

STATUS BRIEF



Insular ABCs Phase III

CNMI

August 2017



**US Army Corps
of Engineers**
Honolulu District



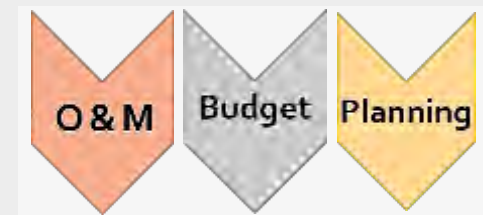
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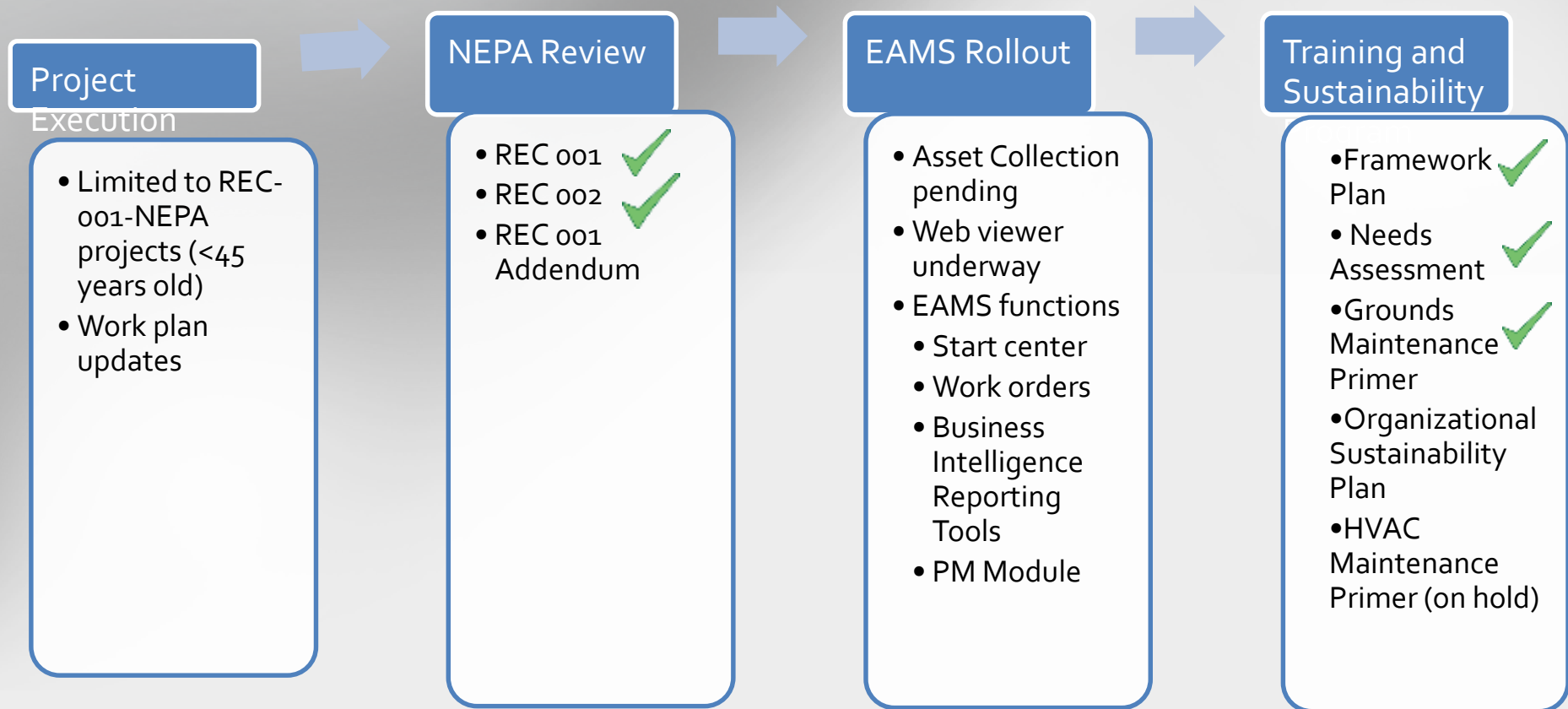
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AGENDA

- **Updates**
 - Overview
 - Work Progress/NEPA Reviews
 - Enterprise Asset Management System
 - Training and Sustainability Program
 - Needs Assessment
 - Grounds Maintenance Primer
 - Organizational Sustainability Plan (OSP)
- **Next Steps**
- **OSP Findings**
 - Operations and Maintenance (O&M)
 - Budget
 - Planning
- **Questions/discussion/feedback**



Updates – OVERVIEW



Updates – WORK PROGRESS

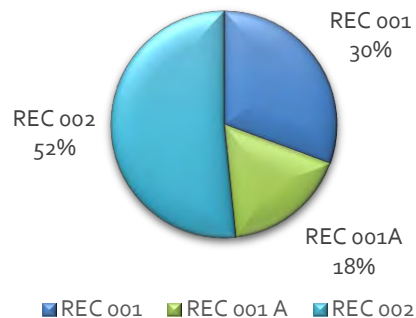
Progress

- 61 health and safety DM repair items complete or underway at 11 schools: \$1.3M

Pending NEPA Review

- REC 001 Addendum: 18% (\$1.7M in DM)

Projects by NEPA Review Category



Facility repair locations:

- Garapan ES
- Marianas HS
- Saipan Southern HS
- Reyes ES
- San Vicente ES
- Koblerville ES
- San Antonio MS
- Chacha MS
- Tinian HS
- Tinian ES
- Dandan MS

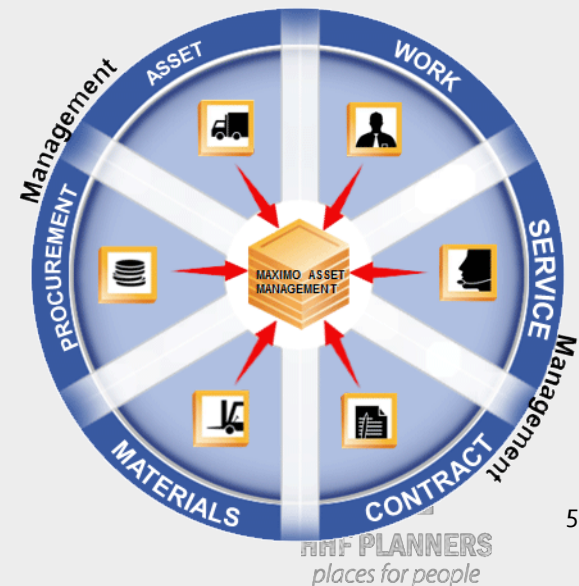
Updates – ENTERPRISE ASSET MANAGEMENT SYSTEM (EAMS)

Progress

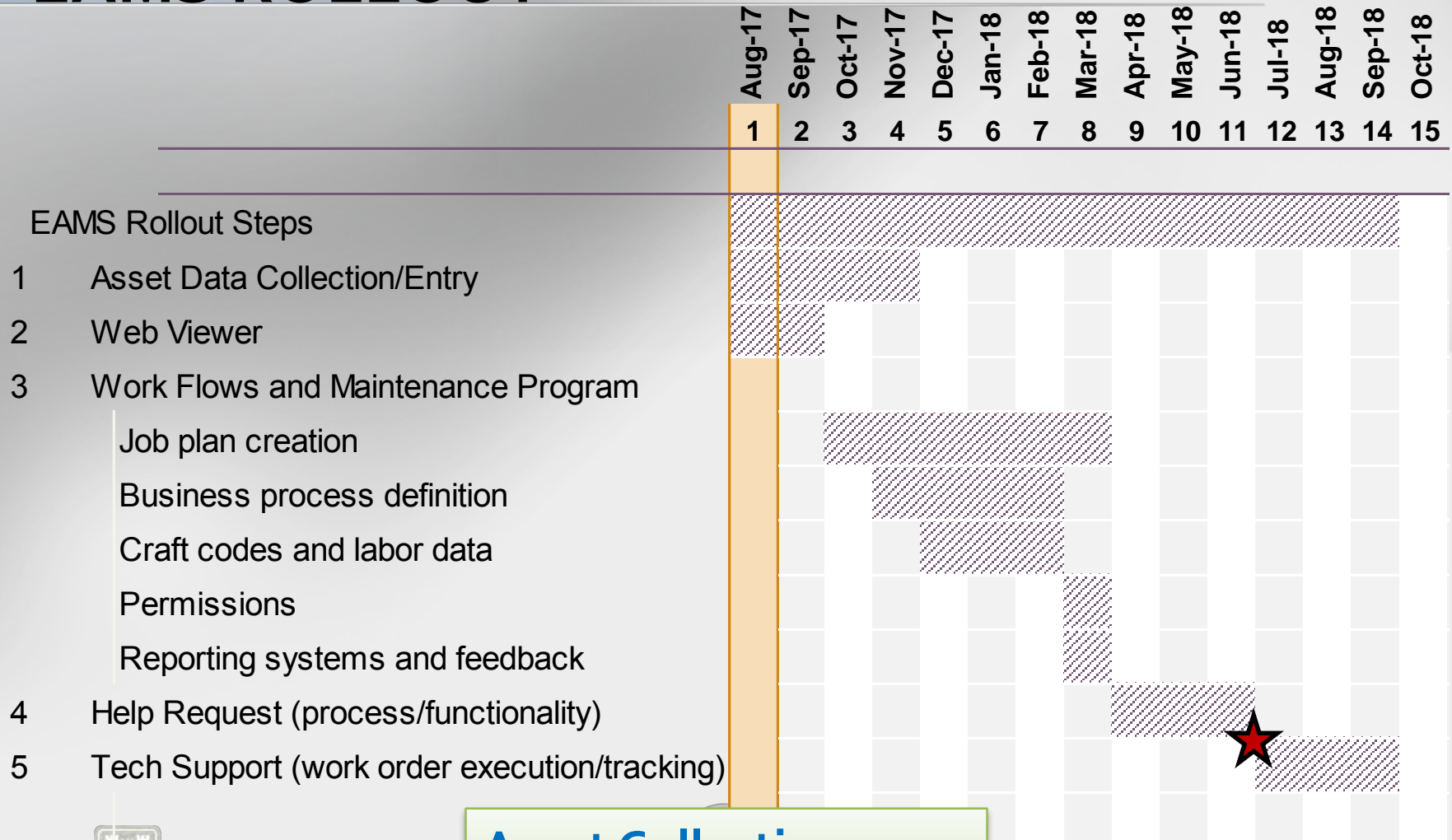
- Maximo start center (permission-based views)
- Work order module: work plan, scheduled costs, labor, materials, equipment, etc.
- Business Intelligence and Reporting Tools (allows drill down reporting)
- Preventive Maintenance Module established
- Asset data collection underway
- Project tracking workflows being refined

Purpose

- Improve data-driven decision making
- Create maintenance and replacement schedules
- Clarify budget and staffing requirements



Updates – EAMS ROLLOUT



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Asset Collection:
11 of 28 schools complete



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Next Steps – PROGRAM ADVANCEMENT

- **Continue moving projects**
 - Address priority changes
- **NEPA Compliance**
 - Finalize REC 002 and create REC 001 and 002 Amendments as needed
- **Continue EAMS rollout steps and TSP efforts**



Projects

NEPA
Reviews

EAMS/TSP

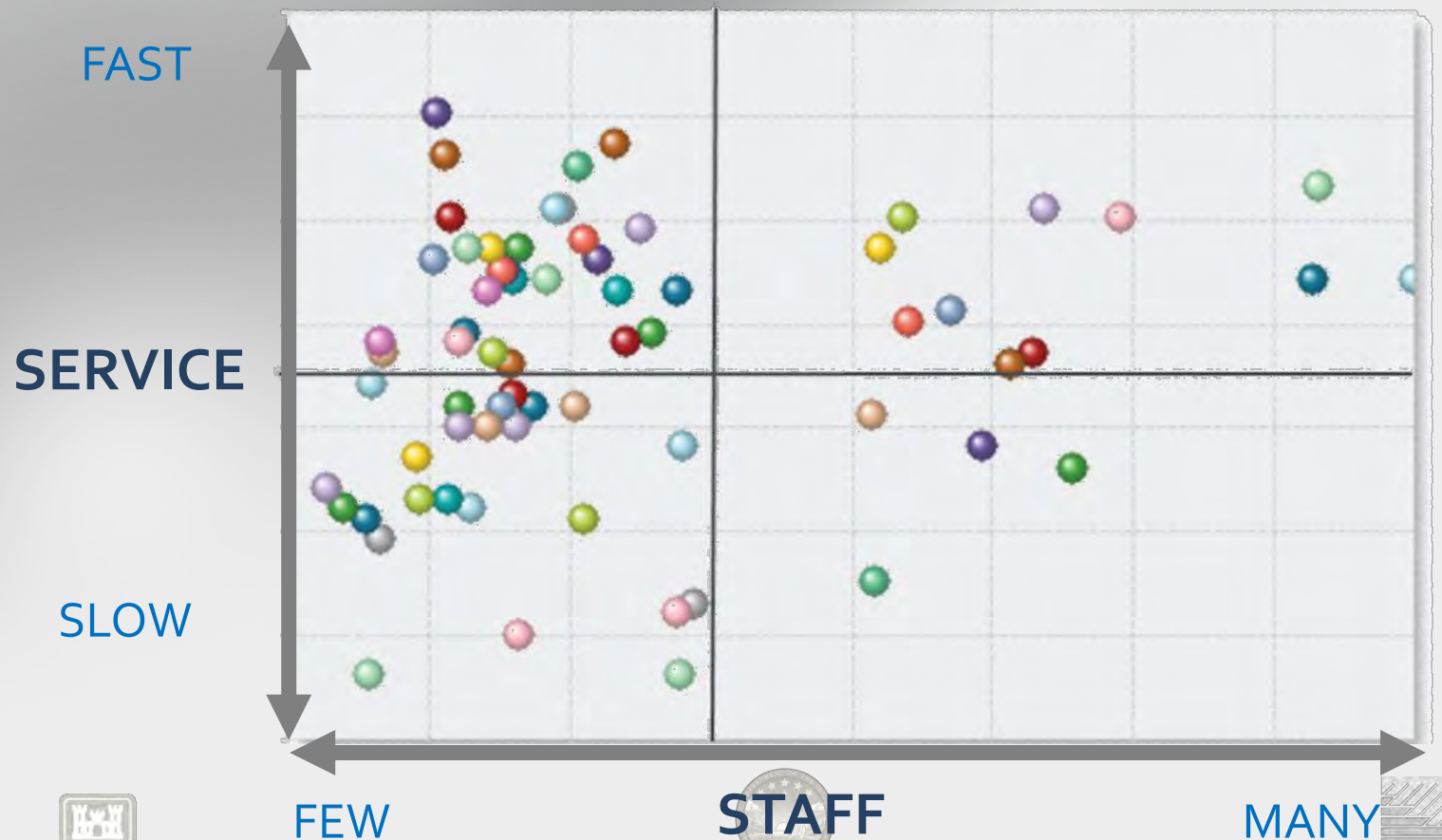
OSP Findings – O & M

O&M

Budget

Planning

The value of organizational efficiency



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OSP Findings – O & M

Staff Benchmarks and Rightsizing

Position	CGCS Standard	ASU Standard	APPA (level 1)	APPA (level 2)	APPA (level 5)	School
Maintenance	90,000 sq ft	92,074 sq ft	47,220 sq ft	67,456 sq ft	236,098 sq ft	103,571 sq ft
Custodian	25,451 sq ft	32,100 sq ft	8,500 sq ft	16,700 sq ft	45,600 sq ft	23,598 sq ft
Grounds	28.0 ac	31.0 ac	20 ac	25 ac	100 ac	70 ac

CGCS: Center for Great City Schools; ASU: American Schools and Universities; APPA: Association of Physical Plant Administrators

Ideal Staffing (based on benchmarks)

- Maintenance = 15
- Custodian = 56
- Grounds = 13

(Does not include management or admin support staff)

In Progress: refine position and job descriptions/duties (performance/accountability)

Actual Staffing

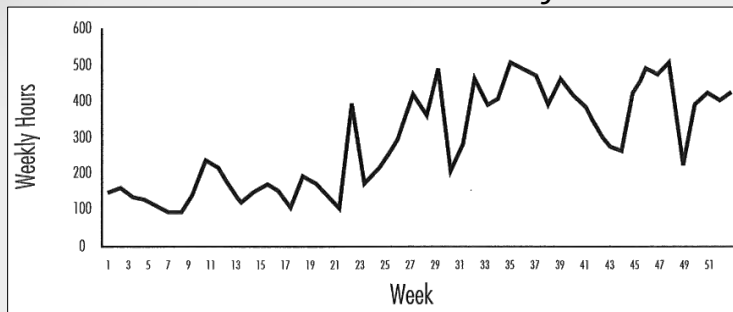
Job Title	Staff Count	Total Staff
Maintenance	39	42
AC Lead	1	
Plumber	1	
Electrical Lead	1	
Custodian	?	?
Grounds	?	?
TOTAL	?	?

OSP Findings – O & M

Right-sizing Staff

Contract Labor	In-house
Short-term solution	Long-term solution
Cost More (long-term)	Cost Less (long-term)
Own tools/training	Need tools/training
Less Supervision	Need Supervision
Infrequent (20%)	Frequent (80%)
Specialized tasks	Common tasks

Notional annual maintenance hour fluctuations



Staff 80% of need



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Process Improvements



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OSP Findings – O & M

Example Excel-based Work Order Tracking

School requesting	date requested	Date Completed	Description of Problem	Type of problem	Employee	Outcome
Black = completed			Red = not completed	Blue print = being worked on		
KHS	5/2/2017		need to replace capacitor	AC	Norman	Waiting for 200 amp breaker.
MHS	5/3/2017		3 AC in S building	AC	Norman	
SVES	5/3/2017		Need to check aquaponics water pumps	Electrical		
KagES	5/4/2017	5/4/2017	Cafeteria roll up doors off it's track	General	Ando	Need to call someone Kautz or Tae woo to fix
MHS	5/5/2017	5/8/2017	No power getting to AC	AC	Norman	Temp fix. Got one of 2 going.
HRO	5/8/2017	5/8/2017	Lights in kitchen and front office not working	Electrical	Norman	
MHS	5/8/2017	5/8/2017	Pipe broke because of ball or PE equipment	Plumbing	Ando	Put ball valve in
WSR	5/8/2017	5/9/2017	When we went there, it was working	AC	Norman	
SSHS	5/8/2017	6/9/2017	Outlets in dividing wall not working all dividers	Electrical	Norman	Waiting for summer
SVES	5/12/2017		Drains have been cemented over and need to be broken	Plumbing		

Completion time

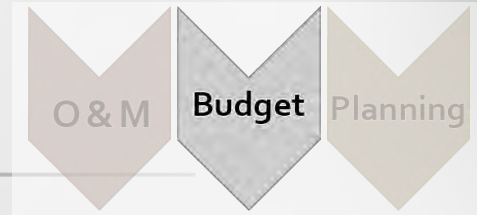
Calendar Days to Complete Work Order (WO)	2016 *	%	2017	%
0 to 5	88	64%	128	82%
6 to 30	23	17%	20	13%
30 or more	26	19%	8	5%
Total WO Completed	137	100%	156	100%
Median Days	1		2	
Incomplete or Unk Status	35		24	

*Work Order tracking began on 3/28/2016

Measuring changes

Year	Rank	Staff	# of Completed Work Orders	%
2016	1	Ando	28	20%
	2	Norman	25	18%
	3	Glenn	19	14%
2017	1	Norman	67	43%
	2	Ando	57	37%
	3	(blank)	15	10%

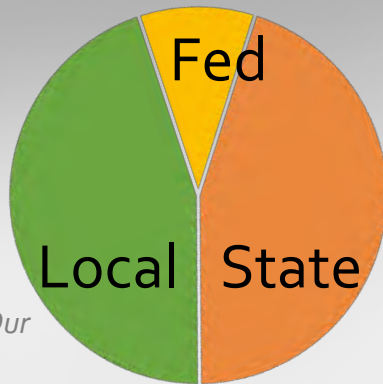
OSP Findings – BUDGET



Source of Public School Revenue (National Average – FY2010-2014)

	Local	State	Federal
USA	45%	45%	10%

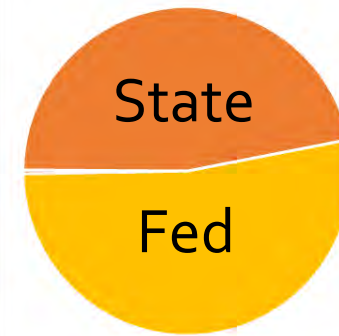
Source: NCES



Source of Public School Revenue (FY2010-2014)

	Local	State	Federal
CNMI		47%	53%

CNMI



Source: NCES

90% of U.S. School Districts Fiscally Independent

- Local funds
- Levy Taxes
- **Control Budget**
- **Predictable funding**

Honolulu District

Insular Area School Districts Fiscally Dependent

- Federal
- Legislative appropriations
- **Unpredictable**
- **Difficult to Plan**



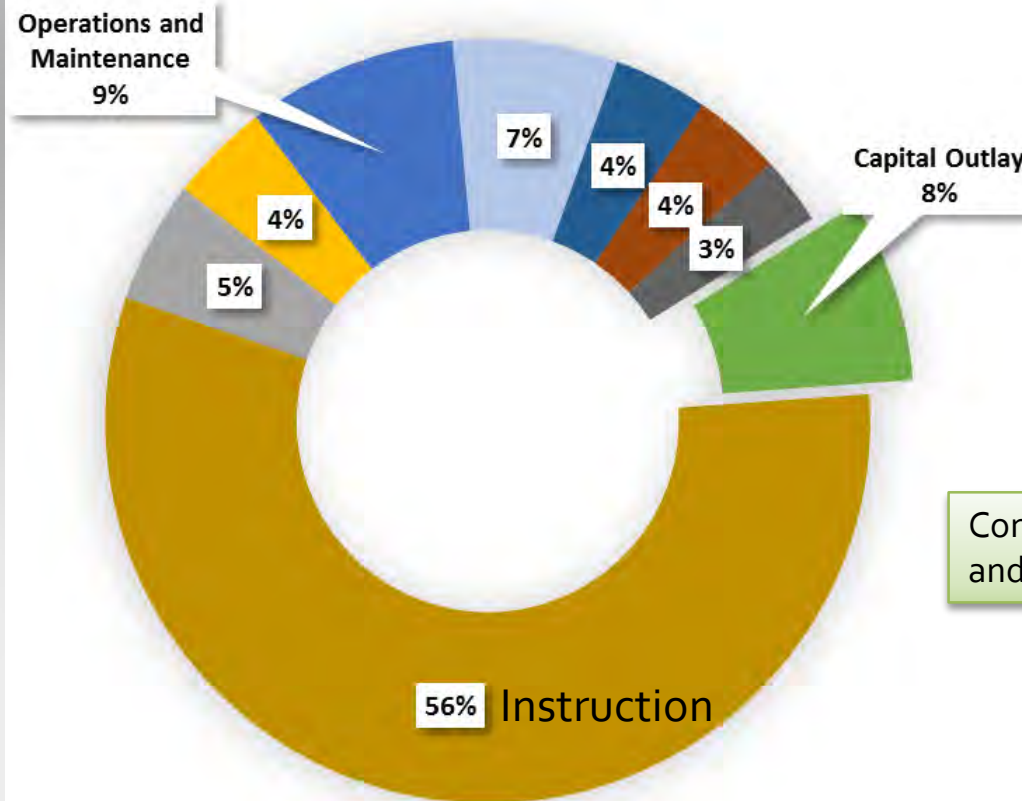
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OSP Findings – BUDGET

Breakdown of average U.S. school funding

- Capital Outlay
- Instruction
- Student Support
- Instruct Staff Svcs
- Operations and Maintenance
- Administration
- Transportation
- Food Services
- Interest on Debt



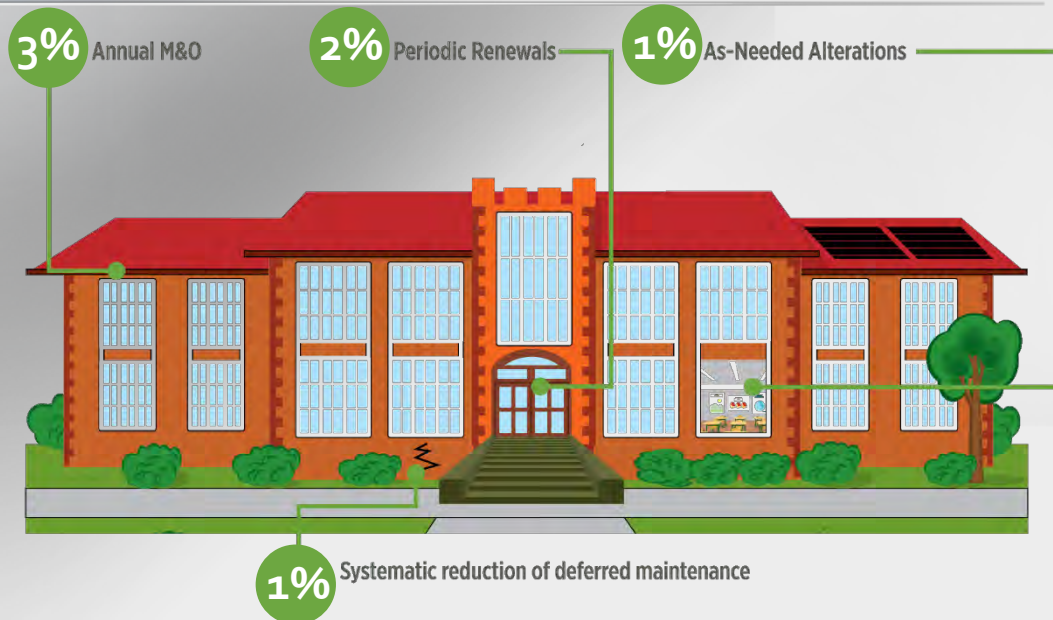
Consideration: O&M target 9% and Capital Outlay 8%

Source: NCES

OSP Findings – BUDGET

Budget

Funding Benchmarks



Annual Budget needed to support *different types* of Maintenance

Territory	CRV	Annual O&M (3%)	Renewal (2%)	Alterations (1%)	DM (1%)	Est. Annual Maint Budget	Actual Maint (2014)
CNMI	\$167M	5,010,000	3,340,000	1,670,000	1,670,000	11,690,000	\$3,408,000

Based on *State of our Schools*, 2016

A backlog of DM would require additional funds, not shown here.

OSP Findings – BUDGET

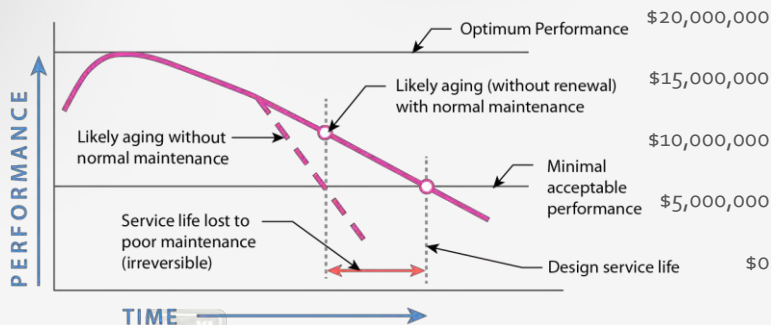
Budget

CIP Funding
Needed

Actual Expenditures (CNMI)

FY	O&M	O&M % of Total Expenditures	Capital Outlay	Capital Outlay % of Total Expenditures	Total Expenditures	Student Enrollment
2010	\$2,931,000	4%	\$1,496,000	2%	\$66,240,000	10,961
2011	\$8,492,000	10%	\$1,145,000	1%	\$88,121,000	11,105
2012	\$4,578,000	6%	\$1,186,000	2%	\$71,875,000	11,011
2013	\$4,919,000	8%	\$240,000	0%	\$63,233,000	10,646
2014	\$3,408,000	5%	\$116,000	0%	\$64,688,000	10,638
US avg		9%		8%		

Source: NCES



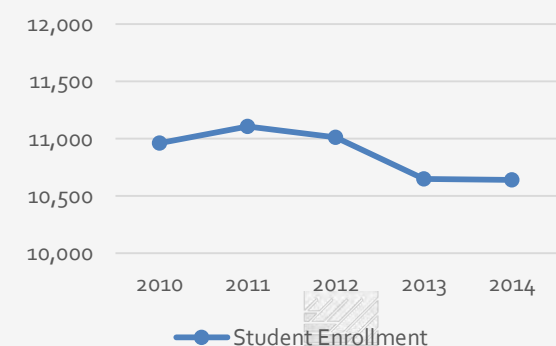
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O&M



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Enrollment K-12

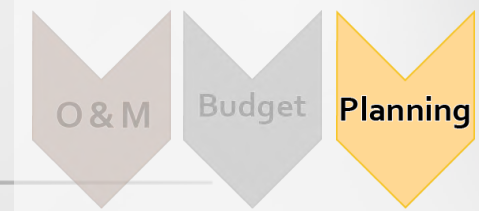


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BREAK?



OSP Findings – CAPITAL PLANNING



Overview

- Investment Strategy (expenditures, capacity and utilization, expected changes)
 - Simple
 - Comprehensive
 - Standard Criteria (i.e., age, size, condition, use, utilization, functionality)
- **Simple Capital Plan**
 - Articulates the strategy to address facility needs (i.e., roadmap)
- **Funding**
 - Sources/partners
 - Multi year budgeting process



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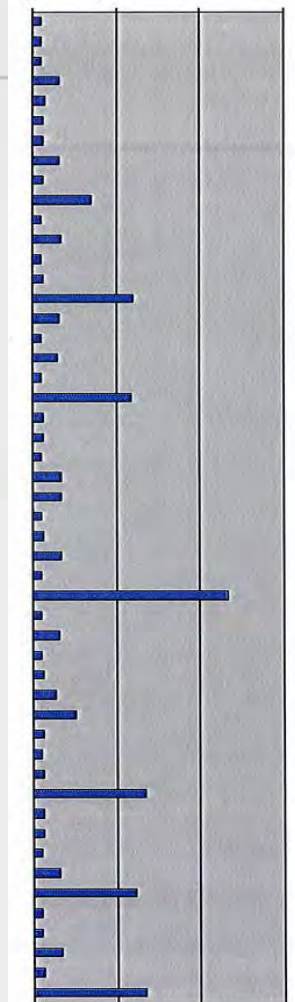
OSP Findings – CAPITAL PLANNING



Planning

50-Year Total M&R
Cost Profile per GSFT

\$0 \$10 \$20 \$30

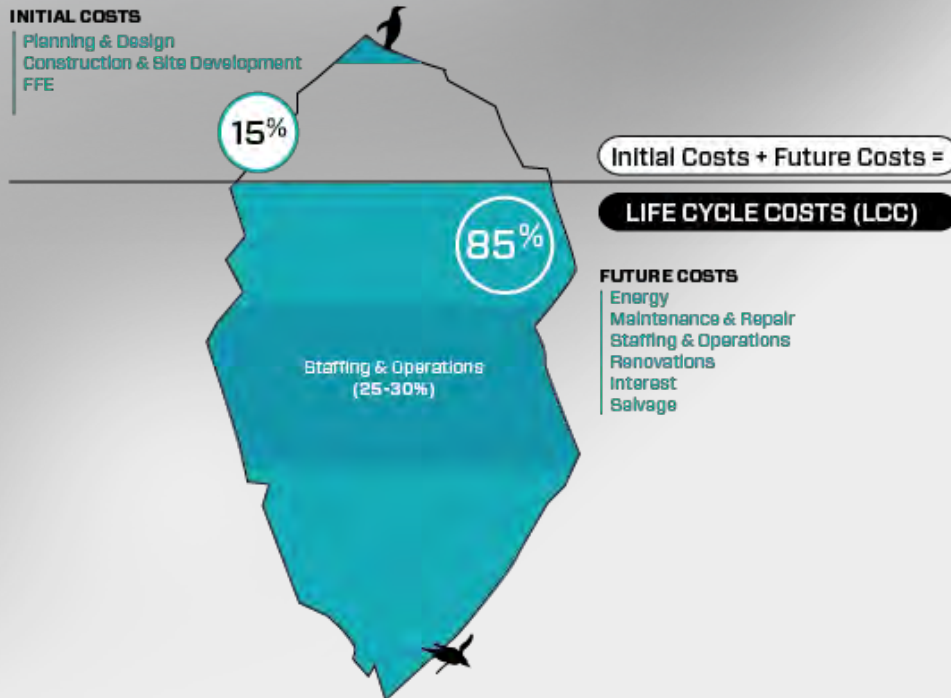


Prioritize Needs and Anticipate Funding

School Name	Building	Element	FY2016	FY2017	FY2018	FY2019	FY2020	Total
Elementary	Bldg 1	Roof	\$250,000					\$ 250,000
Elementary	Bldg 2	Roof		\$300,000				\$ 550,000
Elementary	Bldg 3	Roof		\$150,000				\$ 700,000
Elementary	Bldg 9	Roof						\$ 700,000
Elementary	Bldg 10	HVAC				\$ 75,000		\$ 775,000
Elementary	Bldg 11	HVAC				\$ 3,500,000		\$ 4,275,000
Elementary	Bldg 12	HVAC					\$ 75,000	\$ 4,350,000
High	Bldg 13	HVAC					\$ 250,000	\$ 4,600,000
High	Bldg 14	HVAC					\$ 300,000	\$ 4,900,000
Middle	Bldg 15	HVAC					\$ 5,000,000	\$ 9,900,000
Middle	Bldg 16	Structural					\$ 50,000	\$ 9,950,000
Middle	Bldg 17	Structural					\$ 1,500,000	\$ 11,450,000
Middle	Bldg 18	Structural					\$ 50,000	\$ 11,500,000
Middle	Bldg 19	Structural					\$ 200,000	\$ 11,700,000
			\$250,000	\$450,000	\$ -	\$ 3,575,000	\$ 7,425,000	\$ 11,700,000

OSP Findings – CAPITAL PLANNING

Life Cycle Costs and Facility Conditions



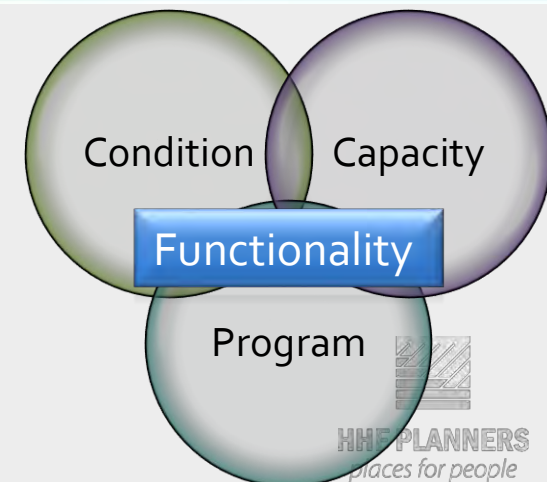
Facility Condition Index (FCI)

Is an industry standard parametric tool used to relatively compare building conditions.

$$FCI = \frac{\text{total cost of existing repairs}}{\text{current replacement value}}$$



<http://array-architects.com/how-design-process-influences-healthcare-life-cycle-costs>



OSP Findings – CAPITAL PLANNING

Capacity & Utilization

Fixed Assets			Current			Future		
Location	Capacity	# of Classrooms	Enrollment (2017-18)	Utilization (2017-18)	Class Size (2017-18)	Projected Enrollment (2020-21)	Projected Utilization (2020-21)	Projected Class Size (2020-21)
Elementary	524	42	431	82%	10	475	91%	11
Middle	1,458	75	1,354	93%	18	1,400	96%	19
Middle	904	46	755	84%	16	775	86%	17
High	921	44	576	63%	13	625	68%	14
ECE, SPED	110	11	72	65%	7	125	114%	11

Percent Utilization Shading Key

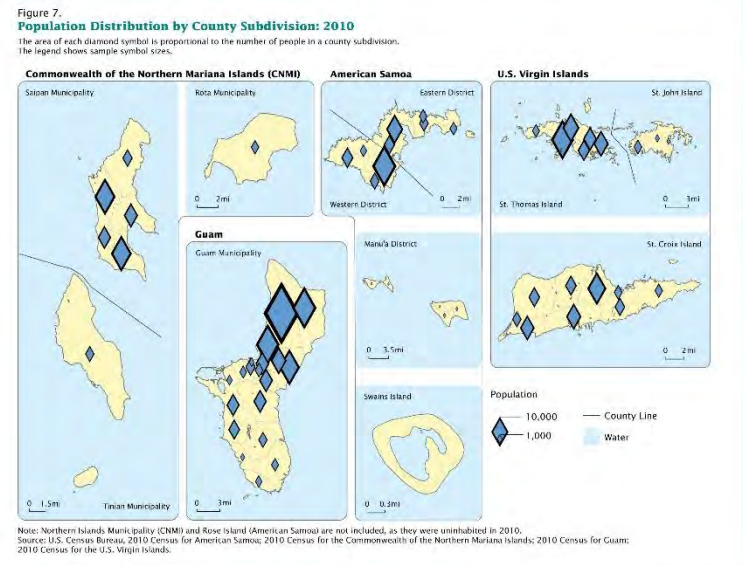
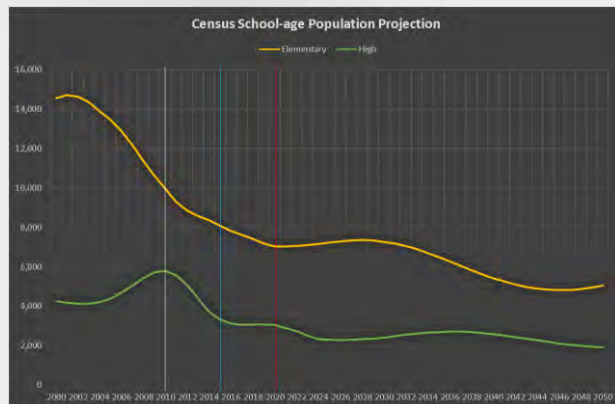


Source: Alaska Example- Actual utilization ranges and thresholds for new classroom construction should be determined in collaboration with each host agency.

OSP Findings – CAPITAL PLANNING

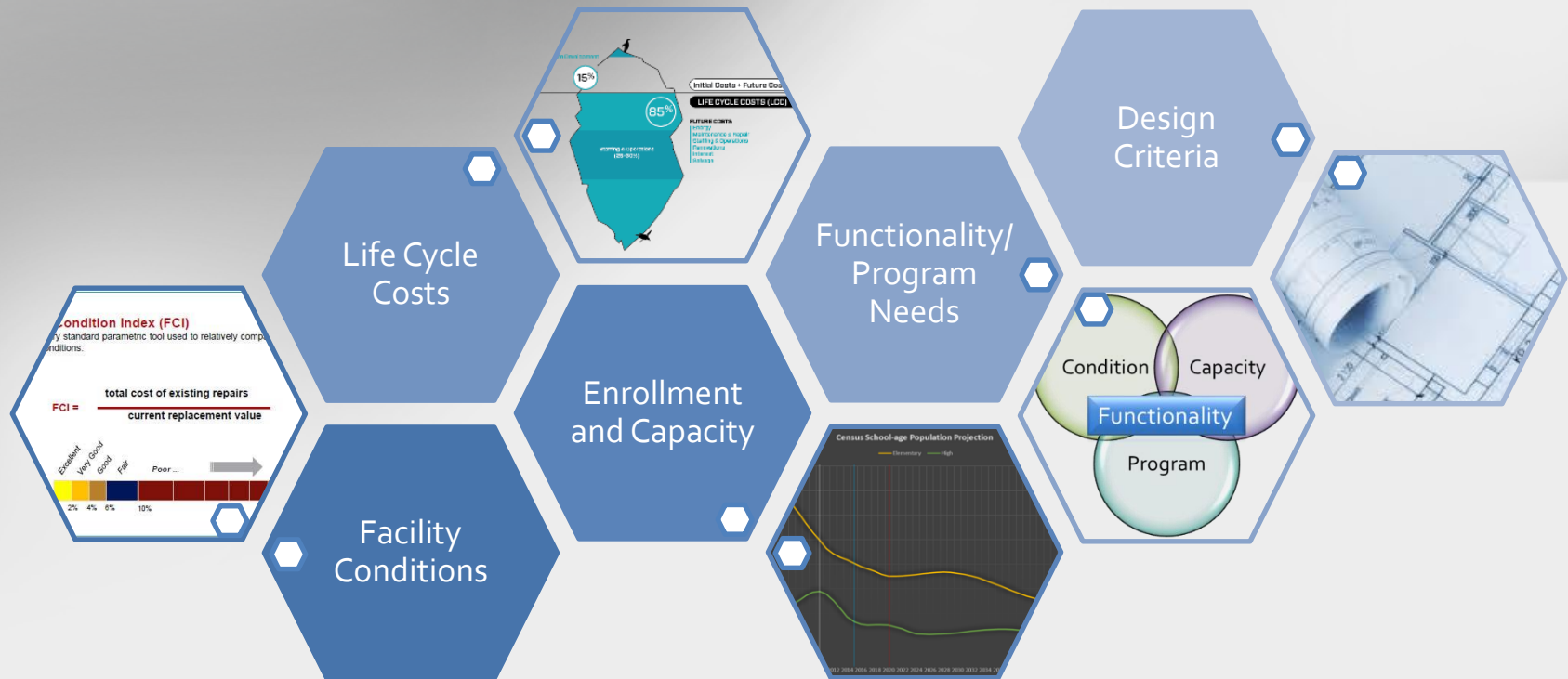
Expected Change

- Considerations for Enrollment Projections
 - Economic change
 - Regional Development / Population Change
 - Inventory Updates(e.g., New/Demolished classrooms)

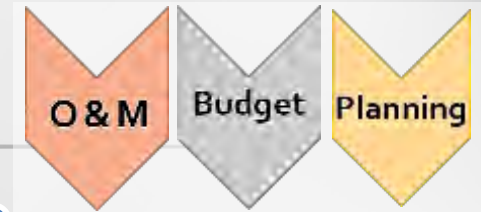


OSP Findings – CAPITAL PLANNING

Key Capital Planning Components



OSP Findings – POSSIBILITIES FOR NEXT STEPS



Year 3

- Maintenance program and related job plans
- Capital planning components (e.g., conditions, capacity, useful life/functionality)

Year 4

- Analysis of staffing configuration; mentor/apprenticeship model
- Trades training (AC, electrical, plumbing)

Year 5

- Asset management benchmarks (performance metrics)
- Document libraries and cross-training (e.g., project delivery and documentation)

QUESTIONS / DISCUSSION / FEEDBACK



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