG interviews with CoSB department leaders (July/August, 2020)

Investing in IT as a Department is expected to achieve outcomes that may also reduce costs Countywide

- ✓ Consolidates a sprawl of disparate enterprise solutions
- ✓ Establishes a structure that enables important efficiencies over time:
  - ✓ Cut countywide software license spend by up to 30%
  - ✓ Reduce total vendor spend by up to 20%
  - ✓ Improve efficiency of infrastructure operations by up to 10%
  - ✓ Improve chances of meeting project goals by up to 38%



- ✓ Mitigates the majority of all top cyber attacks
- ✓ Improves IT security policy compliance across the County
- ✓ Strengthens IT cost control & ISF rate defensibility
- ✓ Enhances ability to self-rationalize IT projects
- ✓ Improves technical support resource fungibility & coverage

Sources: KPMG analysis, Gartner, PMI, CIS, Forrester

KPMG

Roadmap & Investment Considerations

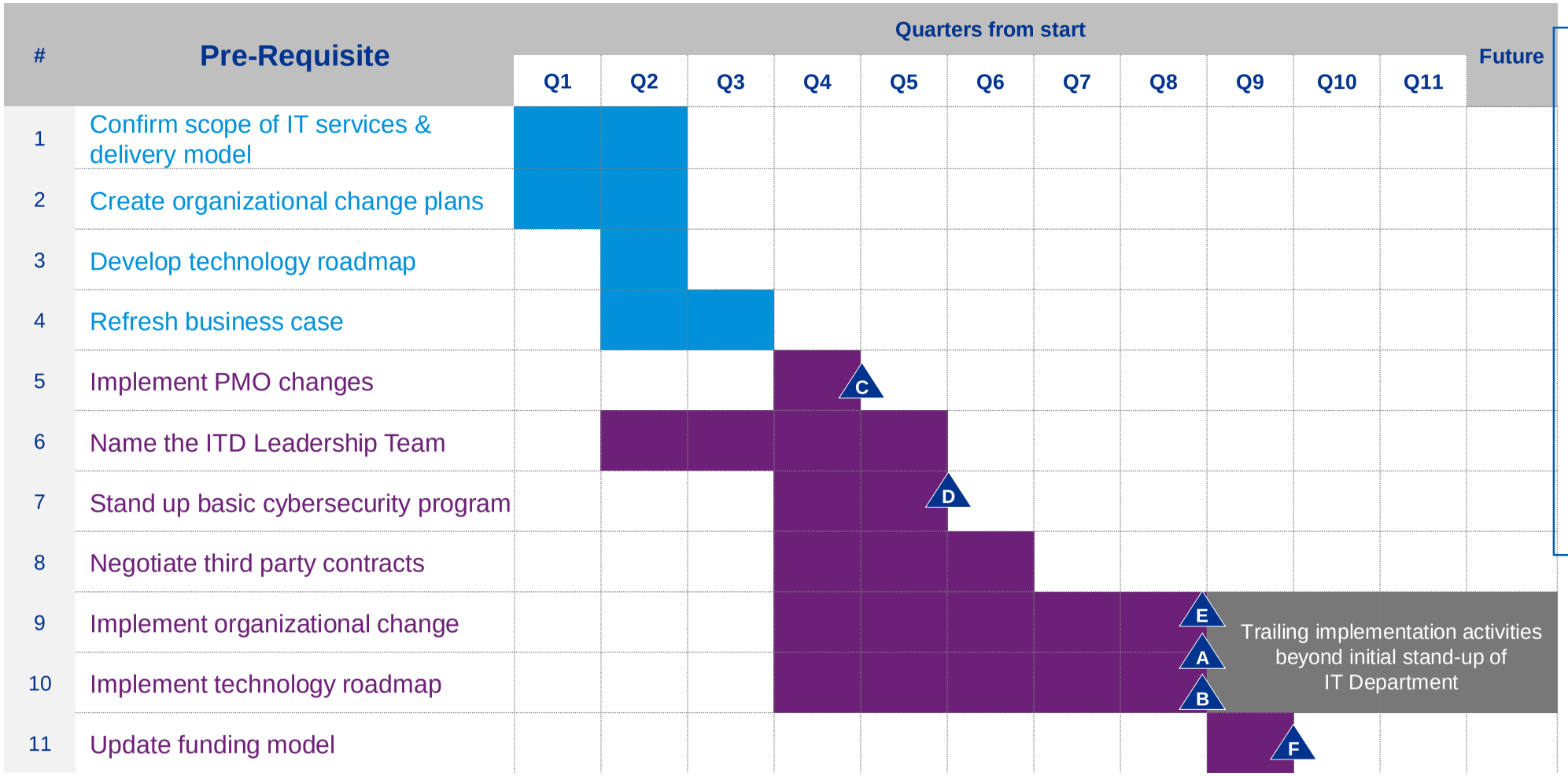
Key excerpts from around 20 pages of analysis and supporting exhibits in the full Business Case (available upon request)

Eleven pre-requisites must be completed to establish a standalone IT Department

	#	Pre-Requisite
Phase 1	1	Confirm scope of IT services & delivery model
	2	Create organizational change plans
	3	Develop technology roadmap
	4	Refresh business case
	5	Implement PMO changes
Phase 2	6	Name the ITD Leadership Team
	7	Mature the cybersecurity program
	8	Negotiate third party contracts
	9	Implement organizational change
	10	Implement technology roadmap
	11	Update funding model (ISF Rates)

Gaps to close in order to carve out ICT from General Services and establish it as a standalone IT Department capable of delivering on its Vision, Mission and Objectives

Roadmap



Objectives:

- A: Expand ownership to include countywide and multi-department solutions
- B: Provide Infrastructure and Platform as a service to all
- C: Mature IT Portfolio Management Office to represent a portfolio view for the County
- D: Establish an end-to-end IT security function to serve all departments
- E: Expand technical support services for smaller departments (0-5 IT ppl) and integrate standards for consistency countywide
- F: Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department

Legend

Phase 1 | Phase 2

Objective ▲

Peer counties have an annual IT department budget of ~$29.4M and 106 FTE when scaled for CoSB's total budget and FTE

CoSB-scaled average across all ten Counties is $29.4 million and 106 headcount

Counties with "model" IT departments

Alameda, Kern, Ventura, San Luis Obispo, and Santa Cruz have model IT organizations to pattern after.

Avg: 31 M
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Counties of comparable size

Sonoma, Tulare, Solano, Monterey, and Placer have a similar County population and budget.

Avg: $28 M
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High: 135 FTE

Note: Figures shown are scaled for County of Santa Barbara's size.

Source: "KPMG analysis of CA Peer Counties, Peer IT Spend and Headcount section" (KPMG 2020)

The County could expect to spend $5.68-8.79M to establish a standalone IT department, and will need to consider external hiring to staff some roles in the new ITD

Note: size of range reflects uncertainty around number of resources needed from external market, refined via pre-requisite #2

***ITD headcount expectations:**

- Current county-wide IT FTEs: 190
- 106 FTEs in ITD will include 40 in the current ICT organization, ~10-20 new FTEs to support new roles (e.g., PMO, Information Executive function, cyber), and the remainder will be sourced from departmental IT teams or external hires
- Phase 1 pre-requisites will determine hiring needs over time

One-time Investment needed to complete all 11 Pre-requisites

- Phase 1: $1.60M-2.10M (fiscal quarters 1-3)
- Phase 2: $4.08M-6.69M (fiscal quarters 4+)
- **Total: $5.68-8.79M**

Note: size of range reflects uncertainty around final scope of IT services & delivery model, refined via pre-requisite #1.

***Total target ITD cost & headcount profile**

- 106 full-time IT positions
- $29.4 Million target IT spend

*Per "Peer County Analysis" conducted by KPMG (ITD targets $29.4M total annual spend with 106 IT positions)

Approach

KPMG assessed the County's IT current state, analyzed key inputs, and developed an implementation plan and high-level business case to establish IT as a standalone department

Activities

Assess

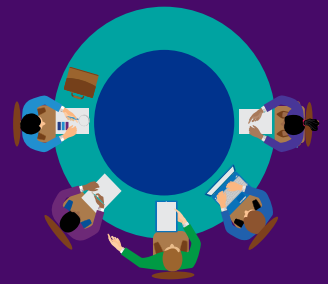
KPMG reviewed and conducted necessary analysis

- Gathered data and documentation and conducted analysis
- Working sessions and interviews with 7 departments (Behavioral Wellness, Social Services, Public Health, District Attorney, Public Works, General Services and Fire) and other stakeholders
- Developed and documented findings
- Developed guiding principles, mission, and objectives

Analyze

Conducted analyses to identify the pre-requisites, outcomes, and other critical information to support a plan to create a standalone IT department

- Created CIO job descriptions and conducted salary benchmarking
- Benchmarked peer counties
- Identified key pre-requisites and outcomes for implementation



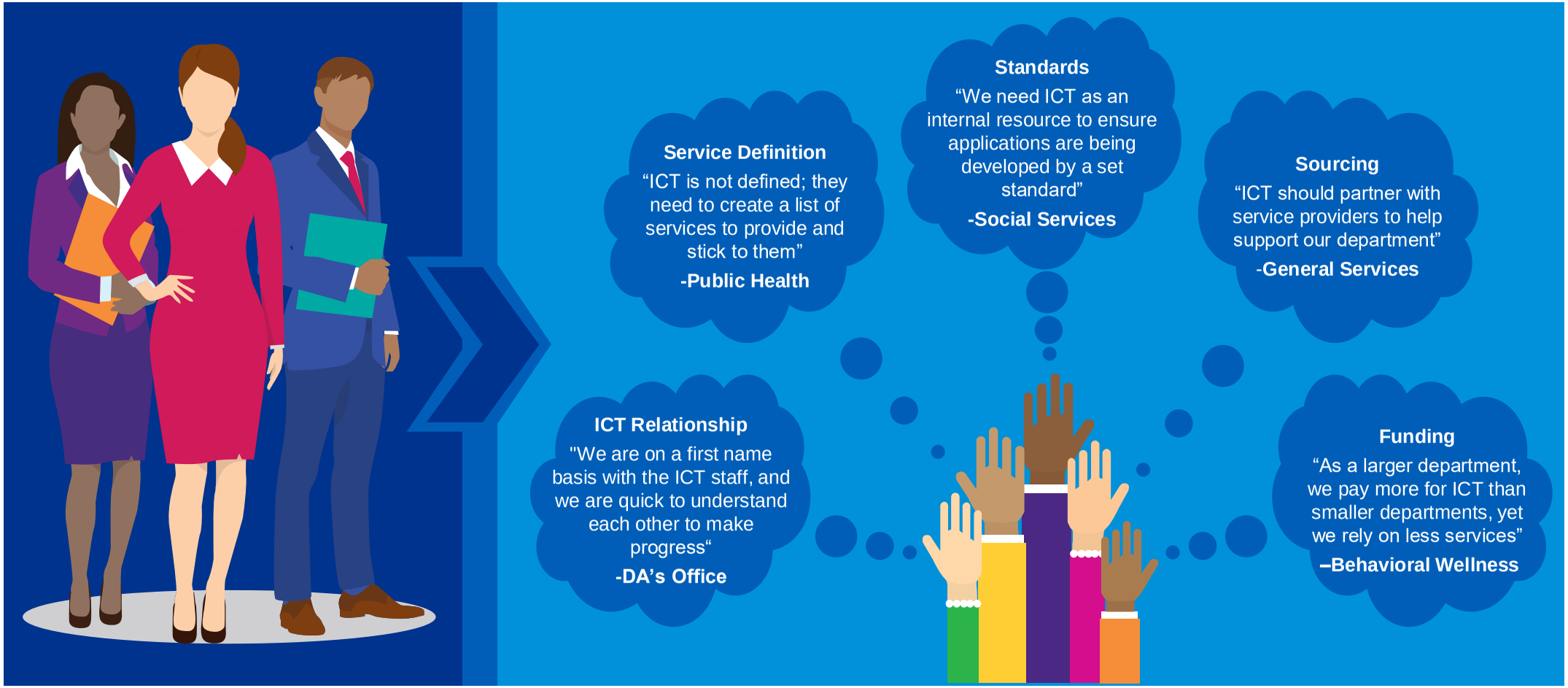
Recommend

Created a plan and business case required for establishing a standalone IT department:

- Developed an implementation plan to achieve objectives of the target state goal of the IT department
- Assessed time and estimated financial investments required
- Identified a range of outcomes that a standalone IT department could be expected to offer
- Identified high level impact to departments

Findings

Department interviews identified their vision and preferences for a standalone IT department



Source: KPMG interviews with CoSB department leaders (July/August, 2020)

Department interviews identified strengths as well as important opportunities and challenges for IT as a standalone department

Strengths

- ICT staff are largely viewed as easy to work with and good problem solvers
- There is considerable appreciation for critical ICT services such as:
  - Countywide Network
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  - Various countywide solutions (e.g., SmartSheet, DocuSign, Skype)

Opportunities

- Expand “core services” like infrastructure and cybersecurity
- Formalize consulting services like innovation and enterprise architecture
- Provide countywide and multi-department systems and solutions
- Determine which IT positions can be ICT-led vs Department-led

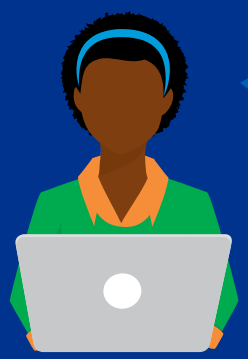
Challenges

- There are inconsistent views on the value provided by ICT
- ICT is viewed as being on the critical path for urgent service delivery and that this can frustrate other departments
- There are concerns about the availability of IT skills in the local market
- It is difficult to achieve efficiency and effectiveness goals simultaneously
- The county has significant technology sprawl (e.g., lack of standards)

Source: KPMG interviews with CoSB department leaders (July/August, 2020); County of Santa Barbara Countywide Operational Review_General Services” (KPMG 2019); “WTC_CoSB Final Report” (WTC 2019)

Opportunity: ICT can expand “core services” like infrastructure & cybersecurity

Details	Implications
Many departments would like to count on ICT for infrastructure as a service so they can focus on building their own solutions	End-to-end ownership of infrastructure will come with expanded customer service, continuous improvement, and operational responsibilities. ICT would essentially be competing with public cloud providers internally.
	CJIS, HIPAA, and other significant compliance measures will need to be taken to provide infrastructure service to applicable departments
There are security policy committees today, yet a recent cyber incident exposed persistent vulnerabilities despite the policy-making. A countywide cybersecurity assessment is being conducted to identify additional risks.	Adverse events and assessment results may form a compelling platform upon which to build an effective cybersecurity program. This program can manage exponentially-growing threats on a risk-and-impact-basis to target security funding & efforts in a resource-constrained environment. It will take strong cooperation across the County to be truly effective.



Source: KPMG interviews with CoSB department leaders (July/August, 2020)

Opportunity: ITD can formalize consulting services like innovation and enterprise architecture

Details	Implications
Departments are focused on their department specific-needs and don't always have the ability to stay current on latest technology advances	Technology innovation is happening at an ever increasing rate, so it often takes career technology specialists to interpret and then find practical application for such advances in their enterprise. This skill and focus often comes from central IT functions, and if made a formal and defined service offering it can shape the business agenda in powerful ways.
The Enterprise Information Technology Council (EITC) provides advice on information technology investment priorities for the County good. It is credited for governing new technology proposals across the County to balance efficiency and effectiveness. This body also governs IT standards and policies.	The IT department could be in position to further develop (or source) an Enterprise Architecture (EA) capability to help the EITC not just rationalize future IT projects, but turn more of its attention to the existing IT estate. Enterprise Architecture can bring clarity, discipline, and planfulness to topics like technical debt, systems rationalization, and cloud migration strategies that can be nuanced and complex.

Source: KPMG interviews with CoSB department leaders (July/August, 2020)

Opportunity: Provide countywide and multi-department systems and solutions

Details

The County's distributed IT environment has limited the ability to identify where Countywide IT solutions are warranted. There are a variety of platforms, development methodologies, and approaches to key contributions (e.g., application security).

System Family	# of Opportunities	System Family	# of Opportunities	System Family	# of Opportunities
ERP	∞	Email, Active Directory, etc.	4+	Training & Certification	7+
ITSM	5+	HR	6+	Data Visualization	5+
GIS	5+	Permits, Env. Health, Billing, Digital Plans	5+	CRM	2+

Implications

Care should be taken to evaluate systems and licenses for the ability to deliver both effectiveness and efficiency through consolidation.

For systems dealing with CJI, PHI, PII, and other sensitive data classes, there will need to be careful attention to regulatory and policy requirements.

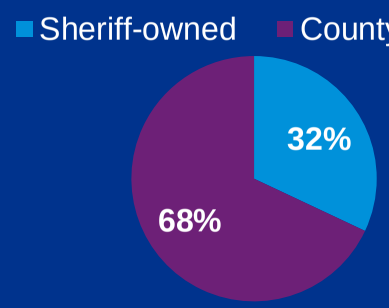
Source: Initial (non-binding) analysis by KPMG of WTC "CoSB-Systems-inventory…," Fall 2019; KPMG interviews with CoSB department leaders (July/August, 2020)

Opportunity: Provide countywide and multi-department systems and solutions (continued)

Details

ICT is restricted from providing a full suite of IT services to departments with significant Criminal Justice Information Services (CJIS) access. Criminal Justice Information (CJI) must be handled consistent with Department of Justice policy. Even so, it is common for a central IT organization to manage applications with sensitive data. For example, 68% of surveyed CA counties manage email systems at the county level.

COMMON SYSTEMS OWNERSHIP



Implications

ICT could be relied upon by departments dealing with CJI, provided they address key provisions of the FBI's CJIS Security Policy:

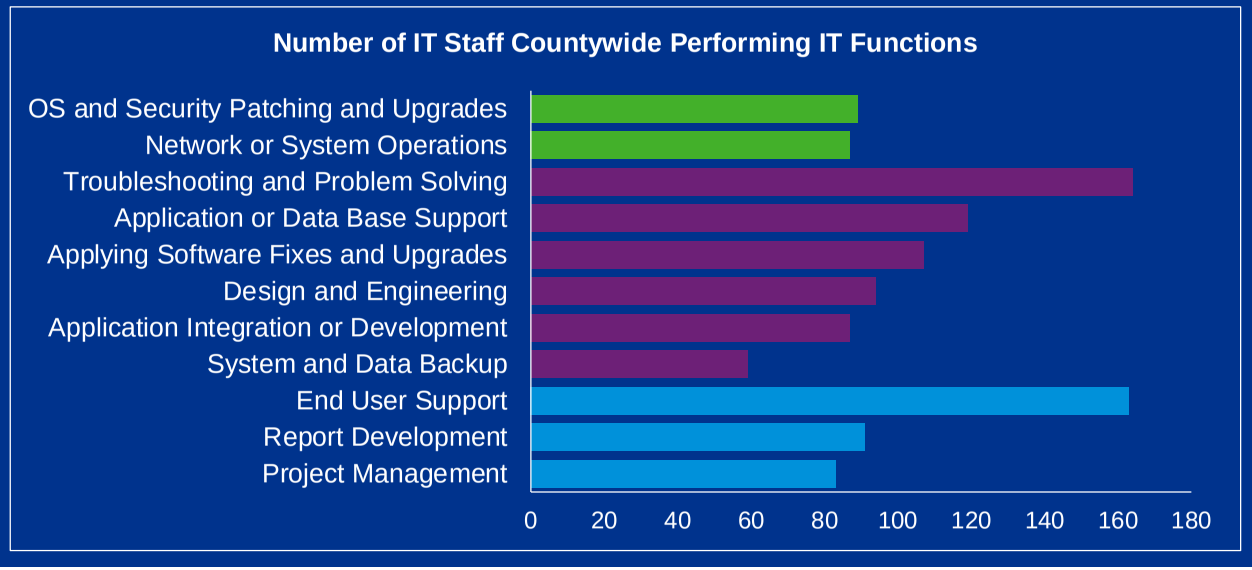
- Information exchange agreements
- Security awareness training
- Incident response
- Auditing & accountability
- Access control
- Identification & authentication
- Configuration management
- Media (digital) & physical protection
- Mobile device management
- Cloud security

Source: "County responses to O365-AD question (CCISDA)," August 2020; Department of Justice "Criminal Justice Information Services (CJIS) Security Policy," June 2016

Opportunity: Determine which IT positions can be ICT-led vs Department-led

Details

Functions related to “core services” of ICT are performed by IT staff across the County (green bars below). Solutions-related functions like application development are also widespread, and some number within are for countywide or multi-department systems (purple). The remaining functions (blue) are largely department-led where lines of demarcation are more clear.



Implications

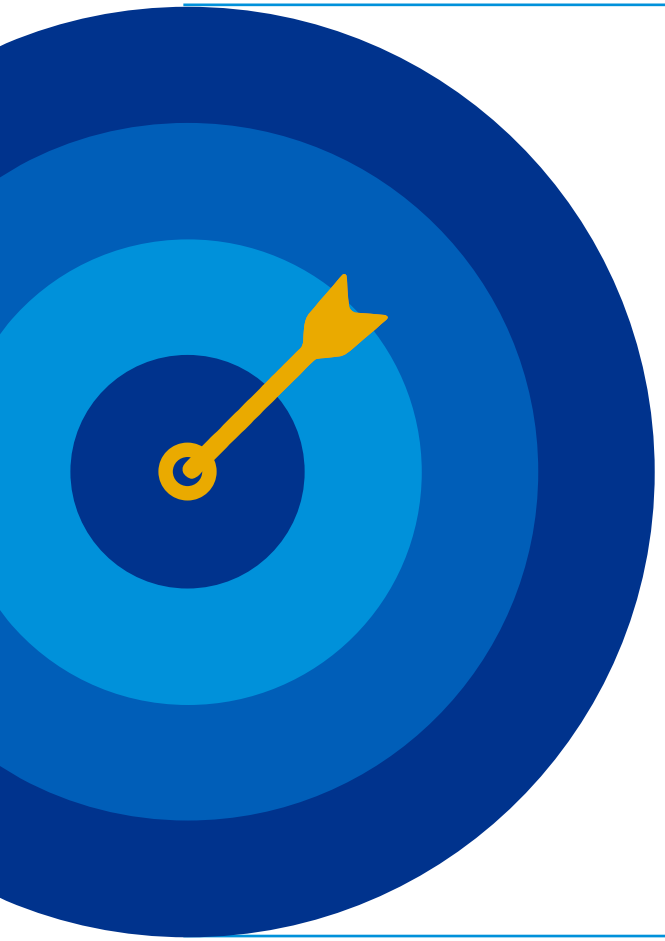
IT departments perform many of the same functions as other departments. This is driven by the high level of distributed systems and infrastructure. There is also considerable participation among IT staff in all of the identified functions.

Key

At Department Request:
ICT-led
ICT/Department-led
Larger Department-led

Source: “WTC_CoSB Final Report” (2019); KPMG interviews with CoSB department leaders (July/August, 2020)

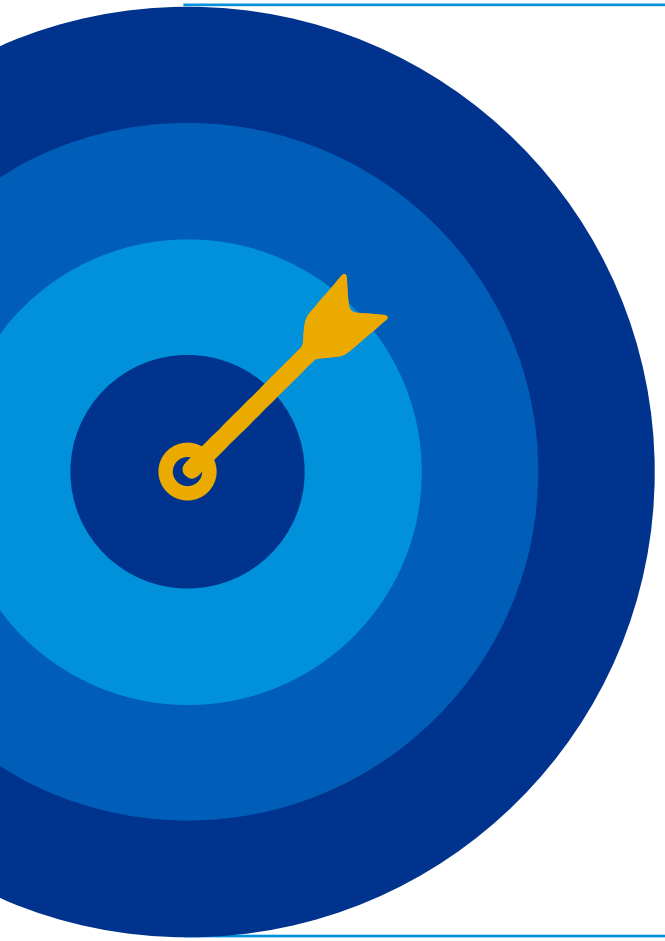
ICT faces some headwinds to expand its role as a standalone department that will need to be addressed (Slide 1 of 2)



Challenge	Details	Implication
There are inconsistent views on the value provided by ICT	Some larger departments (i.e., Social Services) have their own end-to-end IT functions and rely less on ICT for services than other departments. While consistent with a negotiated ISF rate structure, these larger departments pay more in total for ICT but receive fewer services than their smaller peers.	Larger departments question the need to increase their ICT cost allocation. The County maintains a desire for ICT to be cost-effective in the future, and is aware with declining revenues it must do more with less.
ICT is viewed as being on the critical path for urgent service delivery and that this can frustrate other departments	ICT's primary role in offering a help desk is Tier 1 support, where incidents and requests first go to them before anywhere else.	If ICT were to expand its help desk it may slow down incident response for departments like Public Works, Fire, and others during emergencies.
	The County has an established Emergency Operations Center (EOC) that includes the ICT division.	The role and responsibilities of ICT as a standalone department in the EOC is unclear.
There are concerns about the availability of IT skills in the local market	There are a number of long-standing vacancies for IT positions across the county.	There may be a lack of resources available for ICT to build capability and capacity to expand its services affordably.

Source: KPMG interviews with CoSB department leaders (July/August, 2020); "WTC_CoSB Final Report" (2019)

ICT faces some headwinds to expand its role as a standalone department that will need to be addressed (Slide 2 of 2)

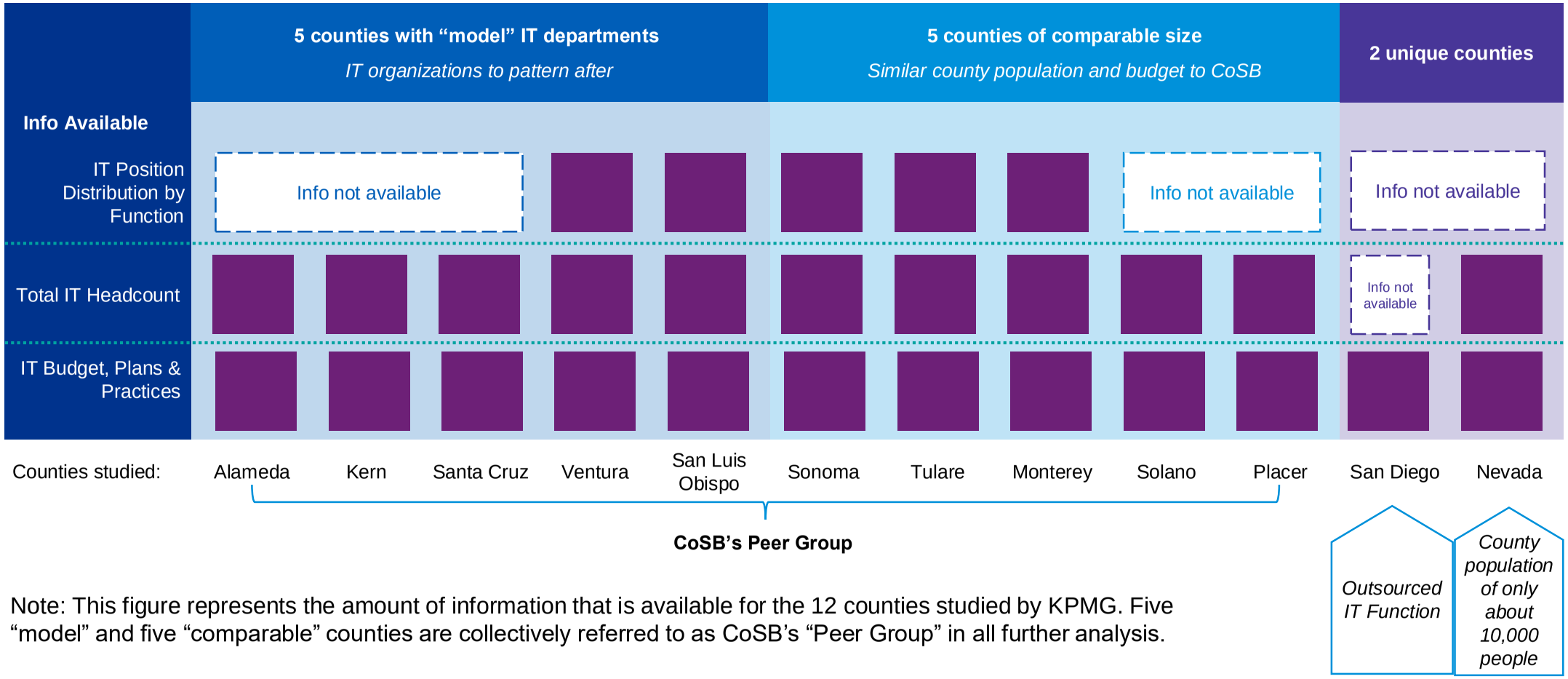


Challenge	Details	Implication
It is difficult to achieve efficiency and effectiveness goals simultaneously	Where departments have IT needs that they feel go beyond what ICT can offer, their tendency is to provide for themselves. There is also a lack of clarity around what services ICT can provide. This environment has created a balance favoring effectiveness over efficiency.	The IT Department will need leadership with deep IT expertise, and time to deliver on clarified scope to demonstrate competence & reliability. It must also show a commitment to customer service. Through this it can garner enough trust for departments to rely on them, and only then can opportunities for efficiency be realized.
The county has significant technology sprawl (e.g., lack of standards)	There are a number of common software licenses (for example: Microsoft, VmWare, Adobe, BlueBeam, Westlaw) managed by individual departments and ICT separately.	It will take delicate and well-timed negotiation efforts to unwind disparate contracts into enterprise agreements that achieve better pricing and consistent terms that work for the whole County.
	About 30% of total systems across the County are developed & maintained in-house. The 4 County departments with 15 or more in-house developed applications account for ~68% of the total in-house applications County wide. This poses a vulnerability when platforms are no longer supported or staff with expertise leave the County.	There is nothing inherently wrong with in-house applications, but they are often heavily customized around a set of very unique business processes. These circumstances require a strong team to interpret, find alternatives, and implement solutions efficiently.

Source: KPMG interviews with CoSB department leaders (July/August, 2020); "WTC_CoSB Final Report" (2019)

Peer county analysis

KPMG collected comparative information for both “model” and comparably-sized counties



Note: This figure represents the amount of information that is available for the 12 counties studied by KPMG. Five “model” and five “comparable” counties are collectively referred to as CoSB’s “Peer Group” in all further analysis.

Source: “KPMG analysis of CA Peer Counties” (KPMG 2020)

Peer counties have an annual IT department budget of ~$29.4M and 106 FTE when scaled for CoSB's total budget and FTE

CoSB-scaled average across all ten Counties is $29.4 million and 106 headcount

Counties with "model" IT departments

Alameda, Kern, Ventura, San Luis Obispo, and Santa Cruz have model IT organizations to pattern after.

Avg: 31 M
Low: $14 M
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Avg: 98 FTE
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Counties of comparable size

Sonoma, Tulare, Solano, Monterey, and Placer have a similar County population and budget.

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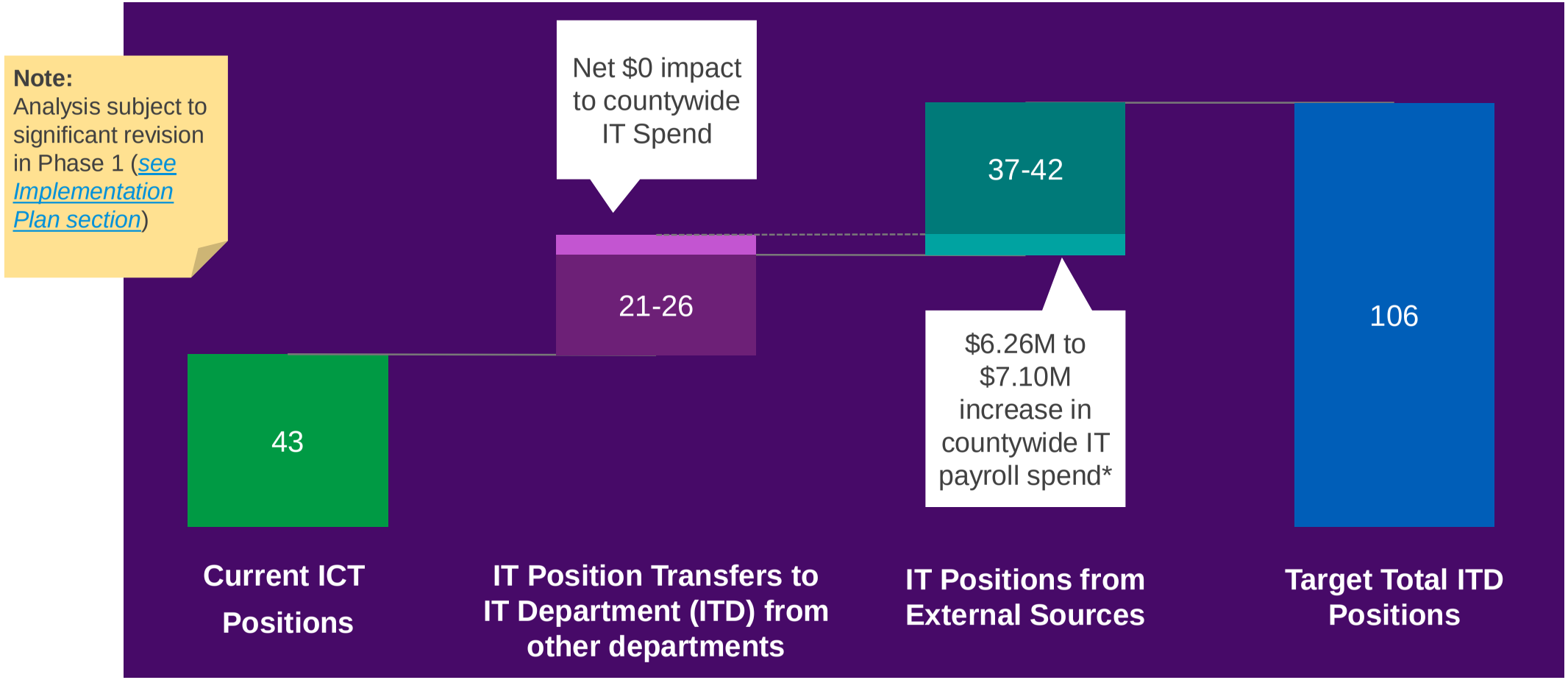
Note: Figures shown are scaled for County of Santa Barbara's size.

Source: "KPMG analysis of CA Peer Counties, Peer IT Spend and Headcount section" (KPMG 2020)

CoSB could expect to source 21-26 IT positions internally from other departments and 37-42 IT positions externally to reach target IT Department headcount of 106

Source of IT Positions and Impact to Reach IT Department (ITD) Target Headcount



*Given FY20/21 ITD average salary & benefits spend of $169,098 per IT FTE; there will be operational savings to improve the net budget impact

A review of County of Santa Barbara's peer group identified representative IT department scope

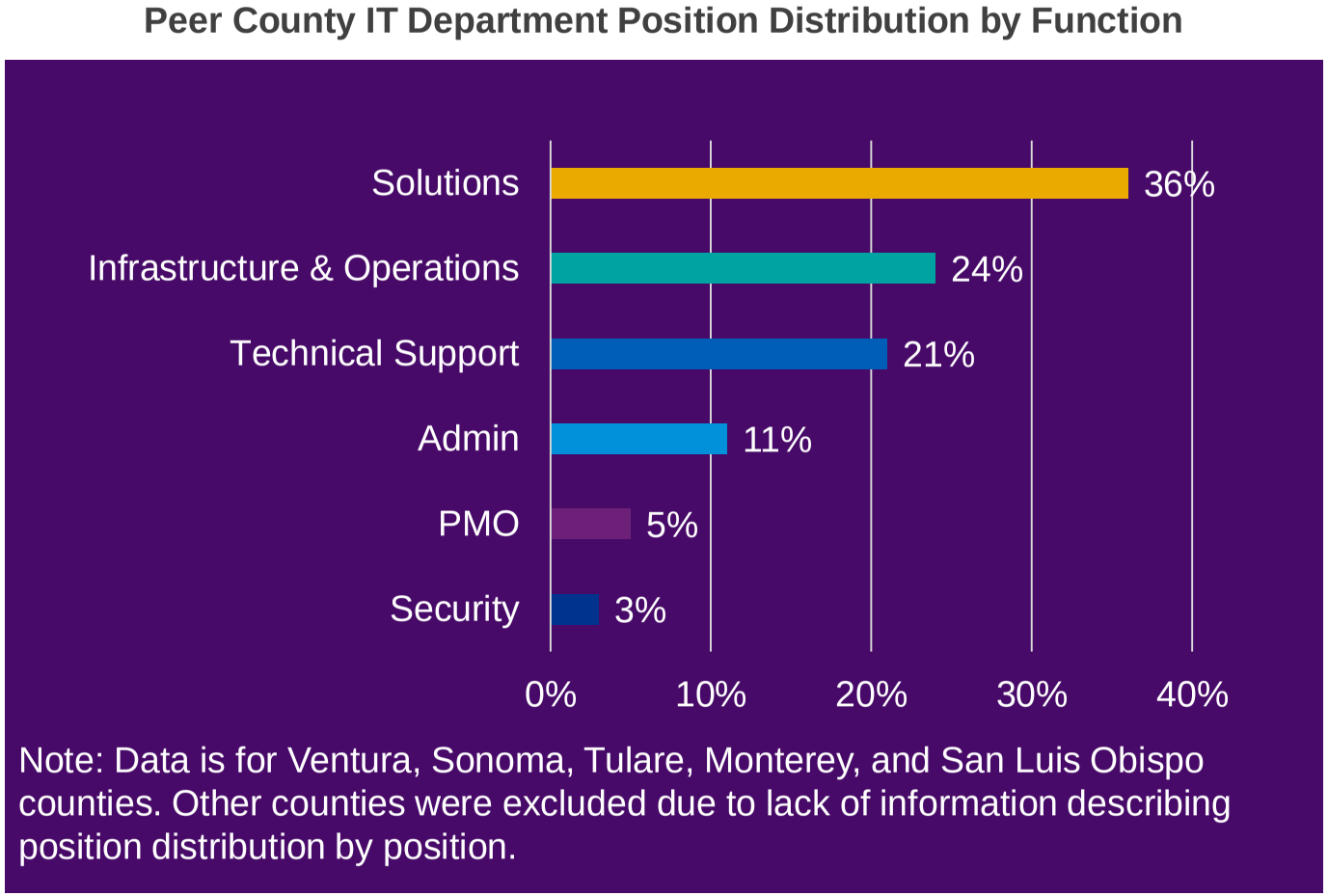
Representative IT department scope (by function & service):

Solutions *Building and maintaining business and IT systems throughout the County*	**Infrastructure & Operations** *Building and managing hosting, network, and communications services across the County*	**PMO** *Planning, management, and execution of the County's Information Technology project portfolio*	**Cybersecurity** *Providing comprehensive cybersecurity to protect county networks, systems, and data*	**Technical Support** *Tier 1/Tier 2 support for technologies countywide, often but not exclusively limited to those built by the IT department*	**Administration** *IT finance, HR, innovation, and other day-to-day administrative operations within the Department*
Enterprise	Hosting	Portfolio Management	Threat Assessment	Desktop Support	Finance/Budget
Department-Specific	Network/Telephony	PMO Services	Policy/Governance	Service Desk	HR
Geographic Information Systems	Radio		Mitigation Response	End User Computing	Innovation
Criminal Justice Info. Systems (CJIS)			Incident Response		Contracts Mgmt.
Integrations			Security Operations		
Data & Analytics			CJIS		
			Compliance		

Note: functions representative of Alameda, Kern, Ventura, San Luis Obispo, Santa Cruz, Sonoma, Tulare, Solano, Monterey, and Placer counties

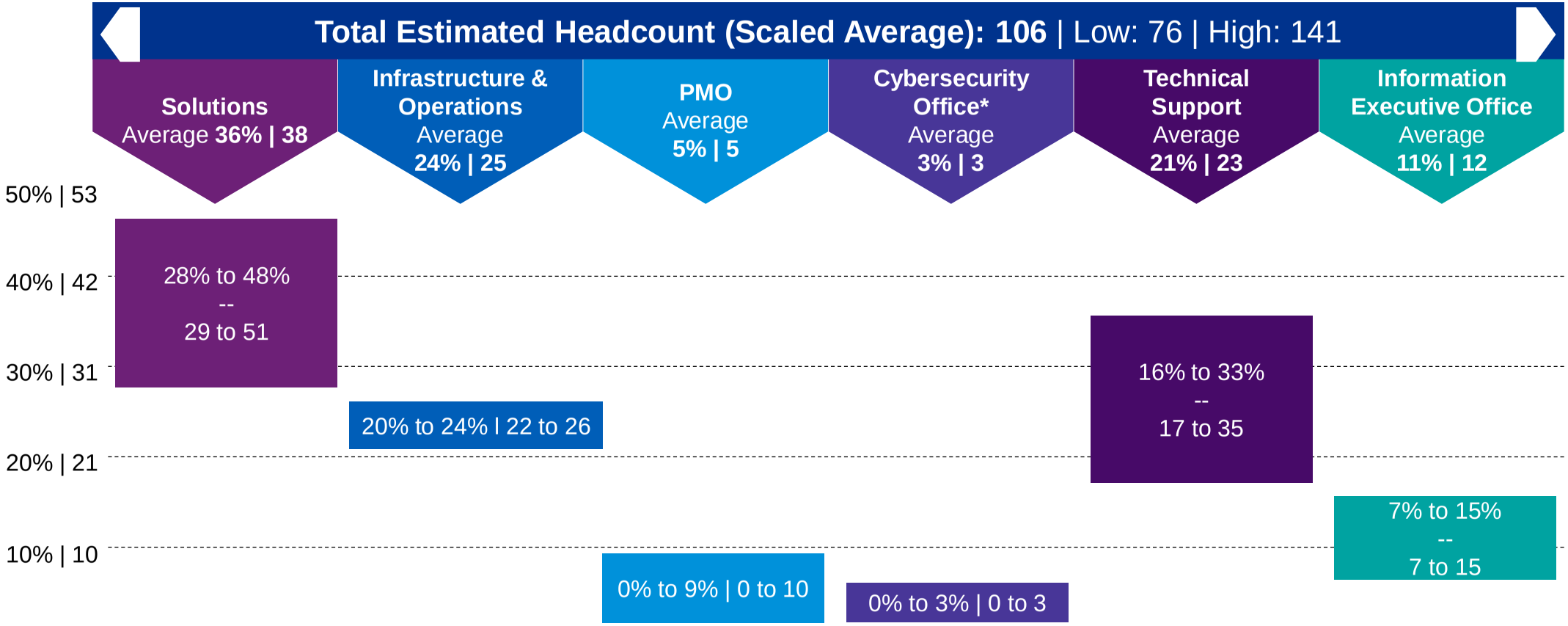
Source: "KPMG analysis of CA Peer Counties, Functional Comparisons section" (KPMG 2020)

Solutions, infrastructure and technical support are the largest functions of standalone IT departments in the County's peer group



Source: "KPMG analysis of CA Peer Counties, Peer IT Spend and Headcount section" (KPMG 2020)

Analysis of peer counties provides an estimate of the headcount distribution in a standalone IT department



*Note: Headcount excludes third party support for services like Security Operations, forensics, penetration testing, etc.

Source: "KPMG analysis of CA Peer Counties, Peer IT Spend and Headcount section" (KPMG 2020)

A review of ownership across key California counties reveals IT departments handle sensitive data like Criminal Justice Information (CJI)

County	IT Department Ownership of CJI Systems (CJIS)
Sonoma	The IT department provides what they refer to as the "Integrated Justice System" for the county, which is an enterprise case and record management system supporting Justice Partners, Law Enforcement, State & Federal agencies through a suite of custom in-house and vendor applications. Their IT team works closely with all stakeholders to meet internal needs, comply with legal mandates, handle reporting and provide 3rd party system integration.
Alameda	The IT department owns a "Consolidated Records Information Management System" which is a modern CJI system that serves 34 agencies and departments.
Kern	The IT Department considers their CJI System (CJIS) offering a part of a broader set of Enterprise Application services. Public Safety departments leverage CJIS solutions provided by the IT Department.
Nevada	There is no other IT service being provided outside of the IT department, so other departments rely completely on the IT department for all their CJI systems, technology audits, access controls, etc. They partner with Public Safety departments to ensure requirements are met and service levels achieved as they deliver CJIS.

IT Departments with Ownership of Countywide O365 (Email) and Active Directory (AD)

Peer Counties	*Other CA Counties*
Alameda	Santa Clara
Nevada	Inyo
Santa Cruz	Napa
San Luis Obispo	And ~10 others

Source: KPMG analysis of Sonoma, Alameda, Kern county information in public domain, Aug. 2020); KPMG interview with Nevada County CIO, Sept. 2020; "County responses to O365-AD question (CCISDA)," Aug. 2020

Target state

ICT has developed a “Charter” to establish itself as a standalone IT Department (ITD)

Vision

To be a **partner and innovator** in support of our County’s Mission

Mission

Shift IT from being largely **decentralized to a “hybrid” model**

Goal

Provide a hub for **shared IT solutions and services to drive efficiency and simplification**

Guiding Principles

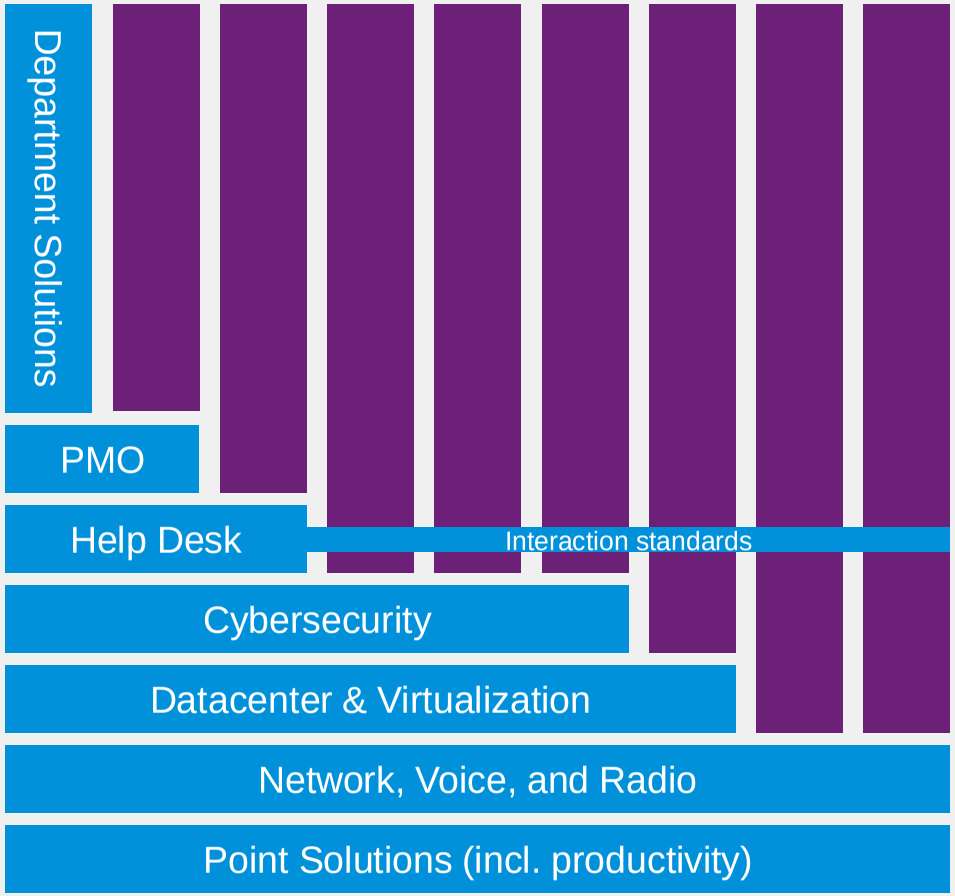
Objectives

- *Expand ownership to include countywide and multi-department solutions*
- *Provide Infrastructure and Platform as a service (IasS and PaaS) to all departments*
- *Mature IT Portfolio Management Office to represent a portfolio view for the County*
- *Establish an end-to-end IT security function to serve all departments*
- *Expand technical support services for smaller departments (0-5 IT ppl) and integrate standards for consistency across the County*
- *Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department*

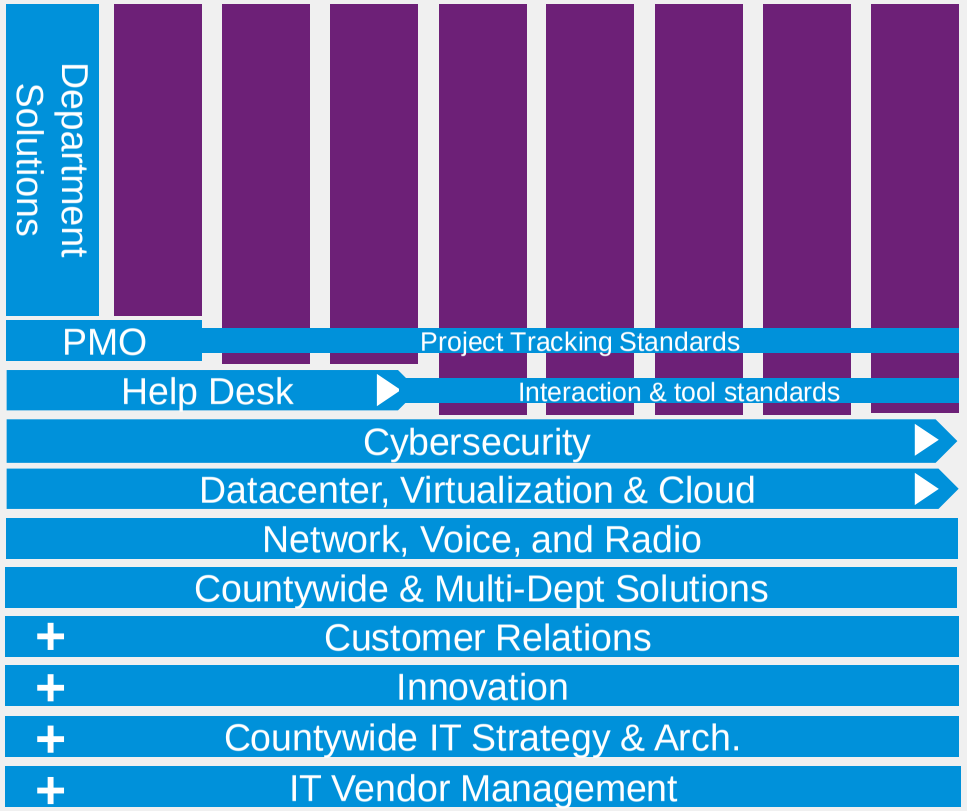
Source: Countywide Technology Strategic Plan 2018-2022 (2018), KPMG analysis

The mission is to shift IT from being largely decentralized to a “hybrid” model where the IT Department (ITD) is a hub for shared IT services

Current State – Decentralized IT



Target State – Hybrid IT



Goal: Provide a hub for **shared IT solutions and services to drive efficiency and simplification**

Note: While this is the high-level direction, further analysis is to be conducted as partnership between ITD and other departments to confirm exact details.

Key: ITD | Other Departments | Expanded service | + New service

Guiding principles were developed to shape objectives and services for the IT Department (ITD) in a hybrid model

Target operating model guiding principles → ITD Objectives & Services

The IT Department (ITD) provides accountability for supporting countywide IT needs

ITD drives consistency in managing strategic vendors

ITD becomes the first provider for solutions spanning multiple departments

ITD ensures a secure IT environment countywide

ITD continues to assist in the evaluation of IT investments so informed decisions can be made countywide

ITD provides thought leadership in technology innovation, spotting applicability/benefit to departments

ITD continuously improves technology services

ITD aggregates clear monitoring and tracking of technology delivery to improve delivery processes

ITD is empowered and positioned to drive technology solutions for departments

Note: These principles have been adapted in alignment with County of Santa Barbara's IT Strategic Plan 2019-2022

The goal for the IT Department (ITD) to be a hub for shared IT services is enabled by 6 key objectives and shapes a conceptual scope of services

Objectives and conceptual scope of services:

Functions & Objectives	Solutions	Infrastructure & Operations (I&O)	Portfolio Management	Cybersecurity	Technical Support	Information Executive
	Objective: *Expand ownership to include countywide and multi-department solutions*	**Objective:** *Provide Infrastructure and Platform as a service (IasS and PaaS) to all departments*	**Objective:** *Mature IT Portfolio Management Office to represent a portfolio view countywide*	**Objective:** *Establish an end-to-end IT security function to serve all departments*	**Objective:** *Expand technical support services for smaller departments and integrate standards countywide*	**Objective:** *Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department*
Services / Solutions / Families	Back office Apps	Datacenter	Countywide Calendar	Security Strategy	For departments with 0-5 IT Headcount:	IT Strategy
	Billing systems	Cloud Vendor Mgmt	Monitoring & Tracking	Security Standards	Desktop Support	IT Finance
	ServiceNow	Network	Governance	Security Architecture	Help Desk (Tier 1)	IT Vendor Mgmt
	Office 365 (Email)	Telephony	PMO Standards	Security Operations	End User Computing	Enterprise Architecture
	Integrations	Public Safety Radio Network		Security Assurance	For departments with 6-30+ IT Headcount:	Innovation
	Energy Management	CSBTV		Access Mgmt	Desktop Support Standards	Customer Relations
	Productivity & Collab.			Security Awareness	End User Computing & Mobile Device Mgmt. Standards	
	Existing Dept Solutions			Risk & Compliance		
	Geographic Info. Systems					

Note: Communications will be part of the IT Department

Source: KPMG analysis, KPMG interviews with CoSB department leaders (July/August, 2020)

The IT Department (ITD) will share leadership with other departments to provide IT services in a hybrid IT operating model

DRAFT to be confirmed and elaborated further in partnership between ITD and other departments:

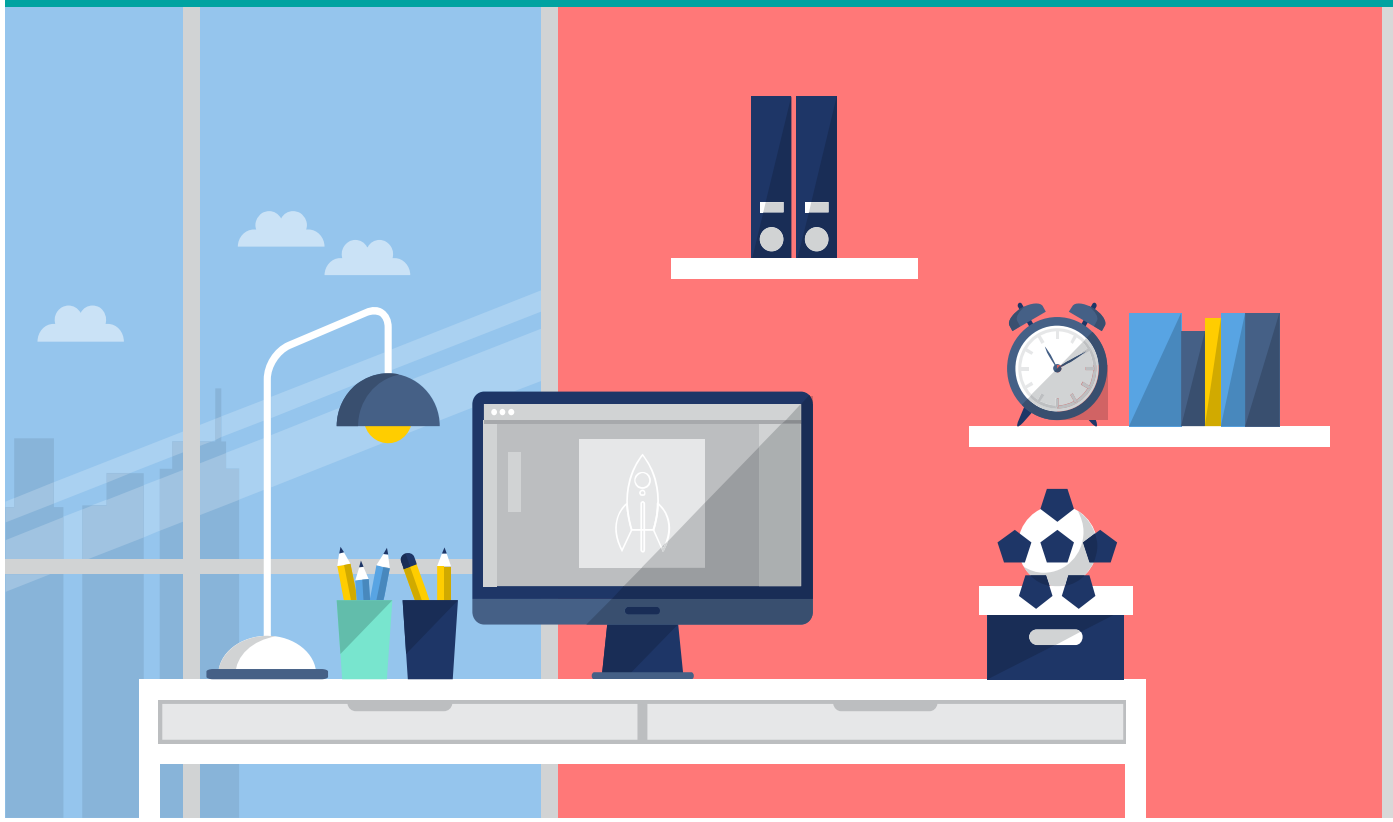
ITD-Led for All Departments:	ITD-Led for Departments with 0-5 IT Headcount:	ITD-Led Standards for All:	Led by Departments with 6-30+ IT Headcount:
— Countywide Solutions — Multi-Department Solutions — Email & Active Directory — Productivity & Collaboration — Infrastructure & Operations — Cloud Vendor Management — Network, Telephony, Radios — Countywide IT Calendar — Portfolio Monitoring & Tracking — Cybersecurity — IT Risk & Compliance — IT Strategy — IT Vendor Management — IT Innovation	— Department-specific Solutions — Help Desk — Desktop Support — End User Computing — Mobile Device Management	— Cybersecurity (Policies) — Desktop Support — Help Desk — Access Management — End User Computing — Mobile Device Management — Vendor Engagement Model — Enterprise Architecture — Project Monitoring & Tracking — Portfolio Governance	— Department-specific Solutions — Help Desk — Desktop Support — End User Computing — Mobile Device Management

Source: KPMG analysis, KPMG interviews with CoSB department leaders (July/August, 2020)

Expanding ownership to include countywide and multi-department solutions could help cut software spend

Objective

Expand ownership to include countywide and multi-department solutions



Key Outcome

Cut countywide software license spend by up to 30%

Also…

Consolidate 40+ disparate solutions to 9 or fewer

Providing Infrastructure and Platform as a Service to all departments could make operations more efficient and improve security compliance

Objective

Provide Infrastructure and Platform as a service (IasS and PaaS) to all departments

Key Outcome
Improve efficiency of infrastructure operations by up to 10%

Key Outcome
Improve IT security policy compliance across the County

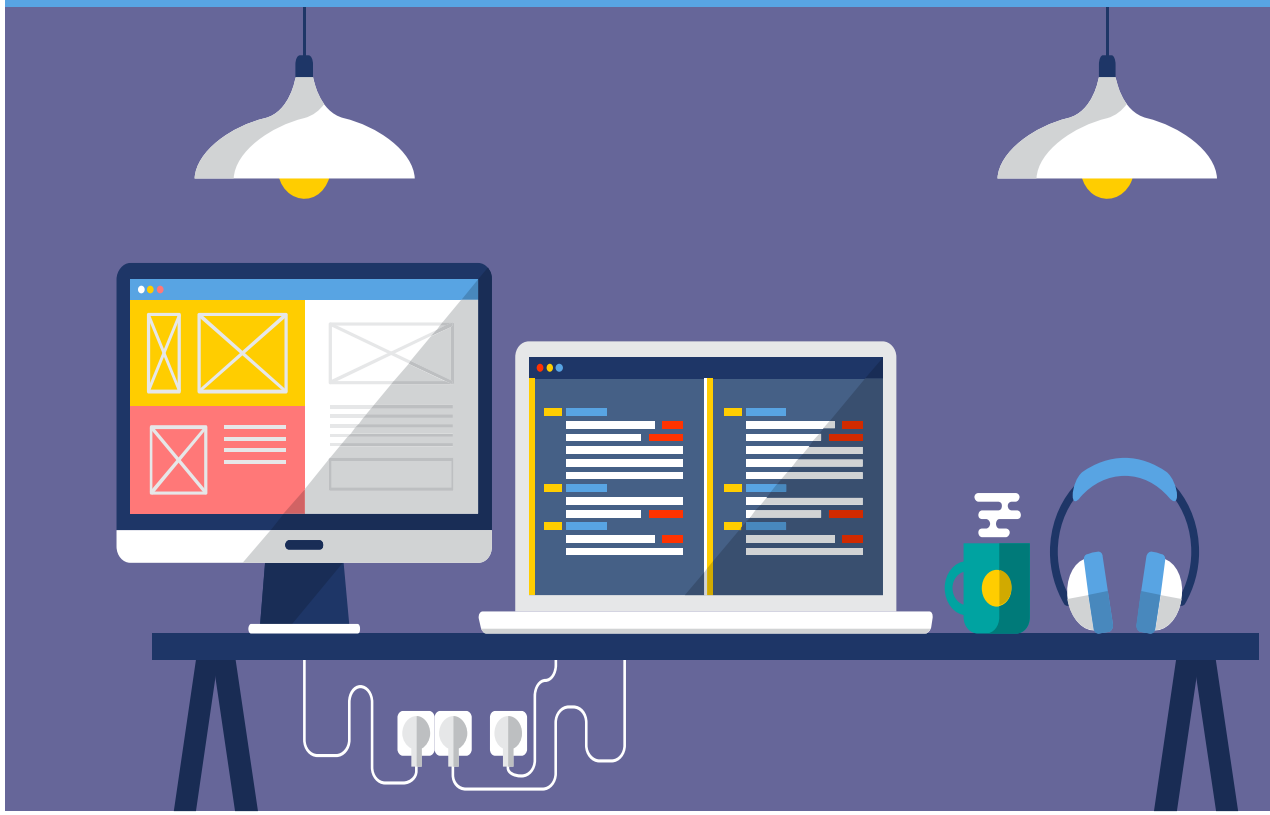
Also…

- Up to 5% storage savings from better-controlling growth
- Up to 4:1 asset utilization improvement for assets not yet virtualized
- Up to 50% lower hardware & power costs for assets not yet virtualized

Maturing the IT Portfolio Management Office could help self-rationalize the project portfolio and improve project outcomes

Objective

Mature IT Portfolio Management Office to represent a portfolio view countywide



Key Outcome

Enhance ability to self-rationalize IT projects

Key Outcome

Improve chances of meeting project goals by up to 38%

Also…

- Up to 46% increase in odds of being “On Time”
- Up to 62% greater likelihood of being “On Budget”
- Up to 56% less chance of “Scope Creep”
- Up to 47% reduction in project failures

Establishing an end-to-end IT security function could mitigate the majority of top cyber attacks

Objective

Establish an end-to-end IT security function to serve all departments

Key Outcomes

Mitigate the majority of all top cyber attacks:

- Up to 99% of all **web app hacking attacks**
- ALL misuses of **insider and privileged access**
- Up to 63% of all **malware threats**
- Up to 76% of all **ransomware attacks**

Also…

Up to 70% more likely to make definitive improvements in the wake of a cyber incident

Expanding technical support services for smaller departments while integrating standards countywide could improve coverage

Objective

Expand technical support services for smaller departments and integrate standards countywide

Key Outcome

Improve technical support resource fungibility & coverage for 9 departments where 5 or fewer end user support staff

Establishing IT as a standalone department enables it to be more strategic, cost-transparent, innovative, and customer-focused

Objective

Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department

Key Outcome
Reduce total vendor spend by up to 20%

Key Outcome
Strengthen IT cost control & ISF rate defensibility

Also…

- Enhance sync between ICT & departments
- Improve effectiveness of technology agendas
- Enable greater agility

In summary, a number of important outcomes could be realized by achieving ICT's objectives to become a hub for shared IT services

Solutions	Infrastructure & Operations (I&O)	Portfolio Management	Cybersecurity	Technical Support	Information Executive
Objective: *Expand ownership to include countywide and multi-department solutions*	**Objective:** *Provide Infrastructure and Platform as a service (IasS and PaaS) to all departments*	**Objective:** *Mature IT Portfolio Management Office to represent a portfolio view countywide*	**Objective:** *Establish an end-to-end IT security function to serve all departments*	**Objective:** *Expand technical support services for smaller departments and integrate standards countywide*	**Objective:** *Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department*
Outcomes: ❑ Consolidate 40+ disparate solutions to 9 or fewer ❑ **Cut countywide software license spend by up to 30%**	**Outcomes:** ❑ **Up to 10% more efficient Operations** ❑ **Improve security policy compliance** ❑ Up to 50% lower hardware & power costs for assets not yet virtualized ❑ Up to 4:1 asset utilization improvement for assets not yet virtualized ❑ Up to 5% storage savings from better-controlling growth	**Outcomes:** ❑ **Up to 38% improvement in meeting project goals** ❑ **Enhance ability to "self-rationalize" IT projects** ❑ Up to 47% reduction in true project failures ❑ Up to 46% increase in odds of projects being "On Time" ❑ **Up to 62% greater chance of projects being "On Budget"** ❑ Up to 56% reduction likelihood of "Scope Creep"	**Outcomes:** ❑ Mitigate up to 99% of all web application hacking attacks ❑ **Mitigate all insider and privileged access misuse** ❑ Mitigate up to 63% of all malware threats ❑ **Mitigate up to 75% of all ransomware attacks** ❑ Mitigate up to 76% of targeted intrusions ❑ Up to 70% more likely to take definitive improvement actions in wake of cyber incident	**Outcome:** ❑ **Improve technical support resource fungibility & coverage for 9 departments where 5 or fewer end user support staff**	**Outcomes:** ❑ **Reduce total vendor spend by up to 20%** ❑ **Strengthen cost control & ISF rate defensibility** ❑ Enhance sync between ICT & departments ❑ Improve effectiveness of technology agendas ❑ Enable greater agility

Sources: KPMG analysis, Gartner, PMI, CIS, Forrester (see Appendix for details)

Implementation plan

Phase 1 pre-requisite activities lead to a refreshed business case that includes Return on Investment details for the Board

Phase 1 Pre-requisite	Activity summary
Discuss scope of IT services & delivery model	Discuss **detailed IT service portfolio** for the IT Department (ITD) and other departments, including SLAs where applicable. **Focus on identifying high level transition considerations.** Answer the question **"who provides what service from where?**" This activity generates alignment around the service portfolio to decide what is strategic vs transactional, managed service vs retained, and what is the interaction model (major inputs & outputs).
Develop technology roadmap	**Develop & socialize timeline to migrate department-owned systems that are multi-department/countywide candidates to ITD domain,** including the positions, hardware, contracts, etc. to support. Plot along this timeline **only the quickest-win rationalization opportunities**, bounded by the ability to complete rationalization for timely migration to ITD.
Create organizational change plans	Identify **gaps in skills and capacity** needed to deliver on ITD service portfolio, write JDs, **build retention strategy**, **test the market**, update the service delivery model if market availability for resources would suggest a deeper sourcing strategy is needed
Refresh business case	**Complete the Return on Investment picture for the Board** with detailed roadmap, bottoms-up future state cost profile (added positions, HW, SW, etc. according to feasible roadmap), savings potential from detailed rationalization analysis, and benefits capture model.

Phase 2 pre-requisite activities will implement a standalone IT department based on the scope and case established in Phase 1

Phase 2 Pre-requisite	Activity summary
Implement PMO changes	**Create portfolio calendar**, IT project chartering and status reporting standards countywide, portfolio status visualization mechanism, design **major project process** for the IT Department (ITD)
Name the ITD Leadership Team	**Name the CIO, and confirm functional leaders** for Solutions, I&O, PMO, Cybersecurity, Tech Support and Information Executive office
Stand up basic IT security program	**Implement Center for Internet Security (CIS) "basic cybersecurity controls" countywide.** Stand up managed SOC. Develop key processes around: major security incident response, vulnerability management, IDAM, compliance request/confirm, policy update, etc.
Implement organizational change	**Hire remaining skills and capacity gaps** (according to 'organizational change plans')
Update funding model (ISF Rates)	To address concerns/opportunities around **total cost structure, allocation method, and relationship to sources of funding**
Implement technology roadmap	**Migrate systems to ITD** based on technology roadmap, and update associated processes (ITSM from a service delivery and infrastructure process) in particular.
Negotiate 3rd party contracts	**Execute enterprise agreements** for software licenses, hardware, services, etc. according to negotiation roadmap.

Roadmap

#	Pre-Requisite	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Future
		Quarters from start											
1	Confirm scope of IT services & delivery model												
2	Create organizational change plans												
3	Develop technology roadmap												
4	Refresh business case												
5	Implement PMO changes					C							
6	Name the ITD Leadership Team												
7	Stand up basic cybersecurity program					D							
8	Negotiate third party contracts												
9	Implement organizational change								E				
10	Implement technology roadmap								A				
11	Update funding model								B				

Trailing implementation activities beyond initial stand-up of IT Department

Objectives:

- A: Expand ownership to include countywide and multi-department solutions
- B: Provide Infrastructure and Platform as a service to all
- C: Mature IT Portfolio Management Office to represent a portfolio view for the County
- D: Establish an end-to-end IT security function to serve all departments
- E: Expand technical support services for smaller departments (0-5 IT ppl) and integrate standards for consistency countywide
- F: Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department

Legend

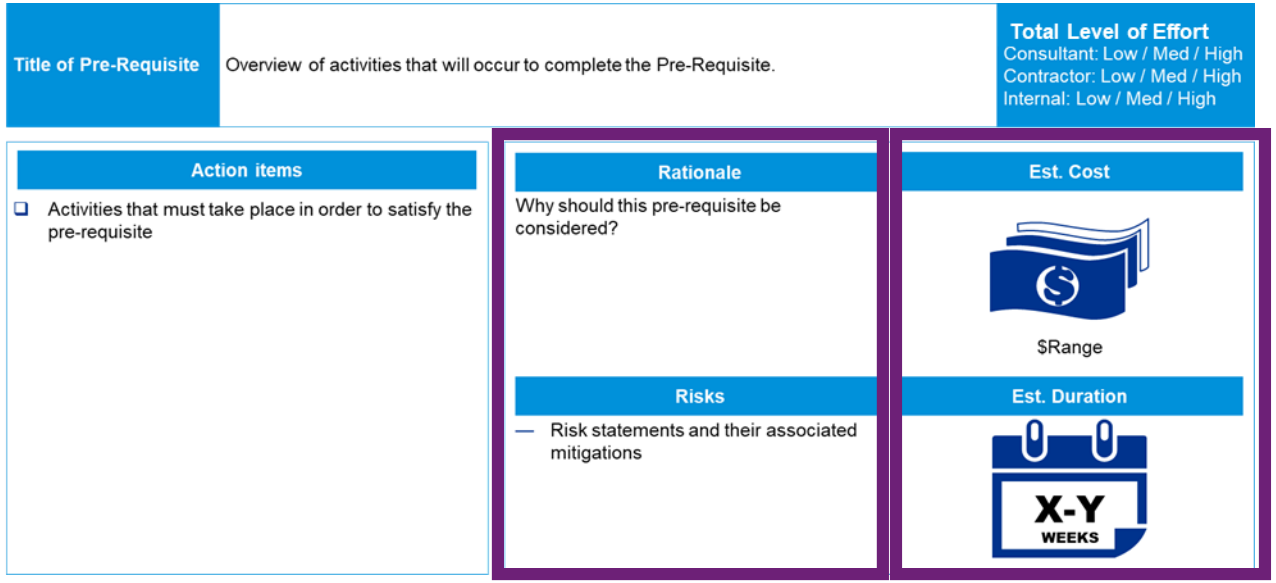
Phase 1 | Phase 2

Objective

Overview of detailed Pre-Requisites pages that follow

Title of pre-requisite for quick reference

Brief overview of activities involved in completing the pre-requisites



Actions to complete the pre-requisite

Rationale: reason for considering the pre-requisite

Risks: acknowledgment of the most major risks associated with the pre-requisite, including a proposed mitigation where reasonable to suggest

Total Level of Effort: all resources required for pre-requisite

- **Consultant:** full-time team from outside consulting service
  - Low = 3 resources at blended rate of $275/hr
  - Medium = 4 resources at blended rate of $265/hr
  - High = 5 resources at blended rate of $250/hr
  - Very High = 6-8 resources at blended rate of $225/hr
- **Contractor:** full-time team from specialist outside staff augmentation or “boutique” firm
  - Low = 3 resources at blended rate of $175/hr
  - Medium = 4 resources at blended rate of $165/hr
  - High = 5 resources at blended rate of $150/hr
  - Very High = 6-8 resources at blended rate of $125/hr
- **Internal:** County of Santa Barbara project team
  - Low = Average of 2-3 hours / wk / resource
  - Med = Average of 3-5 hours / wk / resource
  - High = Average of 5-20 hours / wk / resource

Notes: Pre-requisites are resourced with Consultants to allow for the relatively low Level of Effort range for Internal resources shown above. Efforts split between Consultant and Contractor are indicated by a “%” (i.e., 25% and 75%). Blended rates are indicative, assumed, and subject to refinement.

Estimated Cost: expressed as a US-dollar-denominated range, consultant and/or contractor expense only, excluding any other costs internal or otherwise

Estimated Duration: range of weeks to complete pre-requisite

Pre-Requisite: Discuss scope of IT services & delivery model

Confirm scope of IT services & delivery model	With focus on discussing transition considerations, document all services and systems to be provided by ITD to Departments, and which IT services and systems will be provided by other County departments. Answer the question “who should do what work where?” Evaluate services for importance to County (i.e., strategic, transactional), level of coverage (i.e., skills, capacity), desired resource type (i.e., FTE, part-time) or sourcing arrangement (Extra Help, managed service), and the high level interaction model to enable department and ICT process.	**Total Level of Effort** Consultant: High (4 Resources) Internal: High (Average of 5-20 hours per week, per team member)

Action items

- ❑ Document services & systems ownership & intended consumers
- ❑ Clarify or define Service Level Agreements (SLAs) where needed
- ❑ Define service delivery model
- ❑ Design interaction model
- ❑ Socialize and validate
- ❑ Assess changes and impacts

Rationale

There is widespread desire for greater clarity around what IT services are provided by which entity in the County of Santa Barbara in order to effectively collaborate to deliver on technology needs.

Risks

While the focus of this activity is on identifying transition considerations, the nature of discussions may dwell on scope and threaten the duration estimate – Mitigation: balance consensus-building efforts with top-down decision-making; consider time-bounded approach

Est. Cost

$339,200-424,000

Est. Duration

Pre-Requisite: Create organizational change plans

Create organizational change plans	Define the role of each position in the new structure, identifying skills/fit and capacity gaps, testing the market for availability to fill gaps.	**Total Level of Effort** Consultant: Med (4 resources) Internal: Med (Average of 3-5 hours per week, per team member)

Action items

- ❑ Define skills and capacity needed to deliver IT Department (ITD) service & systems portfolio
- ❑ Perform talent assessment
- ❑ Identify potential role gaps
- ❑ Develop Job Descriptions for role gaps
- ❑ Conduct comp and benefits analysis
- ❑ Perform initial market availability test
- ❑ Develop position transition plans
- ❑ Identify retention risks
- ❑ Develop retention strategy and communications plan
- ❑ Execute interim retention tasks

Rationale

Determines the amount of labor-related costs involved with implementation. Labor market test results help confirm feasibility of service delivery model. Builds confidence in future state cost profile.

Risks

- Unwanted attrition – Mitigation: action items to identify retention risks, develop retention risk mitigation strategy, and execute retention strategy
- Labor market availability test reveals shortage and challenge to service delivery model – Mitigation: prepare to revisit service delivery model and future cost estimates after market test

Est. Cost

$593,600-$678,400

Est. Duration

Pre-Requisite: Develop technology roadmap

Develop technology roadmap	Depict a timeline of activities associated with migrating systems, infrastructure, and other services to be in IT Department (ITD) future state consistent with confirmed ITD & department scope and service delivery model.	**Total Level of Effort** Consultant: High (5 resources) Internal: Med (Average of 3-5 hours per week, per team member)

Action items

- ❑ Create high level future state architecture
- ❑ Plot activities along timeline to achieve future state architecture
- ❑ Socialize and validate
- ❑ Assess changes and impacts

Rationale

Tests feasibility of technology savings/avoidance estimates and confirms realization timeline

Risks

- Availability of information poses a significant scope and timeline risk – Mitigation: generate alignment with inferences – and assumptions-based approach
- Systems scope and associated duration estimate is dependent on outcome of IT scoping & delivery model pre-requisite -- Mitigation: prepare contingency to allow for variation to accommodated

Est. Cost

$400,000-$600,000

Est. Duration

Pre-Requisite: Refresh business case

Refresh business case	Baseline current IT spend across the county, calculate cost savings potential by identifying detailed rationalization opportunities, confirm objectives, develop future state cost profile (bottoms-up), and baseline benefits capture model.	**Total Level of Effort** Consultant: Low (3 resources) Internal: Low (Average of 2-3 hours per week, per team member)

Action items

- ❑ Confirm objectives
- ❑ Calibrate implementation plans
- ❑ Baseline current IT cost position countywide
- ❑ **Conduct detailed rationalization analysis**
- ❑ Refine future state cost profile
- ❑ Design benefits capture model
- ❑ Socialize business case
- ❑ Submit for Board Review

Rationale

Successful completion of analysis and design pre-requisites will have produced important data necessary to articulate return on investment for establishing a standalone ICT department.

Risks

- Availability of information poses a significant scope and timeline risk – Mitigation: generate alignment with inferences – and assumptions-based approach
- Unwanted attrition during rationalization analysis –Mitigation: tightly controlled messaging and audiences for position opportunities discussions

Est. Cost

$264,000-$396,000

Est. Duration

Pre-Requisite: Implement PMO changes

Implement PMO changes	Create baseline and process to update portfolio calendar, IT project chartering and status reporting standards countywide, portfolio status visualization mechanism. Design process to complete major project.	**Total Level of Effort** Consultant: Low (3 resources) Internal: Med (Average of 3-5 hours per week, per team member)

Action items

- ❑ Develop portfolio calendar and process
- ❑ Develop monitoring and tracking standards, mechanism to display
- ❑ Design process to complete a standard major project for ICT
- ❑ Socialize & validate
- ❑ Baseline & publish

Rationale

Provide transparency and standardization across the county to facilitate collaboration and potentially self-rationalize the portfolio.

Est. Cost

$264,000-$396,000

Risks

— None

Est. Duration

Pre-Requisite: Name ITD leadership team

Name ICT leadership team	Name the CIO, and confirm functional leaders for Solutions, I&O, PMO, Cybersecurity, Tech Support and Information Executive office	**Total Level of Effort** Consultant: None Internal: Low (Average of 2-3 hours per week, per team member)

Action items

- ❑ Launch CIO search
- ❑ Name CIO
- ❑ Integrate CIO in ongoing pre-requisites
- ❑ Develop communications and change plans
- ❑ Screen and select candidates
- ❑ Onboard selected candidates
- ❑ Announce changes

Rationale

To ensure ICT is properly led to handle its target state scope.

Est. Cost

$0 (internal labor only)

Risks

- Ability to find and select resources in a timely fashion may jeopardize technology roadmap and realization of outcomes.

Est. Duration

Pre-Requisite: Stand up basic IT security program

Stand up basic IT security program	Implement CIS "basic cybersecurity controls (IG-1)" countywide. Stand up managed SOC. Develop key processes around: major security incident response, vulnerability management, Identity & Access Management (IDAM), compliance request/confirm, policy update, etc.	**Total Level of Effort** Consultant: Very High (6-8 resources) Internal: High (Average of 5-20 hours per week, per team member)

Action items

- ❑ Confirm intended scope of Cybersecurity program
- ❑ Mobilize implementation resources
- ❑ Contract with managed service providers consistent with service delivery model
- ❑ Stand up managed Security Operations Center
- ❑ Develop major security incident response process
- ❑ Design cyber risk resolution process
- ❑ Establish Identity & Access Management tools, resources, and processes
- ❑ Update cybersecurity policies and controls consistent with CIS basic cyber controls
- ❑ Conduct simulation test of key use cases
- ❑ Transition to Cybersecurity function

Rationale

Realize a future state cybersecurity scope which enables considerable mitigation of cybersecurity threats.

Est. Cost

$648,000-$1,152,000

Risks

— Duration and level of effort may be impacted based on results of forthcoming Cybersecurity assessment (anticipated October, 2020) – Mitigation: revise estimates when Cybersecurity assessment is available

Est. Duration

Pre-Requisite: Negotiate third-party contracts

Negotiate third-party contracts	Negotiate vendor agreements, software licensing, office facilities, and any other contracts involved in getting to target state as identified in Phase 1.	**Total Level of Effort** Consultant: Low (3 Resources) Internal: High (Average of 5-20 hours per week, per team member)

Action items

- ❑ Develop negotiation roadmap
- ❑ Confirm and socialize negotiation timing and participants
- ❑ Mobilize implementation resources
- ❑ Execute negotiations

Rationale

Realize software and vendor rationalization outcomes.

Est. Cost

$396,000-$792,000

Risks

— Duration and level of effort is highly dependent on future state IT scope in Phase 1 – Mitigation: revise estimates during ‘refresh business case’ pre-requisite

Est. Duration

Pre-Requisite: Implement organizational change

Implement organizational change	Post positions, conduct interviews, onboard selected candidates, and provide those roles with the resources to effectively fulfill their mission	**Total Level of Effort** Consultant: Low (3 resources) 25% Contractor: Med (4 resources) 75% Internal: Med (Average of 3-5 hours per week, per team member)

Action items

- ❑ Update organizational change plan
- ❑ Confirm and execute on communications plan
- ❑ Move IT positions in/out of ICT
- ❑ Post position openings
- ❑ Screen and select candidates
- ❑ Onboard selected candidates

Rationale

To ensure ICT is properly staffed to handle its Scope.

Est. Cost

$1,122,000-1,683,000

Risks

— Ability to find and select resources in a timely fashion may jeopardize technology roadmap and realization of outcomes – Mitigation: prepare to revisit service delivery model to align on alternate sourcing strategies to address

Est. Duration

Pre-Requisite: Implement technology roadmap

Implement technology roadmap	Create, migrate, upgrade, decommission, re-platform, re-host, etc. technologies consistent with the technology roadmap.	**Total Level of Effort** Consultant: Med (4 resources) 25% Contractor: Very High (6-8 resources) 75% Internal: Med (Average of 3-5 hours per week, per team member)

Action items

- ❑ Confirm technology roadmap
- ❑ Mobilize implementation resources
- ❑ Execute technology roadmap

Rationale

Realize the future state (baseline) technology scope.

Risks

- Dependency on ability to staff sufficiently to handle scope may imperil timeline – Mitigation: coordinate tightly with org change pre-requisite to align timelines consistent with pace of org change
- Systems scope and associated duration estimate is dependent on outcome of IT scoping & delivery model pre-requisite -- Mitigation: prepare contingency to allow for variation to accommodated

Est. Cost

$1,390,200-$2,273,600

Est. Duration

Pre-Requisite: Update funding model (ISF rates)

Update funding model (ISF rates)	Address concerns/opportunities around total cost structure, allocation method, and relationship to sources of funding	**Total Level of Effort** Consultant: Low (3 resources) Internal: Low (Average of 2-3 hours per week, per team member)

Action items

- ❑ Confirm cost structure
- ❑ Design & implement transparency layer to total cost
- ❑ Update ISF rate structure according to reasonable and aligned allocation method(s)
- ❑ Socialize & validate
- ❑ Present to County Leadership & Board
- ❑ Implement & transition to IT finance office

Rationale

Provide greater cost transparency to enable a deeper level of defensibility to ICT costs and drivers. Drive a conversation around ICT value, and empower a conversation to calibrate services and levels received according to department needs.

Risks

- Ability to find adequate IT finance resources capable of accepting transition of work output from this pre-requisite -- Mitigation: coordinate tightly with org change pre-requisite to align timelines consistent with pace of org change

Est. Cost

$264,000-$396,000

Est. Duration

Investment considerations

The County could expect to spend $5.68-8.79M to establish a standalone IT department, and will need to consider external hiring to staff some roles in the new ITD

Note: size of range reflects uncertainty around number of resources needed from external market, refined via pre-requisite #2

***ITD headcount expectations:**

- Current county-wide IT FTEs: 190
- 106 FTEs in ITD will include 40 in the current ICT organization, ~10-20 new FTEs to support new roles (e.g., PMO, Information Executive function, cyber), and the remainder will be sourced from departmental IT teams or external hires
- Phase 1 pre-requisites will determine hiring needs over time

One-time Investment needed to complete all 11 Pre-requisites

- Phase 1: $1.60M-2.10M (fiscal quarters 1-3)
- Phase 2: $4.08M-6.69M (fiscal quarters 4+)
- **Total: $5.68-8.79M**

Note: size of range reflects uncertainty around final scope of IT services & delivery model, refined via pre-requisite #1.

***Total target ITD cost & headcount profile**

- 106 full-time IT positions
- $29.4 Million target IT spend

*Per "Peer County Analysis" conducted by KPMG (ITD targets $29.4M total annual spend with 106 IT positions)

Change impact

Generally, the impact of change to target state for departments tracks with the size of their workforce to perform retained IT activities

ICT function	Objective	Departments with 16-30+ IT Headcount			Departments with 6-15 IT Headcount		Departments with 0-5 IT Headcount
		DSS	Behavioral Wellness	Public Health	DA	Public Works	Fire
Solutions	Expand ownership to include countywide and multi-department solutions	High	High	High	Med	Med	Med
Infrastructure & Operations	Provide Infrastructure and Platform as a service (IasS and PaaS) to all departments	Med	High	High	Med	Med	High
Portfolio Management	Mature IT Portfolio Management Office to represent a portfolio view countywide	High	High	High	Med	Low	Low
Cybersecurity	Establish an end-to-end IT security function to serve all departments	High	High	High	Med	Low	Low
Technical Support	Expand technical support services for smaller departments and integrate standards countywide	Low	Low	Low	Med	High	High
Information Executive	Establish ICT as a strategic, cost-transparent, innovative, customer-focused department	High	High	High	Med	Med	Low
	Overall:	High	High	High	Med	Low	Low

Note: See key on next slide for high, medium, low definitions

Source: KPMG interviews with CoSB department leaders (July/August, September 2020)

Change impact key (overall and by IT function)

Change Impact Level	Overall Summary of Change Impact	Function	Solutions	Infra. & Operations	Portfolio Management	Cyber-security	Technical Support	Information Executive
		Driver	*Number & scale of solutions to transition or adopt*	*Amount of infrastructure to migrate*	*Extent of existing project tracking systems*	*Risk, impact, and transition of data*	*Amount of technical support to migrate*	*Vendor and technology landscape currently supported by departments*
High	Transitioning existing IT services to ITD and/or integrating many new ITD services into existing processes		Transition some existing department solutions, and integrate countywide and multi-department solution changes	Migrate many infrastructure assets to ITD domain, and transition related services to ITD	Transition existing project portfolio tracking and adopt ITD standards, many projects and practices to transition	Exisitng cyber capabilities to transition to ITD, high risk and severity of breach	No technical support capability, will leverage ITD fully for technical support	Many existing IT vendor contracts, complex technology estate, and high reliance on customer relations to calibrate ITD to deliver on business agenda
Medium	Integrating some new ITD services into existing processes		Only integrate countywide and multi-department solution changes	Migrate some infrastructure assets to ITD domain, and transition related services to ITD	Transition existing project portfolio tracking and adopt ITD standards, some projects and practices to transition	Existing cyber capabilities, moderate risk and severity of breach	Existing technical support capability, complex support processes and tool needs	Some existing IT vendor contracts, simple technology estate, and moderate reliance on customer relations to calibrate ITD to deliver on business agenda
Low	Integrating few to none ITD services into existing processes		Only integrate countywide solution changes	Migrate few to none infrastructure assets to ITD domain, and limited to no transition related services to ITD	Transition existing project portfolio tracking and adopt ITD standards, some projects and practices to transition	No existing cyber capabilities, various risk and severity of breach	Existing technical support capability, simple technical support processes and tool needs	No existing IT vendor contracts, no technology estate, and no reliance on customer relations to calibrate ITD to deliver on business agenda

All departments interviewed by KPMG shared a number of considerations to be addressed in execution of pre-requisites

Theme	Consideration	During execution of which pre-requisites should this be addressed?
Cybersecurity responsibilities	What responsibilities departments need to retain in order to complement ICT's cybersecurity function	• Confirm scope of IT services & delivery model • Stand up basic cybersecurity program • Negotiate third party contracts
Sensitive data	How sensitive data will be handled and how requirements will be managed	• Confirm scope of IT services & delivery model • Stand up basic cybersecurity program • Negotiate third party contracts
Shared service delivery	How departments will interact with ICT in multi-department/countywide solution development and other shared services (i.e., infrastructure, cybersecurity) to meet requirements to the greatest extent possible; need to ensure proper balance of decision rights	• Confirm scope of IT services & delivery model • Stand up basic cybersecurity program • Implement PMO changes • Implement technology roadmap • Negotiate third party contracts
Technology change	Acceptable level of technology change for each department to expect and experience in the transition to future state	• Develop technology roadmap • Stand up basic cybersecurity program • Implement technology roadmap
Cost / Benefit	Total cost of IT in target state, and what savings potential may be in store in order to make an informed investment decision; also need to gain greater cost transparency and update allocation model	• Refresh business case • Update funding model (ISF Rates)

Source: Target State ICT reviews with select CoSB departments (August/September, 2020)

Appendix

Interview details

Meeting tracker

Department name	County attendee(s)	Date
Behavioral Wellness	Alice Gleghorn, Chris Ribeiro, Marshall Ramsey	9-10AM PST 7/28/2020
Social Services	Daniel Nielson, Terri Concellos, Sean Boal	7/28/20203-4PM PST
Public Health	Darrin Eisenbarth	7/29/202010-11AM PST
District Attorney	Joyce Dudley, Michael Soderman, Jose Alvarez	7/29/20202-3PM PST
General Services	Janette Pell, Skip Grey, Patrick Zuroske, Lynne Dible, Brian Duggan, Heather Bowling, Scott Hosking, Erik Barker, Carlo Achdjian	7/30/202011-12PM PST
Public Works	Scott McGolpin (*not available*), Julie Hagen, Larry Lowman	7/30/2020 1-2PM PST
Interim ICT Assistant Director	Andre Monostori	7/27/2020 9:30-10AM PST
Fire	Andre Monostori, Shawna Jorgensen	7/30/20 10-11AM PST 8/11/20 3:30-4PM PST
CISO	John Matis, Nancy Anderson	8/13/20, 4-5PM PST

Source: KPMG interviews with CoSB department leaders (July/August, 2020)

Key services currently provided by ICT to departments

ICT Service	Behavioral wellness	Social services	Public health	District attorney	Public works	General services	Fire
Core Services	✓	✓	✓	✓	✓	✓	✓
House Servers		✓		✓		✓	
Software Upgrades						✓	✓
Consultation Services		✓			✓		
Communication Solutions					✓	✓	
Governance						✓	✓

Source: KPMG interviews with CoSB department leaders (July/August, 2020)

Departments requested support for centralizing some shared services in ICT

Service	Behavioral wellness	Social services	Public health	District attorney	Public works	General services	Fire
Help Desk (Tier 1)					✓		✓
Security	✓		✓	✓			
Enterprise Wide Solutions	✓		✓		✓	✓	
Productivity/ Collaboration Solutions	✓		✓			✓	
Innovation	✓	✓	✓			✓	✓
Countywide Calendar		✓					
Hosting/Datacenter			✓				✓
Vendor Management		✓	✓				
End User Computing							✓
Governance/ Standards		✓			✓		✓

Source: KPMG interviews with CoSB department leaders (July/August, 2020)

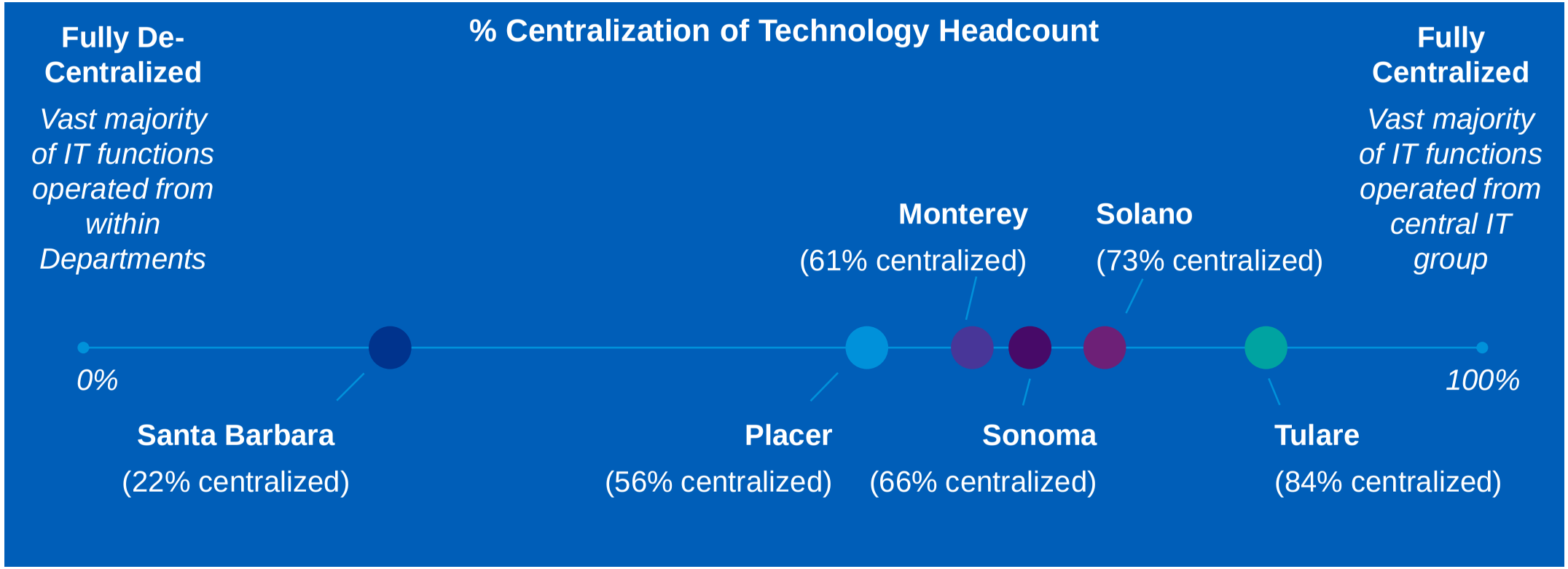
Departments expressed cautions for centralizing some shared services in ICT

Service	Caution expressed	BWell	Social services	Public health	District attorney	Public works	General services	Fire	Level of change
CIO, Information Executive Office	Cost increases to achieve marginal benefit	✓			✓	✓	✓		Low
O365, Infrastructure & Ops	Speed and complexity to deliver on HIPAA requirements, CJIS background checks for access	✓			✓			✓	High
Technical Support	Speed during emergency, protect EOC					✓	✓		Low
IT Staff/Skills	Lack of skills availability for ICT to build capability, especially in Solutions	✓				✓	✓	✓	Low

Source: KPMG interviews with CoSB department leaders (July/August, 2020)

Peer county analysis details

Comparable California counties demonstrate more centralization than County of Santa Barbara



Note: Figures do not reflect headcount of “extra help” (contractors, consultants, etc.)

Source: FY2019/20 County “Position” data, “Dept-IT-Staff-Profiles..,” WTC 2019; KPMG Analysis

Detailed peer county data supporting findings

County	Total Budget (M)	Total FTE	County Population	IT Spend (M)	Spend Source	IT Headcount	IT Spend as % of Budget	IT HC as % of Total FTE
Alameda*	$ 3,543.52	9887	1,671,000	$ 82.80	Link	220.0	2.34%	2.23%
Kern*	$ 2,435.13	6361	900,202	$ 28.40	Link	85.0	1.17%	1.34%
Ventura*	$ 1,362.40	8,836.87	846,006	$ 58.31	Link	198.0	4.28%	2.24%
San Luis Obispo*	$ 648.03	2797	283,111	$ 18.03	Link	86.5	2.78%	3.09%
Santa Cruz*	$ 672.65	2557	273,213	$ 17.07	Link	64.0	2.54%	2.50%
Sonoma	$ 1,792.67	4061	494,336	$ 42.41	Link	116.5	2.37%	2.87%
Tulare	$ 1,381.73	5106	466,195	$ 25.55	Link	160.0	1.85%	3.13%
Solano	$ 1,190.00	3083	447,643	$ 29.14	Link	64.0	2.45%	2.08%
Monterey	$ 1,514.24	5361	434,061	$ 28.31	Link	108.0	1.87%	2.01%
Placer	$ 1,000.00	2669	398,329	$ 30.73	Link	83.0	3.07%	3.11%
Santa Barbara	$ 1,190.00	4307	454,593	$ 20.96	Link	43	1.76%	1.00%
Model Counties Average	**$ 1,732.35**	**6,088**	**794,706**	**$ 40.92**		**130.70**	**$ 31.19**	**98**
Model Counties High	**$ 3,543.52**	**9,887**	**1,671,000**	**82.80**		**220.00**	**$ 50.93**	**133**
Model Counties Low	**$ 648.03**	**2,557**	**273,213**	**$ 17.07**		**64.00**	**$ 13.88**	**58**
Comparable Counties Average	**$ 1,375.73**	**4,056**	**448,113**	**$ 31.23**		**106.30**	**$ 27.62**	**114**
Comparable Counties High	**$ 1,792.67**	**5,361**	**494,336**	**$ 42.41**		**160.00**	**$ 36.57**	**135**
Comparable Counties Low	**$ 1,000.00**	**2,669**	**398,329**	**$ 25.55**		**64.00**	**$ 22.00**	**87**
Total Average	**$ 1,554.04**	**5,072**	**621,410**	**$ 36.07**		**118.50**	**$ 29.40**	**106**

		IT functions						
County	Total IT Headcount	Solutions	Infrastructure & Operations	PMO	Security	Technical Support	Admin	Total
Ventura*	198.00	48%	24%	0%	0%	19%	8%	100%
Sonoma	116.50	33%	21%	9%	0%	21%	15%	100%
Tulare	160.00	36%	24%	4%	2.5%	23%	11%	100%
Monterey	108.00	28%	20%	5%	2.8%	33%	11%	100%
San Luis Obispo*	86.50	46%	24%	7%	0%	16%	7%	100%
Average %	-	**36%**	**24%**	**5%**	**3%**	**21%**	**11%**	**100%**
Average Headcount Low	-	**29**	**22**	**-**	**-**	**17**	**7**	**76**
Average Headcount High	-	**51**	**26**	**10**	**3**	**35**	**15**	**141**
Average Headcount	-	**38**	**25**	**5**	**3**	**22**	**12**	**106**

Key

Model Counties*
Counties without "*" are "comparable" in that they have population and FTE characteristics similar to CoSB
Baseline

Source: "KPMG analysis of CA Peer Counties, Peer IT Spend and Headcount section" (KPMG 2020)

KPMG Analysis of CA Peer Counties

Detailed peer county IT function headcount distribution

Tulare County		
Information & Communications Technology Department Positions (use 2nd #)	Function	Headcount
* 041500 Account Clerk II 1.00 1.00 1.00 1.00	Admin	1
* 000220 Accountant II 3.00 3.00 2.00 2.00	Admin	3
* 000230 Accountant III 0.00 0.00 1.00 1.00	Admin	0
## 000730 Administrative Svs Officer III 1.00 1.00 0.00 0.00	Admin	1
* 062720 Analyst-Geographic Info Sys II 2.00 2.00 2.00 2.00	Solutions	2
* 001820 Analyst-Staff Services II 1.00 1.00 1.00 1.00	Admin	1
* 001830 Analyst-Staff Services III 1.00 1.00 1.00 1.00	Admin	1
026100 Fiscal Manager 0.00 1.00 1.00 1.00	Admin	1
## 023000 Geographic Information Sys Crd 1.00 1.00 1.00 1.00	Solutions	1
## 077502 ICT Assistant Director 1.00 1.00 1.00 1.00	Security	1
## 015920 IT Business Intelligence II 4.00 4.00 0.00 0.00	Solutions	4
## 015930 IT Business Intelligence III 1.00 1.00 5.00 5.00	Solutions	1
015907 IT Bus Intell Developer Supv 0.00 0.00 1.00 1.00	Solutions	0
* 011320 IT Client Specialist II 13.00 13.00 13.00 13.00	Tech Support	13
## 011330 IT Client Specialist III 2.00 2.00 2.00 2.00	Tech Support	2
## 098700 IT Data Center Administrator 2.00 2.00 2.00 2.00	Infra	2
## 098800 IT Deputy Director 1.00 1.00 1.00 1.00	Admin	1
## 085500 IT Desktop Tech Supervisor 1.00 1.00 1.00 1.00	Tech Support	1
* 097920 IT Desktop Technician II 17.00 17.00 17.00 17.00	Tech Support	17
* 097930 IT Desktop Technician III 4.00 4.00 4.00 4.00	Tech Support	4
## 096702 IT Director 1.00 1.00 1.00 1.00	Admin	1
## 096402 IT Division Manager 4.00 4.00 4.00 4.00	Admin	4
* 098020 IT Document Specialist II 2.00 2.00 2.00 2.00	Infra	2
## 047600 IT Documentation Technician 1.00 1.00 1.00 1.00	Infra	1
## 007520 IT Eprise Content Mgt Spc II 4.00 4.00 4.00 4.00	Solutions	4
## 013120 IT Funding Specialist II 1.00 0.00 0.00 0.00	Admin	0
## 014000 IT Infrastructure Supervisor 1.00 1.00 1.00 1.00	Infra	1
097720 IT Logistics Planner II 2.00 2.00 2.00 2.00	Infra	2
* 097730 IT Logistics Planner III 3.00 3.00 3.00 3.00	Infra	3
* 097620 IT Logistics Technician II 1.00 1.00 1.00 1.00	Infra	1
## 096502 IT Manager 6.00 6.00 6.00 6.00	Infra	6
## 041602 IT Manager OrgChangeMgt 1.00 1.00 1.00 1.00	Admin	1
* 096920 IT Network Administrator II 7.00 7.00 7.00 7.00	Infra	7
* 096930 IT Network Administrator III 2.00 2.00 2.00 2.00	Infra	2
* 009720 IT Network Technician II 5.00 5.00 5.00 5.00	Infra	5
* 075622 IT Programmer Analyst II 12.00 12.00 12.00 12.00	Solutions	12
## 075632 IT Programmer Analyst III 2.00 2.00 2.00 2.00	Solutions	2
## 013520 IT Project Manager II 4.00 4.00 4.00 4.00	PMO	4
## 013530 IT Project Manager III 2.00 2.00 2.00 2.00	PMO	2
* 098420 IT Security Administrator II 3.00 3.00 3.00 3.00	Security	3
## 098500 IT Senior Systems Programmer 1.00 1.00 1.00 1.00	Solutions	1
* 011120 IT Specialist App Support II 9.00 9.00 9.00 9.00	Solutions	9
## 011130 IT Specialist App Support III 1.00 1.00 1.00 1.00	Solutions	1
## 011420 IT Sys Application Trainer II 2.00 2.00 2.00 2.00	Solutions	2
* 040920 IT System Administrator II 9.00 9.00 9.00 9.00	Solutions	9
## 040930 IT System Administrator III 5.00 5.00 5.00 5.00	Solutions	5
* 032020 IT System Technician II 3.00 3.00 3.00 3.00	Solutions	3
* 099020 IT Systems and Procedure An II 1.00 1.00 1.00 1.00	Solutions	1
* 033320 Office Assistant II 1.00 1.00 1.00 1.00	Admin	1
087020 Payroll Clerk 1.00 1.00 1.00 1.00	Admin	1
* 000630 Secretary III 1.00 1.00 1.00 1.00	Admin	1
## Information & Communications Technology Total 154.00 154.00 154.00 154.00		154
IT Communications Systems Adm	Infra	2
IT Radio Installer II	Infra	3
IT RadioCommunicationsTechI	Infra	1

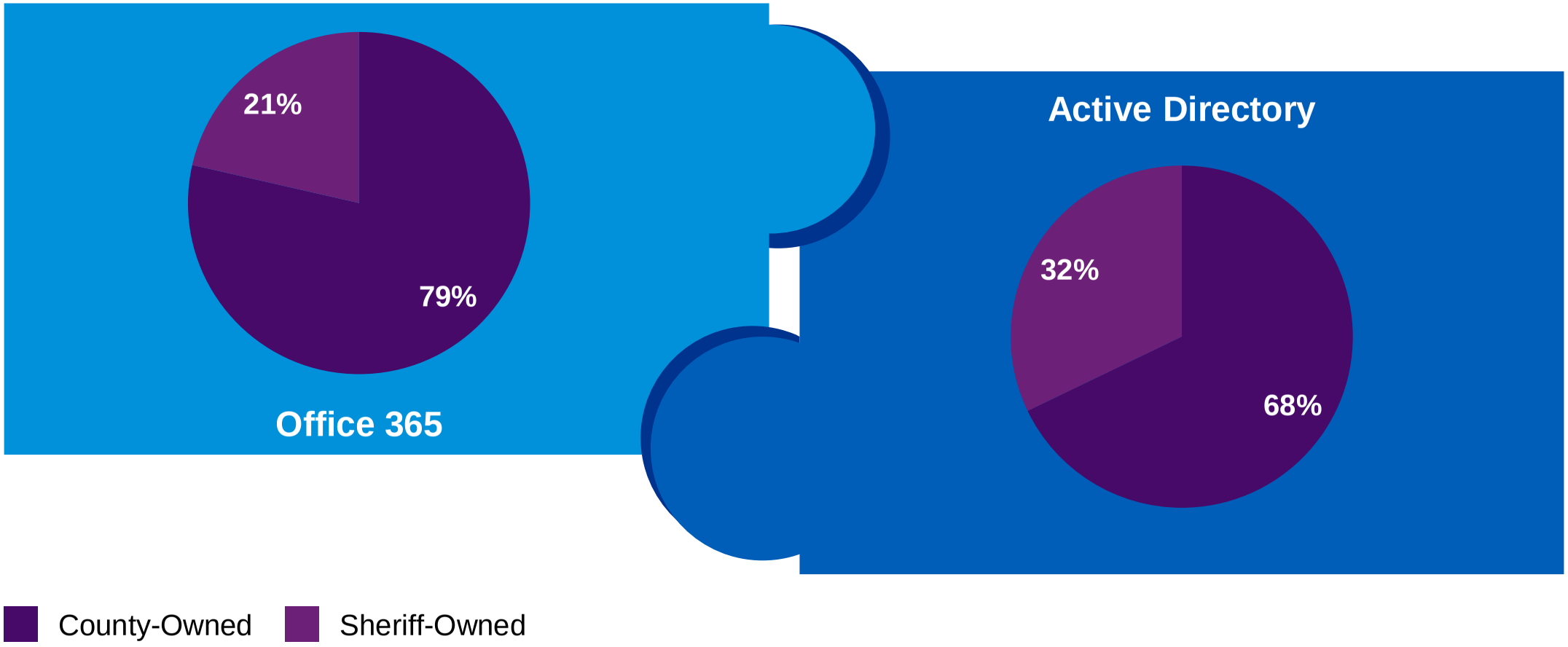
Sonoma County		
Position	Function	Headcount
SENIOR NETWORK ANALYST	Infra	1
Network Analyst	Infra	2
SENIOR NETWORK ANALYST	Infra	2
Network Analyst	Infra	3
Materials Equipment Spec	Infra	1
INFORMATION TECHNOLOGY ANALYST II	Infra	11
INFORMATION TECHNOLOGY ANALYST III	Infra	3
INFORMATION TECHNOLOGY ANALYST II	Infra	2
INFORMATION SYSTEMS PROJECT MANAGER	PMO	11
ADMINISTRATIVE AIDE	Admin	8
DEPARTMENT ANALYST	Admin	2
ADMINISTRATIVE SERVICES OFFICER	Admin	3
INFORMATION SYSTEM DIVISION DIRECTOR	Admin	1
MAIL MATERIALS AND RECORDS HANDLER	Admin	1
MAIL MATERIALS AND RECORDS SUPERVISOR	Admin	1
RECORDS AND INFORMATION MANAGER	Admin	1

Ventura County		
Position	Function	Headcount
Senior Info Sys Sppt Anlst	Infra	2
Service Desk tech	Infra	8
Desktop Support Analyst I	Infra	3
Desktop Support Analyst II	Infra	8
Info Systems Sppt Analyst II	Infra	3

SLO County									
Infrastructure positions	HC	Solutions positions	HC	Admin positions	HC	PMO positions	HC	Support positions	HC
Comm Tech 1 or 2	5	SW Engr	19.5	Accountant	1	IT Project Manager	5	SysAdmin Sr	1
Comp Sys Tech-Conf	1	GIS Analyst	1	Accounting Tech	1	IT Project Manager	1	Sys Admin	13
Net Eng.	5	GIS Manager	1	Admin Svcs Mgr.	1				
Comm Tech Sr	1	Dept Auto Spec	5	Dir of IT	1				
Net Engr Sr	2	Sr SW Engr	6	Admin Asst	2				
Comp Sys Tech Aide	1	IT Supervisor	5						
Telephone Sys Coord	1	IT Manager	2						
IT Supervisor	4								
IT Manager	1								

Source: "KPMG analysis of CA Comparable Counties, IT HC Distribution Just section" (KPMG 2020)

19 out of 28 sampled California County Sheriff Department's use the County's Office 365 and Active Directory while meeting CJIS requirements



Source: "County responses to O365-AD question (CCISDA)," August 2020

Peer County Representative Solution Function and Service Details (Slide 1 of 4)

Solutions
Building and maintaining business and IT systems throughout the County

- Enterprise
- Department-Specific
- Geographic Information Systems
- Criminal Justice Info. Systems (CJIS)
- Integrations
- Data & Analytics

County Name	Function Name	Service Scope
Placer	Enterprise App Support Services	Provides maintenance and support services for information technology applications including patch & upgrade management, interface management, database administration, interface management, vendor support, reporting support, and application maintenance & enhancements.
Placer	Department Specific Application Support Services	Application support services provided to County departments to support the maintenance of Department Specific Applications including application development & support, database support, patch management, interface management, vendor support, and reporting support.
Placer	HHS Dedicated Application Support Services	Provides flexible support services for Health and Human Services applications including interface management, vendor support, reporting support, database support, and application development & maintenance.
Tulare	Business Intelligence	Enables departments to incorporate a data-driven decision-making process through the utilization of multiple data sources. This unit uses numerous technologies, applications and effective practices to collect, integrate, analyze, and present information in customized reports, queries, data mining, and dashboards.
Tulare	Programming & Application Support Services	Solves business process needs by the creation and maintenance of custom software. They also install and maintain a wide variety of off-the-shelf applications and databases throughout the County.
Santa Cruz	Applications	The Applications Division develops, modifies, enhances, and implements custom computer applications and programs and provides consulting and support to all departments in the area of office automation, which includes the County's network of personal computers.

Peer County Representative Solution Function and Service Details (Slide 2 of 4)

Solutions
Building and maintaining business and IT systems throughout the County

- Enterprise
- Department-Specific
- Geographic Information Systems
- Criminal Justice Info. Systems (CJIS)
- Integrations
- Data & Analytics

County Name	Function Name	Service Scope
Tulare	Geographic Information Services (GIS)	Creates maps and provides data analysis to support County departments and their customers by using geospatial information.
Tulare	Enterprise Content Management	Provides solutions to reduce the use of paper records and improve workflow by applying technology, business analysis and library sciences.
Sonoma	Information Management	As the primary County agency responsible for data stewardship the Information System Department has an opportunity to assist departments and agencies to serve the community by effectively distributing, using, managing and storing the data they collect. The comprehensive Information Management Division has been established to enhance data usability and expand data sharing, to improve compliance/accessibility and reduce risk, and to introduce opportunities for cost reductions.
Sonoma	Systems & Programming	The responsibilities of this division include designing, developing, installing and maintaining business applications throughout the County. Application Services: The Applications Team of Systems and Programming is responsible for maintaining a wide variety of departmental and enterprise applications, in addition to providing business requirements, system analysis, custom development and project oversight/management services for many departments. Integrated Justice Systems: The Justice Team provides software development and integration services in support of the Integrated Justice System (IJS). IJS is an enterprise case and record management system that supports county Justice Partners, Law Enforcement, State and Federal agencies through a centralized data repository on a 24x7 basis. Through a suite of custom in-house and vendor applications, real-time data sharing, and accurate reporting capabilities, IJS is designed to improve public and officer safety, reduce labor costs and facilitate the timely delivery of justice. The Justice Team works closely with all stakeholders producing software solutions for emerging business needs, legal mandates, reporting and third-party system integration.

Peer County Representative Solution Function and Service Details (Slide 3 of 4)

Solutions
Building and maintaining business and IT systems throughout the County

- Enterprise
- Department-Specific
- Geographic Information Systems
- Criminal Justice Info. Systems (CJIS)
- Integrations
- Data & Analytics

County Name	Function Name	Service Scope
Solano	Solutions	L&J-IT Support, HSS-IT Support, SCIPS, Web, Geographic Information Systems (GIS)
Monterey	Applications	The Applications Division is comprised of Enterprise Applications, Web Services, GIS Services, and Department Applications Support. Enterprise Applications provides database administration, software programming, systems consulting, project management, and application administration support for enterprise applications for collaboration, document and records management, data integration warehousing and management, business intelligence and analysis, as well as interdepartmental billing and reporting of ITD services. Web Services provides development and maintenance of the County's internal and external website, individual department sites, as well as graphic services and consulting and training services on the tools and techniques for content management, website quality assurance, and web analytics and reporting. GIS Services provides GIS analytical services and development and maintenance of the County's Geo Database, including the development of additional layers of specific GIS data and map development for internal and external customers.
Alameda	Criminal Justice Information System	The Consolidated Records Information Management System is a modern criminal justice information system that stores and processes data on adult defendants from the time of booking or complaint through adjudication, sentencing, custody, probation, and release. The system serves 34 agencies/departments in Alameda County.
Kern	Enterprise Application	Criminal Justice (CJIS), Financial Management (FMS), Property Tax (KIPS), Payroll
Kern	Web Platform Technology	Business Application, Web Technology, Hosting Services, SharePoint, GIS
Kern	Analytics	Visualization/Reporting, Data Management, Forecasting/Modeling

Peer County Representative Solution Function and Service Details (Slide 4 of 4)

Solutions
Building and maintaining business and IT systems throughout the County

- Enterprise
- Department-Specific
- Geographic Information Systems
- Criminal Justice Info. Systems (CJIS)
- Integrations
- Data & Analytics

County Name	Function Name	Service Scope
San Luis Obispo	Departmental Services	Management, business analysis, project management, and technology planning and consulting services; guide departments in the application of best practices, procedures and documentation standards; help assess project risks by reviewing project scope, business requirements, and resource capacity.
San Luis Obispo	Enterprise Services	manage enterprise storage services; develop, support and manage enterprise applications; provide backup/recovery services; provide system administration and software services for the County's Enterprise Financial Services (EFS), internal portal and public facing website; support countywide programs such as Information Security, Geographic Information Systems (GIS), Content Services, and web applications development and support.
Ventura	Application Services	Application Services Division provides all facets of designing and developing or purchasing, implementing, and managing business applications, including requirements planning. The Application Services Division assists in integrating Document Management, and electronic payment processing technologies into your business applications. (maintain, development)
Ventura	Enterprise Services	The Enterprise Services Division provides Information Services to all County departments and agencies; governmental agencies within Ventura County; and the general public. The Enterprise Services Division provides all facets of designing and developing or purchasing, implementing, and managing business applications, including requirements planning. The Division also provides senior resources for customer relationship management. The departments and agencies supported by this Division are Auditor-Controller, Treasurer-Tax Collector, Assessor, County Clerk and Recorder, Elections, Human Resources, County Executive Office, Board of Supervisors, and others (application maintenance, development, enterprise content management, customer relationships)
Ventura	GIS	This Division provides the support services for the centralized Geographic Information Services (GIS) function for the entire County. The Geographic Information Services Division of ITSD provides County agencies with up-to-date digital maps of parcels, street centerlines, addresses, aerial imagery and hundreds of other data layers, along with the mapping tools needed to display and analyze this data. The GIS data is accessible on a desktop PC or on the Intranet/Internet via the County "Web Portal." GIS support is governed by the Geographic Oversight Committee comprised of Agency and Department Heads. The authority for the countywide GIS function has been delegated to the Oversight Committee by the Board of Supervisors. (GIS Apps and maintenance, application development)

Peer County Representative Infrastructure & Operations Function and Service Details (Slide 1 of 4)

Infrastructure & Operations
Building and managing hosting, network, and communications services across the County

- Hosting
- Network/Telephony
- Radio

County Name	Function Name	Service Scope
Placer	Infrastructure Services	Provides County server infrastructure to include compute and storage both on premises and in the Cloud, data protection and disaster recovery, Active Directory, email services, and mobile device management.
Placer	Telephone / Network / Media	Provides audio and video services and management of the County's data transport network, telephone infrastructure, centralized voicemail system, call accounting system, and oversight of the cable television franchise agreements.
Placer	Radio Services / Middle Fork Radio	Provides management of the County's Interoperable P25 Radio Network, analog two-way radio infrastructure, backhaul microwave systems, and telemetry (SCADA) network. Provides Countywide Interoperable P25 Radio Network coverage into the Middle Fork Recreational Area of the American River Canyon.
Tulare	Centralized Telephone	Tulare County Information and Communications Technology Department (TCiCT) collaborates with private industry to provide the primary means of communication between County staff and the public. Management of relations with telecommunications service providers for voice and data communications to ensure that the County is "Open for Business." Purchase of voice and data communications equipment. Create public value through efficient and effective services to departments relating to the allocation of telephone bills, refund requests, ordering new lines, canceling of unused lines, and other cost saving activities.
San Luis Obispo	Departmental Services	Document and communicate the scope as well as the mechanism for acquiring information technology services; manage and deliver technical support; provide desktop support services; host servers and data in a secure, climate-controlled datacenter including backup/recovery services;.
San Luis Obispo	Enterprise Services	Provide technical support and systems administration services; maintain a physically secure and environmentally controlled computing facility; manage data center operations including dispatching, scheduling, and running jobs;

Peer County Representative Infrastructure & Operations Function and Service Details (Slide 2 of 4)

Infrastructure & Operations
Building and managing hosting, network, and communications services across the County

- Hosting
- Network/Telephony
- Radio

County Name	Function Name	Service Scope
Tulare	Communications	Provides public safety and other entities with a robust and reliable radio and microwave network for communications across most areas of the County. Costs are recovered through charges to user departments. The Communications Division provides reliable radio communications and microwave data links to various departments and agencies. The Division constantly monitors the infrastructure performance and coverage against established benchmarks and makes improvements where feasible. Builds public value with continual countywide improvements to the radio and microwave network by upgrading current radio tower sites, installing new tower sites to meet emerging needs, and implementing improved signal routing protocols. The Communications Division also provides installation, maintenance, and repair for equipment installed in vehicles, base stations, and communications towers with the goal to maintain established standards of quality and interoperability across departments and their local partners.
Tulare	Communications	Provides public safety and other entities with a robust and reliable radio and microwave network for communications across most areas of the County. Costs are recovered through charges to user departments. The Communications Division provides reliable radio communications and microwave data links to various departments and agencies. The Division constantly monitors the infrastructure performance and coverage against established benchmarks and makes improvements where feasible. Builds public value with continual countywide improvements to the radio and microwave network by upgrading current radio tower sites, installing new tower sites to meet emerging needs, and implementing improved signal routing protocols. The Communications Division also provides installation, maintenance, and repair for equipment installed in vehicles, base stations, and communications towers with the goal to maintain established standards of quality and interoperability across departments and their local partners.

Peer County Representative Infrastructure & Operations Function and Service Details (Slide 3 of 4)

Infrastructure & Operations
Building and managing hosting, network, and communications services across the County

- Hosting
- Network/Telephony
- Radio

County Name	Function Name	Service Scope
Tulare	Operations Division	Maintains the County network backbone, telephones, servers, storage, backup, and internet access.
Solano	Infrastructure Operations	Telephone services, public safety communications
Monterey	Infrastructure	Offers backbone services which include network, telephone, microwave communication, and land mobile radio for public safety. It keeps the County connected by operating critical communication frameworks and designing resilient, competitive, and affordable technologies. The division has three units: Data Network, Telecommunications, and Radio Communications.
Alameda	Telephony and Radio Services	This includes, Installation, operation, and maintenance of mobile radio, telephone, and unified messaging to support fire, sheriff/police, emergency medical services, and other County offices that provide public protection and general government services to the public.
Kern	Enterprise Technology	Infrastructure, Telecomm/Microwave, Identity Management, Threat Security, Endpoint Protection
San Luis Obispo	Radio & Video Communications	Provide two-way radio communications and video surveillance environments for public safety, medical response, and County business users and departments. The communication system uses microwave radio technology through a Countywide network of mountain top radio sites to support the Sheriff's Office, County Fire, partner agency first responders, and medical services necessary to serve the public. Video surveillance is provided through an enterprise-wide application for all custody facilities and other sites as requested.
San Luis Obispo	Voice Communications	Support and manage Voice over IP (VoIP) telephony services, manage traditional AT&T telephony services (adds, changes, deletes); coordinate all voice equipment installation with AT&T, manage voice communication billings, and administer County's voice mail system (adds, changes, deletes)

Peer County Representative Infrastructure & Operations Function and Service Details (Slide 4 of 4)

Infrastructure & Operations
Building and managing hosting, network, and communications services across the County

- Hosting
- Network/Telephony
- Radio

County Name	Function Name	Service Scope
Santa Cruz	Data Center	The Data Center Division supplies expertise in the areas of networking, servers, operating systems, and computer operations.
Santa Cruz	Tele-communications	The Telecommunications Division manages the County's telephone and voice communications systems, and is responsible for central duplicating and mail room services for the County.
Ventura	Network Services	Provide reliable, responsive, cost effective and relevant technology services and counsel to County departments, agencies, and leaders. Network Services is responsible for the design, implementation and maintenance of the County voice and data network for all on-line systems and applications. The Data Network supports over 21,000 devices while the Voice Network provides telephone service for over 10,000 devices. Network Services engineers and maintains a countywide microwave network with over 120 sites and supports and maintains the Public Safety radio network. The Countywide Network Security Services Function, responsible for insuring availability and confidentiality of data, as well as protection against computer viruses, network intrusions, and denial of service attacks is also a responsibility of Network Services.

Peer County Representative Project Management Office (PMO) Function and Service Details

PMO
Planning, management, and execution of the County's Information Technology project portfolio

Portfolio Management

PMO Services

County Name	Function Name	Service Scope
Placer	Project Management Services	Provides oversight of planning, management, and execution of the County's Information Technology project portfolio.
Tulare	Project Management Office	Provides project services with a goals-based approach that utilizes formal planning, budget, and scoping processes designed to provide on-time, on-scope and on-budget project completion
Kern	Engagement & Portfolio Management	Business Engagement, Scope/Cost/Scheduling, Planning/Execution/Close, Project Governance, Technology Demand Management

Note: functions representative of Alameda, Kern, Ventura, San Luis Obispo, Santa Cruz, Sonoma, Tulare, Solano, Monterey, and Placer counties

Peer County Representative Cybersecurity Function and Service Details

Cybersecurity
Providing comprehensive cybersecurity to protect county networks, systems, and data

- Threat Assessment
- Policy/Governance
- Mitigation Response
- Incident Response
- Security Operations
- CJIS
- Compliance

County Name	Function Name	Service Scope
Placer	Security Services	Provides a comprehensive security program designed to protect the County networks, systems, and data including the enforcement of security policies and procedures, security awareness programs, auditing and forensics, and applicable industry and governmental compliance.
Tulare	Security	Protect County intellectual property and residents' privacy by enforcing secure methodologies for the electronic and physical protection of data during input, transmission, and storage
Monterey	Security	Properly manage the security risks of their information assets and active monitoring.
Kern	Information Security Office	Threat Assessment, Policy/Governance, Mitigation Response, Cyber Incident Response Management, Security Operations
Alameda	Criminal Justice Information System	The Consolidated Records Information Management System is a modern criminal justice information system that stores and processes data on adult defendants from the time of booking or complaint through adjudication, sentencing, custody, probation, and release. The system serves 34 agencies/departments in Alameda County.

Peer County Representative Technical Support Function and Service Details

Technical Support
Tier 1/Tier 2 support for technologies countywide, often but not exclusively limited to those built by the IT department

- Desktop Support
- Service Desk
- End User Computing

County Name	Function Name	Service Scope
Placer	IT Service Desk	Centralized entry point for all IT service requests, tracking, and escalation. Provides direct first tier support for County hardware, software and applications as well as escalation and tracking for all other IT services.
Sonoma	Technical Services	This division designs, builds, and supports the core technology infrastructure that helps County workers communicate with their clients and coworkers. Whether it's phone and radio service for voice communications, data networks that connect supported computers and mobile devices, or the enterprise software applications used by all County employees, Technical Services makes it possible for all of these systems to work together to support your business needs.
Solano	Technical Support	Information technical support
Monterey	Service Delivery	The Service Delivery Division offers a portfolio of IT services that includes desktop management, service desk, and data center services. IT Service Desk serves as a single point-of-contact for requesting IT services, technical support, and the dissemination of IT systems status and availability information. Desktop Management provides personal computer (PC) lifecycle management including the planning, acquisition, installation, support, maintenance and replacement of PC-based hardware and software.
Kern	Workspace Technology	Desktop Management, Mobile Management, Service Management, Email/Collaboration, Active Directory, HR (provisioning)
San Luis Obispo	Networked Services	Provide technical support and systems administration for Microsoft Active Directory Services, anti-virus protection, email, calendaring, collaboration tools, internet server management, internet access, mobile messaging, remote system access, and management and data communications services, including high speed data circuits.
Ventura	Technical Services	The Technical Services Division provides data center operations services, service desk operations, desk-top support services, and server and database support services. The Technical Services Division supports applications by providing hardware, software, and database support across a variety of technologies. Data center operations support includes equipment housing, server back-up, data storage, and disaster recovery planning. Technical Services also provides enterprise file and print service support and desk-top support services. Technical Services also provides support for the County's email and identity management services. All of these services are orchestrated by our 24/7 service desk function. (desktop support, operations center and service desk, unix/linux/windows/virtulization server platform support, office365, IBM platform support)

Peer County Representative Administration Function and Service Details

Administration
IT finance, HR, innovation, and other day-to-day administrative operations within the Department

- Finance/Budget
- HR
- Innovation
- Contracts Mgmt.

County Name	Function Name	Service Scope
Tulare	Administration Unit	Conducts budgeting, accounts payable, staffing, planning, and other day-to-day administrative operations within the Department
Sonoma	Admin	Coordinates ISD's budget with the CAO and assists technology procurement for most County departments. Internally, Administration is responsible for payroll and human resources functions such as recruitment, disciplinary actions, and union relations, as well as compliance with Federal, State, and County laws and regulations on safety, risk, and labor/
Sonoma	Innovation	Works collaboratively with leadership from County departments and agencies in the selection, development, and implementation of new technologies, programs, and services that address business challenges and support their needs. Research and development efforts nurture new ideas from concept, through pilot, and into mainstream production. Additionally, this division leads technical teams on high profile projects requiring an agile approach to implementation. These projects lead to business process improvement through cross-departmental collaboration and data sharing, while enhancing the client experience.
Solano	Admin	CIO-Admin function
Monterey	Admin	Comprised of Fiscal, Human Resources Management, Project Management, and Contracts Management. Fiscal is responsible for oversight of department finances which include budget preparation, tracking of actual transactions, and financial forecasting as it relates to both internal department and customer charges. Capital infrastructure needs and asset tracking are also under this section of ITD. Human Resources partners and collaborates with ITD management to provide diverse talent management and recruitment services, the development and retention of staff, and other HR support services such as benefit coordination. Project Management provides project and portfolio for all large-scale, multi-disciplined IT infrastructure/application projects.
Ventura	Admin and Fiscal services	Coordinates and develops short and long-range operational and financial plans for the IT Services Department. Departmental standards, processes, and policies while analyzing and implementing reorganization efforts with the CEO and Human Resources to provide the most cost-effective and efficient Information Technology Services organization to customer departments and agencies. Fiscal Services provide financial budgeting, forecasting, accounts receivable, accounts payable, and fixed assets accounting in an efficient, accurate, and professional manner while establishing, renovating, and implementing accounting systems and procedures for the IT Services Department

Placer county IT function details

Function	Description
IT Service Desk	Centralized entry point for all IT service requests, tracking, and escalation. Provides direct first tier support for County hardware, software and applications as well as escalation and tracking for all other IT services.
Security Services	Provides a comprehensive security program designed to protect the County networks, systems, and data including the enforcement of security policies and procedures, security awareness programs, auditing and forensics, and applicable industry and governmental compliance.
Project Management Services	Provides oversight of planning, management, and execution of the County's Information Technology project portfolio.
Infrastructure Services	Provides County server infrastructure to include compute and storage both on premises and in the Cloud, data protection and disaster recovery, Active Directory, email services, and mobile device management.
Enterprise App Support Services	Provides maintenance and support services for information technology applications including patch & upgrade management, interface management, database administration, interface management, vendor support, reporting support, and application maintenance & enhancements.
Department Specific Application Support Services	Application support services provided to County departments to support the maintenance of Department Specific Applications including application development & support, database support, patch management, interface management, vendor support, and reporting support.
HHS Dedicated Application Support Services	Provides flexible support services for Health and Human Services applications including interface management, vendor support, reporting support, database support, and application development & maintenance.
Telephone / Network / Media	Provides audio and video services and management of the County's data transport network, telephone infrastructure, centralized voicemail system, call accounting system, and oversight of the cable television franchise agreements.
Radio Services / Middle Fork Radio	Provides management of the County's Interoperable P25 Radio Network, analog two-way radio infrastructure, backhaul microwave systems, and telemetry (SCADA) network. Provides Countywide Interoperable P25 Radio Network coverage into the Middle Fork Recreational Area of the American River Canyon.

Source: FY2019/20 County "Position" data; KPMG Analysis (August, 2020)

Tulare county IT function details (Slide 1 of 2)

Function	Description
Centralized Telephone	Tulare County Information and Communications Technology Department (TCiCT) collaborates with private industry to provide the primary means of communication between County staff and the public. Management of relations with telecommunications service providers for voice and data communications to ensure that the County is "Open for Business." Purchase of voice and data communications equipment. Create public value through efficient and effective services to departments relating to the allocation of telephone bills, refund requests, ordering new lines, canceling of unused lines, and other cost saving activities.
Communications	Provides public safety and other entities with a robust and reliable radio and microwave network for communications across most areas of the County. Costs are recovered through charges to user departments. The Communications Division provides reliable radio communications and microwave data links to various departments and agencies. The Division constantly monitors the infrastructure performance and coverage against established benchmarks and makes improvements where feasible. Builds public value with continual countywide improvements to the radio and microwave network by upgrading current radio tower sites, installing new tower sites to meet emerging needs, and implementing improved signal routing protocols. The Communications Division also provides installation, maintenance, and repair for equipment installed in vehicles, base stations, and communications towers with the goal to maintain established standards of quality and interoperability across departments and their local partners.
Administration Unit	Conducts budgeting, accounts payable, staffing, planning, and other day-to-day administrative operations within the Department
Security	Protect County intellectual property and residents' privacy by enforcing secure methodologies for the electronic and physical protection of data during input, transmission, and storage

Source: FY2019/20 County "Position" data; KPMG Analysis (August, 2020)

Tulare county IT function details (Slide 2 of 2)

Function	Description
Project Management Office	Provides project services with a goals-based approach that utilizes formal planning, budget, and scoping processes designed to provide on-time, on-scope and on-budget project completion
Business Intelligence	Enables departments to incorporate a data-driven decision-making process through the utilization of multiple data sources. This unit uses numerous technologies, applications and effective practices to collect, integrate, analyze, and present information in customized reports, queries, data mining, and dashboards.
Operations Division	Maintains the County network backbone, telephones, servers, storage, backup, and internet access.
Programming & Application Support Services	Solves business process needs by the creation and maintenance of custom software. They also install and maintain a wide variety of off-the-shelf applications and databases throughout the County.
Geographic Information Services (GIS)	Creates maps and provides data analysis to support County departments and their customers by using geospatial information.
Enterprise Content Management	Provides solutions to reduce the use of paper records and improve workflow by applying technology, business analysis and library sciences.

Source: FY2019/20 County "Position" data; KPMG Analysis (August, 2020)

Sonoma county IT function details

Function	Description
Admin	This division coordinates ISD's budget with the CAO, billing to a hundred general fund and non-general fund indexes as well as assisting technology procurement for most County departments. Internally, Administration is responsible for payroll and human resources functions such as recruitment, disciplinary actions, and union relations, as well as compliance with Federal, State, and County laws and regulations on safety, risk, and labor law.
Information Management	As the primary County agency responsible for data stewardship the Information System Department has an opportunity to assist departments and agencies to serve the community by effectively distributing, using, managing and storing the data they collect. The comprehensive Information Management Division has been established to enhance data usability and expand data sharing, to improve compliance/accessibility and reduce risk, and to introduce opportunities for cost reductions.
Innovation	This division works collaboratively with leadership from County departments and agencies in the selection, development, and implementation of new technologies, programs, and services that address business challenges and support their needs. Research and development efforts nurture new ideas from concept, through pilot, and into mainstream production. Additionally, this division leads technical teams on high profile projects requiring an agile approach to implementation. These projects lead to business process improvement through cross-departmental collaboration and data sharing, while enhancing the client experience.
Systems & Programming	The responsibilities of this division include designing, developing, installing and maintaining business applications throughout the County. Application Services: The Applications Team of Systems and Programming is responsible for maintaining a wide variety of departmental and enterprise applications, in addition to providing business requirements, system analysis, custom development and project oversight/management services for many departments. Integrated Justice Systems: The Justice Team provides software development and integration services in support of the Integrated Justice System (IJS). IJS is an enterprise case and record management system that supports county Justice Partners, Law Enforcement, State and Federal agencies through a centralized data repository on a 24x7 basis. Through a suite of custom in-house and vendor applications, real-time data sharing, and accurate reporting capabilities, IJS is designed to improve public and officer safety, reduce labor costs and facilitate the timely delivery of justice. The Justice Team works closely with all stakeholders producing software solutions for emerging business needs, legal mandates, reporting and third-party system integration.
Technical Services (Overall)	This division designs, builds, and supports the core technology infrastructure that helps County workers communicate with their clients and coworkers. Whether it's phone and radio service for voice communications, data networks that connect supported computers and mobile devices, or the enterprise software applications used by all County employees, Technical Services makes it possible for all of these systems to work together to support your business needs.

Source: https://sonomacounty.ca.gov/ISD/Divisions/ (as of August, 2020)

Solano county IT function details

Function	Description
Overall	Solano County Department of Information Technology will provide customer-oriented and convenient access to information and services through the use of technology; anytime - anywhere. The County will strive for cost-effective use of technology, with interactive exchange and sharing of data within departments, with constituents, with other governments and business partners.
Solutions	L&J-IT Support, HSS-IT Support, SCIPS, Web, Geographic Information Systems (GIS)
Admin	CIO-Admin function
Technical Support	Information technical support
Infrastructure Operations	Telephone services, public safety communications

Source: https://sonomacounty.ca.gov/ISD/Divisions/ (as of August, 2020)

Monterey county IT function details

Function	Description
Admin	The Administration Division is comprised of Fiscal, Human Resources Management, Project Management, and Contracts Management. Fiscal is responsible for oversight of department finances which include budget preparation, tracking of actual transactions, and financial forecasting as it relates to both internal department and customer charges. Capital infrastructure needs and asset tracking are also under this section of ITD. Human Resources partners and collaborates with ITD management to provide diverse talent management and recruitment services, the development and retention of staff, and other HR support services such as benefit coordination. Project Management provides project and portfolio for all large-scale, multi-disciplined IT infrastructure and application projects.
Applications	The Applications Division is comprised of Enterprise Applications, Web Services, GIS Services, and Department Applications Support. Enterprise Applications provides database administration, software programming, systems consulting, project management, and application administration support for enterprise applications for collaboration, document and records management, data integration warehousing and management, business intelligence and analysis, as well as interdepartmental billing and reporting of ITD services. Web Services provides development and maintenance of the County's internal and external website, individual department sites, as well as graphic services and consulting and training services on the tools and techniques for content management, website quality assurance, and web analytics and reporting. GIS Services provides GIS analytical services and development and maintenance of the County's Geo Database, including the development of additional layers of specific GIS data and map development for internal and external customers.
Service Delivery	The Service Delivery Division offers a portfolio of IT services that includes desktop management, service desk, and data center services. IT Service Desk serves as a single point-of-contact for requesting IT services, technical support, and the dissemination of IT systems status and availability information. Desktop Management provides personal computer (PC) lifecycle management including the planning, acquisition, installation, support, maintenance and replacement of PC-based hardware and software.
Infrastructure	Offers backbone services which include network, telephone, microwave communication, and land mobile radio for public safety. It keeps the County connected by operating critical communication frameworks and designing resilient, competitive, and affordable technologies. The division has three units: Data Network, Telecommunications, and Radio Communications.
Security	Properly manage the security risks of their information assets and active monitoring.

Source: https://sonomacounty.ca.gov/ISD/Divisions/ (as of August, 2020)

Alameda county IT function details

Function	Description
Overall	Under this service the ITS department provides Alameda County with: - Efficient, innovative, and secure technology services - Collaborate with agencies/departments to deliver progressive data center and cloud solutions, web/mobile technologies, application services, citizen engagement, and digital transformation
Criminal Justice Information System	The Consolidated Records Information Management System is a modern criminal justice information system that stores and processes data on adult defendants from the time of booking or complaint through adjudication, sentencing, custody, probation, and release. The system serves 34 agencies/departments in Alameda County.
Telephony and Radio Services	This includes, Installation, operation, and maintenance of mobile radio, telephone, and unified messaging to support fire, sheriff/police, emergency medical services, and other County offices that provide public protection and general government services to the public.

Source: https://sonomacounty.ca.gov/ISD/Divisions/ (as of August, 2020)

Kern county IT function details

Function	Description
Enterprise Technology	Infrastructure, Telecomm/Microwave, Identity Management, Threat Security, Endpoint Protection
Workspace Technology	Desktop Management, Mobile Management, Service Management, Email/Collaboration, Active Directory, HR (provisioning)
Enterprise Application	Criminal Justice (CJIS), Financial Management (FMS), Property Tax (KIPS), Payroll
Web Platform Technology	Business Application, Web Technology, Hosting Services, SharePoint, GIS
Information Security Office	Threat Assessment, Policy/Governance, Mitigation Response, Cyber Incident Response Management, Security Operations
Analytics	Visualization/Reporting, Data Management, Forecasting/Modeling
Engagement & Portfolio Management	Business Engagement, Scope/Cost/Scheduling, Planning/Execution/Close, Project Governance, Technology Demand Management

Source: https://sonomacounty.ca.gov/ISD/Divisions/ (as of August, 2020)

San Luis Obispo county IT function details

Function	Description
Departmental Services	Document and communicate the scope as well as the mechanism for acquiring information technology services; manage and deliver technical support; provide desktop support services; host servers and data in a secure, climate-controlled datacenter including backup/recovery services; manage enterprise storage services; provide departmental application development, support, and management, business analysis, project management, and technology planning and consulting services; guide departments in the application of best practices, procedures and documentation standards; help assess project risks by reviewing project scope, business requirements, and resource capacity.
Enterprise Services	Provide technical support and systems administration services; maintain a physically secure and environmentally controlled computing facility; manage data center operations including dispatching, scheduling, and running jobs; manage enterprise storage services; develop, support and manage enterprise applications; provide backup/recovery services; provide system administration and software services for the County's Enterprise Financial Services (EFS), internal portal and public facing website; support countywide programs such as Information Security, Geographic Information Systems (GIS), Content Services, and web applications development and support.
Networked Services	Provide technical support and systems administration for Microsoft Active Directory Services, anti-virus protection, email, calendaring, collaboration tools, internet server management, internet access, mobile messaging, remote system access, and management and data communications services, including high speed data circuits.
Radio & Video Communications	Provide two-way radio communications and video surveillance environments for public safety, medical response, and County business users and departments. The communication system uses microwave radio technology through a Countywide network of mountain top radio sites to support the Sheriff's Office, County Fire, partner agency first responders, and medical services necessary to serve the public. Video surveillance is provided through an enterprise-wide application for all custody facilities and other sites as requested.
Voice Communications	Support and manage Voice over IP (VoIP) telephony services, manage traditional AT&T telephony services (adds, changes, deletes); coordinate all voice equipment installation with AT&T, manage voice communication billings, and administer County's voice mail system (adds, changes, deletes)

Source: https://sonomacounty.ca.gov/ISD/Divisions/ (as of August, 2020)

Santa Cruz county IT function details

Function	Description
Applications	The Applications Division develops, modifies, enhances, and implements custom computer applications and programs and provides consulting and support to all departments in the area of office automation, which includes the County's network of personal computers.
Data Center	The Data Center Division supplies expertise in the areas of networking, servers, operating systems, and computer operations.
Tele-communications	The Telecommunications Division manages the County's telephone and voice communications systems, and is responsible for central duplicating and mail room services for the County.

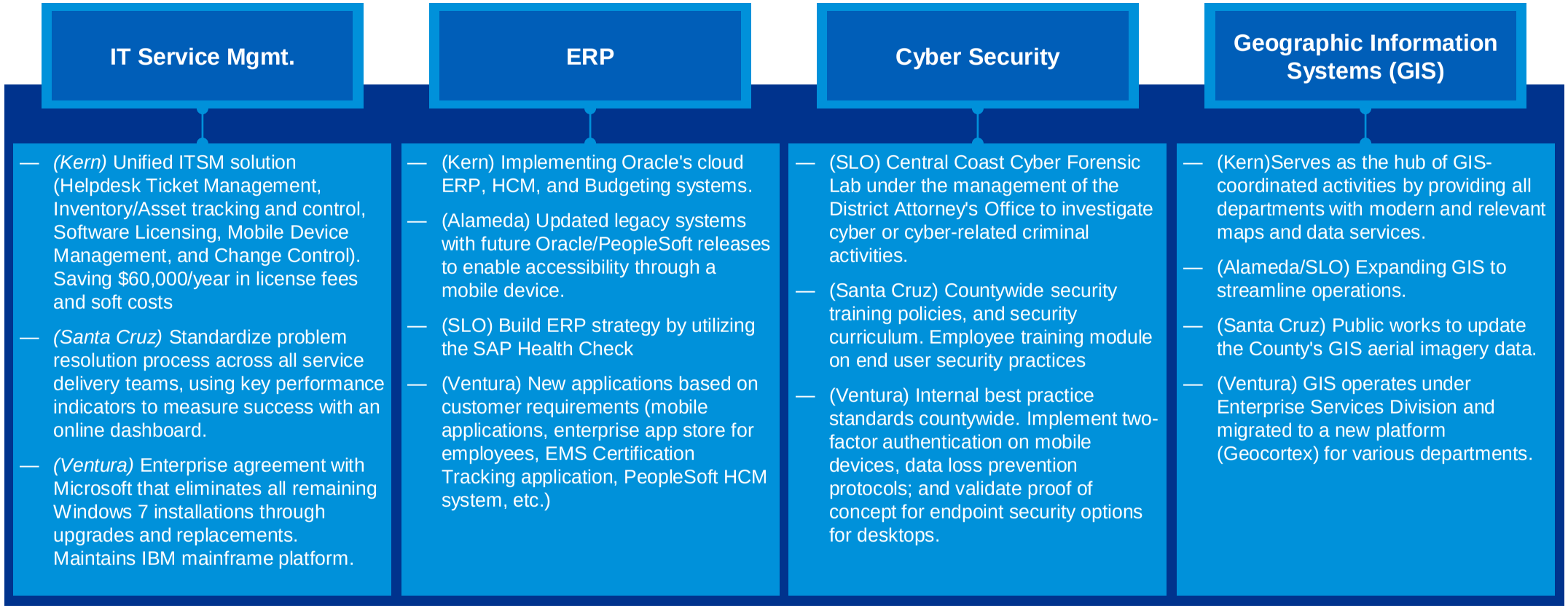
Source: https://sonomacounty.ca.gov/ISD/Divisions/ (as of August, 2020)

Ventura county IT function details

Function	Description
Admin and Fiscal services	Administrative and Fiscal Services Division coordinates and develops short and long-range operational and financial plans for the IT Services Department. Departmental standards, processes, and policies while analyzing and implementing reorganization efforts with the CEO and Human Resources to provide the most cost-effective and efficient Information Technology Services organization to customer departments and agencies. Fiscal Services provide financial budgeting, forecasting, accounts receivable, accounts payable, and fixed assets accounting in an efficient, accurate, and professional manner while establishing, renovating, and implementing accounting systems and procedures for the IT Services Department
Technical Services	The Technical Services Division provides data center operations services, service desk operations, desk-top support services, and server and database support services. The Technical Services Division supports applications by providing hardware, software, and database support across a variety of technologies. Data center operations support includes equipment housing, server back-up, data storage, and disaster recovery planning. Technical Services also provides enterprise file and print service support and desk-top support services. Technical Services also provides support for the County's email and identity management services. All of these services are orchestrated by our 24/7 service desk function. (desktop support, operations center and service desk, unix/linux/windows/virtulization server platform support, office365, IBM platform support)
Application Services	Application Services Division provides all facets of designing and developing or purchasing, implementing, and managing business applications, including requirements planning. The Application Services Division assists in integrating Document Management, and electronic payment processing technologies into your business applications. (maintain, development)
Enterprise Services	The Enterprise Services Division provides Information Services to all County departments and agencies; governmental agencies within Ventura County; and the general public. The Enterprise Services Division provides all facets of designing and developing or purchasing, implementing, and managing business applications, including requirements planning. The Division also provides senior resources for customer relationship management. The departments and agencies supported by this Division are Auditor-Controller, Treasurer-Tax Collector, Assessor, County Clerk and Recorder, Elections, Human Resources, County Executive Office, Board of Supervisors, and others (application maintenance, development, enterprise content management, customer relationships)
GIS	This Division provides the support services for the centralized Geographic Information Services (GIS) function for the entire County. The Geographic Information Services Division of ITSD provides County agencies with up-to-date digital maps of parcels, street centerlines, addresses, aerial imagery and hundreds of other data layers, along with the mapping tools needed to display and analyze this data. The GIS data is accessible on a desktop PC or on the Intranet/Internet via the County “Web Portal.” GIS support is governed by the Geographic Oversight Committee comprised of Agency and Department Heads. The authority for the countywide GIS function has been delegated to the Oversight Committee by the Board of Supervisors. (GIS Apps and maintenance, application development)
Network Services	Provide reliable, responsive, cost effective and relevant technology services and counsel to County departments, agencies, and leaders. Network Services is responsible for the design, implementation and maintenance of the County voice and data network for all on-line systems and applications. The Data Network supports over 21,000 devices while the Voice Network provides telephone service for over 10,000 devices. Network Services engineers and maintains a countywide microwave network with over 120 sites and supports and maintains the Public Safety radio network. The Countywide Network Security Services Function, responsible for insuring availability and confidentiality of data, as well as protection against computer viruses, network intrusions, and denial of service attacks is also a responsibility of Network Services.

Source: https://sonomacounty.ca.gov/ISD/Divisions/ (as of August, 2020)

Model counties are addressing topics relevant to County of Santa Barbara (Slide 1 of 2)



Model Counties includes: Alameda, Kern, Ventura, San Luis Obispo, and Santa Cruz

Source: "Annual Report 2019, Information Technology Services, Kern County", Link; "Information Technology Services (ITS), Kern County", Link, accessed on 24th August 2020; : "Strategic Plan 2018 – 2020, IDT, Alameda County", Link; "Projects, IDT, Alameda County", Link; "Services, IDT, Alameda County", Link; accessed on 24th August 2020; : "Annual Report 2018-19, Ideas into Action, County of San Luis Obispo"; "Information Technology Strategic Plan, FY 2019-20 to FY 2022-23, County of San Luis Obispo; accessed on 24th August 2020; : "Operational Plan, Fiscal Years 2019-20 & 2020-21, County of Santa Cruz"; "Surveillance Impact Report: Unmanned Aerial System, Santa Cruz County Sheriff's Office, 12th September 2018"; accessed on 24th August 2020; : "Fiscal Year 2019-20 Adopted Budget, Ventura County"; "Strategic Plan 2011-2016, Ventura County"; accessed on 26th August 2020

Model counties are addressing topics relevant to County of Santa Barbara (Slide 2 of 2)

Model counties include Alameda and San Luis Obispo (SLO)

Source: "Strategic Plan 2018 – 2020, IDT, Alameda County", Link; "Projects, IDT, Alameda County", Link; "Services, IDT, Alameda County", Link; accessed on 24th August 2020; : "Annual Report 2018-19, Ideas into Action, County of San Luis Obispo"; "Information Technology Strategic Plan, FY 2019-20 to FY 2022-23, County of San Luis Obispo; accessed on 24th August 2020;

Detailed model county practices (Slide 1 of 3)

Kern County

Kern County's IT function is a standalone department, which serves other departments with full or partial services depending on needs.

- *O365:* The County is fully invested in Microsoft's O365 productivity suite, although the Sheriff's department is on a separate and segregated instance with its own Active Directory
- *Datacenter/Cloud:* The department internally developed OpenKern to replace a commercial cloud solution resulting in annual savings of US$40,000.
- *Geographic Information System:* Making ongoing GIS platform enhancements. ITS serves as the hub of GIS-coordinated activities and provides all departments with modern and relevant maps and data services.
- *IT Service Management (ITSM):* Developing a unified ITSM solution using BMC Footprints. It will provide various services, including consolidated and unified HelpDesk Ticket Management, Inventory/Asset tracking and control, Software Licensing, Mobile Device Management, and Change Control. This is expected to save a total of US$60,000/year in license fees and soft costs.
- *ERP, Financial & HR Systems:* Implementing ERP & HCM solutions. This program will transition its mainframe-based Payroll/Fiscal/HR systems to Oracle's cloud ERP, HCM, and Budgeting systems.
- *Content Management System:* Implementing govAccess by Granicus (a cloud-based CMS) to modernize its public-facing website for the main domain and then different departments.

Alameda County

With the "Information Technology Efficiency Initiative" approved by the Board of Supervisors, the county is undertaking an effort to centralize its technology support and services.

- *O365:* Deploying Microsoft Office 365 (cloud collaboration tools) Their Sheriff's department is on the same O365 & Active Directory as the rest of the County. They are also consolidating Active Directory domains and servers, and improving data loss prevention via the Technology Reuse Program.
- *Datacenter/Cloud:* expanding virtual server/storage and cloud offerings, as well as relocating its servers to a dedicated datacenter for county departments to use. It is also trying to position its Infrastructure-as-a-Service offering for departments to use.
- *Geographic Information Systems:* Incorporating and expanding the integration of technologies, such as RFID (Radio Frequency Identification) and GIS to streamline operations.
- *ERP, Financial & HR Systems:* Modernizing legacy systems and upgrading both ALCOLINK HRMS and ALCOLINK Financials with future Oracle/PeopleSoft releases to enable accessibility through a mobile device.
- *Standards & Standards Enablement:* Deploying techniques and tools such as Project Life Cycle methodology, platform independent web based services, and improved source, backup and change control software.
- *Content Management System:* Providing departments the ability to self manage the content of their website using an enterprise CMS.

Source: "Annual Report 2019, Information Technology Services, Kern County", Link; "Information Technology Services (ITS), Kern County", Link; "Strategic Plan 2018 – 2020, Information Technology Department, Alameda County", Link; accessed on 21st August 2020

Detailed model county practices (Slide 2 of 3)

County of San Luis Obispo

The County of San Luis Obispo is considering opportunities to combine IT solutions with nearby local government entities and partnering agencies, which will enable them to pool resources, eliminate unnecessary redundancy, and provide cost-effective IT support services countywide.

- *Customer Relationship Management*: The IT department plans to develop a digital government strategy to improve content management, mobile optimization, and enhance self-service by leveraging Office 365 investment, including Skype, Teams, and SharePoint.
- *Geographic Information Systems*: It plans to continue to expand the GIS services/offerings.
- *Data and Analytics*: It will leverage quality data to develop decision support dashboards.
- *Enterprise Resource Planning*: It plans to build an ERP strategy by utilizing the SAP Health Check findings and recommendations as a foundation.
- *Data Service*: The County plans increase network connectivity to underserved areas.
  - Currently, a public/private cooperative effort comprised of Ventura, Santa Barbara and San Luis Obispo counties in association with Digital West Networks and other telecom providers is being explored to implement a broadband initiative. The department has also replaced its AT&T legacy telephone system—replacing over 3,300 phones in over 160 locations with Voice over Internet Protocol (VoIP) service from AT&T itself—saving the County an estimated $2.5 million over 10 years.
- *IT Asset Management*: The IT department is developing a countywide IT asset inventory with associated refresh cycles. Potential economies of scale may also surface.
- *Improve coordination among the IT governance bodies*: The county plans to improve coordination among its various IT governance bodies by assigning a single business/IT relationship early in the process to drive the effort, further clarify costs, benefits, and risks.
  - The county plans to revisit and *redefine IT governance structure; establish a system of record; and modernize its policies to enable the delivery of services*.
- Apart from the IT department, San Luis Obispo county has additional IT related initiatives in other departments:
- *Established Central Coast Cyber Forensic Lab*: This operates under the management of the SLO County District Attorney's Office to investigate cyber or cyber-related criminal activities.
- Replaced manual mail-opening machines: Tax Collector's office was updated with a newer, faster system, saving more than $19K.

County of Santa Cruz

Santa Cruz County's Information Services Department (ISD) provides centralized information technology services, telephone, printing and other support services to the county departments.

- *Geographic Information Systems (GIS)*: Public Works plans to update the County's GIS aerial imagery data used for mapping and establish a four-year refresh cycle of that data.
  - The department hired quality assurance and control consultants to shortlist vendors and sign contracts.
- *Standardization of Workflow*: ISD will analyze, standardize, and improve the problem resolution process across all service delivery teams, using key performance indicators to measure success. It will create online dashboard for the department's top five customers to track their key metrics through the ticketing system.
- *Data Services*: By December 2020, the Information Services Radio Shop plans to improve the reliability of its Radio system.
  - The Radio Shop will replace all multiplexers with new equipment and will convert one Simulcast site from copper to fiber technology. It will also establish Mount Toro as a standby backup site for the Santa Cruz Radio system.
- *Cybersecurity*: ISD plans to develop and publish countywide security training policies, and implement a security curriculum that includes testing to protect County data and assets.
  - It will develop an employee training module on end user security practices for all County staff and train them on how to avoid and report email cyberattacks.
- *Unmanned Aerial System*: The county is assessing the potential cost and implementation of Unmanned Aerial System or Drone, based on a model developed by American Civil Liberties Union of California, which is consistent with the International Association of Chiefs of Police Technology Policy Framework.

Source: "Annual Report 2018-19, Ideas into Action, County of San Luis Obispo"; "Information Technology Strategic Plan, FY 2019-20 to FY 2022-23, County of San Luis Obispo; accessed on 24th August 2020; "Operational Plan, Fiscal Years 2019-20 & 2020-21, County of Santa Cruz"; "Surveillance Impact Report: Unmanned Aerial System, Santa Cruz County Sheriff's Office, 12th September 2018"

Detailed model county practices (Slide 3 of 3)

Ventura County

Information Technology Services Department (ITSD) Information Systems Internal Service Fund comprises of five divisions – Administrative and Fiscal Services, Application Services, Technical Services, Enterprise Systems and Services, and Health Care Agency Services.

- *Geographic Information Systems (GIS):* The GIS operates under Enterprise Services Division and recently migrated GIS Web Applications from old GIS web mapping platform (Adobe Flex) to a new platform (Geocortex) for various departments, including GSA Security, Health and Human Services Disaster, and the general use county view application.
  - It also developed a new database environment and transformed GIS imagery data to the NAD83 coordinate system to replace the use of the NAD27 coordinate system.
  - ITSD established a countywide GIS User Group to foster interagency collaboration and standardization.
  - Under the Sanborn Project, it also plans to acquire post-fire high resolution aerial imagery.
- *O365*: ITSD manages and provides technical and operational support for the countywide Office 365 business productivity suite of tools, including Exchange, Sharepoint, OneDrive for Business cloud-based storage, Skype for Business, Yammer, and other productivity tools.
- *Datacenter/Cloud*: ITSD completed the migration of ISD file servers to the new NetApp storage device.
- *Data services*: It is deploying 700 MHz national wireless infrastructure to ensure retention of frequencies and the Network Services is following the progress of FirstNet to determine how the County of Ventura can leverage this opportunity to improve our wireless capabilities for Public Safety as State of California has also opted in to the FirstNet first responder network.
  - It has also completed a significant amount of progress on SIP trunking on the voice network which has reduced countywide long distance call charges by ~US$300,000 annually.
- *Security*: ITSD Network services will implement internal best practice standards countywide, which will closely follow the SANS CIS Critical Systems Controls.
  - It plans to: implement two-factor authentication on mobile devices, implement data loss prevention protocols; and validate proof of concept for endpoint security options for desktops.
- *IT asset management*: ITSD has negotiated a new five-year enterprise agreement with Microsoft, and eliminated all remaining Windows 7 installations through upgrades and replacements. It also manages and maintains the IBM mainframe platform, including 24-hour operational coverage, performance management, capacity planning, and problem resolution.
- *ERP, Financial & HR Systems*: It develops and purchases new applications based on customer requirements and needs, including mobile applications for iOS and Android mobile devices and an Enterprise App Store specifically for County of Ventura employees.
  - It has automated HR training website and applications, automating processes surrounding the scheduling and tracking of training classes. It also replaces the original app store that was developed in house by implementing the App47 mobile application store. It has developed, replaced and implemented various applications, including:
    - Replaced old Ventura Automated Collection System application with a vended solution; developed EMS Certification Tracking application for HCA-Public Health to increase efficiency; developed the PeopleSoft HCM system upgrade for County Executive Office, HR, and Auditor-Controller; enhanced and supported the county financial and performance budgeting systems and provide dedicated Project and Change Management resources for Auditor-Controller and County Executive Office.

Source: "Fiscal Year 2019-20 Adopted Budget, Ventura County"; "Strategic Plan 2011-2016, Ventura County"; accessed on 26th August 2020

Target state details

Benefits of ICT as a standalone department

1. Improved productivity for IT staff

Making best use of skills by enabling them with systems and processes that are fit for purpose while also maintaining an enterprise view to optimize for the whole

2. Lowered expenses and increased purchasing power

Generating value through greater bargaining position, volume pricing, and evaluative expertise to ensure the right services are procured at the right price from the right partners

3. Better information flow

Breaking down barriers to enable rapid but reasonable decisions, quick and secure data transfers, and specialized but coordinated efforts

4. Improved accountability

Having a single point of accountability for critical contributions, and keeping a succession plan in place to provide stable and deep leadership for IT services that are only getting more and more complex

5. Integrated Technology & Ops strategies

Providing infrastructure, platforms or software as a service to allow for rapid prototyping or to handle large, unstructured data volumes in an efficient manner

6. Constant accessibility

Making information integrated, interoperable, and readily available for a variety of form factors in an efficient, secure, and innovative manner

7. Enhanced information security

Providing the policies and operations to enable a secure technical environment

Source: "The Benefits of an IT Systems Consolidation", Link; ; Centralized vs. Decentralized IT Teams – What's the difference?", Link; "The benefits of centralizing your data and infrastructure", Link; accessed on 28th July 2020

Refining guiding principles from the 2019-2022 Countywide Technology Strategic Plan helped scope ICT services

Operating Model Guiding Principles

2019-2022 Countywide Technology Strategic Plan

1. Provide timely, convenient access to appropriate information and services
2. Business needs drive IT solutions
3. Leverage technologies to make new business methods a reality
4. When making technology investments, be forward thinking in terms of long-term system lifecycle requirements
5. Implement leading-edge, not bleeding-edge technologies
6. Develop the County IT workforce through a balanced investment in education and mentoring to support current and future technology needs
7. Promote flexibility, inter-operability, cost effectiveness through the use of open (vendor-independent) standards, minimizing proprietary solutions
8. Implement countywide solutions to reduce redundancy, duplication and create efficiencies

Transition to Standalone ICT Department

- ICT provides accountability for supporting countywide IT needs
- Ensure a secure environment
- Continuously improve technology services
- Drive consistency in managing strategic vendors
- Provide clear evaluation of IT investments so informed decisions can be made
- Provide clear monitoring and tracking of technology delivery to improve delivery processes
- ITC should be first provider for Solutions spanning multiple departments
- ICT should be thought leaders in technology innovation, spotting applicability/benefit to departments
- IT is empowered and positioned to drive technology solutions for departments

A shared service model was concluded to have the highest level of benefits achievement and greatest fitness with guiding principles

Key Benefits	Innovation-Centric	Department Autonomy	Shared service
	Enable businesses/ departments to develop innovative solutions	*Enable a business model that depends on highly autonomous BUs or Departments*	*Provide a central hub for shared solutions and services to drive efficiency and simplification*
1. Improved productivity for IT staff	◕	◑	●
2. Lowered expenses and increased purchasing power	◕	◑	●
3. Better information flow	◕	◔	◕
4. Accountability for IT	◕	◔	◕
5. Integrated technology & operations strategies	●	◔	◕
6. Constant accessibility	◕	◔	◕
7. Enhanced information security	◕	◑	●
Fit with Guiding Principles:	**Better**	**Good**	**Best**

Variations of hybrid IT models to support business objectives

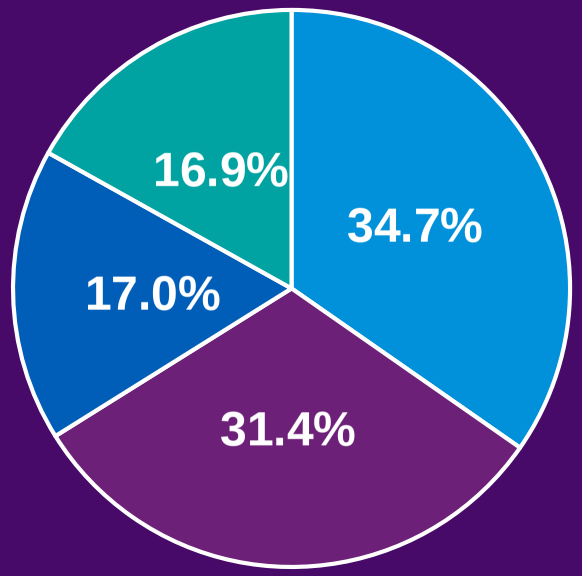
Representative capabilities

Innovation-centric		BU/Department autonomy		Shared service optimization	
Enable businesses/ departments to develop innovative solutions		*Enable a business model that depends on highly autonomous BUs or Departments*		*Provide a central hub for shared solutions and services to drive efficiency and simplification*	
Central IT	**De-Centralized IT**	**Central IT**	**De-Centralized IT**	**Central IT**	**De-Centralized IT**
— Information Security — Infrastructure and operations — Help desk for retained services — End user support — Enterprise architecture — IT finance management	— Project portfolio management — Innovation solution delivery and support — Vendor management for innovation technologies	— Information Security — Corporate Systems development and support — Infrastructure and operations — Enterprise architecture — Corp IT finance management	— Project portfolio management — Department-specific solution delivery and support — SaaS operations — BU IT finance management — Vendor management	— Information Security — Shared systems development and support — Infrastructure and operations — Help desk — Enterprise architecture — Central IT finance management — Vendor management	— Specialized system development and support — Desktop support

All three variations involve more centralization than ICT currently demonstrates.

ICT division budget FY20/21

ICT Expenditure Distribution 2020



Expense	Cost (Million)
Salaries and Employee Benefits	$7.2 M
Services and Supplies	$6.5 M
Other Charges	$3.6 M
Capital Assets	$3.5 M
Total	**$20.9 M**

Source: "County of Santa Barbara's FY20/21 Recommended Budget Book" (2020)

Outcome details

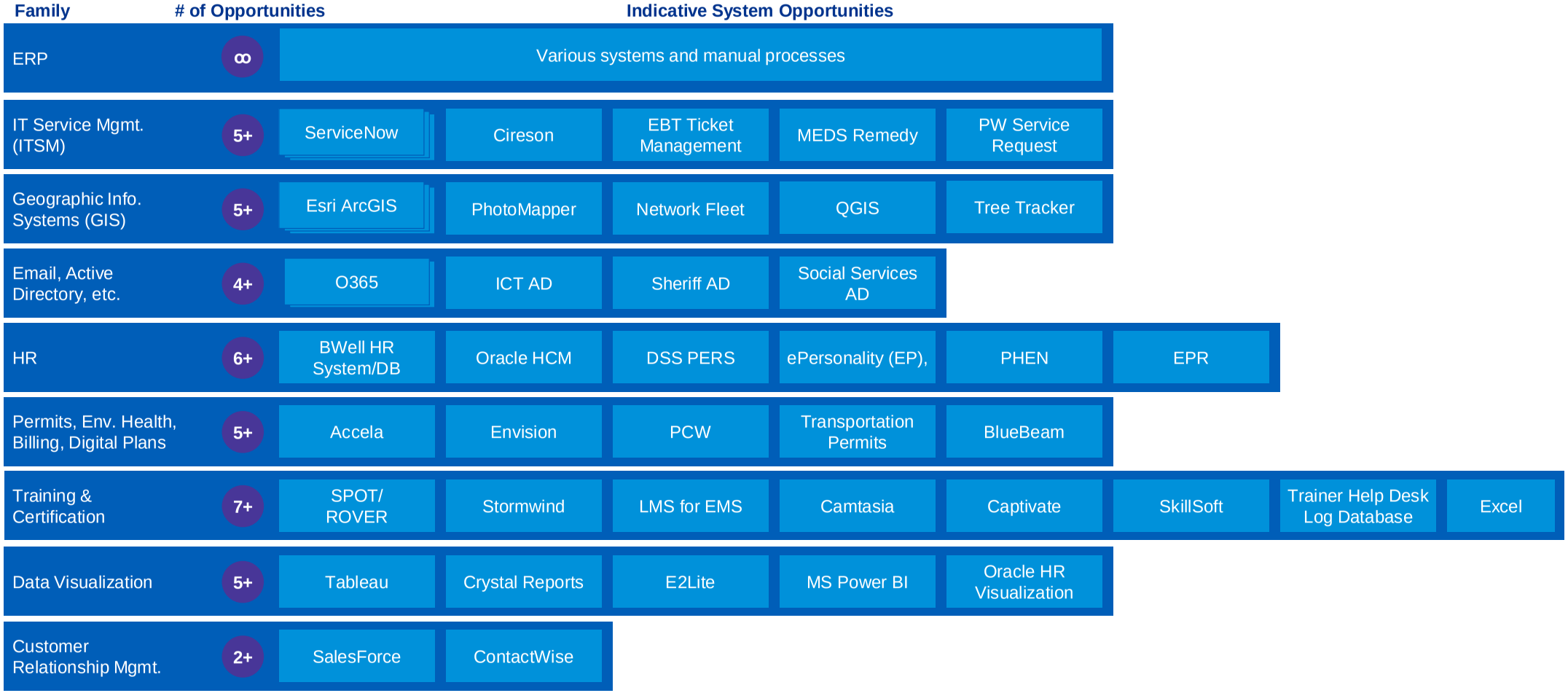
Objective: Expand ownership to include countywide and multi-department solutions

Expand ownership to include countywide and multi-department solutions	Opportunistically rationalize systems, tools, and software licenses across the County in order to achieve efficiencies.

Sources of Value		Outcomes
Systems & Tools	Consolidate systems and associated development, hosting, vendors, maintenance, support, tools (i.e., developer tools), etc.	Consolidate 40+ disparate solutions to 9 or fewer
Software Agreements	Standardize terms & conditions, pricing, etc. from disparate to enterprise agreements where possible to do so	Cut countywide software license spend by up to 30%

Source: Initial (non-binding) analysis by KPMG of WTC "CoSB-Systems-inventory…," Fall 2019; Gartner software rationalization research (July 2016)

Indicative analysis of systems rationalization outcome



Source: Initial (non-binding) analysis by KPMG of WTC "CoSB-Systems-inventory…," Fall 2019; KPMG interviews with CoSB department leaders (July/August, 2020)

Objective: Provide Infrastructure and Platform as a service (IasS and PaaS) to all Departments

Provide Infrastructure and Platform as a service (IasS and PaaS) to all Departments	Centralize all infrastructure, provide it as a 'full stack' service, and optimize around it to achieve enterprise and departmental objectives.

Sources of Value		Outcomes
Hardware & Power	Virtualize infrastructure assets that are not already virtualized, provide as a service that is requestable by ICT and IT department customers	Up to 50% lower hardware & power costs
Asset Utilization	Better utilize existing infrastructure assets through virtualization (applies to those assets not already virtualized)	Up to 4:1 asset utilization improvement
Infrastructure Operations	Streamline infrastructure operations processes (patching, upgrading, break/fixing, tuning, monitoring, etc.)	Up to 10% more efficient Operations
Storage	Control storage growth by de-duplicating, virtualizing, thin-provisioning, tiering, compressing, and changing backup/archive model	Up to 5% storage savings from better-controlling growth
Security	Assets managed centrally can be patched and kept in security compliance with fewer points of communication & less complexity	Improve security policy compliance

Source: "How to Significantly Reduce IT Infrastructure & Operations Costs," Gartner 2012

Infrastructure & operations outcomes

Cost structure & reduction action	% Potential I&O savings
Defer noncritical key initiatives	0%*
Re-examine networking costs	15.0%
Consolidate I&O	10%
Virtualize I&O	10%
Reduce power & cooling	5%
Better control storage growth	5%
Push down IT support	2%
Streamline IT operations	10%
Enhance IT asset management	3%
Optimize multisourcing	5%

Virtualization outcomes

- 50%+ lower hardware and power costs
- 4:1+ utilization improvement
- Control further sprawl
- Asynchronous deployment, rapid installs
- Enhance manageability, service quality, agility, disaster recovery…

Source: “How to Significantly Reduce IT Infrastructure & Operations Costs,” Gartner 2012

Objective: Mature IT Portfolio Management Office (PMO) to represent a portfolio view for the County

Mature IT Portfolio Management Office to represent a portfolio view for the County

Develop a countywide calendar of all IT projects, track progress & outcomes of projects across the IT portfolio, provide decision-making framework.

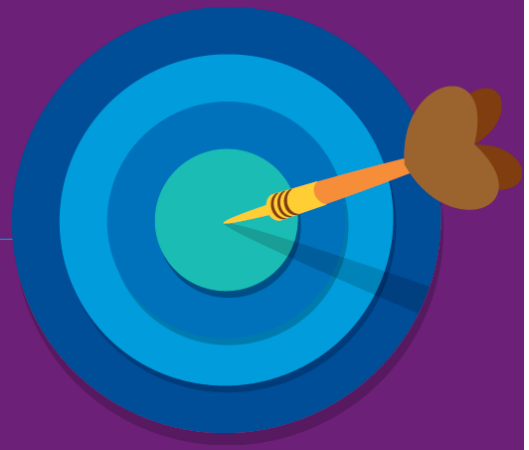
Sources of Value		Outcomes
Project Goals/Outcomes	Clear definition of measurable outcomes, reliable and scalable benefits capture/realization mechanism, business & IT alignment on outcomes	Up to 38% improvement in meeting project goals
Project Duration & Budget	Standardized measurement of time and budget variance, ability to aggregate for broader insights, streamline decisions & interventions	Up to 46% increase in odds of projects being "On Time" Up to 62% greater chance of projects being "On Budget"
Project Scope	Standardized scope 'baseline' socialization techniques, streamline decisions & interventions	Up to 17% reduction in "Scope Creep"
Overall Project Success	Enhanced definition of 'done' or 'minimum viability,' better timing to demand rhythm, improved predictors of success (i.e., testing)	Up to 10% reduction in true project failure
Portfolio Coordination	Visibility of IT projects countywide, coordination of dependencies & synergies, willful acceptance of overlapping efforts where necessary	Enhanced ability to "self-rationalize" IT projects

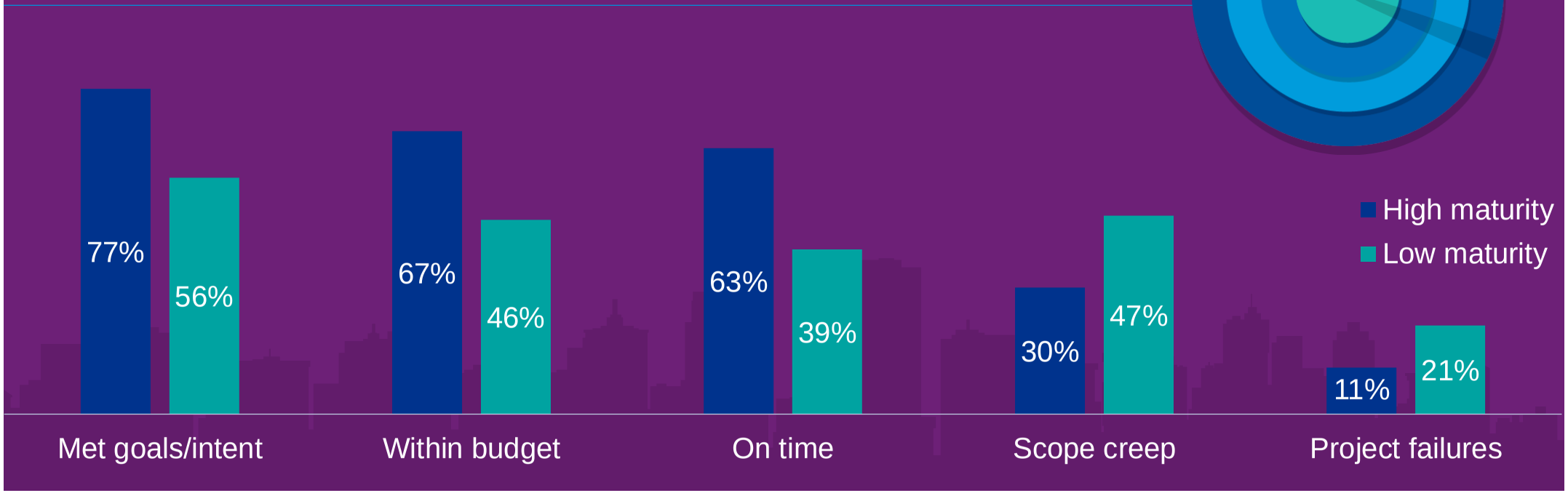
Source: *PMI/Pulse study* (Feb 2020); KPMG analysis

Evidence for outcomes that can be expected by maturing PMO

The ROI of Maturity

Pulse data show that when it comes to value delivery, organizations that are highly mature in their capabilities outperformed those that are not, across a number of key project metrics:





Source: The Project Management Institute, 2019

Objective: Establish an end-to-end IT security function to serve all departments

Establish an end-to-end IT security function to serve all departments	Fully implement, countywide, the “basic cyber hygiene” security controls recommended by the Center for Internet Security (CIS) to address the top 5 attack patters. These CIS controls are applicable to even the smallest and least-funded enterprises. Develop a Security Performance Measurement (SPM) capability to monitor cyber program effectiveness and continuously improve.

Sources of Value		Outcomes
Protect against web application hacking	Implement controls against the top reason for a breach, web application hacking (incl. cloud-based email servers), accounting for 45% of all breaches	Mitigate up to 99% of all web application hacking attacks
Protect against rogue insiders & privileged users	Implement controls against rogue insiders & privileged users (incl. outsiders due to collusion and external partners), which is roughly 8% of all breaches	Mitigate all insider and privileged access misuse
Protect against malware	Implement controls against malware, which is a broad catchall attack pattern also known as “crimeware,” accounting for about 17% of all breaches	Mitigate up to 63% of all malware threats
Protect against ransomware	Implement controls against the ransomware attack pattern, which holds data “hostage” to demand payment, and this is about 5% of all attacks/breaches	Mitigate up to 79% of all ransomware attacks
Protect against targeted intrusions	Implement controls against targeted intrusions, or “cyber espionage” conducted by state-affiliated actors, accounting for about 20% of all breaches	Mitigate up to 76% of targeted intrusions
Security Performance Measurement/Continuous Improvement	Use security performance metrics to take action from incidents by developing/implementing/updating security technology, policy, training	Up to 70% more likely to take definitive improvement action in wake of cyber incident

Source: “How to Significantly Reduce IT Infrastructure & Operations Costs,” Gartner 2012

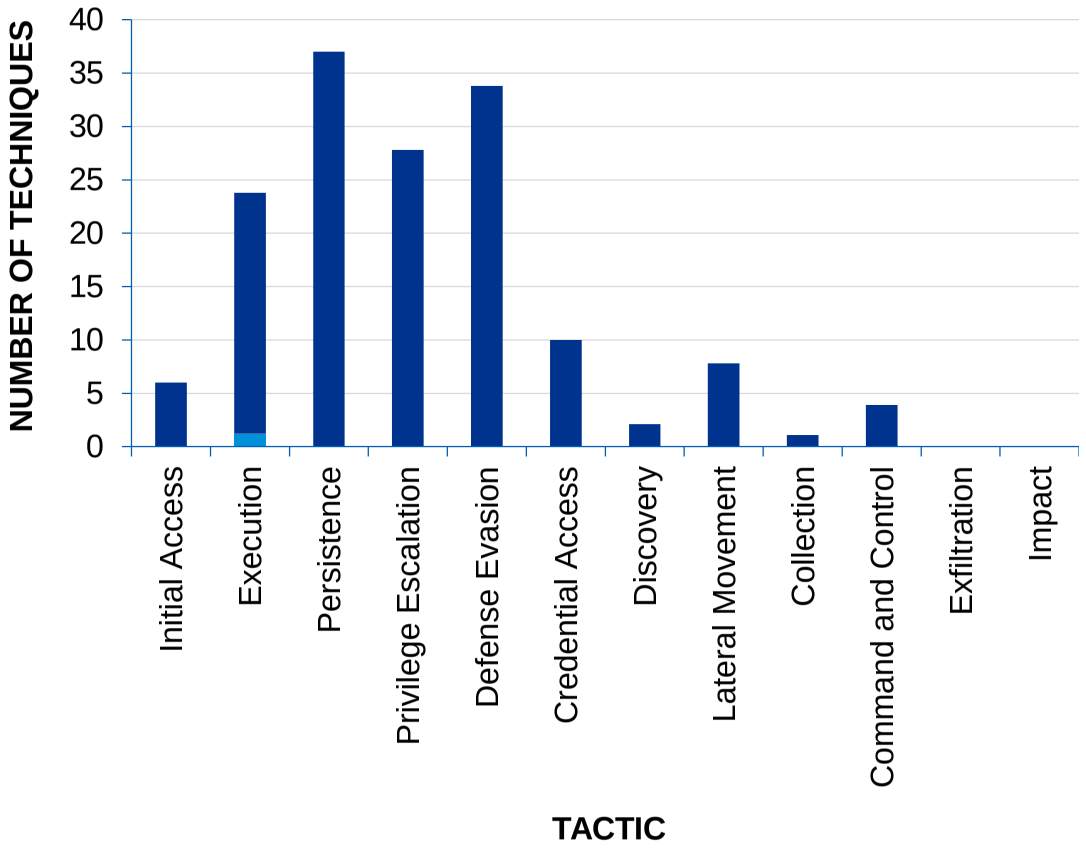
Overview of evidence for primary cybersecurity attack mitigation outcomes

In assessing the security value of the CIS Controls, we started by examining the impact of Implementation Group 1 (IG1)—a prioritized subset of the CIS Controls that we have proposed as “Basic Cyber Hygiene”—security actions that are applicable to even the smallest and least-funded enterprises. Our analysis shows that implementing the Safeguards listed in IG1 is enough to defend against the top five attacks. That is, for each of the five attacks, the Safeguards in IG1 provide mitigation against all of the Techniques found in two or more steps (Tactics) of that attack. In addition to this value against this chosen set of five important attacks, IG1 mitigates against 62% of all ATT&CK Techniques, demonstrating significant value against a wide range of attacks. Taken together, these results strongly reinforce the importance of a relatively small number of well-chosen and basic defensive steps. More broadly, our analysis shows that implementing the CIS Controls (in total) mitigate approximately 83% of all the Techniques found in ATT&CK. This implies that application of the CIS Controls provides significant security value against a very wide range of potential attacks, even if you don’t know any details about those attacks. The initial version of the CIS CDM is not the final answer for modelling cyber defense. However, we believe that this version represents a major step forward in providing greater rigor to support prudent decision-making regarding cyber defense strategies for organizations

Source: “CIS Community Defense Model,” July 2020

Cybersecurity outcome: Mitigate up to 99% of web app hacking attacks

Web Application Hacking
For the web-application hacking attack pattern, 154 instances of techniques were identified throughout the attack cycle. As noted by the graph below, 154 of those instances can be defended against by the Controls, and in this case all but one Technique can be defended against by IG1 Safeguards.



Web-application Hacking Mapping

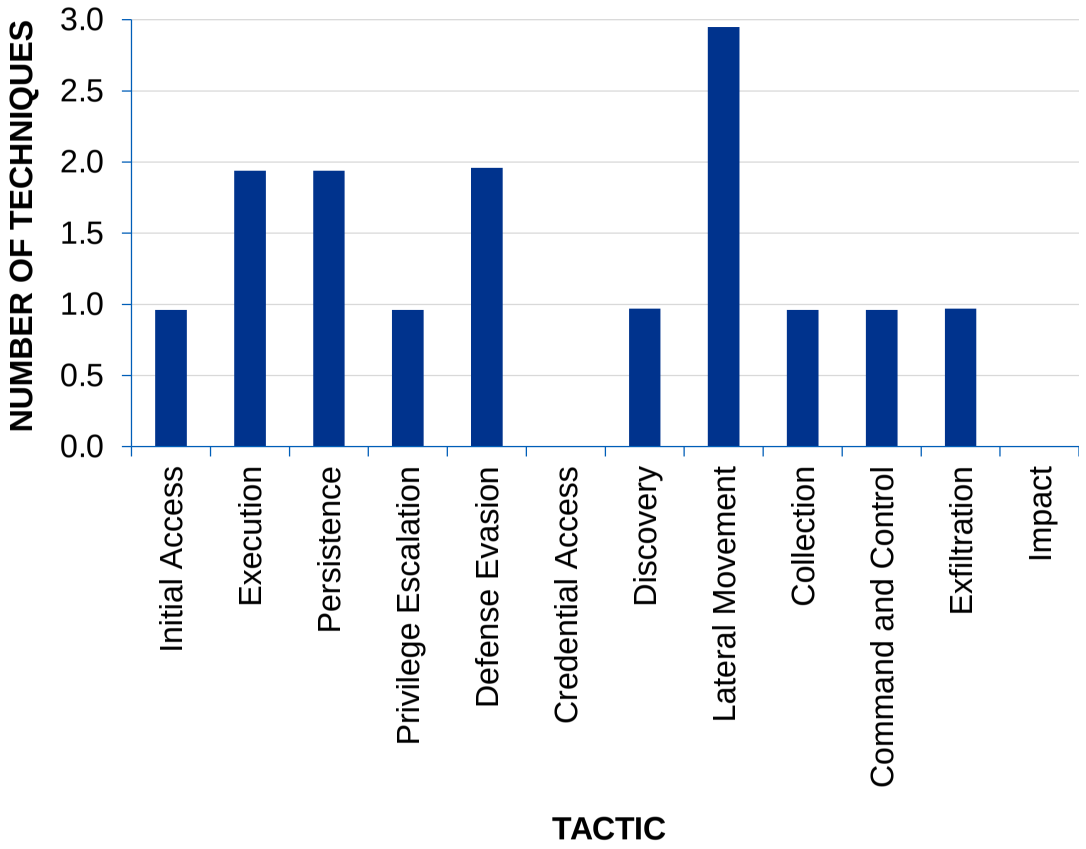
Each IG builds upon the previous level

- IG1
- IG2 or IG3
- No Mapping to Controls

Source: "CIS Community Defense Model," July 2020

Cybersecurity outcome: Mitigate all insider & privileged access misuse

Insider & Privilege Misuse
Fifteen Techniques at various attack stages mapped to the insider and privilege misuse
attack pattern. In this attack pattern, all Techniques can be defended against by properly implementing IG1 Safeguards.



Insider and Privilege Misuse Mapping

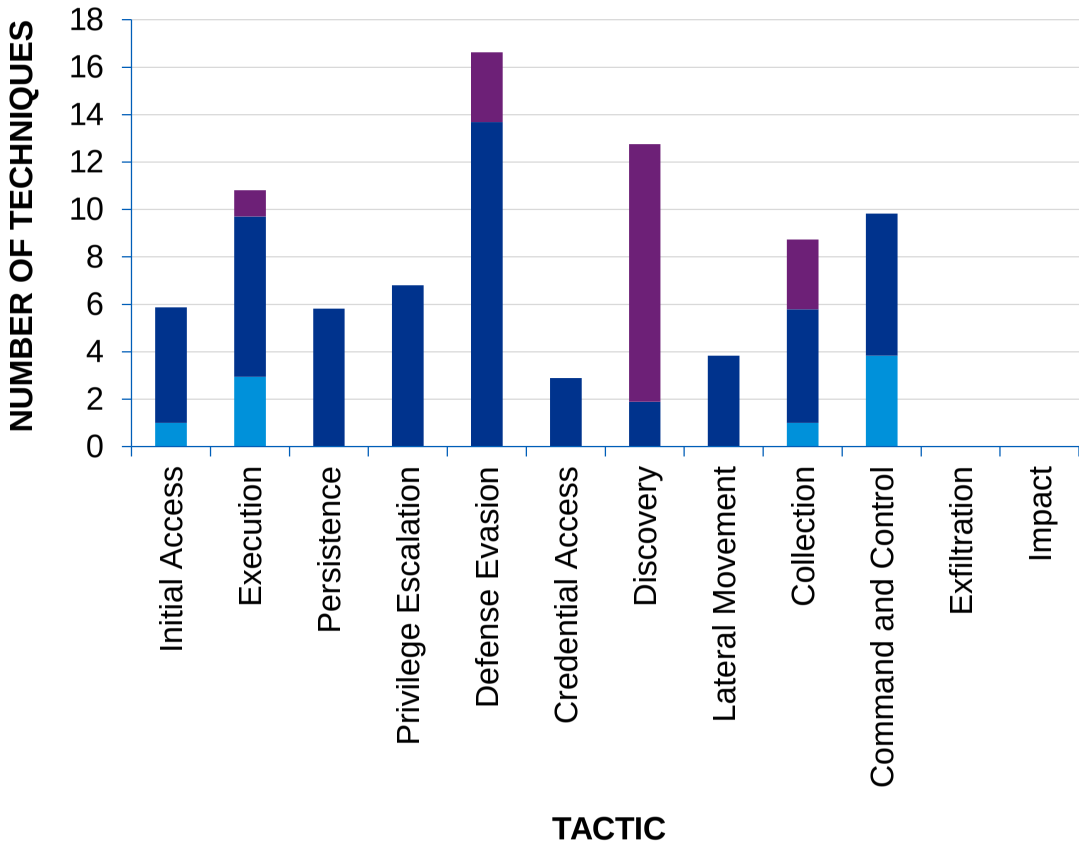
Each IG builds upon the previous level

- IG1
- IG2 or IG3
- No Mapping to Controls

Source: "CIS Community Defense Model," July 2020

Cybersecurity outcome: Mitigate up to 63% of malware attacks

Malware Attacks
The malware attack pattern contained 86 Techniques at various stages of the attack
cycle. Of those 86 Techniques, approximately 21% (18) of the Techniques did not have a Mitigation mapping to any Safeguards. The majority of those Techniques are within the Discovery stage of the attack cycle and Defense Evasion. Based on current mapping, 68 Techniques can be defended against by the Safeguards, with approximately 79% of those
Safeguards contained within IG1.



Malware Mapping

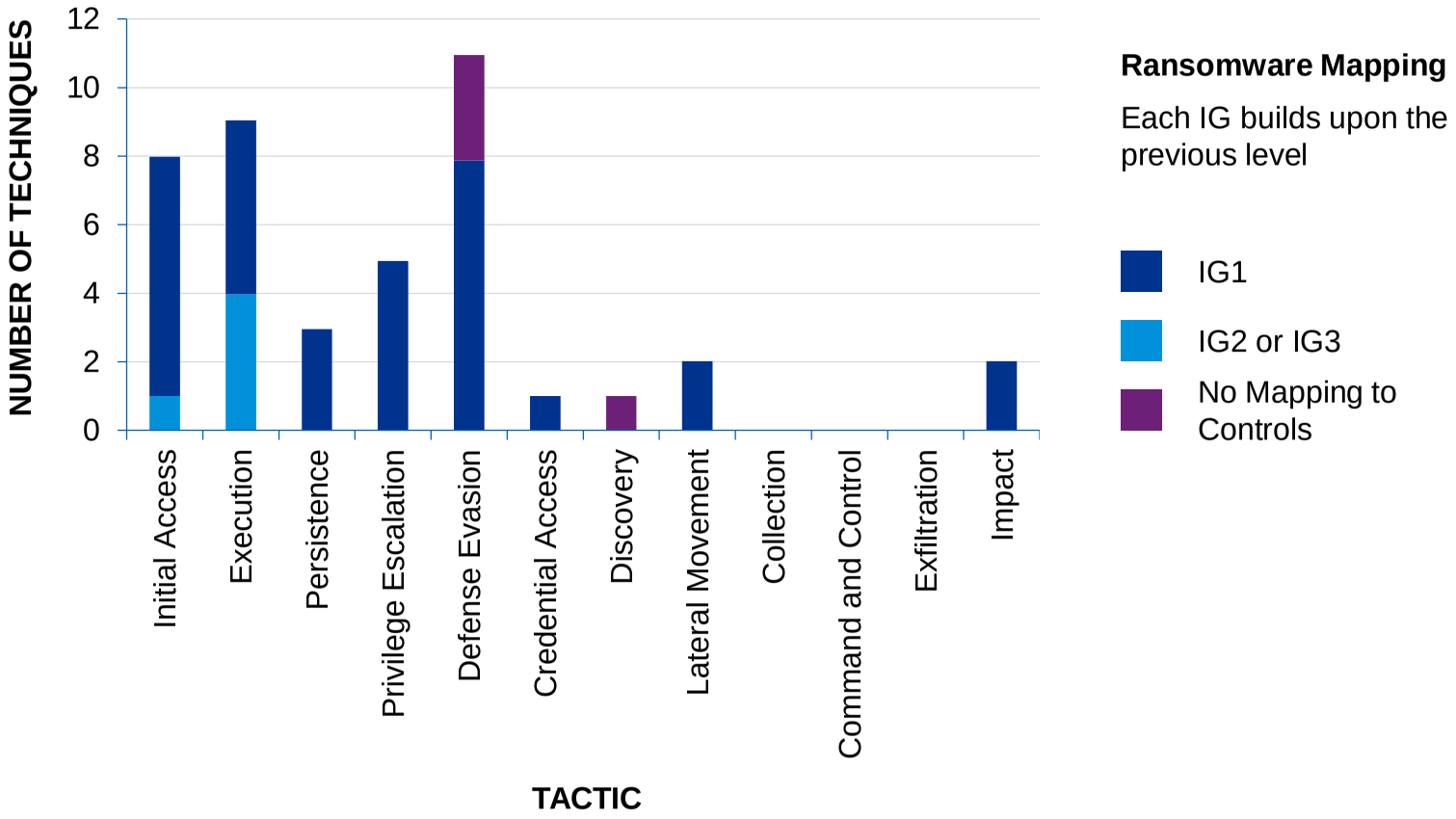
Each IG builds upon the previous level

- IG1
- IG2 or IG3
- No Mapping to Controls

Source: “CIS Community Defense Model,” July 2020

Cybersecurity outcome: Mitigate up to 79% of ransomware attacks

Ransomware Attacks
Within the ransomware attack pattern mapping, 42 Technique instances were identified throughout the attack cycle. The Safeguards map to Mitigations that defend against approximately 90% (38) of the Techniques identified for this attack pattern. Approximately 87% are IG1 Safeguards. Of significant importance, Techniques used to gain initial access, execute, and minimize impacts associated with ransomware can be defended against through the Controls. Based on current mapping, Defensive Evasion and Discovery stages are currently not defended against through the Controls.



Ransomware Mapping

Each IG builds upon the previous level

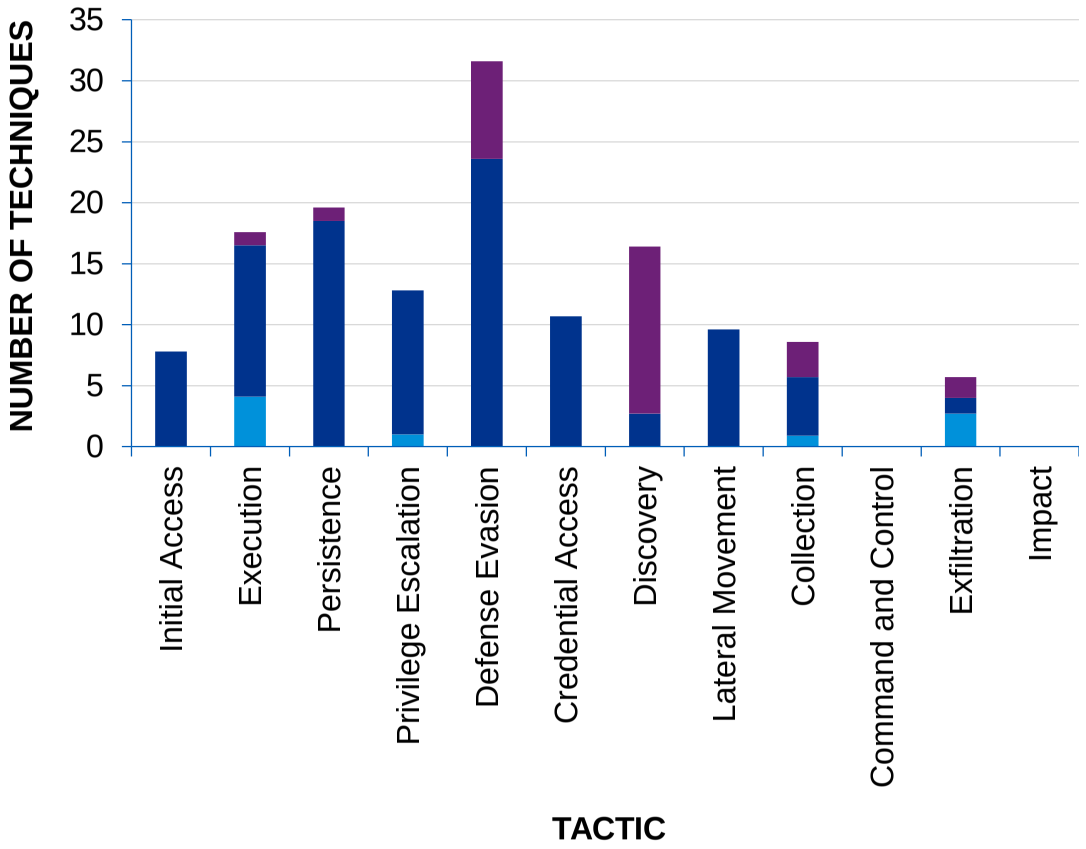
- IG1
- IG2 or IG3
- No Mapping to Controls

Source: "CIS Community Defense Model," July 2020

Source: "CIS Community Defense Model," July 2020

Cybersecurity outcome: Mitigate up to 76% of targeted intrusions

Targeted Intrusions
For the targeted intrusion attack pattern, 144 Techniques were identified at various stages of the attack cycle. The Controls help defend against approximately 80% (115) of those Techniques, with IG1 Safeguards covering 109 Techniques. Unmapped Techniques primarily fall within the Defense Evasion and Discovery phases of the attack cycle.



Targeted Intrusions Mapping

Each IG builds upon the previous level

- IG1
- IG2 or IG3
- No Mapping to Controls

Source: "CIS Community Defense Model," July 2020

Cybersecurity outcome: Up to 70% more likely to take definitive improvement action in wake of cyber incident

Companies with formal security performance metrics are more likely **to take definitive action in the wake of an incident to improve future performance.**

Top three changes / actions taken as a result of incidents in the past year*

Source: “Better Security and Business Outcomes with Security Performance Management,” Forrester (Sept. 2019)

Objective: Expand technical support services for smaller departments and integrate standards for consistency countywide

Expand technical support services for smaller departments and set standards for consistency countywide

Standardize ITSM processes, tool configurations, and performance measures across the county, even in places where ICT does not directly provide IT service management staff. Develop a ‘cutover plan’ to clearly articulate how ICT will insert its ITSM resources when departments have a need.

Sources of Value		Outcomes
Standards	Leverage standard help desk and desktop support practices (process), tool configurations, and performance metrics countywide so ICT can step in to help where needed as well as to drive broader efficiencies	Improve resource fungibility & coverage for 9 departments where 5 or fewer end user support staff

Source: KPMG Analysis of WTC “Dept-Staff-Profile…,” 2019

Evidence to support the Technical Support outcome

Departments with 5 or fewer personnel performing End User Support activities not already on ICT helpdesk (# of Resources):

1. Agricultural Commission **(1)**
2. Retirement **(1)**
3. Child Support Services **(2)**
4. Fire **(3)**
5. Planning & Development **(3)**
6. Public Defender **(4)**
7. Community Services **(4)**
8. Treasurer-Tax Collector **(4)**
9. Public Works **(5)**

Note: General Services, County Counsel, HR and CEO departments share the ICT help desk

Source: "Dept-IT-Staff-Profiles…," WTC 2019

Objective: Establish a strategic, cost-transparent, vendor-optimized innovative, and customer-focused IT Department

Establish ICT as a strategic, cost-transparent, innovative, customer-focused department	Create a function to provide strategic services like innovation, enterprise architecture, vendor management, IT finance, and customer relations.

Sources of Value		Outcomes
Vendor Management	Rationalize vendors around service delivery model, technology roadmap and software license negotiation roadmap	Reduce total vendor spend by up to 20%
IT Strategy & Customer Relations	Ensure IT priorities are clear and justified in alignment with departmental agendas and IT imperatives (including cybersecurity)	Enhance sync between ICT & departments
Innovation	Provide an internal “consulting service” to interpret technology trends and find practical application for such advances countywide	Improve effectiveness of technology agendas
IT Finance	Model costs, build budgets, and update forecasts from a basis of transparency to ‘total cost of ownership’ for IT solutions & services	Strengthen cost control & ISF rate defensibility
Enterprise Architecture	Drive IT change in alignment with countywide vision and outcomes; continually re-baseline current architecture, identify rationalization opportunities and develop a prioritized roadmap to future state	Enable greater agility

Source: “Drive Cost Optimization and Efficiencies With IT Vendor Portfolio Rationalization,” Gartner 2017; KPMG analysis

Evidence for vendor rationalization outcome

For example, consider the efforts of a large company that was looking to reduce its technology spend. It created a rationalization plan with the intent to decrease the number of vendors and, ultimately, its annual spend. After gaining executive support and sponsorship, the company executed a plan of multiple subcategory sourcing events, **reducing its number of vendors by nearly 25% and netting an annual savings of 20% of its annual spend.**

Source: "Drive Cost Optimization and Efficiencies with IT Vendor Portfolio Rationalization," Gartner 2017

Implementation plan details

Scope and depth of pre-requisites

Pre-Requisite Definition: Gap to close in order to achieve target state. Addresses delivery model, organization and technology layers of the operating model. One pre-requisite fully consumes the time of resources involved.

Component	Description
Action Items	List of activities and milestones to fulfill the pre-requisite
Level of effort	Level of effort for consultants, contractors departments (Large, Medium, Small) and ICT (all current functions) to participate in pre-requisite action items in proportion to the estimated level of change associated with implementing future state vision
Risk	Likely and consequential challenges that threaten scope, duration, and cost estimates
Estimated Cost	Estimated external labor costs to work full time on Action Items for Estimated Duration of Pre-Requisite
Estimated Duration	Estimated amount of time to complete the Action Items

Scope and depth of roadmap

Roadmap Definition: Expected sequencing of pre-requisites and their milestones, by phase, over a multi-year timeline.

Component	Description
Pre-requisite	Gap to close in order to achieve target state
Milestone	Significant points of value along the roadmap achieved by completing multiple Action Items
Duration	Estimated amount of time to complete pre-requisite
Sequencing	Start date optimized around quick wins and dependencies
Phase	Collection of pre-requisites that share a common objective

Scope and depth of level of effort in pre-requisites

Level of Effort Definition: Effort to **participate in pre-requisite efforts in proportion to the estimated level of change associated**

Component	Description
Pre-requisite	Gap to close in order to achieve target state

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