

Improving Operational Readiness of Federal Real Property Portfolios

Moderator: Dave Savatgy, P.E., PMP, Jacobs Engineering

Speakers:

- Scott MacCumbee, Commanding Officer CEU Oakland, USCG
- Erin Dougherty, Facility Operations & Support Division, USCG
- Nic Jarboe, Asset Management Professional, Jacobs Engineering

May 14, 2024, 4:30 p.m.



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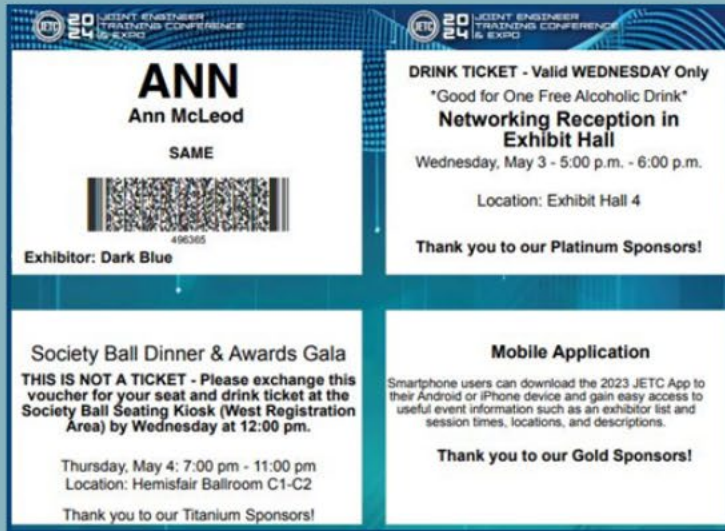
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(Minimum age 18 - No Children)



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with Drink Tickets)
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Buses depart Gaylord
& Caribe Royale,
beginning at 6:00 p.m.



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MODERATOR

Dave Savatgy
Jacobs Engineering
Senior Consultant



Fun Facts

- Renovating an 1880s mining cabin in the Sierra Nevada Mountains
- Did you know I have a very small 6-pound Chihuahua “mutt” (rescue pup) named GiGi?
- I like to road-bike long distances

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SPEAKER



Scott MacCumbee USCG

Commanding Officer, CEU Oakland
Mission Readiness Product Line Manager

Fun Facts

- I'm a huge Arsenal fan...COYG!
- First tour on the West Coast...so trying to get to all the ski spots more frequently.
- My little brother is a Seabee.

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SPEAKER



Erin Dougherty USCG

Facility Operations and Support Division
USCG Headquarters CG-435

Fun Facts

- I like to hike and bike around the DC area with my family.
- Did you know I swam from Alcatraz – it's pretty chilly!
- I like to write children's stories about my dog Benny.

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SPEAKER



Nic Jarboe

Jacobs Engineering
Senior Consultant

Fun Facts

- Did you know I have twin 3-year-olds and a 9-month-old?
- Staycation Spots: I live in Hawaii, so the thought of traveling with the kids can be scary.
- Hobbies: Used to be snowboarding and watersports. Hopefully can get the kids out there soon.

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Poll: Does your organization have both Asset Condition AND Mission Dependency data for infrastructure?

Problem Statement



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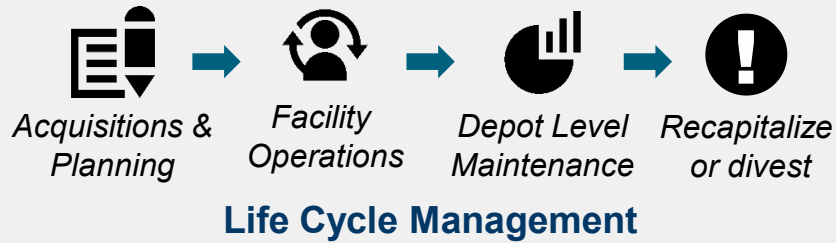


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How do we move the needle towards a better future?

Present State

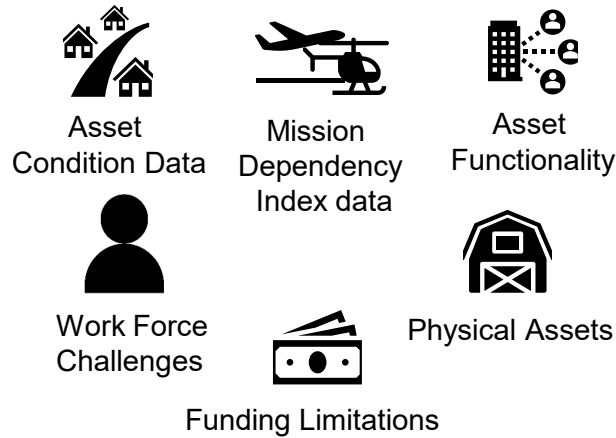
Unaffordable and unsustainable infrastructure. Federal Agencies are challenged to support mission demands within available funding limitations. The backlog of deferred maintenance continues to grow, putting Agency performance and mission success at risk. Recruiting and retention are also at risk.



Vision for the Future

How do we get there?

Data Elements



Desired Future State

Affordable real property portfolios that support Agency mission demands and enable workforce to succeed.



Continue to operate as in the past



Realize something is missing



Learn new skills



Invest in the future



Become an Asset Manager



Optimize performance

Novice

Apprentice

Journeyman

Master



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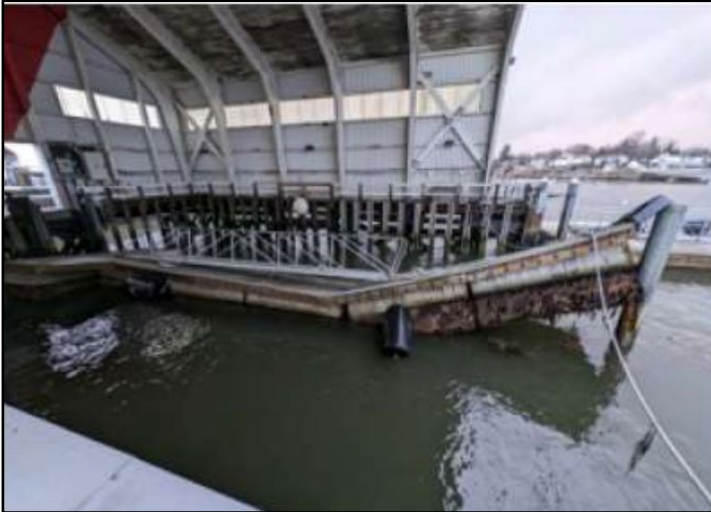


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Damaged Assets and Limited Resources



Damaged boat house at Station Portsmouth Harbor, NH

→ **Small boat SAR mission at risk**



Spalling on concrete hangar roof at Air Station Cape Cod, MA

→ **Helo SAR mission at risk**



Severe shoaling of boat basin at Sector Delaware Bay

→ **Multiple vessels SAR, LE and Aids to Navigation missions at risk**

Damaged Assets and Limited Resources



Damaged piers at Sector San Francisco, CA

→ Multiple vessels SAR, LE and Aids to Navigation missions at risk



Severe shoaling Station Cape Disappointment, WA

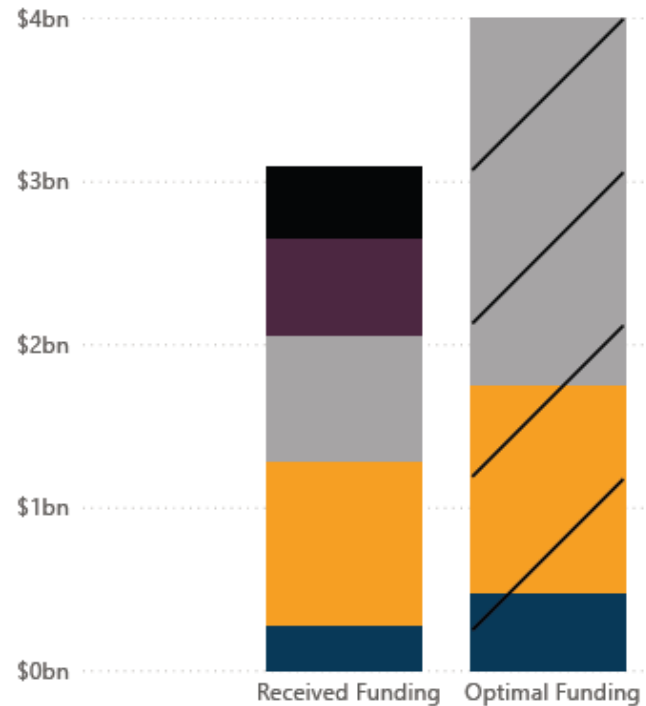
→ Small boat SAR mission at risk

USCG Shore Infrastructure

Overall Grade

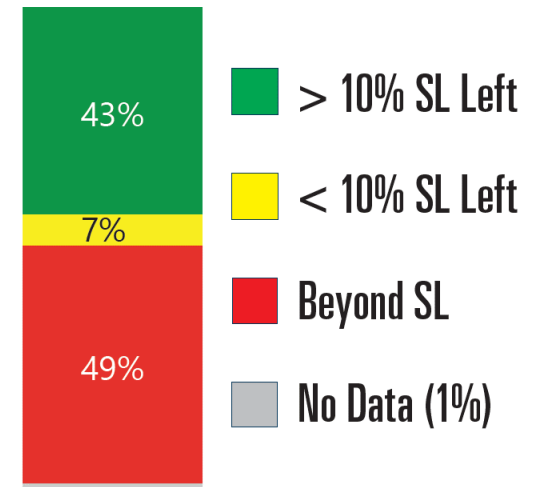
C

Cumulative Investment and Liability (FY2019-23)



● OLM ● DLM ● PC&I ● Hurricane Supplemental ● Infrastructure Act  Optimal Funding

Overall Asset Service Life¹



The Coast Guard Mission Dependency Index (MDI) Journey



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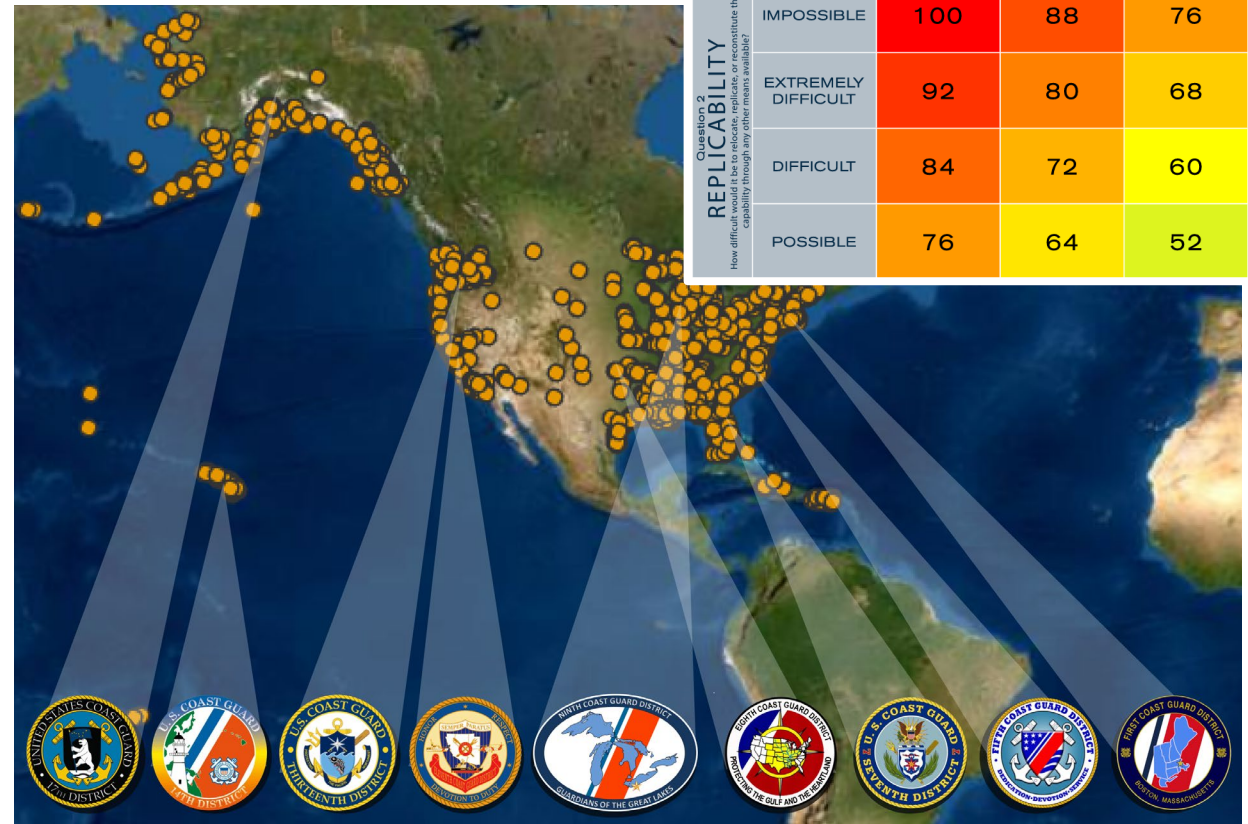
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USCG MDI Data Collection

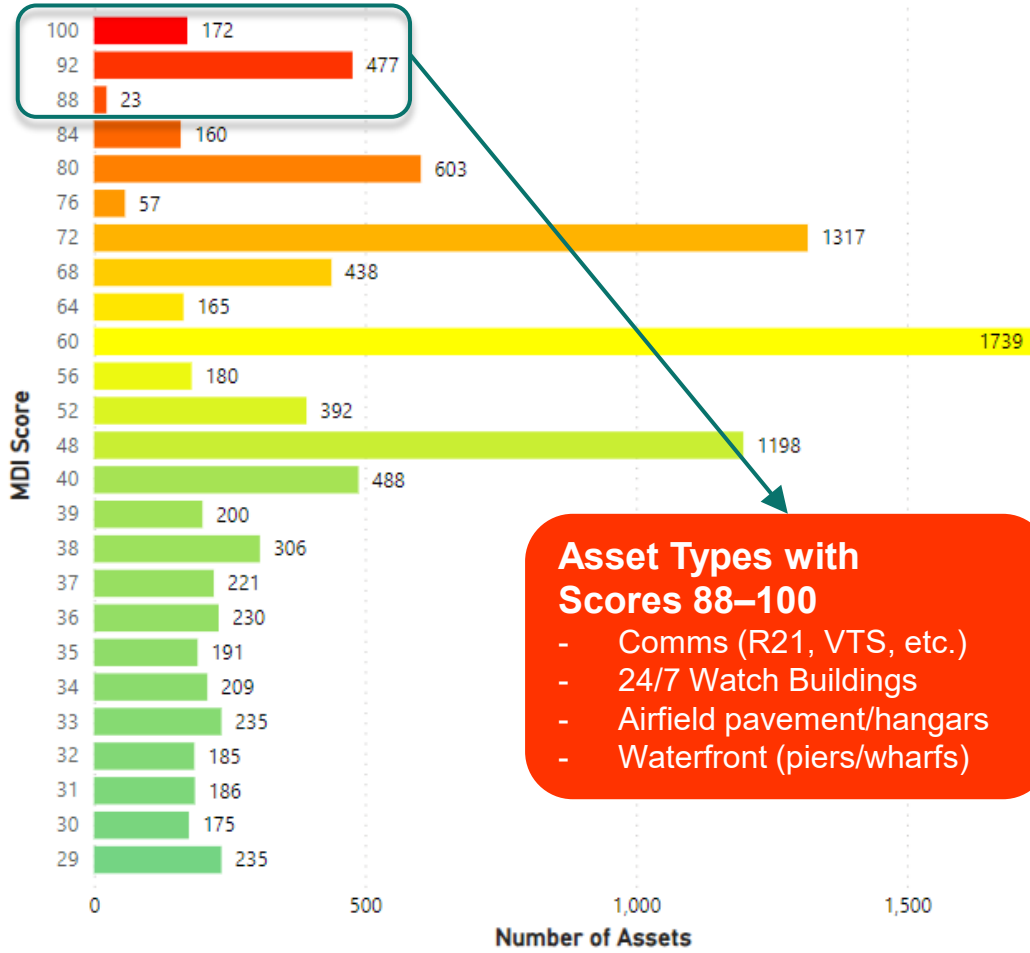
- Nearly **13,000** assets surveyed
- January–November 2023
- **102** sites visited
 - Sectors
 - Bases
 - Air Stations
 - Training Centers
- Other sites:
 - HQ Offices
 - Service Centers



UNITED STATES COAST GUARD					
MISSION DEPENDENCY INDEX	Question 1 INTERRUPTABILITY <small>How fast would any Coast Guard mission be impacted if the asset was not available?</small>				
	IMMEDIATE <small>< 15 minutes</small>	BRIEF <small>< 24 hours</small>	SHORT <small>< 7 days</small>	PROLONGED <small>> 7 days</small>	
Question 2 REPLICABILITY <small>How difficult would it be to relocate, replicate, or reconstitute this capability through any other means available?</small>	IMPOSSIBLE	100	88	76	64
	EXTREMELY DIFFICULT	92	80	68	56
	DIFFICULT	84	72	60	48
	POSSIBLE	76	64	52	40

USCG MDI Results & Outcomes

Assets per MDI Score



- Asset Types with Scores 88–100**
- Comms (R21, VTS, etc.)
 - 24/7 Watch Buildings
 - Airfield pavement/hangars
 - Waterfront (piers/wharfs)

MDI Data Collection Tool

Site

Landlord OPFAC

CatCode

Asset Count
227

RP Unique ID	Site Name	Location Description
24330	COAST GUARD ISLAND	DIESEL FUEL @B42
24332	COAST GUARD ISLAND	PBX EMERG GENERATOR @BLD
24361	COAST GUARD ISLAND	CGI ENTRANCE BRIDGE
24375	COAST GUARD ISLAND	CMD CEN TOWER BASE ALAME EAST
24377	COAST GUARD ISLAND	UTILITY ELECTRIC
24379	COAST GUARD ISLAND	GAS MAINS
24380	COAST GUARD ISLAND	POTABLE WATER SYSTEM
24381	COAST GUARD ISLAND	SANITARY SEWER SYSTEM
24383	COAST GUARD ISLAND	COMMUNICATIONS LINES
24384	COAST GUARD ISLAND	MAIN WHARF
24385	COAST GUARD ISLAND	MLB FLOATING DOCK
24387	COAST GUARD ISLAND	BOAT LAUNCH RAMP
24389	COAST GUARD ISLAND	MEMORIAL WWII @ MUNRO C
24396	COAST GUARD ISLAND	SECURITY FENCING
24409	BASE ALAMEDA - NOVATO - FAMILY HOUSING	ADMIN OFFICE / TEMP HOUSING
24411	BASE ALAMEDA - NOVATO - FAMILY HOUSING	ELECTRIC DISTRIBUTION BUILD
24534	BASE ALAMEDA - NOVATO - FAMILY HOUSING	ROADS - NOVATO HOUSING
24547	BASE ALAMEDA - NOVATO - FAMILY HOUSING	UTILITY - ELECTRICAL DISTRIBU
24549	BASE ALAMEDA - NOVATO - FAMILY HOUSING	UTILITY - NATURAL GAS DIST S
24550	BASE ALAMEDA - NOVATO - FAMILY HOUSING	UTILITY - SANITARY SEWER - C
24551	BASE ALAMEDA - NOVATO - FAMILY HOUSING	UTILITY - STORM SEWER

Facility Condition Index - BUILDER



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Implementing BUILDER

- Preventive vs. Reactionary
- Facility Condition Assessments
- Project Programming
- Budgeting Scenarios


17916 - DISPENSARY

SUMMARY

Overall Condition Summary

The top table shows specific information about this Building. The bottom table shows the Condition Index by System. In general for both tables, green means good, amber means fair, and red means poor.

BUILDING DETAILS			
Building Use: 55020 - AMB CARE CLINIC			
Year Constructed	1997	Current FY Work Cost	\$1,746,900
Total Area (SF)	7,060	BCI	77
Total PRV	\$2,533,638		

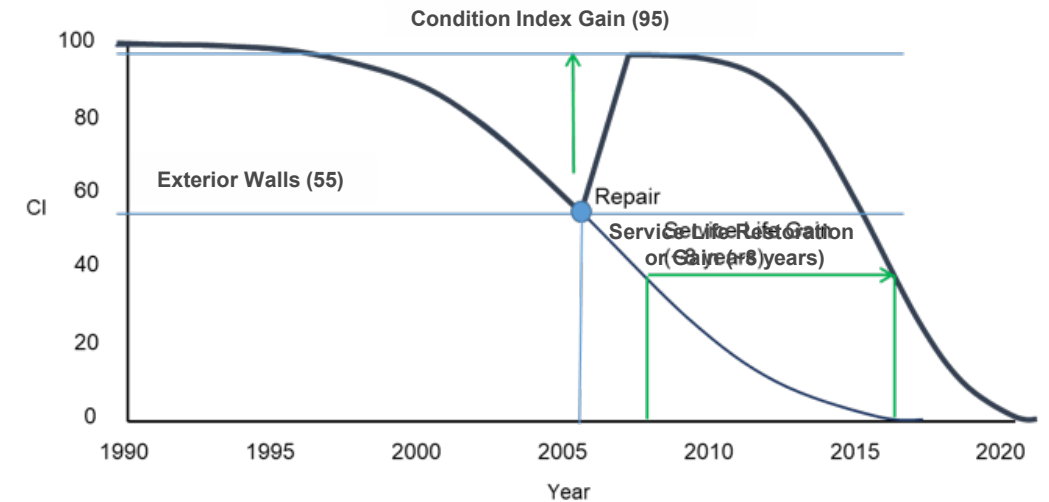


CONDITION INDEX			
A10 FOUNDATIONS	100	C30 INTERIOR FINISHES	79
A20 BASEMENT CONSTRUCTION	18	D20 PLUMBING	63
B10 SUPERSTRUCTURE	88	D30 HVAC	74
B20 EXTERIOR ENCLOSURE	67	D40 FIRE PROTECTION	39
B30 ROOFING	72	D50 ELECTRICAL	70
C10 INTERIOR CONSTRUCTION	87		

Facility Condition Assessment Report using BUIILDER at Air Station Port Angeles, WA

BUILDER – Next Steps

- Incorporate additional shore asset types with system integration
- Model and predict renewal projects and prioritize with MDI
- Justify project cost with service life restoration or gain



Data Analytics

Combining Mission and Condition Data



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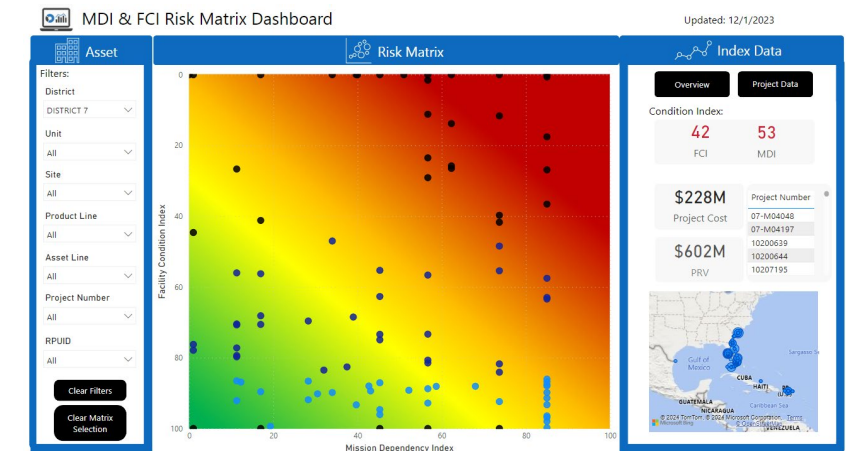
Data Analytics – FCI and MDI (Operational Readiness)

- Create by CATCODE, asset type, location
- Shown live at Centralized Planned Obligation Prioritization (C-POP) Board
- Could be used at Regional POP Boards
- Portfolio managers at headquarters
- Potential for additional metrics in the future

*Please note examples include some unvalidated data

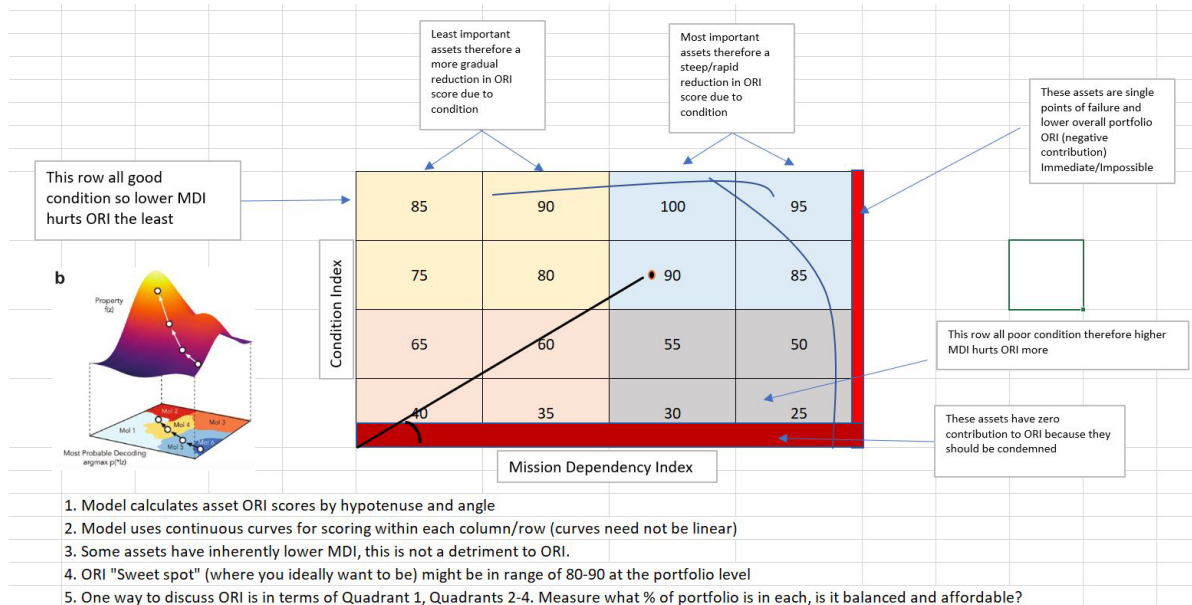


MDI vs. FCI for multi-purpose buildings at boat stations

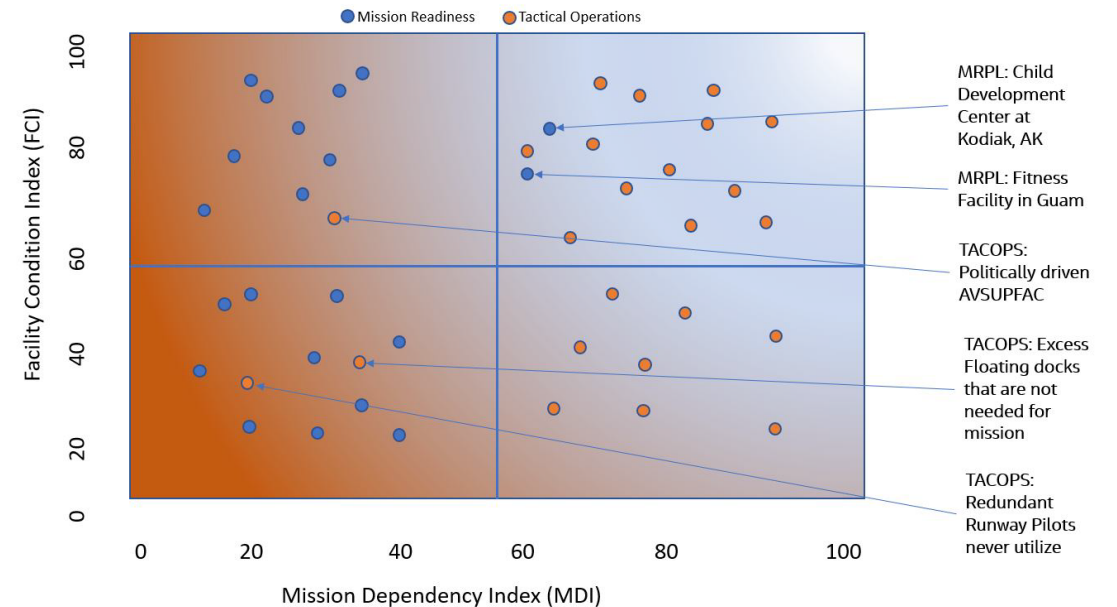


FCI vs. MDI for District 7 shore assets

Operational Readiness – An Emerging Concept

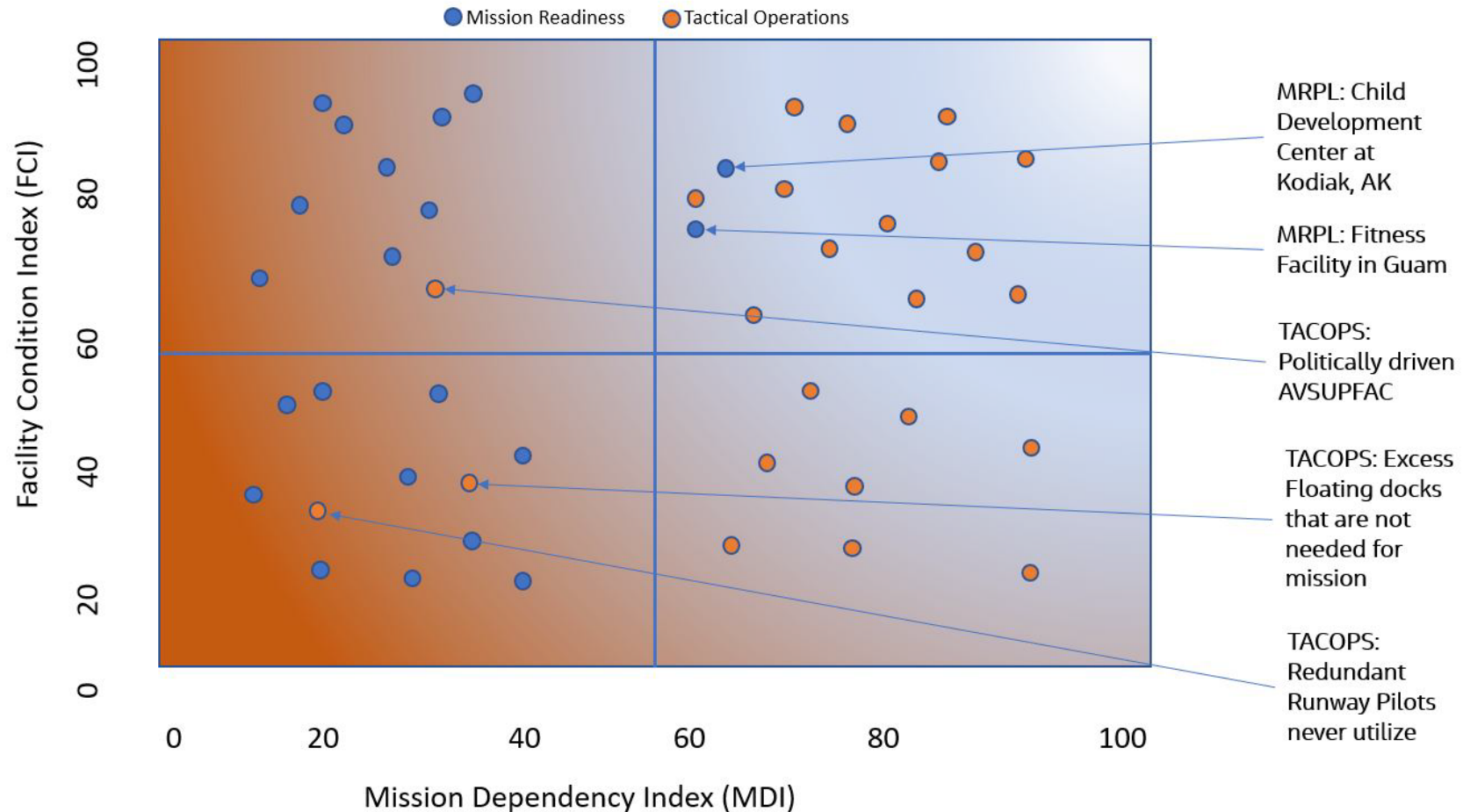


Investment Strategy Matrix

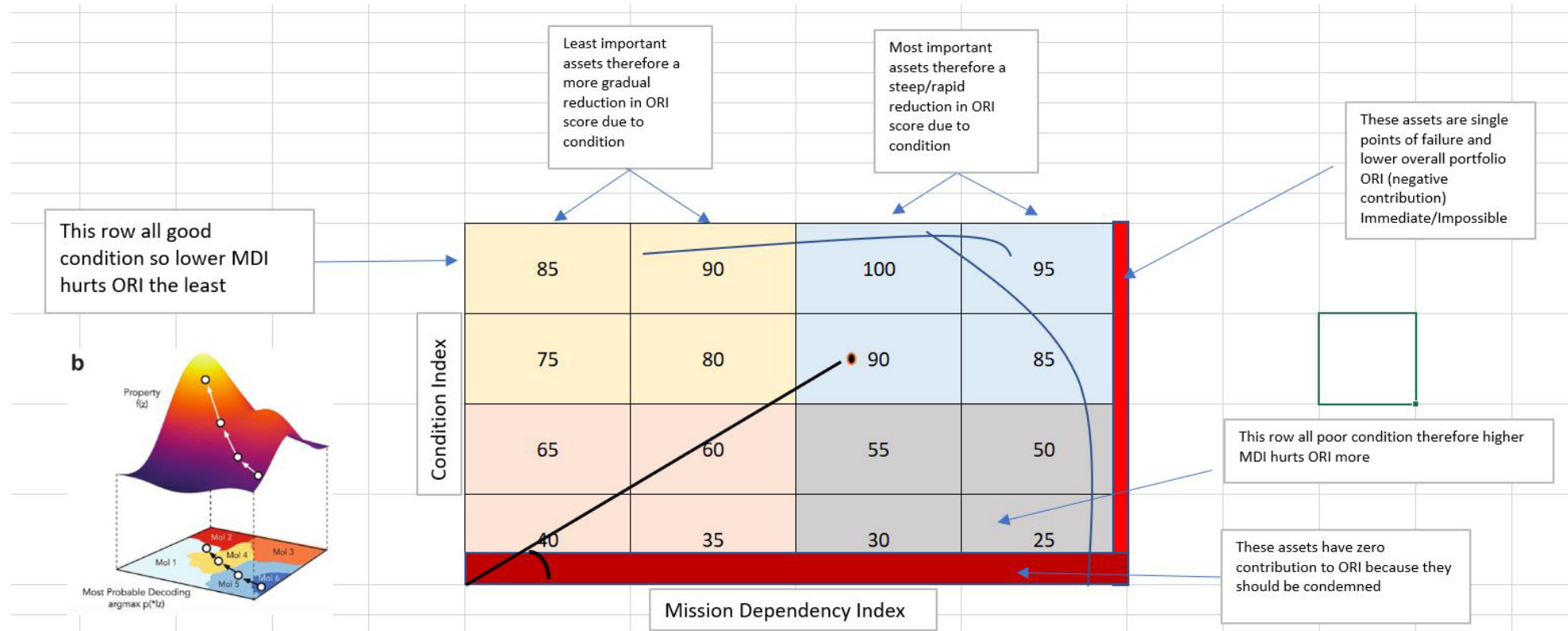


Operational Readiness – An Emerging Concept

Investment Strategy Matrix



Operational Readiness – An Emerging Concept



1. Model calculates asset ORI scores by hypotenuse and angle
2. Model uses continuous curves for scoring within each column/row (curves need not be linear)
3. Some assets have inherently lower MDI, this is not a detriment to ORI.
4. ORI "Sweet spot" (where you ideally want to be) might be in range of 80-90 at the portfolio level
5. One way to discuss ORI is in terms of Quadrant 1, Quadrants 2-4. Measure what % of portfolio is in each, is it balanced and affordable?



FILTERS

Line of Business

- Operations
- Support
- Tactical

MDI Distribution

- 100-88
- 84-68
- 64-48
- <40

Funding Level

- Unconstrained
- Current funding
- 10%

Time Horizon

- 5 years
- 10 years
- 15 years

FACILITY BCI RESULTS

Facility No	Facility Name	Yearconstructed	Mdi
1	HANGAR, MAINTENANCE DEPOT	1941	87
5	SHOP, AIRCRAFT GENERAL PURPOSE	1941	75
32	SHOP, AIRCRAFT MAINTENANCE, ORGANIZATIONAL	2005	61
100	INTEGRATION SUPPORT FACILITY	1942	65
101	SHOP, ELECTRICAL OVERHAUL AND TEST DEPOT	1983	75
202	COMPRESSED AIR PLANT BUILDING	1963	Null
204	HANGAR, MAINTENANCE DEPOT	1999	87
205	SHOP, ELECTRICAL OVERHAUL AND TEST DEPOT	1942	59
206	AIRCRAFT CORROSION CONTROL	1979	85
207	AIRCRAFT SUPPORT EQUIPMENT SHOP/STORAGE FACIL.	1986	Null
214	PRECISION MEASUREMENT EQUIPMENT LAB	1942	75
217	AIRCRAFT CORROSION CONTROL	1987	Null
219	HG, MAINT DEP	2020	87
220	AIRCRAFT CORROSION CONTROL	1957	85
222	HANGAR, MAINTENANCE DEPOT	1967	87
223	SHOP, AIRCRAFT MAINTENANCE, ORGANIZATIONAL	2002	61
225	HANGAR, MAINTENANCE DEPOT	1942	87
227	FUEL SYSTEM MAINTENANCE DOCK	1968	70
228	FUEL SYSTEM MAINTENANCE DOCK	1968	70
233	HANGAR, MAINTENANCE DEPOT	1979	87
236	FUEL SYSTEM MAINTENANCE DOCK	1981	70
237	SHOP, AIRCRAFT GENERAL PURPOSE	1992	75
238	SHOP, AIRCRAFT GENERAL PURPOSE	1991	75
240	SHOP, TURBINE DEPOT	2001	80
243	SHOP, TURBINE DEPOT	2010	80
245	TECHNICAL TRAINING CLASSROOM	1986	70
250	TECHNICAL TRAINING LABORATORY/SHOP	1943	80
252	SHOP, TURBINE DEPOT	1989	80
256	AIRCRAFT CORROSION CONTROL	1942	85
257	SHOP, AIRCRAFT GENERAL PURPOSE	1941	75
265	SHOP, AIRCRAFT GENERAL PURPOSE	1941	75

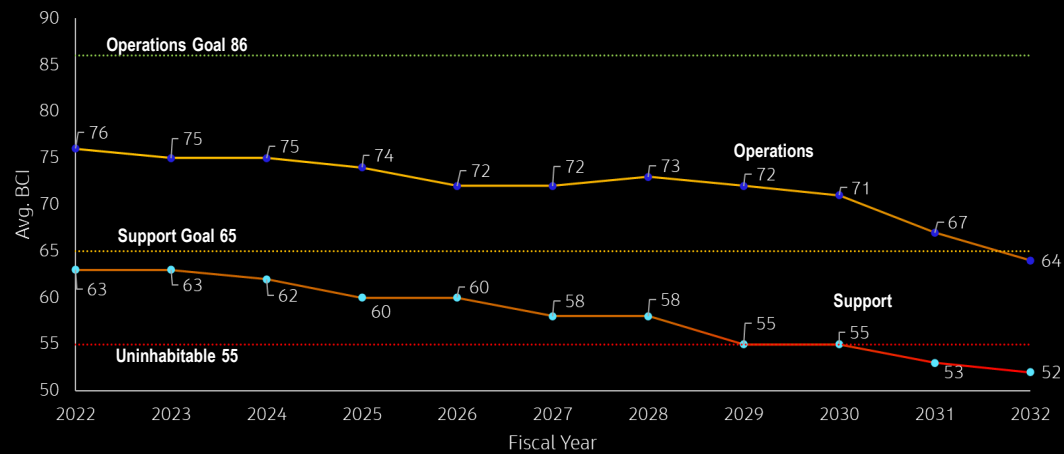
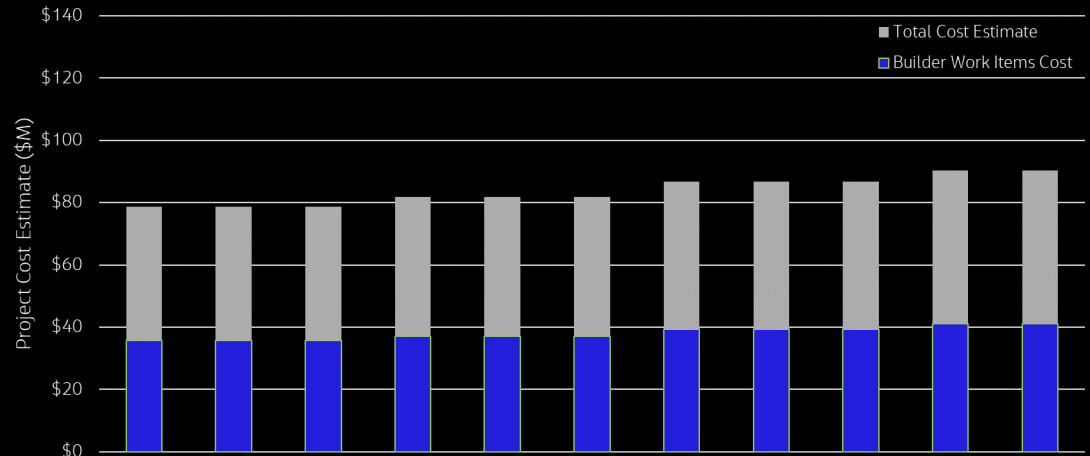
BCI Locations



[View Map of Building Level Results](#)

CURRENT FUNDING SCENARIO

Project Costs are estimated by multiplying the **BUILDER Work Items** by a user-controlled Escalation Factor (1.2)





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101	SHOP, ELECTRICAL OVERHAUL AND TEST DEPOT	1983	75	81
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206	AIRCRAFT CORROSION CONTROL	1979	85	84
207	AIRCRAFT SUPPORT EQUIPMENT SHOP/STORAGE FACIL.	1986	Null	76
214	PRECISION MEASUREMENT EQUIPMENT LAB	1942	75	86
217	AIRCRAFT CORROSION CONTROL	1987	Null	88
219	HG, MAINT DEP	2020	87	80
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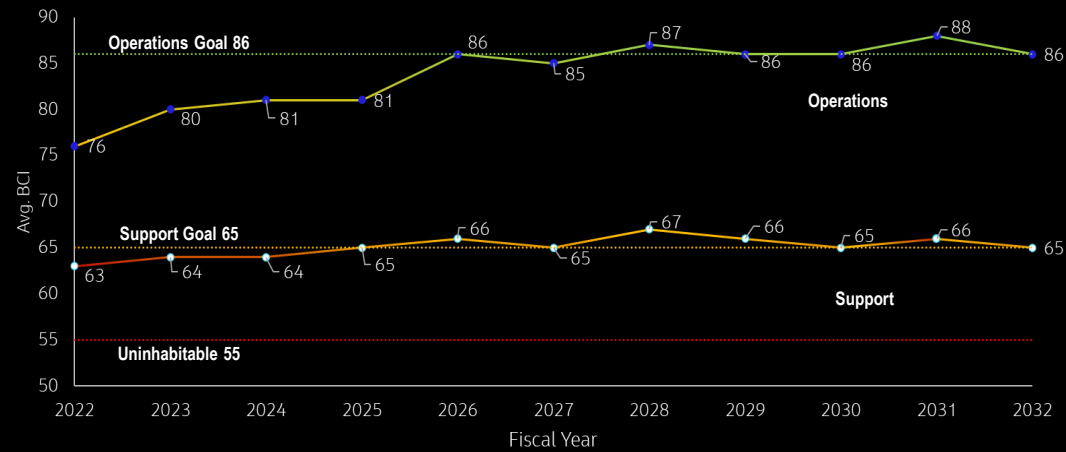
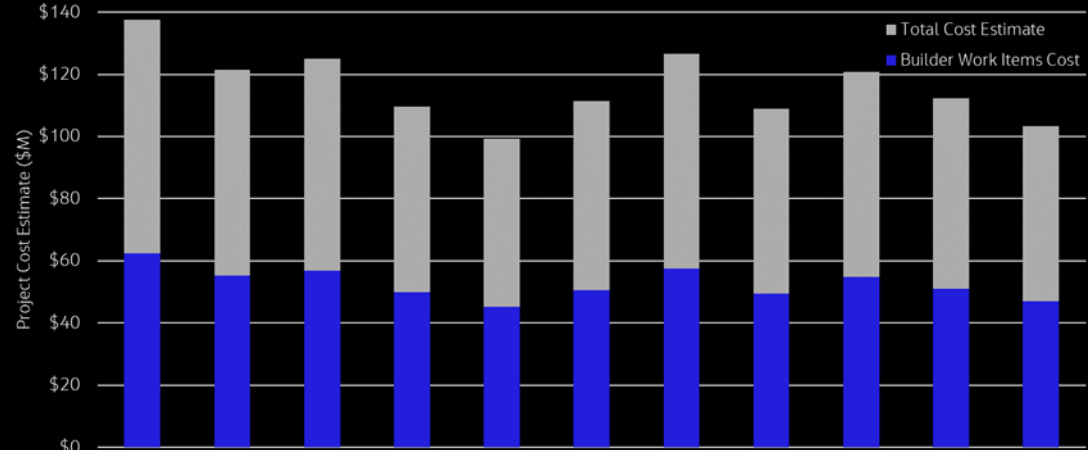
BCI Locations



[View Map of Building Level Results](#)

10-YEAR UNCONSTRAINED FUNDING SCENARIO

Project Costs are estimated by multiplying the **BUILDER Work Items** by a user-controlled Escalation Factor (1.2)



What About the People? Risk to Institution



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Congressional Testimony on the State of Infrastructure Across the Federal Sector (February 2024)



Live Content Slide

Poll: Does your organization have a good strategy to support a healthy and high-performing workforce?

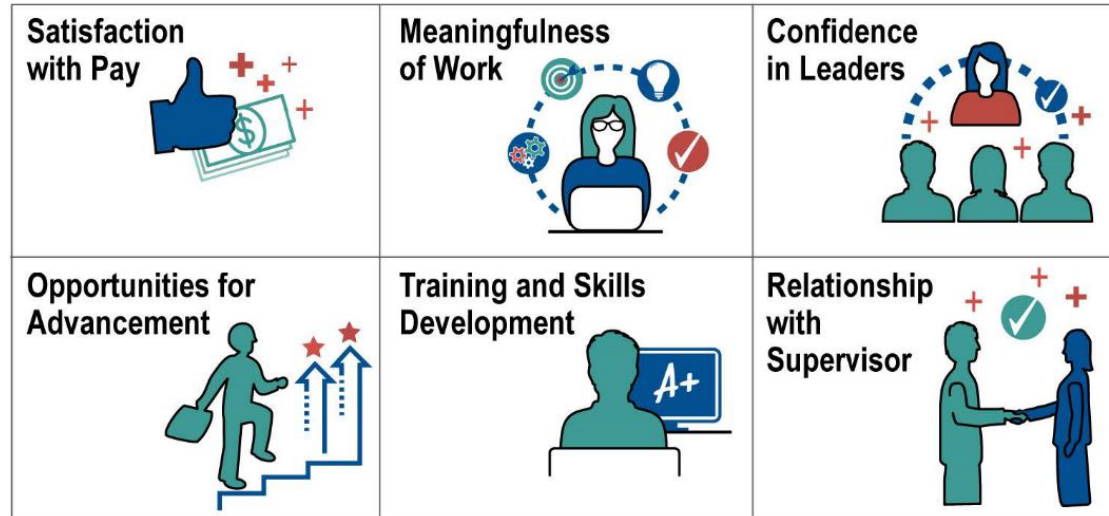
Risk to Institution



The quality of our facilities and ships not only impact mission readiness; it's an important potential recruits think about when they consider the Coast Guard for service.

-Admiral Linda Fagan, Commandant

Non-facility-related Factors



Source: GAO analysis of 2017 Office of Personnel Management Federal Employee Viewpoint Survey data. | GAO-20-592

Facility-related Factors



Sewage overflow in training barracks restroom

Cracked sewage pipes recently removed from barracks

Water damage on barracks hallway ceiling tiles

Pests observed in barracks room

Source: Department of Defense (left); GAO (all others). | GAO-23-105797

Risk to Institution

- It's not just about assets – **missions are executed by people**
- World-class operators need support and facilities they can succeed from
 - Every mission begins and ends at a Shore Facility, but missions cannot happen without people
- Coast Guard is experiencing a 3,500-person shortfall
 - Forces the CG to take ten cutters out of service, transfer five tugs to seasonal activation, and shutter 29 boat stations
 - Means there are fewer personnel available to conduct preventative and corrective maintenance at CG units
- Need to raise the overall score of “C” to a condition index of 90 to meet the DHS standard
 - Must overcome decades of underfunded shore infrastructure
 - Budget forecasting models using MDI provide data-driven approach to advocate for funding
 - Need to rethink how we operate. Can we better utilize technology to decrease demands on infrastructure?
 - Consider cheaper alternatives when planning infrastructure projects.
- Audience participation
 - Are there metrics, and how do you measure? (Surveys vs. Interviews)
 - Is there a quantitative approach?

THANK YOU

Please take a few minutes to complete a short survey about this session. Your feedback will help us improve future programming for JETC.

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Q&A

- Captain Scott MacCumbee, Scott.MacCumbee@uscg.mil
- LCDR Erin Dougherty, Erin.M.Dougherty@uscg.mil
- Dave Savatgy, Dave.Savatgy@jacobs.com
- Nic Jarboe, Nic.Jarboe@jacobs.com