



January 27, 2020

# PHYSICAL PLANT OPERATIONS Assessment & Roadmap

## Discussion Guide

*Facilitated by:*

- **Maurice L. Woods, Chief Strategy & Operations Officer**
- **Governance Committee (Core): Chief Information Officer; Chief Financial Officer; and Executive Director, Capital Programs**
- **Physical Plant Operations Management Team**

# Agenda

- **Executive Summary**
- Assessment Summary
- Proposed Roadmap
- Appendix

# Broward County Public Schools Physical Plant Operations



**~35 million**  
Sq. Ft. of Space



**~2,098**  
Total Buildings



**~236**  
Number of Schools



**We support Broward County Public  
Schools (BCPS) with < 550**  
Facilities Employees  
(FDOE Guidelines = 945) <sup>(1)</sup>

1) Source: FDOE Maintenance and Operations Administrative Guidelines for School Districts and Community Colleges. Section 6, page 94.

# Case for Change!

Deferred maintenance and aging resources are impacting District's ability to effectively and efficiently balance maintenance and emergency responses.

## ***Vision***

Continuously exceed support and service expectations to collectively empower our students to succeed in tomorrow's world.

## ***Strategic Imperatives***

Improve Data Integrity

Align Budget &  
Expenditures

Enhance Cross-  
department Planning &  
Coordination

# Executive Summary

## Objectives

- Thoroughly assess and understand the Physical Plant Operations (PPO) Department in order to address the business opportunities and challenges
- Develop and propose a coordinated roadmap to continuously improve and realign the department over time

## Assessment

- Involves input from internal analysis and external benchmarking
- Summarizes major risks and issues that may impede improvement efforts
- Identifies the components of sustainable, continuous improvement
- Focuses on core areas necessary to successfully realign a business:
  - People
  - Processes
  - Tools & Systems

## Roadmap (Proposed)

- Methodology involves a phased approach to build out the roadmap
- Captures the dependencies required to implement a multi-year plan
- Identifies critical success factors (CSF's) by area of focus
- Priorities developed in collaboration with leadership team with input from key stakeholders
- Sequence driven by prioritization and dependencies

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# Core Area Assessment Identified Root Causes; Facilitates Prioritization

## People and Organization

- Large number of staff with varying trades/skills expertise
- Large volume of outdated job descriptions; in some instances require minor modification others need refinement
- High, recurring turnover in trades positions; minimal cross-training, development opportunities
- Difficulty recruiting quality personnel
- Outdated zone and trade resource allocation strategy

## Process

- Well-documented standard operating procedures; little evidence that process being followed with fidelity
- Need to work across multiple divisions/departments to improve services and find efficiencies
- Current warehousing and distribution model impeding efficient services; availability, tracking, etc.
- Limited synergies in leveraging cross-zone best practices, resources (i.e., budget, payroll, office clerks, etc.)

## Tools and Systems

- Inability to accurately forecast expenditures; to track and monitor staffing effectiveness
- Minimal transparency of performance at zone and trade levels
- Work Order tracking and monitoring still a manual process; SAP integration challenges
- Complexity: draws from multiple funds and transfer accounts
- Financial reconciliation challenges between PPO and Budget Office; requires frequent interpretations
- Inability to accurately forecast resource needs and expenditures

## Strategy and Culture

- Linkages between department/employee work priorities and strategies are unclear
- Relationship-driven service model results in inconsistencies; leaves customers as winners/losers
- Ongoing feedback and recent organizational comments about performance resulting in employee moral instability
- Tension between old and new employees





## Root Cause to Address

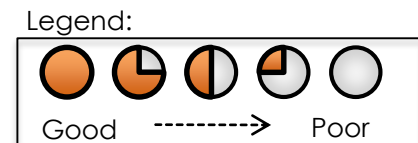
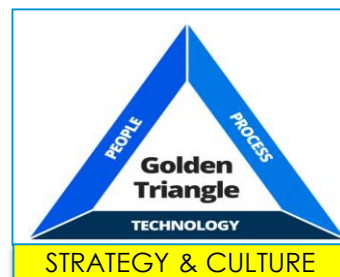
- Unavailability of consistent and reliable data
- Limited budget planning and alignment
- Cross-departmental planning and coordination



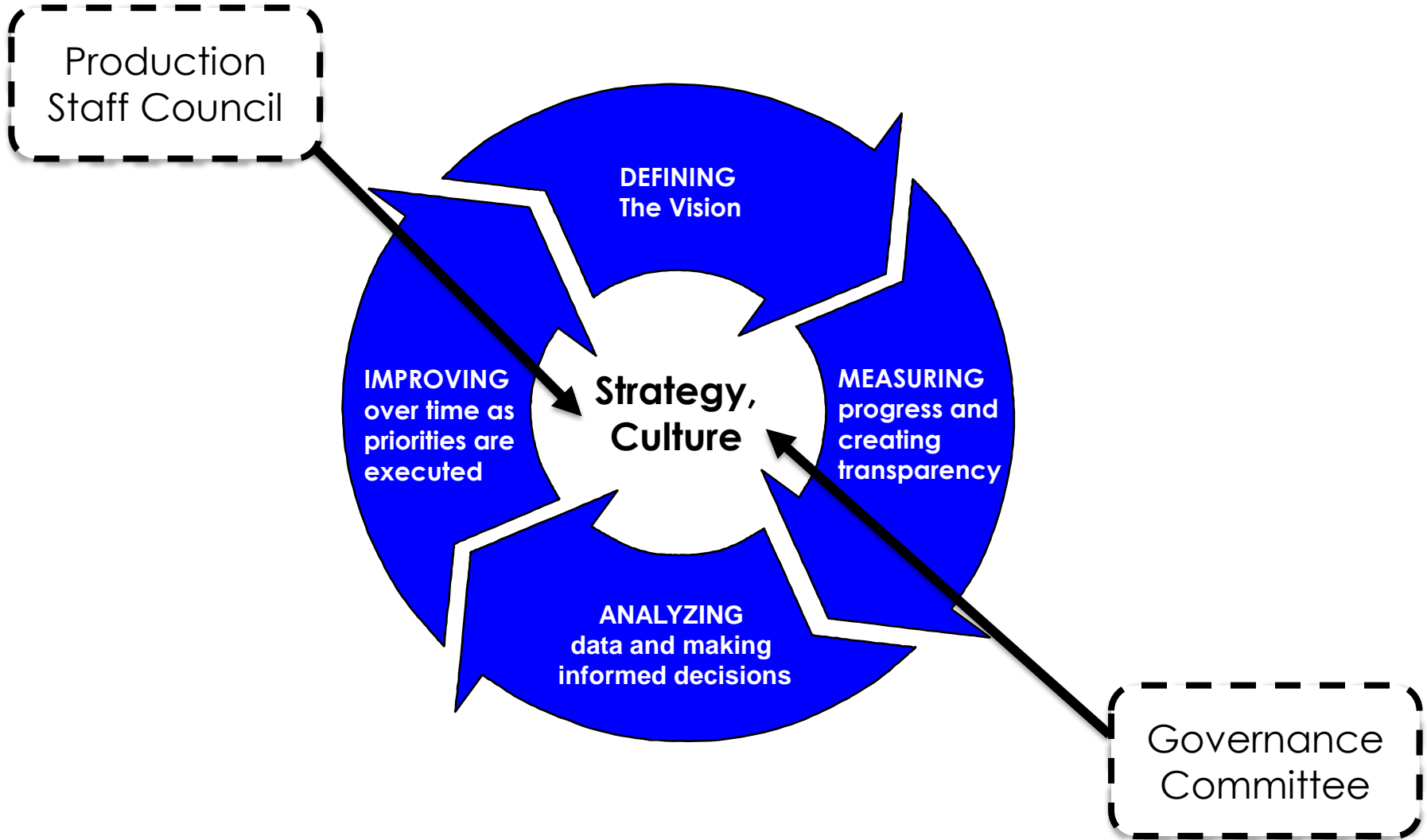
# Core Area Capability Assessment Highlights

## Foundation to Leverage and Areas to Strengthen

Areas of Focus	Status
<b>People &amp; Organization:</b> What knowledge, skills, and behaviors does staff exhibit	
<b>Processes:</b> How staff and cross-departmental teams are working	
<b>Tools &amp; Systems:</b> What supports enhance further productivity and efficiency	
<b>Strategy &amp; Culture:</b> Departments' overall capabilities to achieve strategy	



# Leveraging Existing Foundation—A Continuous Improvement Approach Will Strengthen Gaps

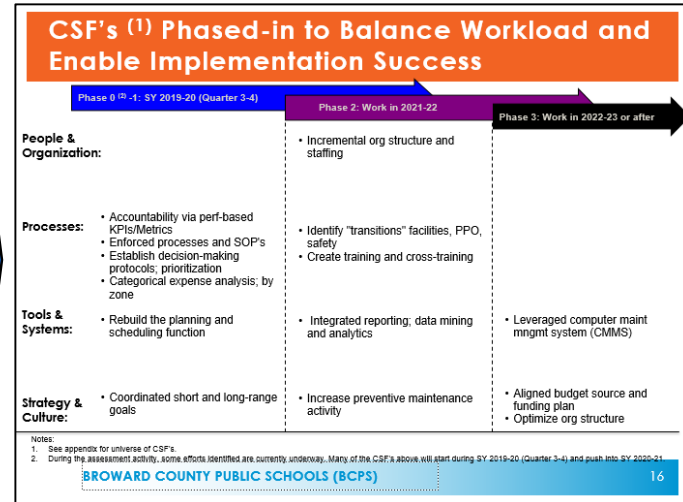


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# Building Momentum Through Immediate Efforts as Multi-Year Roadmap is Developed

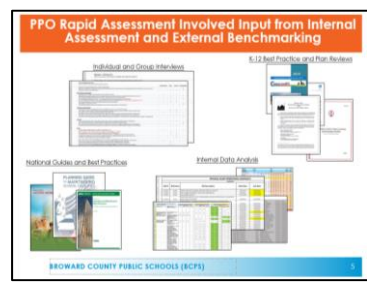
School Year 2019/20 Work-in-Progress	Status
Monitor ongoing customer satisfaction	Not Started
Manage and partner with unions	In Progress
Relationships with production staff/council	In Progress
Align PPO and District vision/strategies	In Progress
Service directory; call list for stakeholders	Not Started
Analyze and expedite current work order backlog; forecast resource requirements	In Progress
Address Maximo implementation	In Progress
Formal, recurring facilities & PPO meetings	Revising
Recurring PPO & finance meetings	In Progress
Enterprise Risk Management planning; update security protocols	Not started
Develop simple dashboard	Not started
Cross-divisional Governance Committee; Cabinet level	In Progress



# Methodology: Phased Work to Build Multi-Year Roadmap

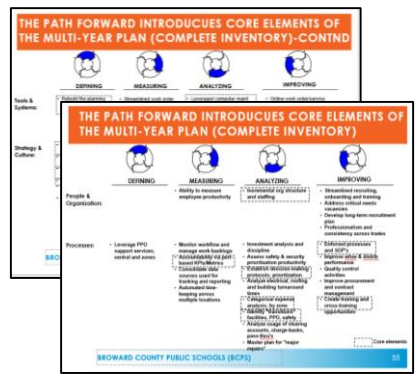
1

Build and synthesize the fact base



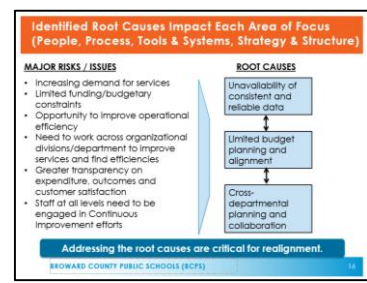
2

Define the components of Continuous Improvement by core Area of Focus



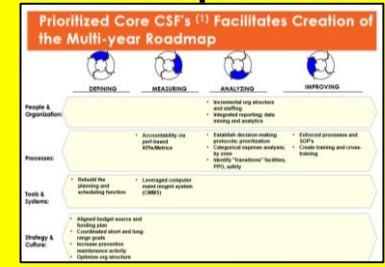
3

Identify major risks/ issues that may impede realignment efforts



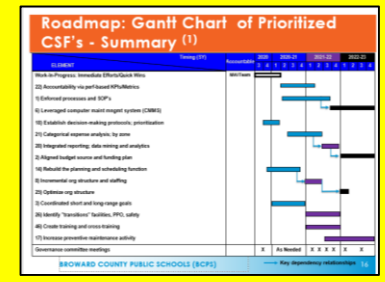
4a

Prioritize CSF's by impact



4b

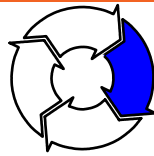
Lay out the roadmap



# Prioritized Core CSF's (1) Facilitates Creation of the Multi-Year Roadmap



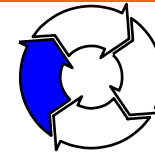
**DEFINING**



**MEASURING**



**ANALYZING**



**IMPROVING**

**People & Organization:**

- Incremental organizational structure and staffing
- Integrated reporting; data mining and analytics

**Processes:**

- Accountability via performance-based KPIs/Metrics
- Establish decision-making protocols; prioritization
- Categorical expense analysis; by zone
- Identify "transitions" facilities, PPO, safety
- Enforced processes and Standard Operating Procedures (SOP's)
- Create training and cross-training

**Tools & Systems:**

- Rebuild the planning and scheduling function
- Leveraged Computer Maintenance Management System (CMMS)

**Strategy & Culture:**

- Aligned budget source and funding plan
- Coordinated short- and long-range goals
- Increase preventive maintenance activity
- Optimize organizational structure

# CSF's (1) Phased-in to Balance Workload and Enable Implementation Success

Phase 0 (2) -1: School Year 2019/20 (Quarter 3-4)

Phase 2: Work in 2021/22

Phase 3: Work in 2022/23 or after

## People & Organization:

- Incremental organizational structure and staffing

## Processes:

- Accountability via performance-based KPIs/Metrics
- Enforced processes and SOP's
- Establish decision-making protocols; prioritization
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## Tools & Systems:

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## Strategy & Culture:

- Coordinated short- and long-range goals

- Increase preventive maintenance activity

- Aligned budget source and funding plan
- Optimize organizational structure

### Notes:

1. See appendix for universe of CSF's.
2. During the assessment activity, some efforts identified are currently underway. Many of the CSF's above will start during School Year (SY) 2019/20 (Quarter 3-4) and push into SY 2020/21.



# HIGHLIGHT: Roadmap of Prioritized CSF's - Summary (1)

Critical Success Factors	Timing (SY)	Area of Focus	19-20		2020-21				2021-22				2022-23			
			3	4	1	2	3	4	1	2	3	4	1	2	3	4
Work-In-Progress: Immediate Efforts/Quick Wins		People														
Incremental organizational structure and staffing		People														
Accountability via performance-based KPIs/metrics		Processes														
Enforced processes and SOP's		Processes														
Establish decision-making protocols; prioritization		Processes														
Categorical expense analysis; by zone		Processes														
Identify "transitions" facilities, PPO, safety		Processes														
Create training and cross-training		Processes														
Rebuild the planning and scheduling function		Tools & Systems														
Integrated reporting; data mining and analytics		Tools & Systems														
Leveraged Computer Maintenance Management System		Tools & Systems														
Coordinated short- and long-range goals		Tools & Systems														
Increase preventive maintenance activity		Strategy & Culture														
Aligned budget source and funding plan		Strategy & Culture														
Optimize organizational structure		Strategy & Culture														
Governance Committee meetings			X		As Needed			X	X	X	X		X		X	
School Board updates			X		X	X		X		X			X		X	

Note: 1) Final Roadmap may incorporate additional details.

# HIGHLIGHT: Preliminary Immediate and Short-Term Resource Requirements

		SY 2019/20	SY 2020/21			
		Q4	Q1	Q2	Q3	Q4
<b>Planning &amp; Scheduling (1)</b>						
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Improved productivity via staff scheduling and dispatching</li> <li>• Repurpose management resources to higher value tasks; improve effectiveness in other roles</li> <li>• Improve zone-by-zone and production categorical work-order monitoring and reporting</li> <li>• Initiate career path; cross training opportunities</li> </ul>					
	<b>Est. Cost/ Resources</b>					
					(\$'s)	FTE's
					Staffing (annual, recurring) (1)	\$480,000 6
					3 months - Temporary Services (one time) – Q4, SY 2019/20 (2)	\$50,000 4-6
					Other	
					<b>Total (3)</b>	<b>\$530,000</b> <b>10-12</b>

Note:

1. Planning & scheduling staffing estimates reflects minimal headcount required to redefine position, role, and responsibilities.
2. Temporary services reflect clerical staff augmentation to manage through existing work-order backlog (data entry) and phone coverage.
3. Funding source: Capital funds.



# Next Steps

- Solicit and incorporate **School Board feedback**
- Ongoing **Governance Committee** meetings
- Formalize **Production Staff Council**
  
- Initiate implementation activities for prioritized CSF's:
  - **Blueprints** for each prioritized CSF
  - **Milestones** to meet proposed timeline
  - Finalize **roadmap** (Gantt charts) based on blueprints; incorporate additional details

Questions?

# THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA

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Dr. Rosalind Osgood, Vice Chair  
Lori Alhadeff  
Robin Bartleman  
Heather P. Brinkworth  
Patricia Good  
Laurie Rich Levinson  
Ann Murray  
Nora Rupert

Robert W. Runcie, Superintendent of Schools

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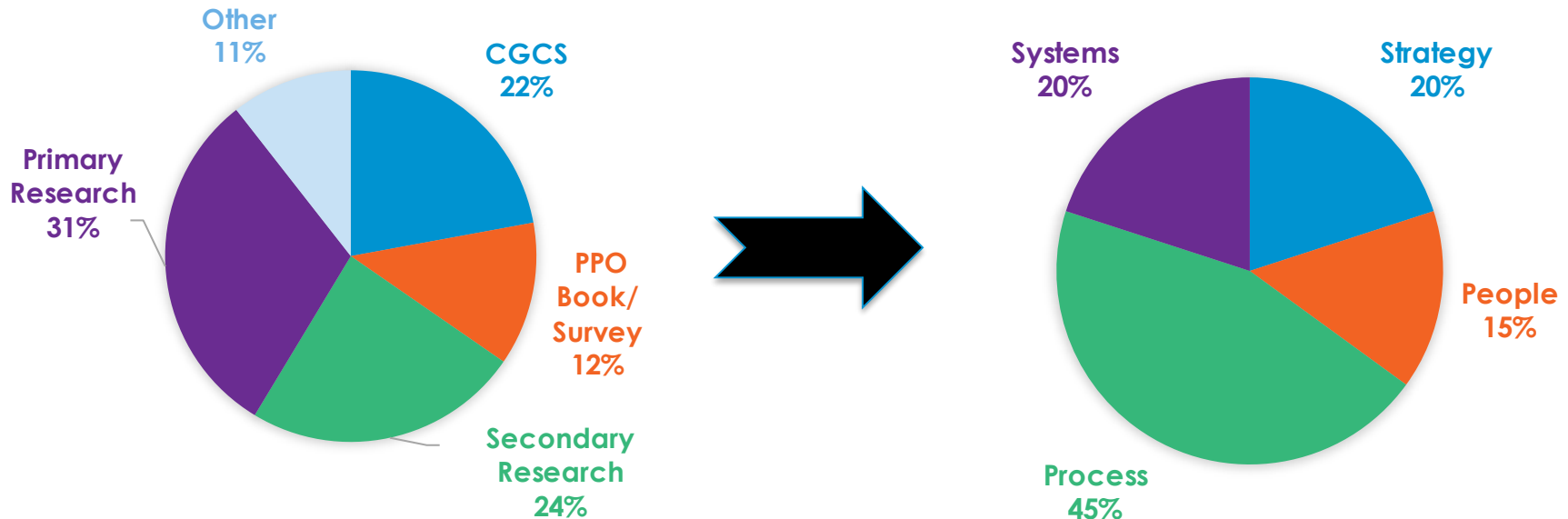


# Appendices: Roadmap CSF's

# Critical Success Factors Analysis

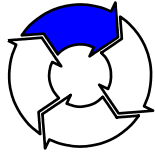
Review of multiple inputs provided a **balanced sources of information** to help identify best practices and drive prioritization efforts...

**Process improvements** involving implementation fidelity and adherence account for the majority of CSF's. Foundation for systems and strategy effectiveness...

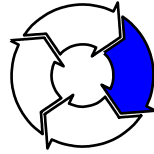


A total of thirty-nine (39) CSF's were identified. The prioritized CSF's were consistent findings across the majority of input sources.

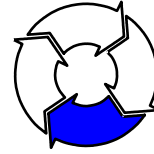
# The Path Forward Introduces Core CSF's of the Multi-Year Plan(Complete Inventory)-



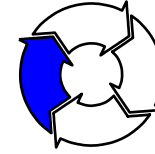
## DEFINING



## MEASURING



## ANALYZING



## IMPROVING

### People & Organization:

- Ability to measure employee productivity

- Incremental organization structure and staffing

- Streamlined recruiting, onboarding and training
- Address critical needs vacancies
- Develop long-term recruitment plan
- Professionalism and consistency across trades

### Processes:

- Leverage PPO support services; central and zones

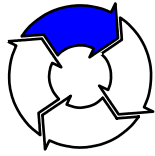
- Monitor workflow and manage work backlogs
- Accountability via perf-based KPIs/Metrics
- Consolidate data sources used for tracking and reporting
- Automated time-keeping across multiple locations

- Investment analysis and discipline
- Assess safety & security prioritization productivity
- Establish decision-making protocols; prioritization
- Analyze electrical, roofing and building turnaround times
- Categorical expense analysis; by zone
- Identify "transitions" facilities, PPO, safety
- Analyze usage of clearing accounts, charge-backs, pass-thru's
- Master plan for "major repairs"

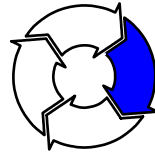
- Enforced processes and SOP's
- Improve warehouse & distribution performance
- Quality control activities
- Improve procurement and contract management
- Create training and cross-training opportunities

Core CSF's

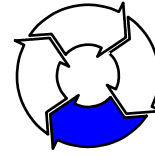
# The Path Forward Introduces Core CSF's of the Multi-Year Plan(Complete Inventory)-continued



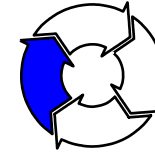
## DEFINING



## MEASURING



## ANALYZING



## IMPROVING

### Tools & Systems:

- Rebuild the planning and scheduling function

- Streamlined work order process/system
- Automated, user-friendly maintenance reporting

- Leveraged computer maint mgmt system (CMMS)
- Integrated reporting; data mining and analytics
- Inventory of assets at all schools; database

- Online work order/service requests

### Strategy & Culture:

- Aligned budget source and funding plan
- Coordinated short- and long-range goals
- Increase preventive maintenance activity
- Optimize org structure
- Goals: short-, medium- and long-term
- Assess large-scale Needs Assessment

- Benchmark of staffing models for other large K-12 districts

- Capital construction resource specialists

Note: 1) CSF's ranked on a scale of 1-4 based on the number of times referenced across the multiple sources. Core CSF's received scores of 3-4.



# Critical Success Factors

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(See separate PDF file)

# Appendices: Tools & Systems

# Root Problems Consistent with Typical Enterprise Asset Management Software Implementations

- Seventy percent (70%) of large Enterprise Asset Management (EAM) initiatives fail in delivering expected benefits and full scope or even to complete the implementation at all
- When EAM programs fall short, it is often because the company has concentrated its efforts on technology upgrades without addressing underlying problems:
  - Processes and procedures
  - Data migration and integration; multiple systems and manual reports
  - Robust training employees well; post-implementation

Implementing change management of this magnitude is a multi-year effort...

Source: PwC - Fulfilling the promise of enterprise asset management.



# Current Status and Next Steps

DEPARTMENT	STATUS/ISSUES	NEXT STEPS
Metrology	Maximo is used to purchase parts; however, due to internal process directions, Remedy is used to manage tickets.	Staff for both Maximo & Remedy working with Metrology to create an automated interaction between both systems.
PPO	Maximo in use for the entry of work orders. However, workflow not completely paperless.	Need to implement (Pilot) Maximo Anywhere mobile capability as well as re-train staff.
Finance	User errors create reactive error log entries as opposed to preferred proactive notification to the user or department.  The purchasing system does work; however, the inability to encumber future anticipated expenses create overdraft errors.	Improve internal processes to result in less error log entries. Consider internal processes and/or system capabilities to notify the department when an entry may need funds held for future work.
Transportation	System in use. System not optimized to minimize user errors (e.g., need Transportation org unit defined separately from PPO). Current limitations with reports create additional work in creating custom reports.	Better internal processes and/or system capabilities, such as bar coding, to remove user error in entering work-order numbers.

# Lessons Learned

## **Change Management**

- Innovators and Early Adopters should be identified
- Project should have phasing with defined milestones
- Need structure for sharing of best practices

## **Project Management**

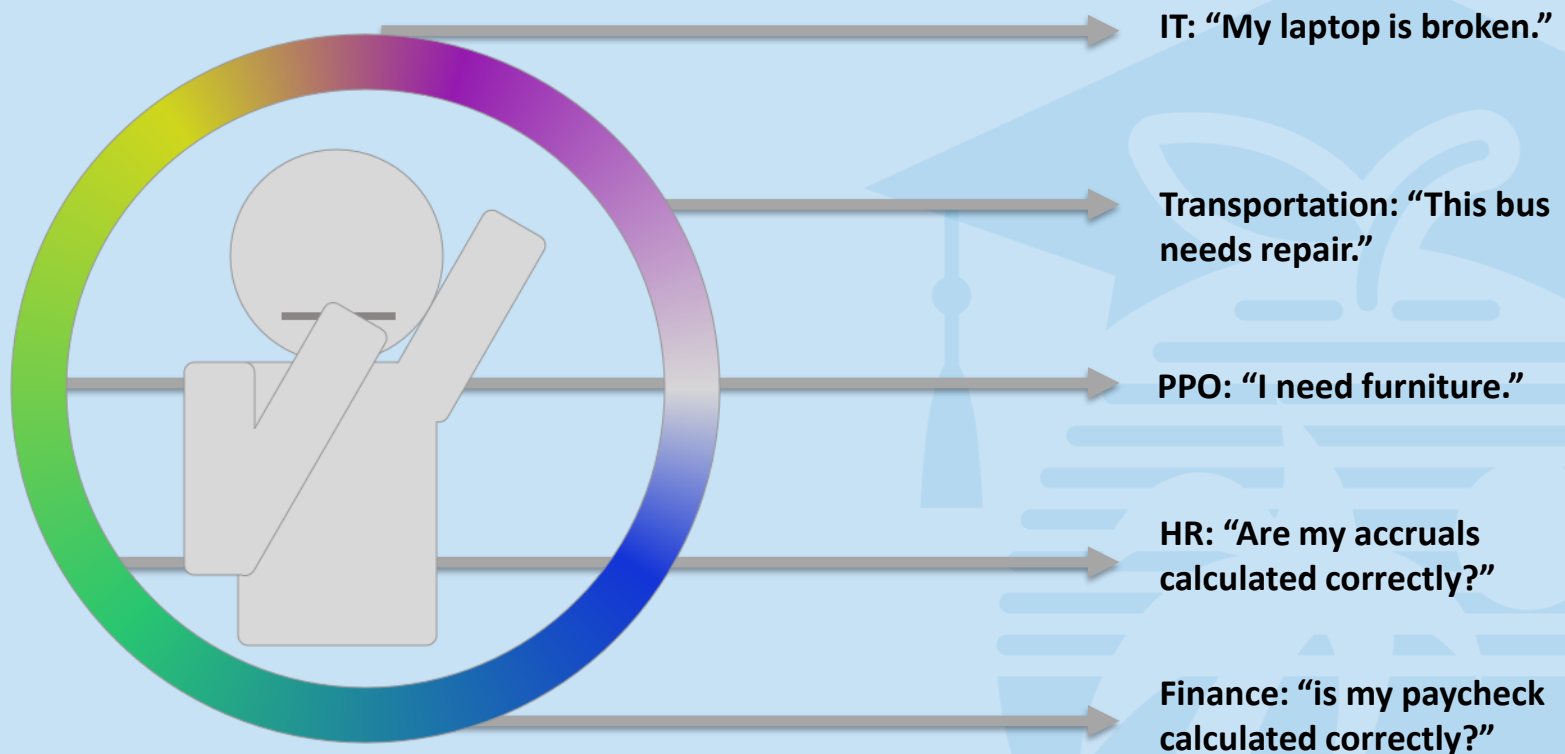
- Need clear business process documentation
- Better leverage external partners' knowledge of industry best practices
- Clearly define user acceptance testing (UAT) process

## **Governance**

- Clearly identify accountable champion and responsible parties
- Clearly define advisory structures
- Define clear feedback and change order process

# Vision: Centralized BCPS Operations Support

Where do our Stakeholders go to get help?

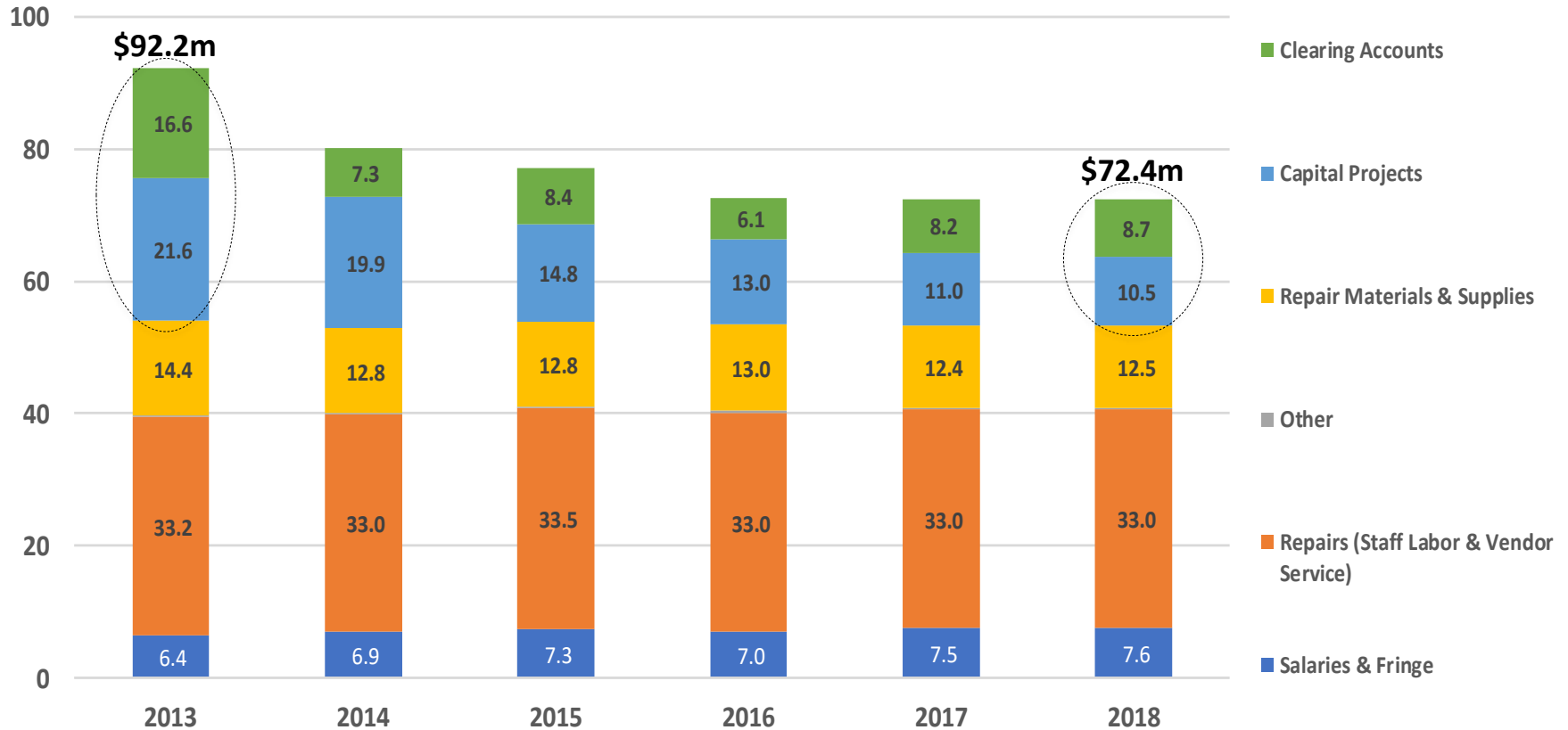


How do our stakeholders feel, overall, about our ability to support them? How do we create ONE point of support for all BCPS stakeholders with ONE system of record?

# Historical Review of Budget by Object

## Highlights Complexity

PPO Budget, Operating + Capital, by Object  
excluding Capital for Hurricane Irma Recovery (\$18m, 2018)  
 (\$ Millions)

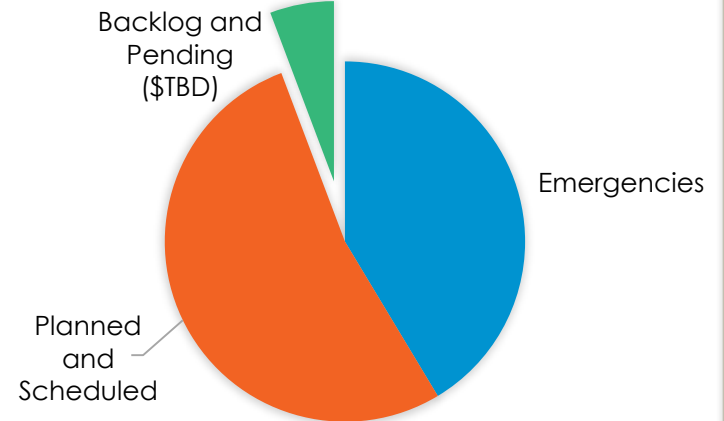
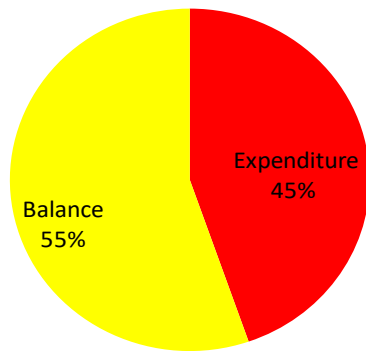


Source: PPO Finance

# SPOTLIGHT: Recent Progress in “Right-Sizing” PPO Budget but Need to Address Documented Budget

Category	General Fund Budget for FY 2020 As of 12/02/2019			
	Appropriations	Commitments	Expenditures	Balance
General Fund Sub Total	71,906,888	-	32,065,847	39,841,041
<i>Capital Fund Budget As Of 12/02/2019</i>				
Category	Appropriations	Commitment	Expenditure	Balance
Capital Fund Salary Total	2,464,220		1,173,602	1,290,618
<b>Grand Total</b>	<b>74,371,108</b>	<b>-</b>	<b>33,239,450</b>	<b>41,131,658</b>

Total Budget for FY 2020



Source: Capital Budget Department. As-of 12/2/19.