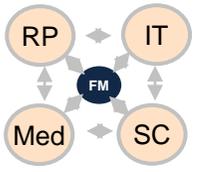
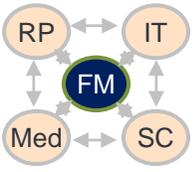
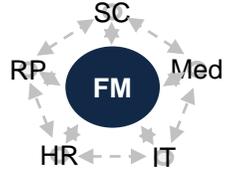




Cost Management

Driving to a Centralized, Standardized CFO Function

CFO Role	Financial Reporting	Compliance / Control	Decision Analytics on Financial Performance	Decision Analytics on Mission Performance
Analytics Performed	<ul style="list-style-type: none"> • Sound transaction processing • Creation of traditional finance reports (e.g., balance sheet) 	<ul style="list-style-type: none"> • Provide assurance on strength of internal controls and risk management processes 	<ul style="list-style-type: none"> • Perform cost management analysis • Provide resources for performance review 	<ul style="list-style-type: none"> • Link cost performance data to related priority mission objectives • Partner on cost and mission analytics
Time	~ Annually	~ Quarterly	~ Monthly or better	~ Daily / Real time / predictive
Data Architecture	<p>Distributed, non-standard</p> 	<p>Distributed, standard</p> 	<p>Centralized, standard</p> 	<p>Centralized, standard, automated</p> 
Role of UoT	<ul style="list-style-type: none"> • Disaggregated systems approached on a one-off basis • No enterprise view 	<ul style="list-style-type: none"> • Disaggregated systems • Central "translation" ability via single taxonomy • UoT collecting data from multiple sources 	<ul style="list-style-type: none"> • UoT central host system • UoT leverages existing data linkages to receive specific updates/refreshes 	<ul style="list-style-type: none"> • UoT central host system • Automated feeds for cost & audit • Shared service provider for analytics on financial performance and cost

CFO impact

Lower

Higher

Executive summary

CMO and DCFO began this cost transparency in summer of 2016

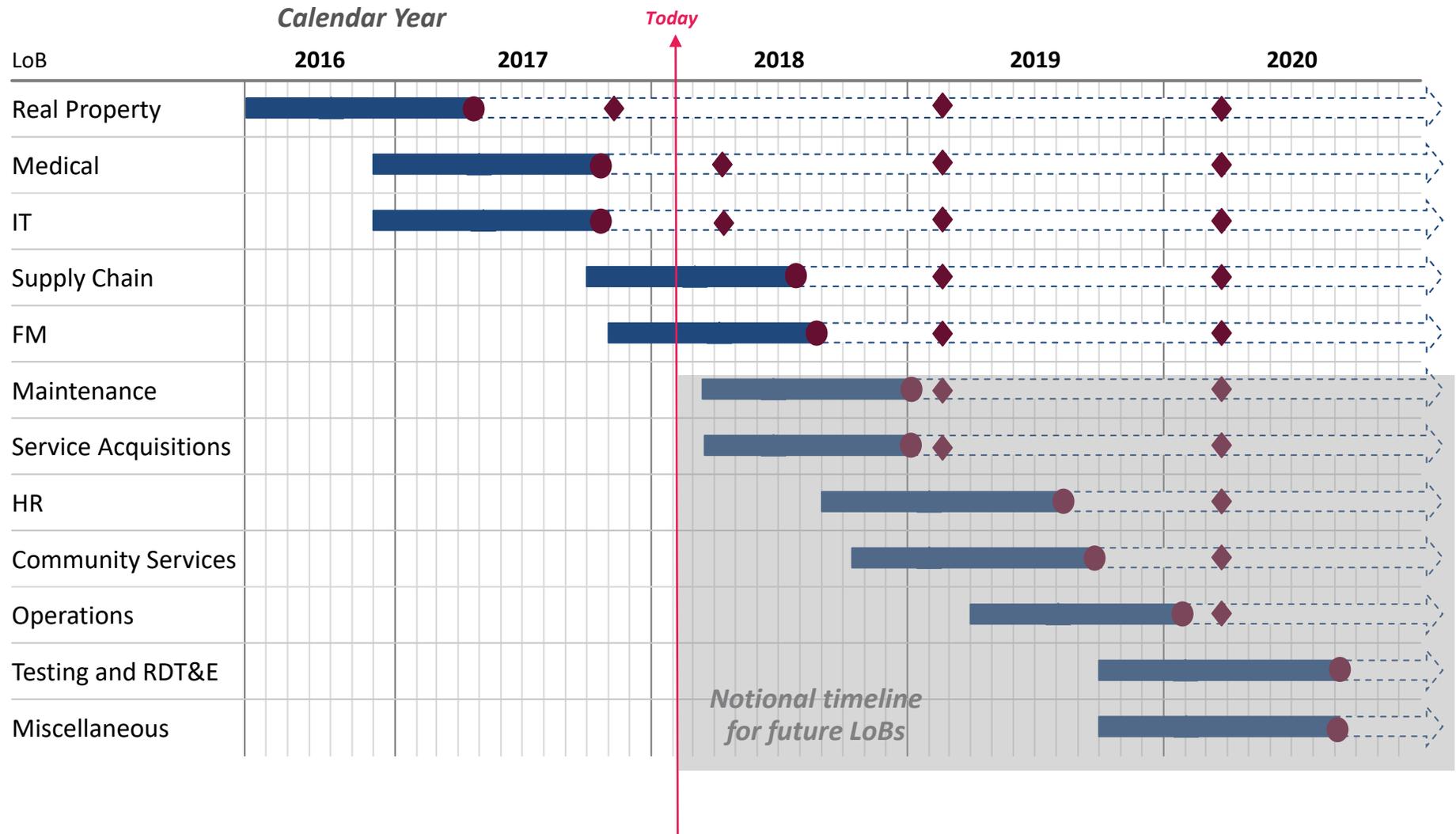
Our approach to cost transparency draws upon private sector experience from commercial consulting partners to **deliver rapid insights, allow for quick decisions, and drive smarter transformations** (i.e., re-org, business process optimization) by:

- **Leveraging cost and non-cost data:** Identify cost and performance implications of various scenarios
- **Delivering meaningful insights:** Managers can immediately use insights to manage spend
- **Identifying key transformation opportunities:** Isolate high-impact areas for long-term change
- **Developing a unified cost framework (CODE):** Quickly identify key segments which drive business decision making within a given line of business

We implement our approach within various lines of business during a time-boxed period: initial hypotheses and insights derived within 120 days; final within a 300-day sprint

- Our first line of business was Real Property, implemented successfully in '16
- Medical and IT were successfully completed in fall '17, with follow-on extension work currently ongoing
- Currently ~ 120 days into Supply Chain LoB and ~45 days into FM

Initial view on timing and major milestones for all LoBs



- Initial 300 days** (Solid blue bar)
- Sustainment** (Dashed blue bar)
- ▲ Initial cost baseline with preliminary analytic capability** (Red triangle)
- Finalized baseline with advanced analytic capability** (Red circle)
- ◆ Annual refresh complete (year over year data available)** (Red diamond)

A decorative horizontal line consisting of three parallel lines in grey, red, and olive green, extending across the width of the slide.

Developing the Framework

Cost transparency journey delivered in three phases



Define the Cost

Decision Framework (CODE)

- Define key segments
- Based on commercial best practice
- Tailored to DoD
- Assess materiality, actionability, variance

Create and populate CODE

- Collect and map actuals
- Develop commercial reference (CORE) model
- Impute data gaps and recommend way forward

Manage cost performance

- Train users
- Sustain and refresh model
- Close data gaps
- Leverage for decision-making

Phase 1: Project began with development of CODE to identify the key business cost drivers for each LoB, with Real Property shown below

CODE focuses first on product segments:

Level of Materiality, Variance, and Actionability		Real Estate 	Maintenance 	Operations 	Utilities 
High ↑ Low	Highly material, variable and actionable	<ul style="list-style-type: none"> Construction 	<ul style="list-style-type: none"> Sustainment Maintenance & Repair (overhead) 	<ul style="list-style-type: none"> Road clearance <ul style="list-style-type: none"> Snow removal Street sweeping Dirt and sand 	<ul style="list-style-type: none"> Electricity
	Highly material or variable or actionable	<ul style="list-style-type: none"> Planning / management Leasing 	<ul style="list-style-type: none"> Restoration & Modernization 	<ul style="list-style-type: none"> Custodial Grounds Environmental operations 	<ul style="list-style-type: none"> Natural gas Water Sewer
	Moderately material or variable or actionable	<ul style="list-style-type: none"> Divestment / demolition New land / property Environmental restoration 		<ul style="list-style-type: none"> Refuse 	<ul style="list-style-type: none"> Steam
	Neither material nor variable nor actionable	<ul style="list-style-type: none"> Other 	<ul style="list-style-type: none"> Other 	<ul style="list-style-type: none"> Pest control Other 	<ul style="list-style-type: none"> Other

CODE covers additional key segments of geography, footprint, facility type and OC

- Geography (Service) 
- Site / Footprint (Installation) 
- Facility profile 
- Object class 

- Army
- Air Force
- Navy, Marine Corps
- 4th Estate (DLA, WHS, DoDEA, DHP, DECA)

All installations (U.S. and overseas)

- Facility class (e.g., Administrative, Hospital & medical, Troop housing & mess, etc.)
- Age
- Condition
- Other

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> • Personnel cost • Contractor cost | <ul style="list-style-type: none"> • Supplies • Travel | <ul style="list-style-type: none"> • Communications • Other |
|---|--|---|

Phase 2: Followed five step process to populate CODE framework with data



1 Acquired raw data from complex systems landscape



2 Mapped data to CODE framework



3 Identified and assessed confidence levels

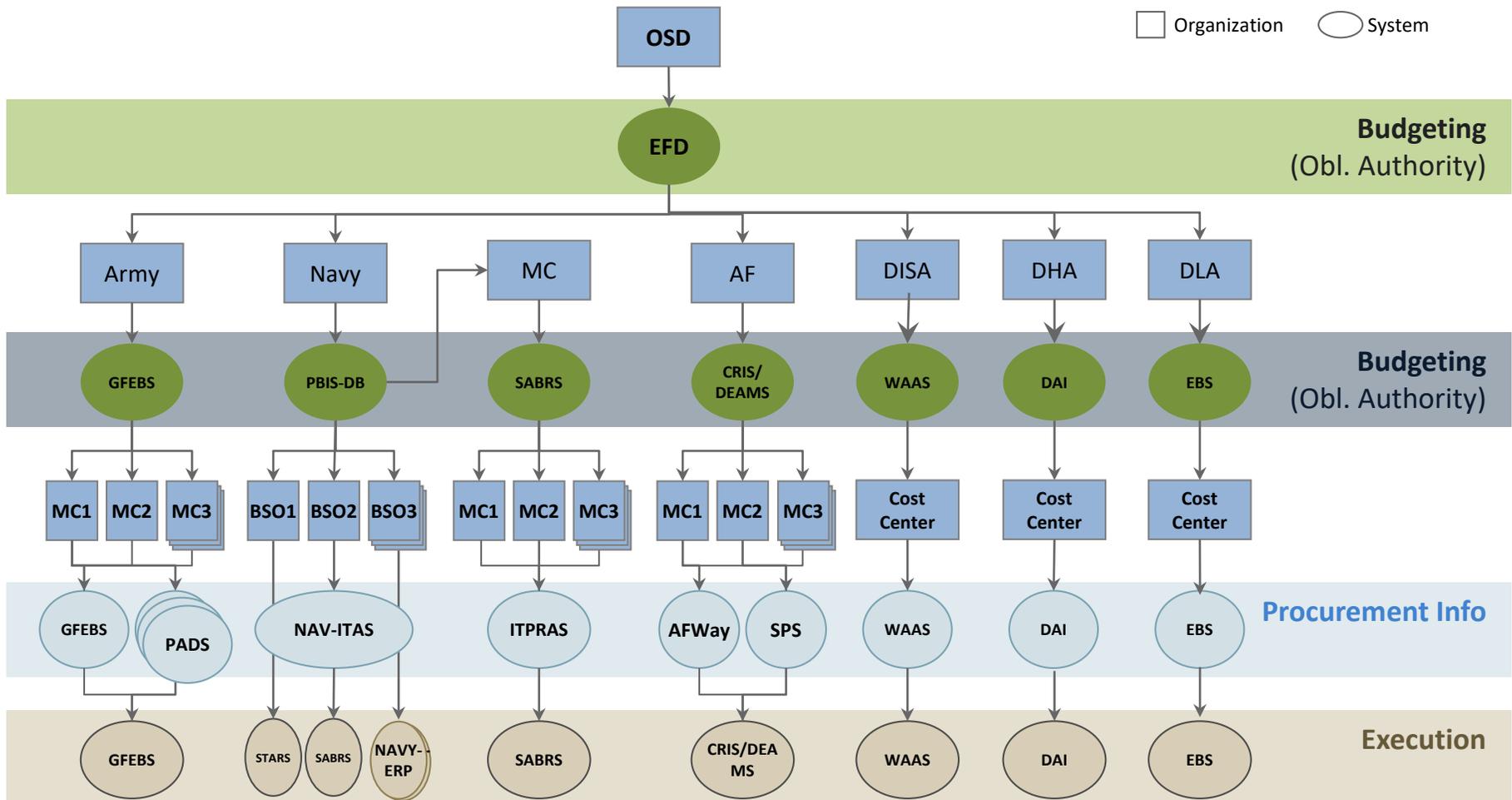


4 Closed data gaps where actuals were unavailable or unreliable

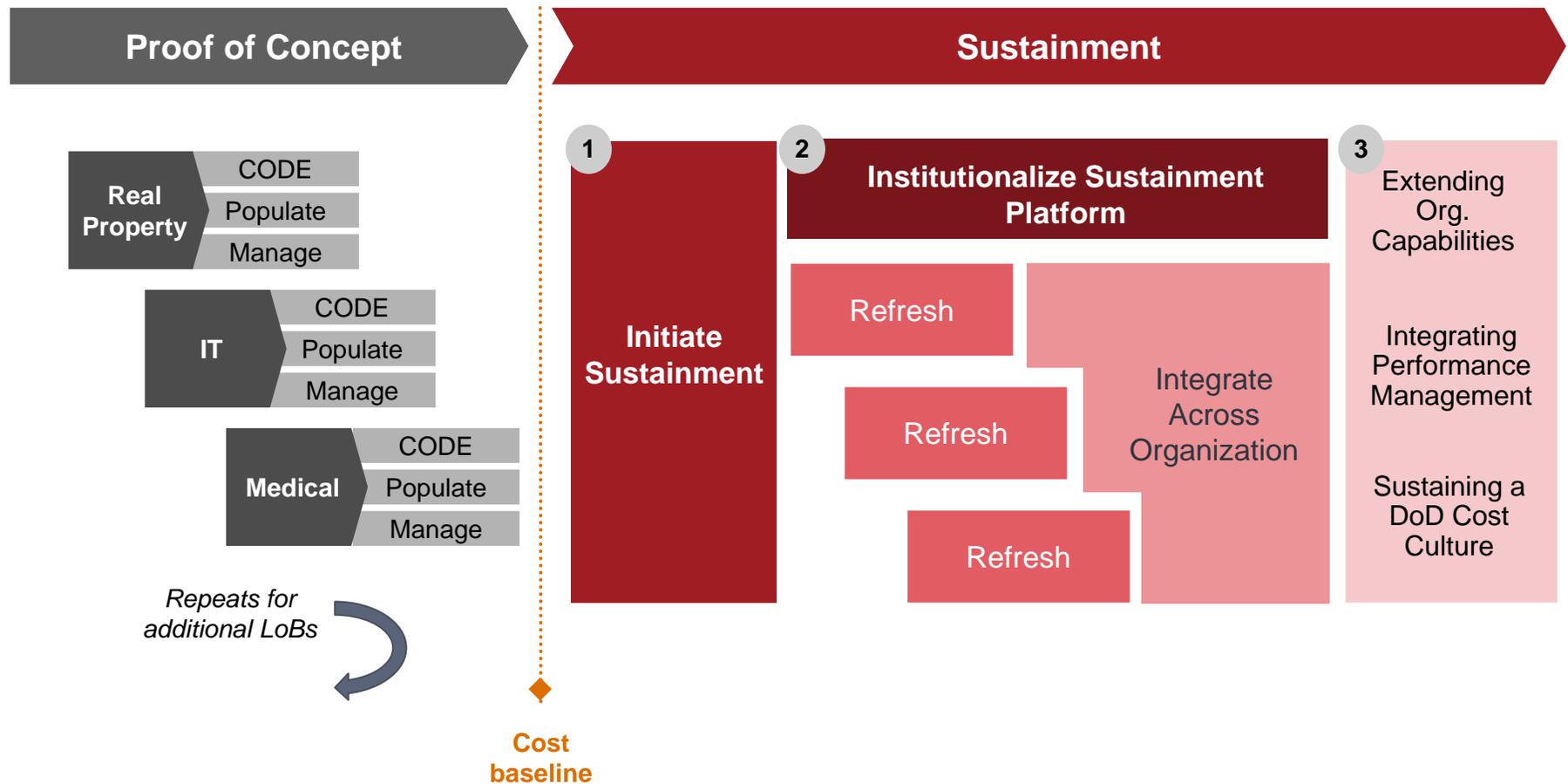


5 Validated mappings and confidence levels with key stakeholders

Phase 2: Navigated complex systems landscape to populate Is-Cost



Phase 3: Progression from Proof of Concept into Sustainment



Key business questions drive our approach to cost transparency within a given LoB

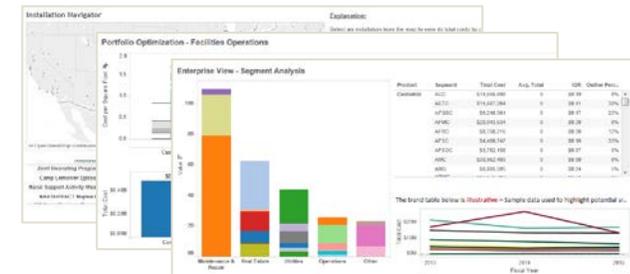
Assess cost	Improve efficiency	Transform
<ul style="list-style-type: none">• What are the primary cost drivers?• What are the baseline costs?• How should systems & accounting be best aligned to capture costs?• How do overhead costs compare to benchmarks?	<ul style="list-style-type: none">• Are personnel at efficient levels to manage workload?• What is the value of optimizing transport?• How do outsourced costs compare to insourced?• Is there opportunity to consolidate warehouses?	<ul style="list-style-type: none">• Where is centralization cost-effective?• What is the cost of duplication?• What is the cost of non-optimal supply chain planning and execution?• How can the DoD operating model be modified?

The final end-user tool is composed of three primary components

Visualization dashboard

Interactive cost analytics views designed to aid in managerial decision making, e.g.,

- Internal and external benchmarking
- Portfolio variance
- Data quality assessment



Commercial Reference (CORE) model

View of what analogous commercial entity would incur in functional execution costs

Accounts for some systematic DoD-unique cost drivers

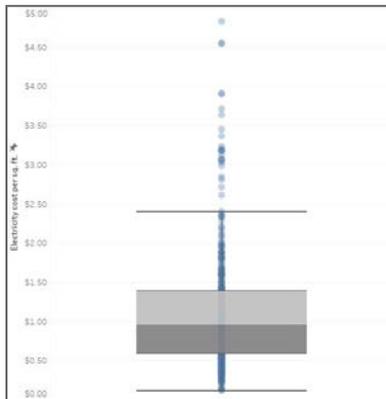
Is-Cost model

Consolidated DoD-wide view of annual execution costs aligned to cost decision (CODE) framework

Real Property: Key themes and opportunities

Wide variation in electricity spend

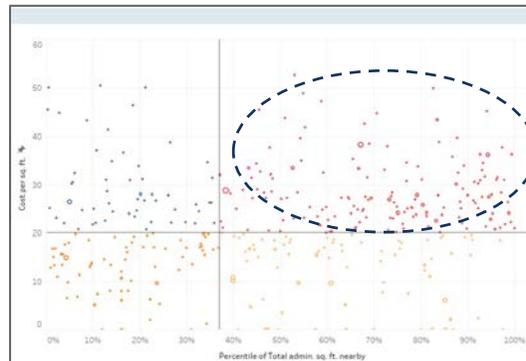
Estimate potential savings through establishing and managing to cost performance baselines



Above: Electricity cost per square foot plotted for 400+ installations across all Services (each dot is different installation)

Significant lease spend near existing DoD facilities

Leased administrative space is within a 30-mile commute of dense DoD footprint



Above: Administrative leases arrayed according to cost and amount of “nearby” owned/leased administrative facilities

Identification of regional clusters

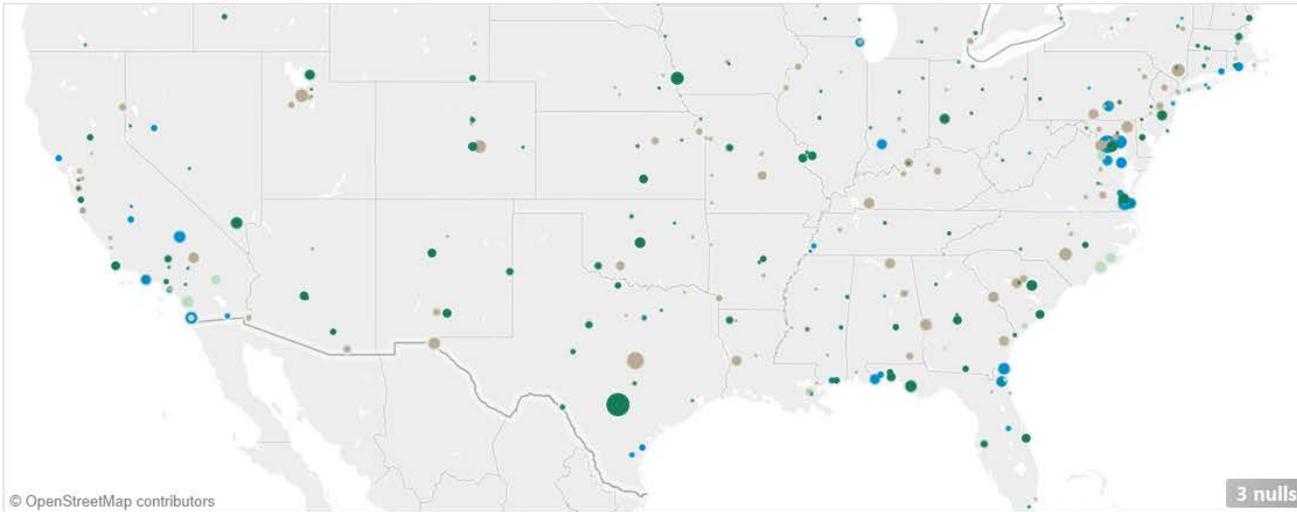
Potential for CODE analytics to inform regional consolidation



Top: DoD sites with administrative square footage. **Bottom:** Top 20 “high density” clusters of administrative facilities

Real Property: CODE gives Installation-level cost comparisons across all categories of spend

Installation Navigator



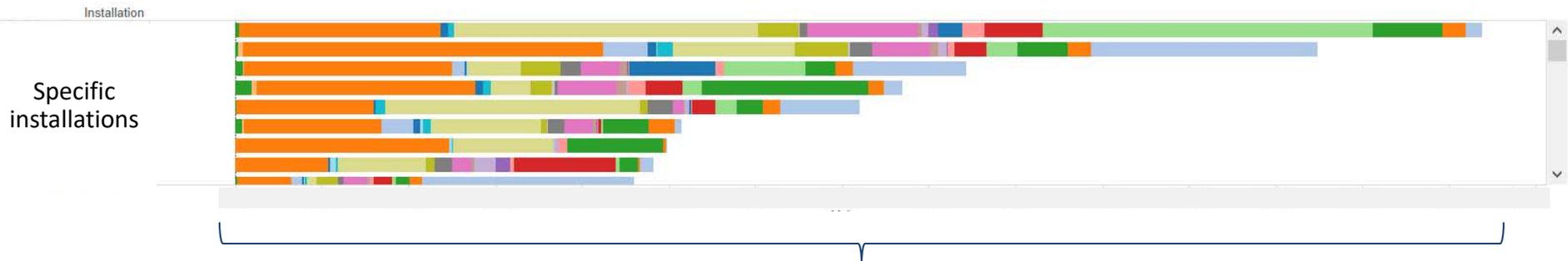
Explanation:

Select an installation from the map to view its total costs by product. Larger circles on the map reflect higher cost installations.

Service Installations with Cost Total Electricity Cost

Service-level spend and installations considered in-scope

Product (All) Major Command (All)
Service (All) Installati.. (Multiple values)



Categories of spend (ex: construction, utilities, custodial, operations, etc.)

Cost comparison of real property

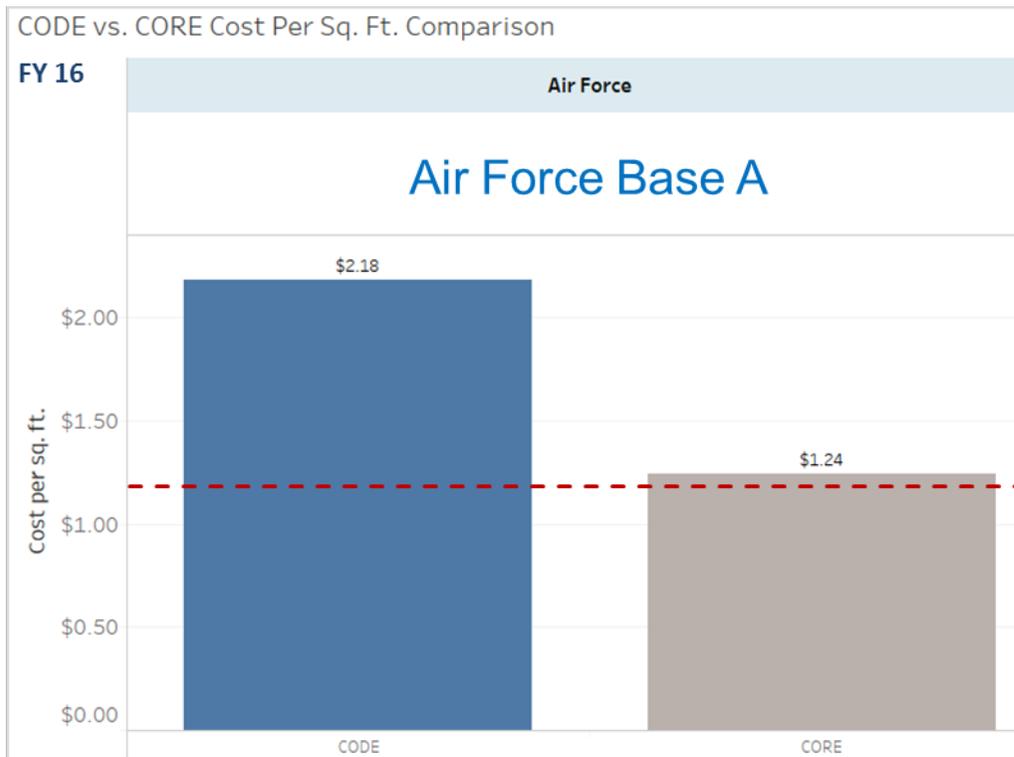
Cost comparison between AFB A, portfolio medians, and commercial reference estimates:

All cost shown in \$ / sq. ft.		FY 16 CODE				Commercial Reference
Product	Air Force Base A	Air Force Regional Median	Air Force Median	DoD Median	Air Force Base A Commercial Equivalent (estimate)	
Total	22.21	10.33	8.38	7.80	12.42	
Custodial	0.79	0.35	0.34	0.33	0.67	
Electricity	2.18	1.15	1.10	1.04	1.24	
Grounds	0.03	0.03	0.03	0.03	0.13	
Natural Gas	0.25	0.18	0.19	0.20	0.31	
Pest Control	0.08	0.03	0.03	0.03	0.05	
Refuse	0.08	0.08	0.07	0.09	0.10	
Restoration and Modernization	2.82	1.76	1.54	0.96	4.72	
Road Clearance	-	-	0.01	0.01	0.05	
Sewer	0.05	0.08	0.08	0.07	0.27	
Sustainment	15.75	6.57	4.92	4.96	4.61	
Water	0.18	0.10	0.07	0.08	0.27	

Air Force Base's A real property costs in FY 16 were broadly comparable (on a per sq. ft. basis) to portfolio medians; however, cost appeared high in both Electricity and Sustainment

Electricity Spend at Air Force Base A

Electricity cost per square foot comparison vs. CORE benchmarks:



Air Force Base A Cost Analysis:

*Total FY 16 Electricity Cost** ~ \$7.5 Million

Total Square Feet ~ 3.44 Million Square Feet

Cost per Square Foot \$2.18 / Square Foot

Cross Service Regional Median:
\$1.12 / Square Foot

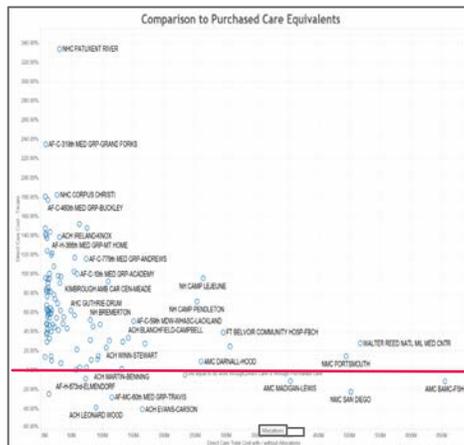
Next step: Review and identify best practices being employed at installations outperforming commercial reference model

Key themes and opportunities for Medical

High spend compared to Purchased Care

On average, MTFs are more expensive than equivalent workload performed in Purchased Care network

- Adjusted to locality (where possible)

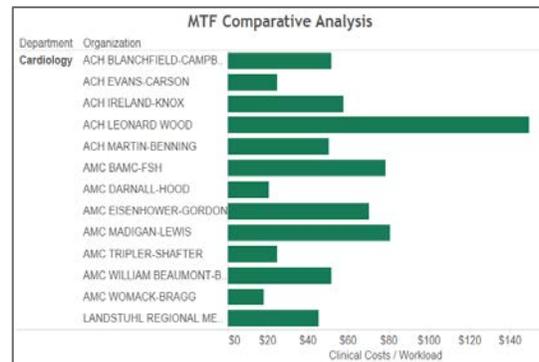


MTFs above red line cost more than Purchased Care workload equivalent

MHS outliers define performance gaps

Departments, MTFs, and Markets have large variance in cost performance when compared to peers

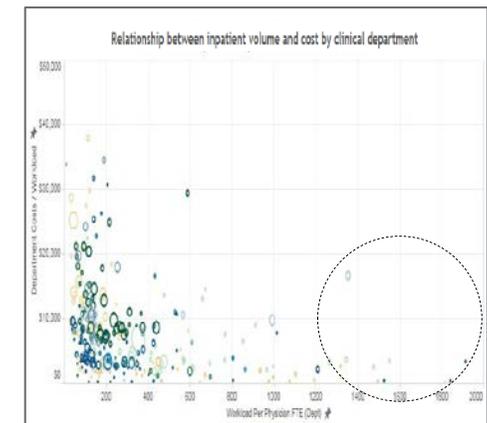
- Controlled for potential causes (e.g. readiness, GME, OCONUS, etc.)



Comparable MTFs have large variances in cost performance for same department

Low FTE utilization relates to high unit cost

Lower utilization rates drive inefficiencies in cost performance at Department, MTF, and Market levels



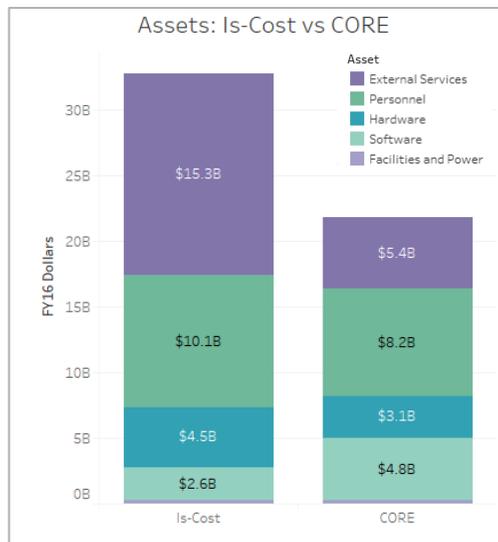
Physician utilization generally correlates with cost performance for each department/MTF combination

Information Technology: Key themes and opportunities

Higher spend compared to Commercial References

Delta with Commercial Reference model, driven primarily by:

- External services
- IT personnel



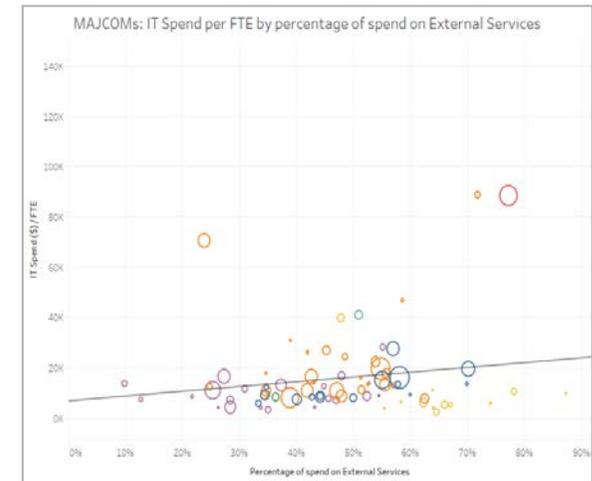
Lack of consolidation in third party vendors

High concentration with top vendors, with long tail of spend



Inefficiencies in usage of external service providers

IT spend/FTE increases in MAJCOMS that have greater % of spend on external services



Underpinning all reform levers is a foundational need for cost transparency



What are the potential reforms under consideration?



What are the key management questions with respect to cost?



What business analytics are required to support decision making?



What data elements should be captured within cost framework?

Cost transparency lays the foundation across the spectrum of reform

A decorative horizontal line consisting of three parallel lines: a top grey line, a middle red line, and a bottom olive green line. This line passes through the center of the text box.

Financial Management Framework

Financial Management Framework Key Discussion Points

Objective

- 1 Share final CODE framework
- 2 Share view of E2E process mapping
- 3 Share sample "use cases" with early view of visualizations

Goal for discussion

Provide visibility to final version approved by Steering Committee

Share approach of using both commercial and BEA processes

Early view on mapping of CODE framework

Provide sample of questions that could be answered using data

Get your input on additional questions or visualizations you'd like to see

Financial Management CODE Framework

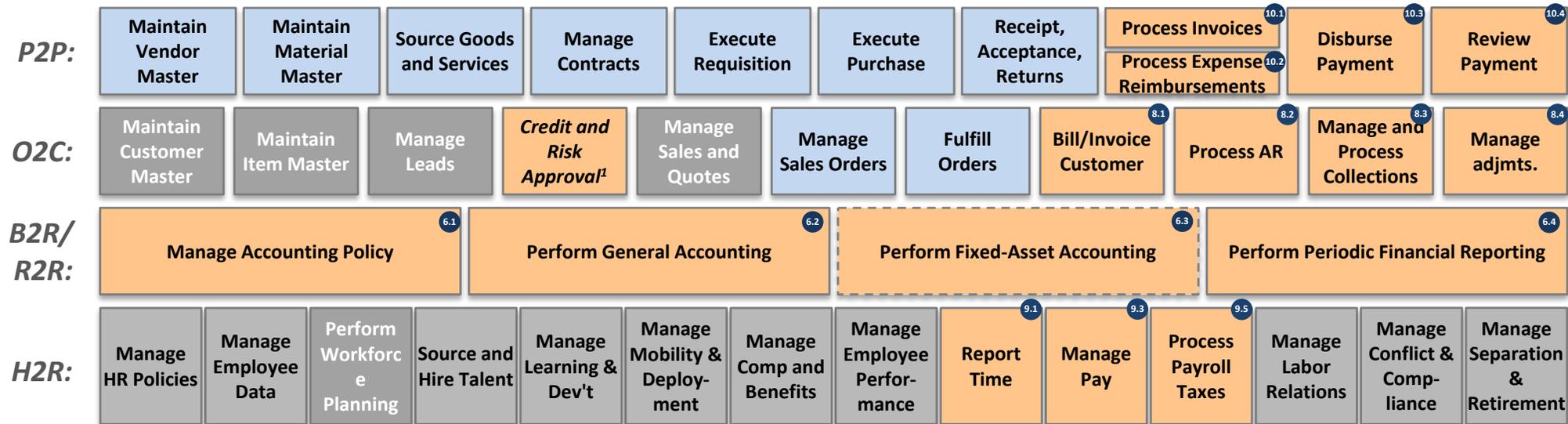
CODE focuses on eleven FM capabilities...

	Capability	Activity
Analytic Support	1. Programming and Budgeting	<ul style="list-style-type: none"> Perform programming Perform budget preparation (budgeting) Perform post-Congressional allocation activities
	2. Cost Accounting and Performance Management	<ul style="list-style-type: none"> Perform managerial cost accounting Manage financial performance
	3. Capital Planning and Accounting	<ul style="list-style-type: none"> Manage capital planning and project approval Perform capital project accounting
Compliance	4. Audit and Internal Controls	<ul style="list-style-type: none"> Develop and implement internal controls (audit readiness) Operate internal controls Monitor compliance and perform internal audit Support external audit Perform remediation activities
Reporting	5. Treasury Operations	<ul style="list-style-type: none"> Manage treasury operations policies Manage cash Manage debt, investments, and financial risk Manage interagency reconciliation
	6. General Accounting and Reporting	<ul style="list-style-type: none"> Manage accounting policy Perform general accounting (proprietary and budgetary ledgers) Perform fixed asset accounting Perform periodic financial reporting
	7. Management of Financial Systems	<ul style="list-style-type: none"> Manage financial systems
Transactional	8. Receivables Management	<ul style="list-style-type: none"> Invoice customer Process accounts receivable (AR) Manage and process collections Manage adjustments / deductions
	9. Payroll	<ul style="list-style-type: none"> Report time (military / civilian) Manage pay (military / civilian) Process payroll taxes (military / civilian)
	10. Payables Management	<ul style="list-style-type: none"> Process invoices and expenditures Process expense reimbursements Process disbursements Review payments
	11. FM Community and Org Support	<ul style="list-style-type: none"> Perform functional community management Perform other services in support of FM activities

... and covers additional cost segments

Asset Type		
• Personnel	• External Services	
• Systems	• Other	
Service / Agency		
• Army	• Navy	• 4th Estate
• Air Force	• USMC	• OSD
Organization Layer		
HQ vs. Field		
Personnel Type		
• Military	• Civilian	• Contractor
Systems		
• Legacy	• ERP	• Other

Created view of FM processes based on both commercial references, then mapped DoD BEA processes and CODE activities

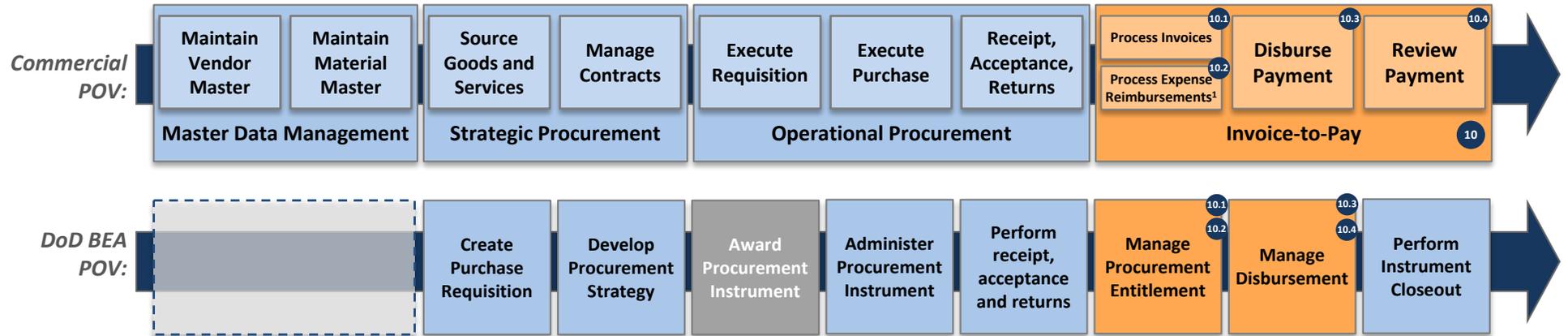


Certain CODE capabilities considered supporting functions and not currently represented as part of an End-to-End business process, including:

- Audit and Internal Controls (4)
- Treasury Operations (5)
- Management of Financial Systems (7)
- Community and Organization Support (11)

= Financial Management LoB
 = Supply Chain and Acquisition LoBs
 = HR LoB
 = Multiple LoBs

Procure-to-Pay (P2P) process: comparing commercial and DoD POV



Preliminary BEA observations for validation:

- Master data management is not cited as key component of process
- Commercial references often cite strategic sourcing of goods and services first, as opposed to opening a requisition and then developing a strategy
- Award procurement instrument is not as significant of an event in commercial equivalent process

Orange box = Financial Management LoB Light Blue box = Supply Chain and Acquisition LoBs Grey box = HR LoB Dark Grey box = Multiple LoBs Blue circle = Milestone

Notes: 1.) Expense reimbursements are part of P2P in most commercial organizations.

FM visualizations answer three main type of questions



Total cost

What am I spending on a given capability/process?

Scope, magnitude, allocation

Shown as total costs and/or FTE's aligned to CODE capabilities across key processes



Comparative cost

How efficient is my performance compared to cost?

Top 1-2 indicators of process health

Shown as normalized costs to facilitate comparisons across benchmarks



Key drivers

What are key drivers of performance and cost?

Capability-specific views and cost drivers

Shown in domain-specific metrics

Current view of questions for each use case process (I/II)

Use cases to grow and evolve as team explores data and gets further stakeholder input



Total Cost



Comparative Cost

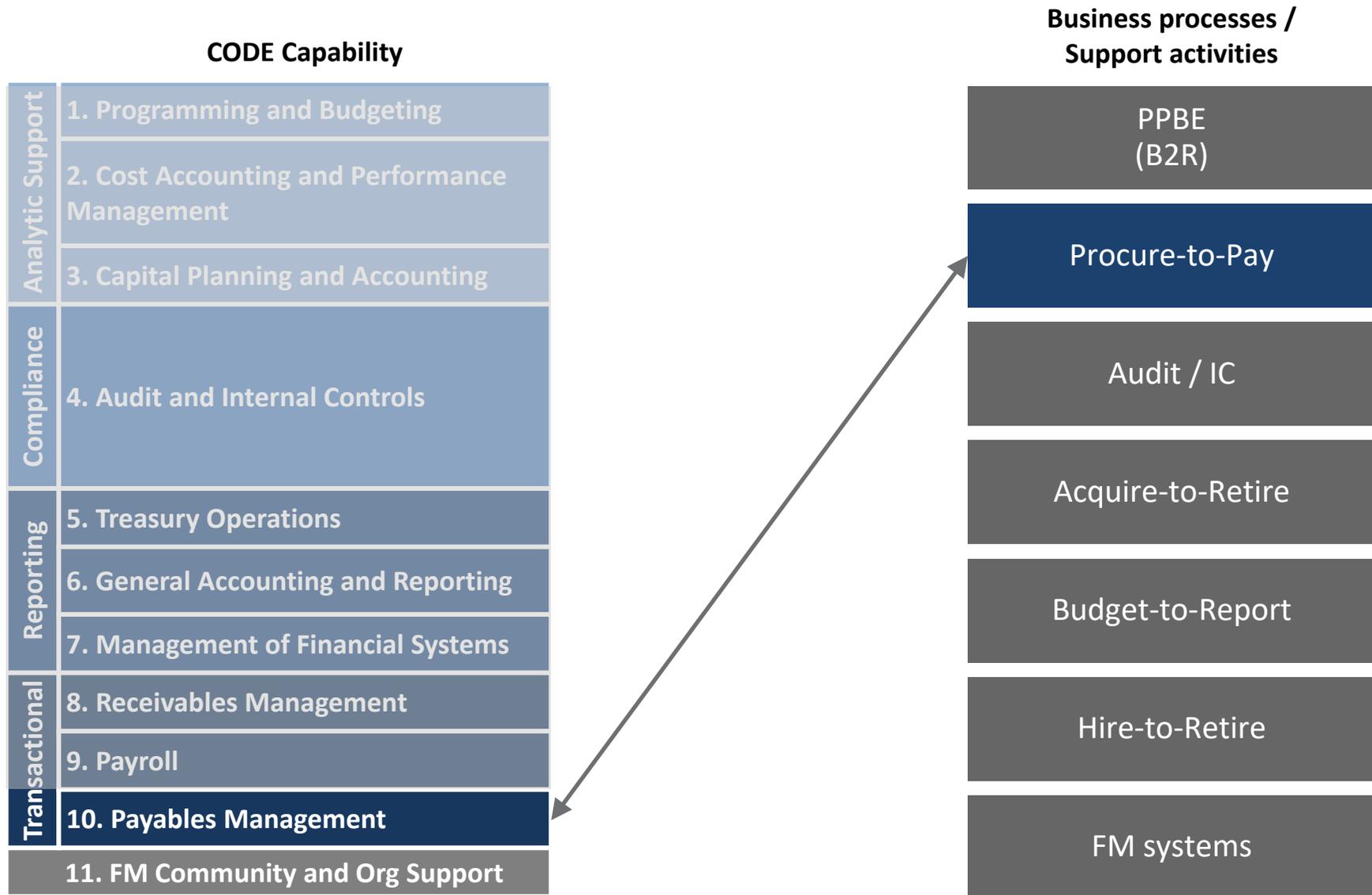


Key Drivers

	Total Cost	Comparative Cost	Key Drivers
PPBE (B2R)	How much does the programming and budgeting (PB) function cost the DoD? <i>Focus of today</i>	How efficient is the PB function Service / Agency?	How many people are involved in PB? Level of involvement? FM coded or shadow FM ¹ ? Does diffusion of task responsibility drive increased costs?
P2P	How much does the FM portion of procure to pay (P2P) function cost the DoD?	How efficient is the Accounts Payable process across Services and vs. benchmarks?	What is driver of efficiency gaps for AP? Differences in source channel? Seasonality? Something else?
Audit / IC	How much does audit readiness cost the DoD?	Why do audit readiness costs continue to increase?	Right mix of labor? Should audit readiness continue to be outsourced? Can skillset be developed internally to DoD?
A2R	How much does acquire-to-retire (A2R) cost the DoD?	How efficient is the A2R process by Service / Agency and vs. commercial reference?	How are costs spread across A2R sub-processes? Do A2R costs increase with expected life of fixed assets?

1. "Shadow FM" defined as personnel performing activities within the FM CODE who do not have an FM job code or explicit FM duties in their job description.

Sample Procure-to-Pay use case: AP efficiency



Sample Procure-to-Pay use case: AP efficiency

Total cost



Question:

- How much does the FM portion of procure to pay (P2P) function cost the DoD?

Evidence:

- Total costs for CODE activity 10

Next steps:

- Determine comparative costs across Services to inform areas of inefficiency

Comparative cost



Question:

- How efficient is the Accounts Payable process across Services and vs. benchmarks?

Evidence:

- Invoice volume processed per FTE

Next steps:

- Where gaps exist, determine drivers of inefficiencies

Key drivers



Question:

- What is driver of efficiency gaps for AP? Differences in source channel? Seasonality? Something else?

Evidence:

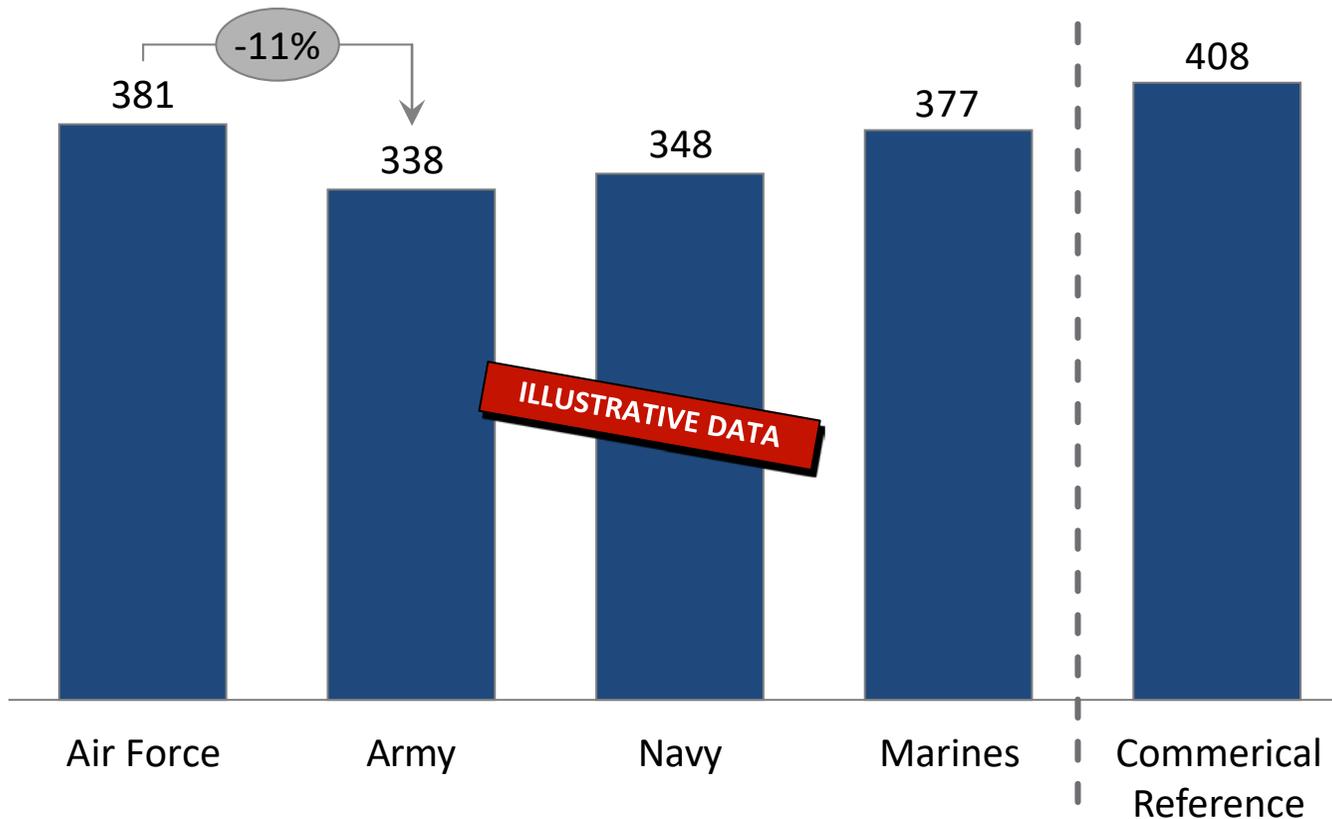
- Invoice volume/\$ processed by service and channel
- Detailed invoice metadata

Next steps:

- Shift invoice volume to high success rate channel
- Determine cyclical cause of invoice errors in months xxx-yyy

Comparative cost: Accounts Payable

Invoices processed per FTE



Managerial Insights

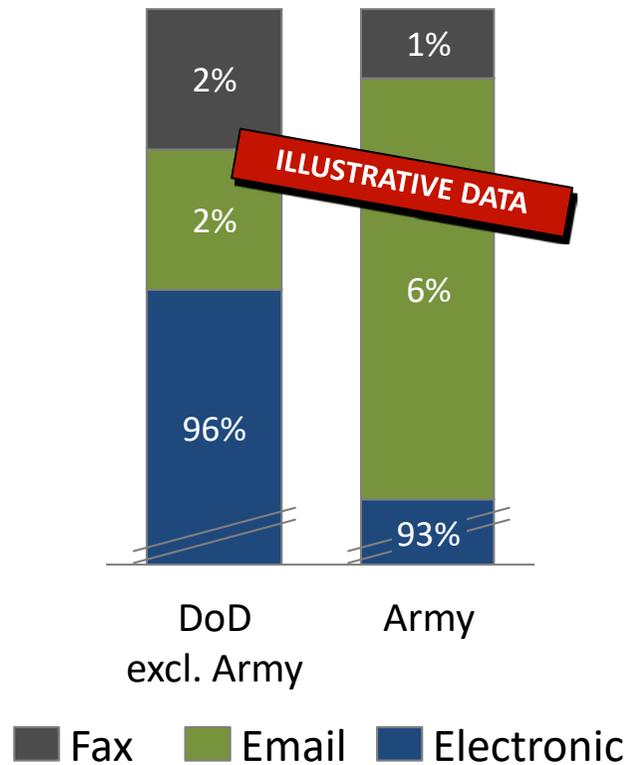
- All Services less efficient than commercial references
- Services have >10% variability once normalized, with Army lowest performing

Further lines of inquiry

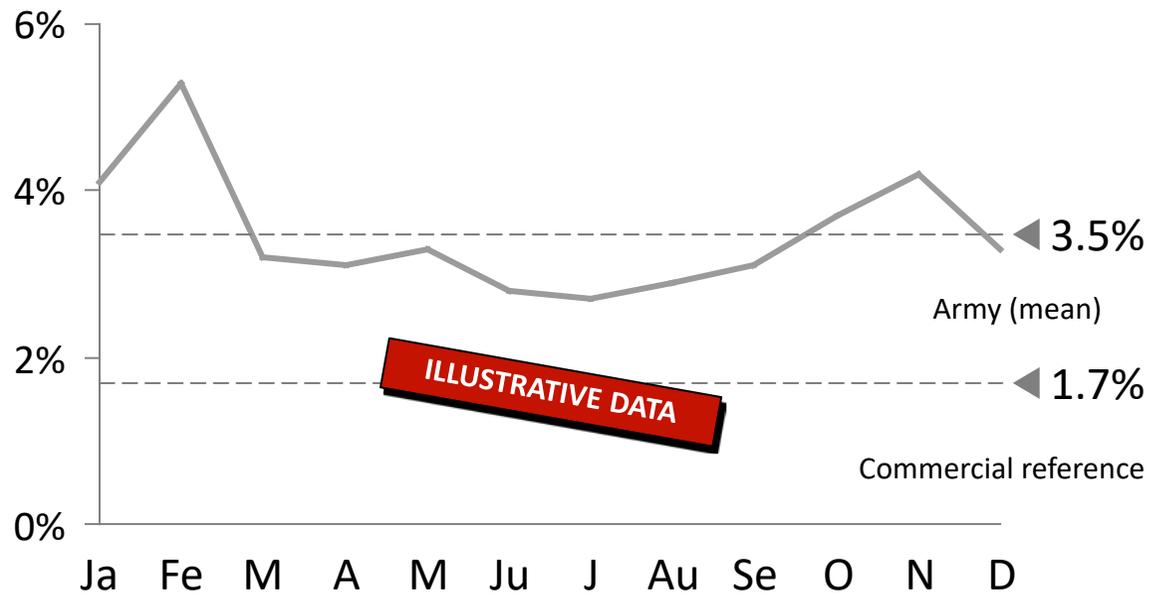
- What is driver of efficiency gaps for AP? Differences in source channel? Seasonality? Something else?

Key drivers: Accounts Payable for the Army

Invoices by source channel



% of invoices not automatically matched



Example conclusion: Army AP inefficiency likely driven by high usage of email to receive invoices; while some seasonality exists, it is likely linked to FY closeout and not a primary driver of inefficiency

Data required to support P2P use case analysis

Sample Analyses	Potential Data Requirements	Potential Data Sources	Data Status
<ul style="list-style-type: none">• Analysis of invoices processed per FTE involved in P2P process• Invoice to Pay cycle time• Analysis of invoice type	<ul style="list-style-type: none">• Personnel costs involved in process• Invoice volume and success metrics from standard business intelligence reports	<ul style="list-style-type: none">• Invoice type utilization report• Contract data (i.e. FPDS)• Disbursement data• General Ledgers (i.e. GAFS, GFEBBS)• Activity Survey• Additional sources TBD	<ul style="list-style-type: none">• DFAS data contains majority of required volumes/counts• Analysis of WAWF data expected to provide invoice data• Add'l sources TBD



Adoption

Fostering Stakeholder Engagement

The CODE Business Integration Office (BIO) Team will help facilitate Sustainment efforts by communicating OSD's cost management vision and enabling cross-LoB integration

The Cost Management Board is a meeting that connects the CODE BIO Team to the functional communities and enables two-way communication



CODE BIO Team

- Communicates OSD cost management vision
- Facilitates AOG progress towards Sustainment milestones
- Serves as a liaison between OSD ODCFO and the functional communities



Cost Management Board

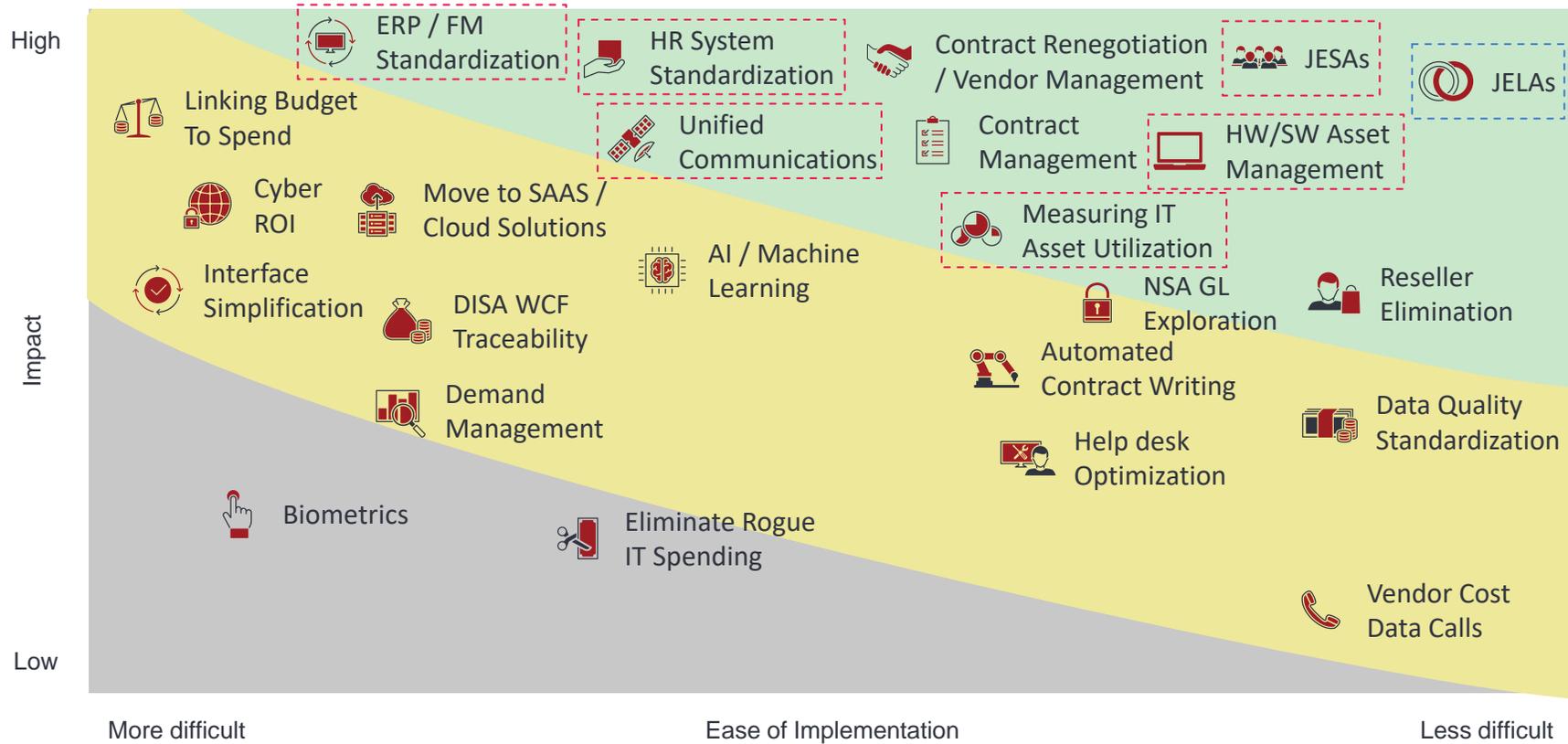
- An **LoB-specific forum for CODE BIO and Action Officers (AOs)** to discuss pertinent cost management topics
- Meetings are held on an as-needed basis
- Enables CODE BIO Team to provide updates on milestones and next steps for DoD's ECM
- Functional communities can provide insight/context on relevant operational issues, priorities, etc.



Functional Community (LoB AOs)

- Provides functional-specific context to cost management questions
- Communicates and escalates broader cost issues and potential impacts (*e.g., source system changes*)
- Informs ODCFO on current operating environment

Key Business Questions to Focus Approach and Analytics



Tier 1 opportunities Tier 2 opportunities Tier 3 opportunities

Focus areas (current)

Currently in flight (not managed by reform effort)