



AIA
Lubbock

Provider No.: A197

Leveraging Data and Strategic Alignment for Facility Renewal Planning

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Course Description

The Facility Renewal Program (FRP) was created to prioritize infrastructure and aesthetic conditions needs for strategic renewal and replacement. The FRP was designed to **capitalize on the knowledge base of in-house facilities staff** and the expertise of our **Facility Condition Assessment (FCA) consultant**. This program includes identification of existing and anticipated lifecycle infrastructure deficiencies in addition to aesthetic renewal projects. The **consolidation of information from various sources into a single program** has allowed the facilities division to make improved decisions on project prioritization and resource allocations. It will also provide a platform to substantiate future infrastructure requirements and funding needs. An effective program will not only operationally **extend the life of MD Anderson Cancer Center facilities** but also minimize disruption in space utilization and equipment downtime.



Learning Objectives

At the end of the this course, participants will be able to:

1. Analysis - Emphasis on the type of analysis that should take place when prioritizing facilities needs.
2. Planning - Learn how to build the components of a facilities renewal program and allow for recalibration as institutional goals change.
3. Formulate - Based on institutional objectives and relevant facilities data a complete facility renewal plan can be prepared.
4. Implement - Execute and measure the plan effectiveness.



Contents

1 STATE OF AFFAIRS

3 EXECUTION OF PLAN

2 PROGRAM DEVELOPMENT

4 FUTURE IMPROVEMENTS

Facility Renewal Program - To define a process that enables MD Anderson Facilities to assess, identify, and prioritize infrastructure and aesthetic conditions for strategic renewal and replacement on a multi-year cycle.

STATE OF AFFAIRS

Current State



Space Data

01



15 Million Gross Square Feet

02



3 Mission areas 5 Campuses

Administrative, Research, and Patient Care Buildings

03

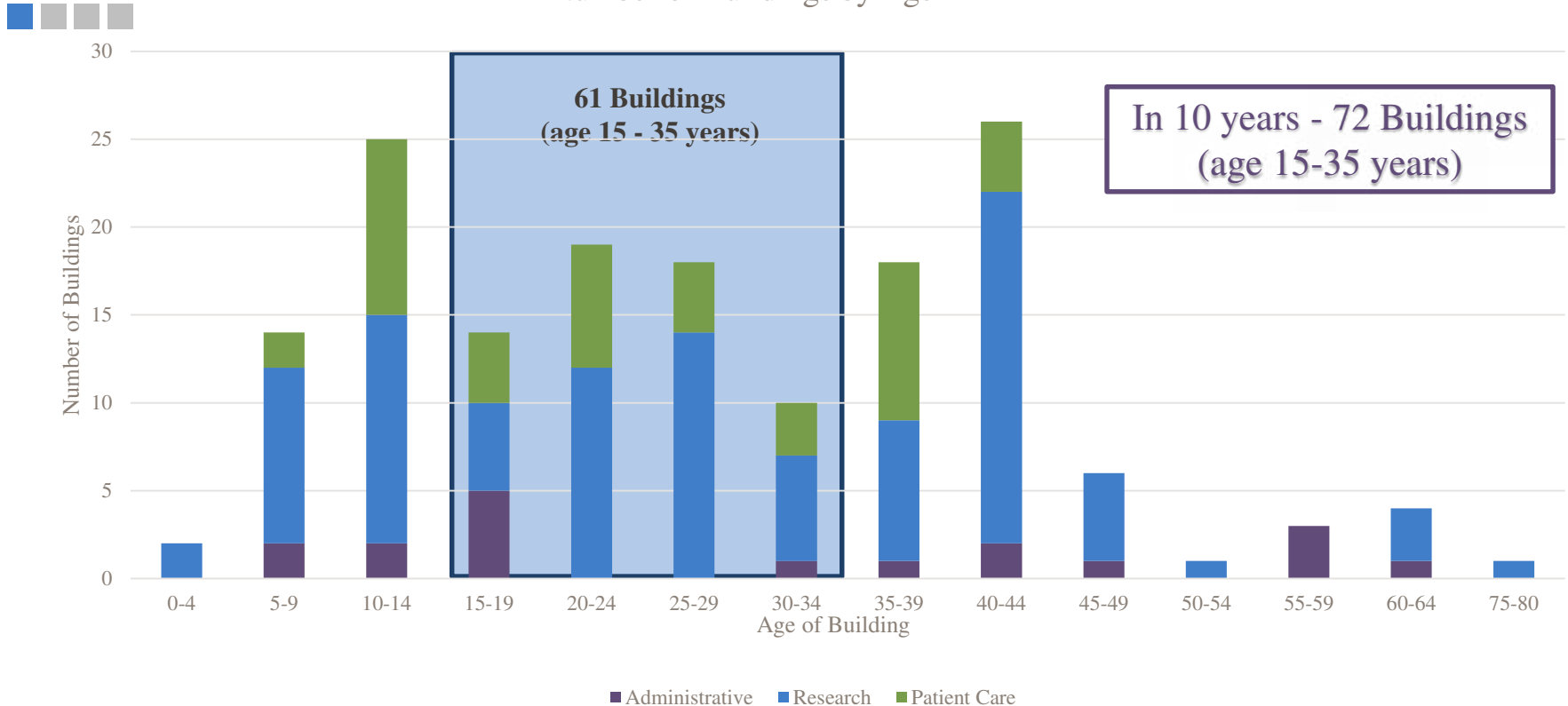


140+ Buildings

Includes all spaces managed by MDACC.

Current State

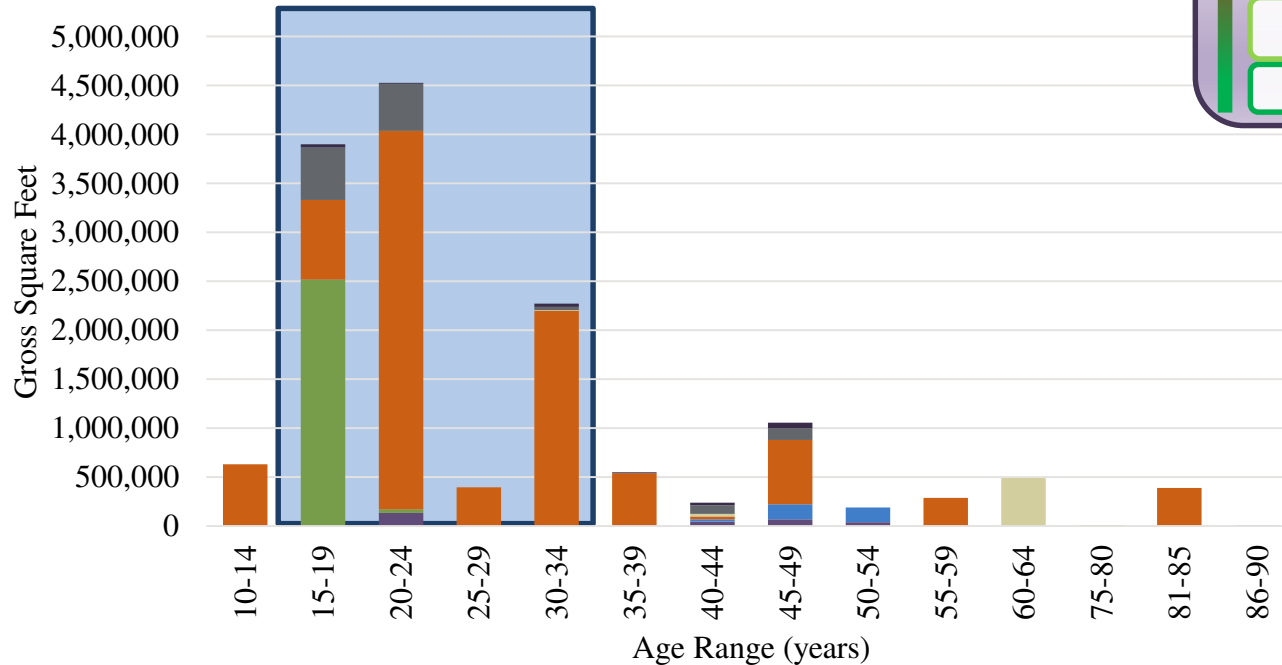
Number of Buildings by Age



In 10 Years



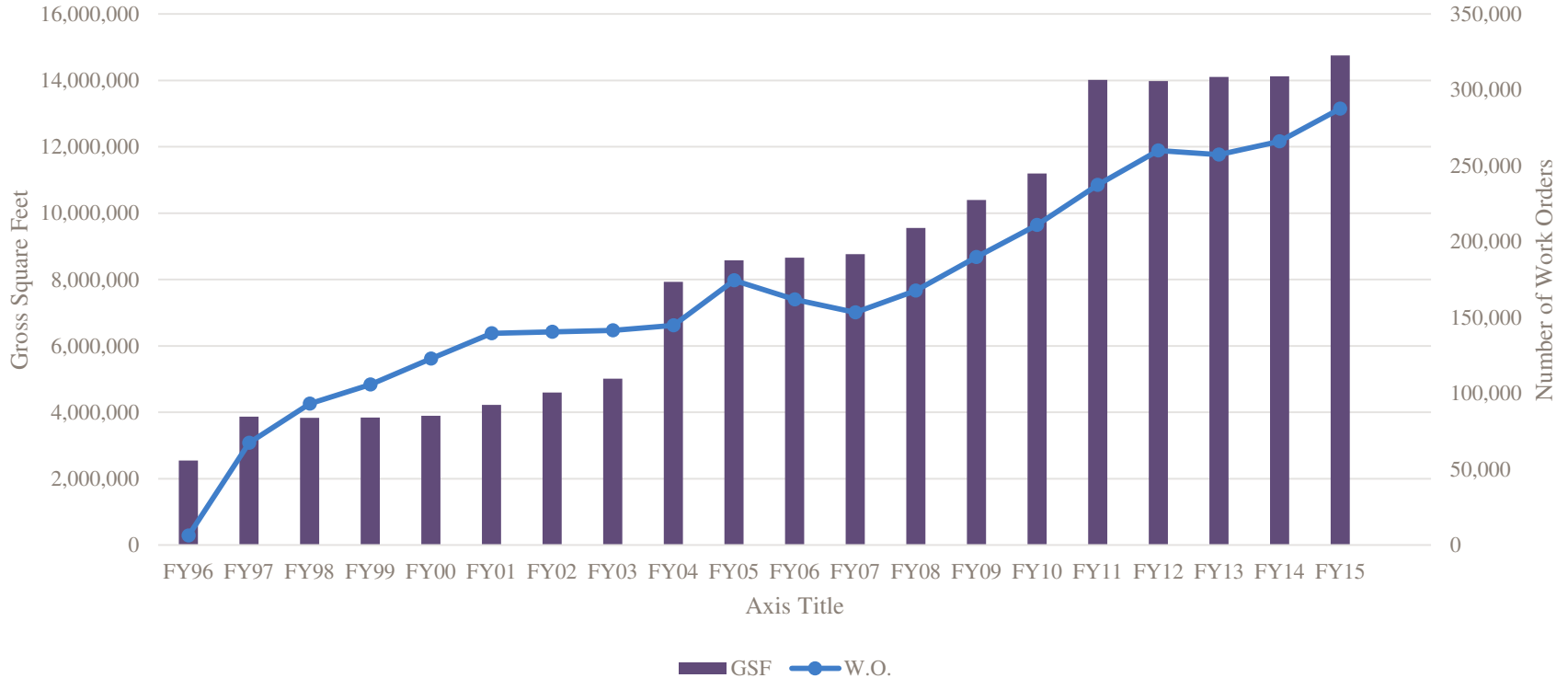
11.2 million ft²
(aged 15 - 35 years)



- Buildings over 50 – Highest Risk**
Life cycles of major building components are past due. Failures are possible.
- Buildings 25 to 50 – Higher Risk**
Major envelope and mechanical life cycles come due.
- Buildings 10 to 25 – Medium Risk**
Short life-cycle needs; primarily space renewal.
- Buildings Under 10 – Low Risk**
Little work. "Honeymoon" period.

- Smithville
- Houston - South Campus
- Houston - Off Campus
- Houston - North Campus
- Houston - Mid Campus
- Houston - East Campus
- Bastrop

GSF and Work Orders

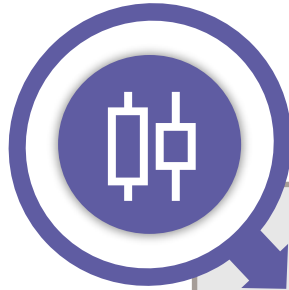


Facility Management's Pain Points



Conflicting Priorities

Various projects with inconsistent alignment to institutional objectives.



Instability in Budget Process

Budget was difficult to project and was volatile.



Lack of Resource Planning

Difficult to plan for human resource needs.



Reactive Approach

React to equipment to failure or next big emergency.



PROGRAM DEVELOPMENT

Program Development - Objectives



Proactive

Strategically forecast future funding needs. FCA.



Efficiency

Efficiently utilize resources.



Performance

Data driven. Monitor and track performance.



Aesthetics

Modernize existing spaces.



Prioritize

Have a means to target critical needs and systems.



Evolve

Management processes need to evolve.



Stewardship

Facility stewardship as a core value.



Program Development - Stakeholders



SPACE PLANNING

Aesthetics
Master Planning

OPERATIONS AND MAINTENANCE

Engineering
EH&S
Front Line Staff

PROJECT MANAGEMENT

Project Managers
Project Data Personnel

LEADERSHIP

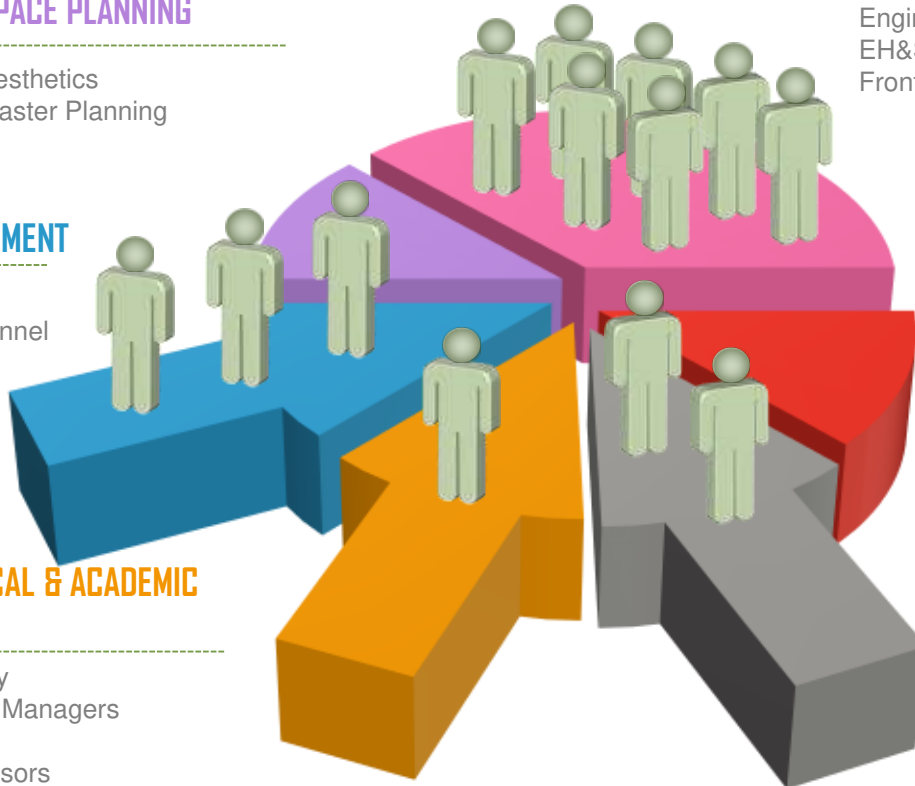
Commitment from all levels
on program development and
execution.

CLINICAL & ACADEMIC STAFF

Faculty
Nurse Managers
CAD's
Professors
Researcher Leadership

CONSULTANTS

Master Planning,
Engineering Studies, FCA



Facilities Renewal Components

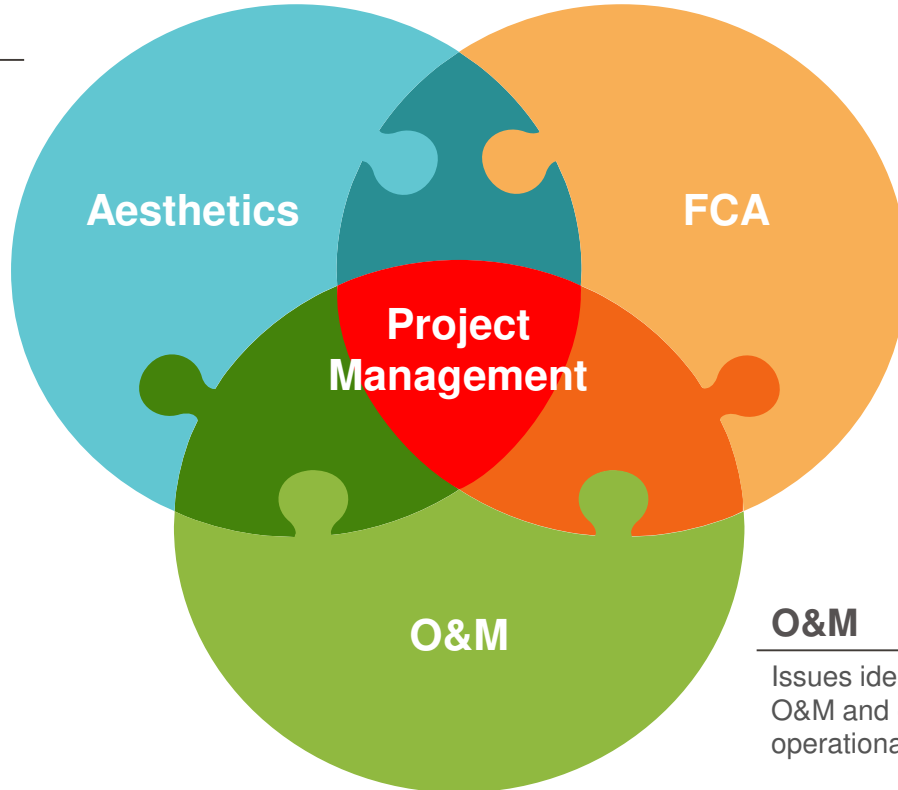


Aesthetics

Aesthetically refresh spaces, surveys, furniture

FCA

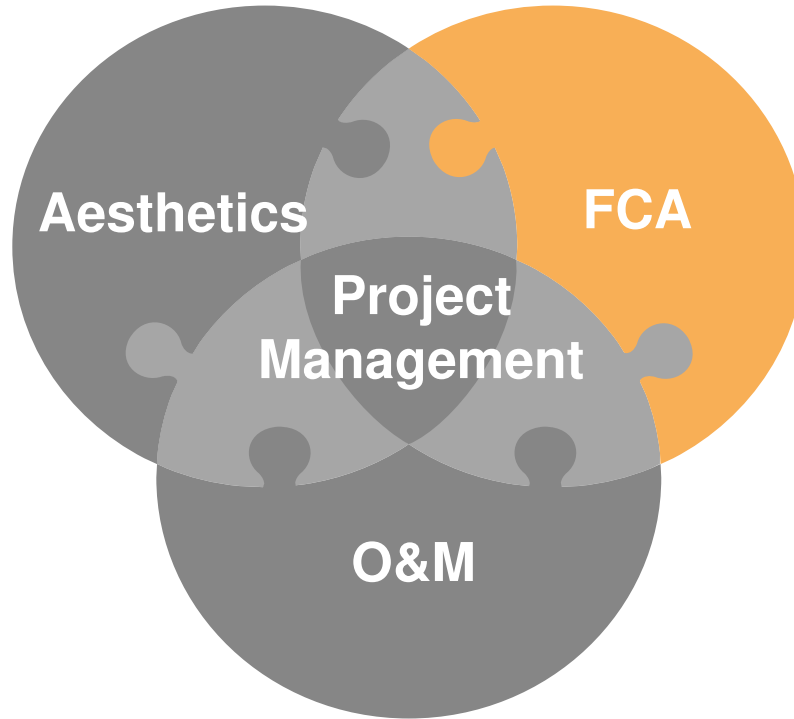
Facilities Condition Assessment



O&M

Issues identified by O&M and other operational groups.

Facility Condition Assessment



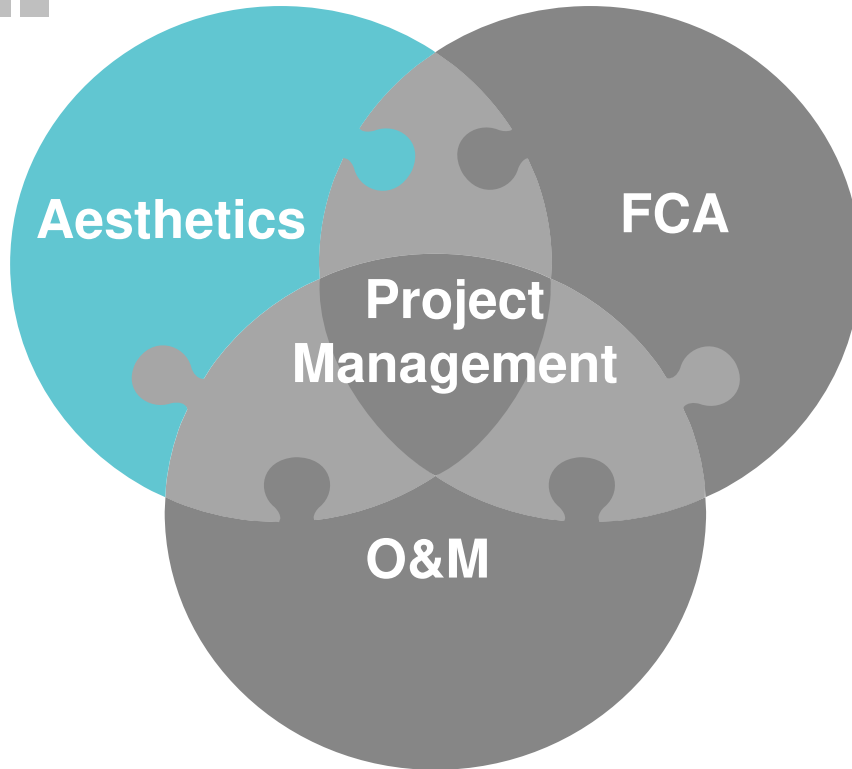
FCA Components

- Scope of work
- Data required for FCA
- Process for conducting an FCA
- Milestones and timeline
- Taking action on FCA report
- Pilot FCA
- Lessons Learned

FCA Data Requirements



Aesthetics Renewal



Aesthetics Components

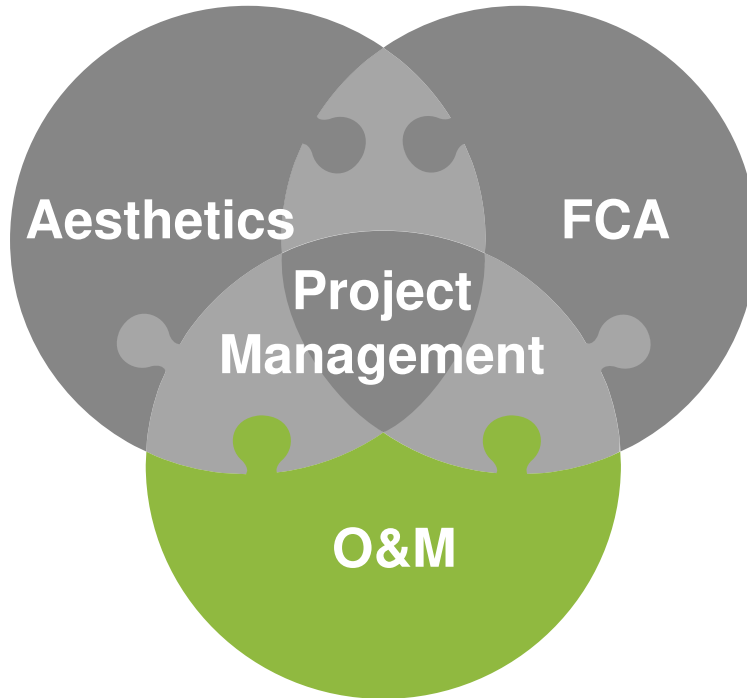
- Aesthetics renewal assessment process
- Process to utilize project database for aesthetics
- Established frequency of assessments based on space type
- Developed a matrix to evaluate aesthetics

Aesthetics Renewal Condition Assessment



Building:		building name	Assessed by:	Team Participants						By Item	By Category %
Area:		zone / clinic or dept name	Date:	date							
Level:		floor level									
Art/Installations		Includes: Displays, Art Program pieces, Wayfinding, Exhibits, Kiosks, Monuments/Plaques, Statues/Busts, etc.									5%
Great - No Action	1									0	
Minor Infractions	2	Missing artwork, space needs artwork, no asset tag, crooked, inaccurate, dirty								33.3	
Repair	3	Minor scratches, torn fabric, damaged base, moderate surface damage, chipped edges, marred								66.6	
Replace	4	Cracked glass, broken/chipped frames, outdated standard, no longer relevant,								100	
Ceilings		Includes: hard, tile/grid, fabric, metal, suspended/specialty. Also, building systems: speaker, life safety, sensor, HVAC									10%
Great - No Action	1									0	
Minor Infractions	2	Not significant damage or modification needed for project consideration, but needs attention								33.3	
Repair	3	One or more components have damage or need repairs								66.6	
Replace	4	More than 2 ceiling surfaces or greater than 1/3 of single component are visibly damaged or detracting								100	
Doors		Includes: sliding, automatic, laminate, hollow metal,									10%
Great - No Action	1									0	
Minor Infractions	2	Inoperable or missing closer, paint touch up, dirty,								33.3	
Repair	3	Chipped laminate, damaged kick plates, damage indicates adding door protection								66.6	
Replace	4	Door doesn't fit frame, thresholds damaged to be safety hazard, H/W difficult to operate, cracked glass, overall poor condit								100	
Floors/Base		Includes: rolled carpet, carpet tiles, vinyl tiles, rolled vinyl, concrete, terrazzo, ceramic tile									15%
Great - No Action	1									0	
Minor Infractions	2	Loose, snagged, damaged base, dirty but cleanable, threshold, mismatched pattern, single seams								33.3	
Repair	3	Intersections or bordering areas mismatched, product appearance or sections need attention, minor grout issues								66.6	
Replace	4	Mat1 non-compliant with use, significant wear, stains, broken tiles, missing/stained grout, tears/seams in vinyl, scratched or chipped terrazzo/ceramic tile								100	
Furnishings		Includes: Public/Patient area furnishings, podiums, reception/information/security custom built, institution accessories									20%
Great - No Action	1									0	
Minor Infractions	2	Dirty/soiled piece, layout incorrect, hallway obstructions, simple wood repair (sand/touch up finish)								33.3	
Repair	3	Stains on several pieces, cushions deteriorating, worn upholstery, refinish wood, functional feature malfunctions								66.6	
Replace	4	Broken frames, unlevelled pieces, bent metal frames, pattern to upholstery wear/tears/stains, layout doesn't support area								100	
Lighting											5%
Great - No Action	1									0	
Exists/Work Order	2	Bulbs out, switch plate cracked, loose fixture, cobwebs/dust, sensor not working								33.3	
Repair	3	Noisy fixtures, electrical reactions. [MEP assessment will know technical issues]								66.6	
Replace	4	Pattern of consistent wear, discoloration, does not function for space, obsolete fixtures								100	
Millwork		Includes: custom built, installed pieces and their openings, backsplashes, doors, drawers, hardware, top surfaces									15%
Great - No Action	1									0	
Minor Infractions	2	Dirty, marks, loose hardware								33.3	
Repair	3	Significant issue with hardware, mismatched finishes in space, scratches, missing caulk, feature issues								66.6	
Replace	4	Missing/chipped laminate or hard surface, cracks, feature broken/inoperable								100	
Walls											15%
Great - No Action	1									0	
Minor Infractions	2	Less than 3 patch/paint items, wall protection needs repair or dirty, stains, hanging accessories non-compliant								33.3	
Repair	3	Patch/paint on 3 or more walls, consistent damage or non-compliant accessories, vinyl tears/holes, visual clutter/life safet								66.6	
Replace	4	Water damage apparent, surface damaged beyond repair, accessories obsolete, surface non-compliant for area use								100	
Window Treatment											5%
Great - No Action	1									0	
Minor Infractions	2	broken chain, treatment dirty, window glass dirty or frame/mullion dirty, wand broken								33.3	
Repair	3	Electrical systems won't sync, shades removed/down, crooked on roller, jammed, blackout/overlay issues, tears/mismatched seams on appliess mat1								66.6	
Replace	4	No longer appropriate for space, new standard, more than 1/4 damaged/inoperable or 1/4 applied mat1 damaged								100	
PRIORITIZATION SCORE											100%

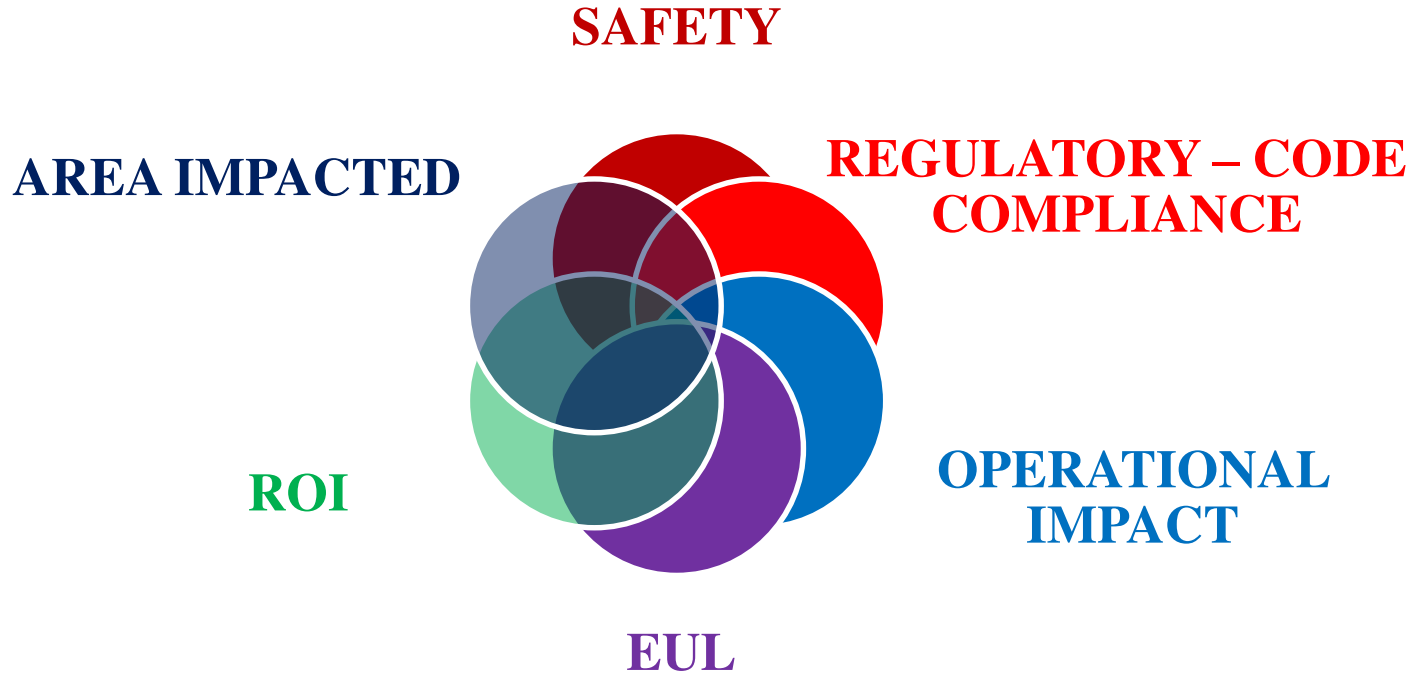
Operations and Maintenance



O&M Components

- Process to handle the needs from operational groups
- Developed Matrix for evaluating requests or deficiencies
- Method to track O&M needs and engineering assessments
- Utilize asset data for decision making

Evaluation Matrix Criteria



AREA IMPACTED

SAFETY

**REGULATORY – CODE
COMPLIANCE**

ROI

**OPERATIONAL
IMPACT**

EUL

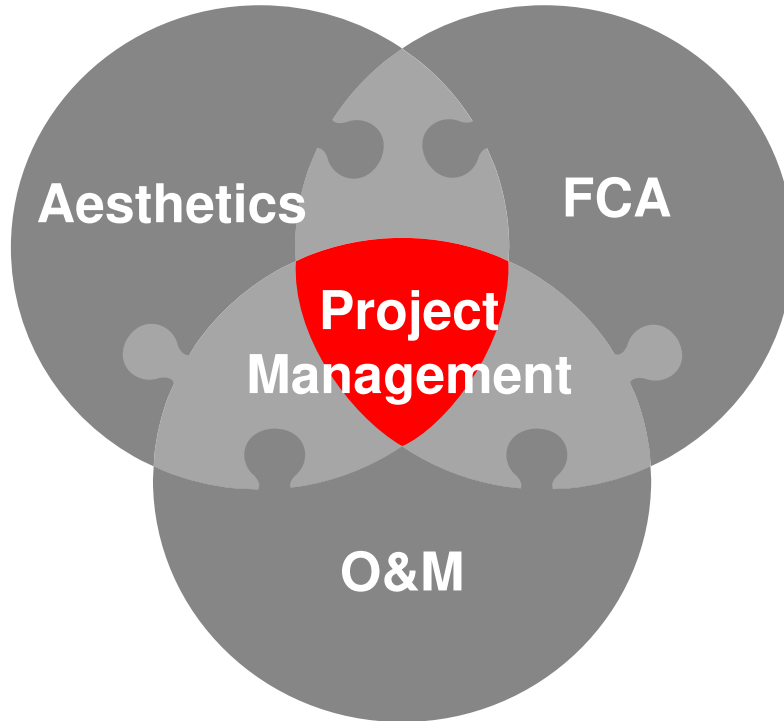
Prioritization



Utilized to effectively score competing priorities for available funding

CRR/FRM Facilities Renewal Prioritization Matrix		
Date:	6-Oct-16	Task No: 18023
Evaluator	Steve Sutor	Task Name: Exhaust System for G12 Rooms Not in Compliance with ASHRAE
Safety	3	<---Select the number that best fits the task as noted in each category
	1	No risk of harm, injury or loss of individuals, animals and/or property
Regulatory	3	
		No direct impact to site operations. Equipment is supported with backup power and redundant equipment is in place.
Operational Impact	1	
	1	N/A. Zero years or 5+ year payback
	2	3-5 year payback
	3	< 3 years payback
Area Impacted or Served	4	
	1	Unoccupied space (i.e. mechanical space, vacated space)
	2	Administrative space
	3	General research or clinical support space
	4	Direct patient care and mission critical space (i.e. waiting room, exam room, OR, vivarium, Data Center)
Prioritization Score	89	
Area Impacted or Served	4	services it's intended purpose.
	3	General research or clinical support space
	4	Direct patient care and mission critical space (i.e. waiting room, exam room, OR, vivarium, Data Center)
Prioritization Score	89	

Project Management







Project database

- Intake method for aesthetics, FCA deficiencies, O&M capital needs
- Identify method to track future projects

EXECUTION OF PLAN

Execution of Plan

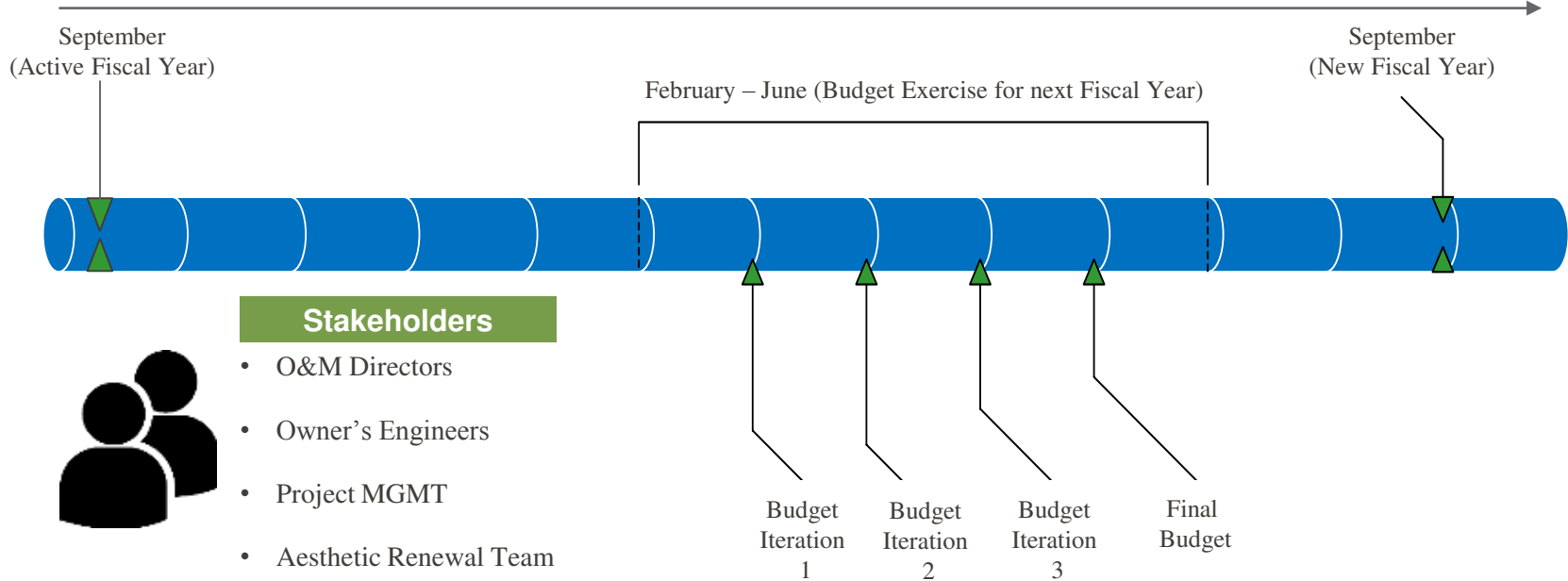


Project Scoring	Facility Condition Assessment (FCA)	Budget/Project Analysis	Execution Plan
<ul style="list-style-type: none"> • Every project is scored on a 100 pt. scale • Projects range between MEP infrastructure, Aesthetic, EH&S and Energy Efficient needs 	<ul style="list-style-type: none"> • Study provides recommended immediate “Do Now” and life-cycle needs w/ respective budgets • Validate annual needs of report and insert request into Facility Renewal Database 	<ul style="list-style-type: none"> • Validate project intentions (scope & budget) • Normalize project scores between mission groups • Create Sensitivity Model • Project ranks & efficient frontiers • Carry-over cost analysis 	<ul style="list-style-type: none"> • Provides a roadmap on how projects will be rolled out throughout the FY • Set expectations upfront – Validated list of projects, kick-off dates, high-level schedule, Int./Ext. AE resources, PM resources
<div style="text-align: center;">  <p>Providing a level playing field across different O&M MGMT teams</p> </div>	<div style="text-align: center;">  <p>Complements O&M internal generated projects and provides a baseline need per building</p> </div>	<div style="text-align: center;">  <p>Drive recommendations by leveraging Data</p> </div>	<div style="text-align: center;">  <p>Roadmap to a successful project year</p> </div>

Annual Budget Exercise

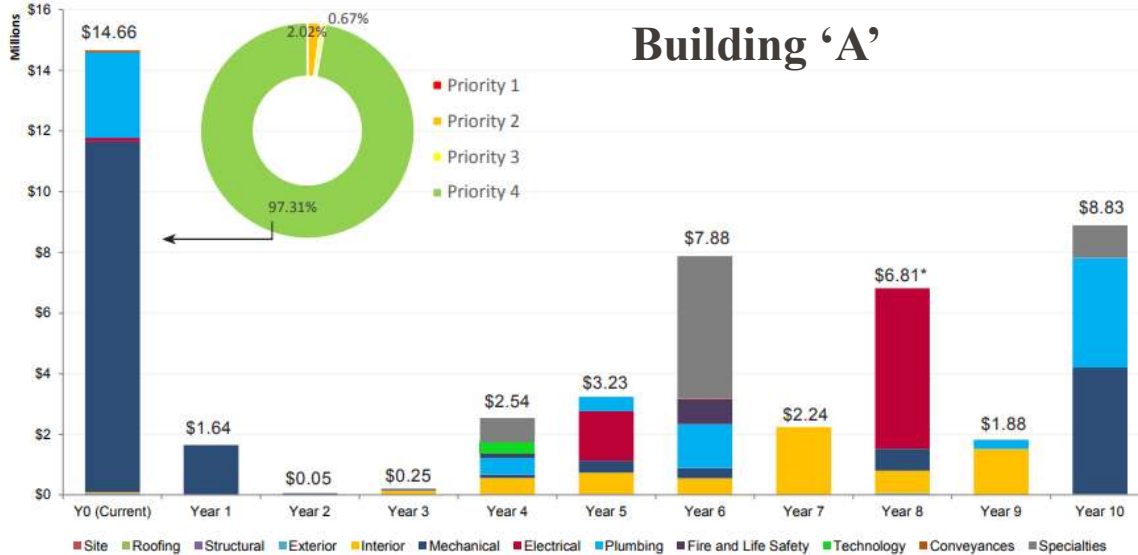


Working on Active Projects



Budget Iteration Process is a Transparent Process where each Stakeholder understands their Peer Needs (Project & Financial Based)

Facility Condition Assessments

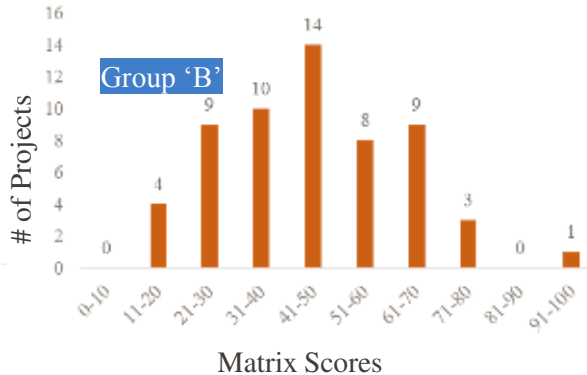
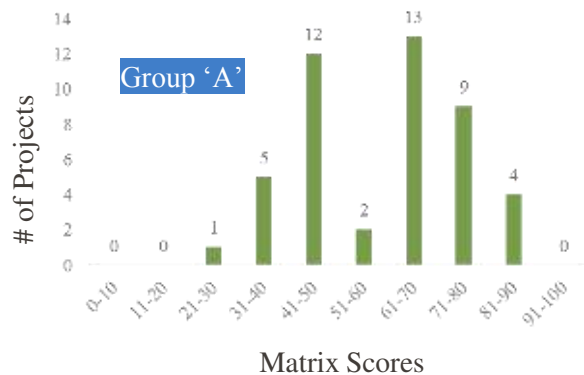
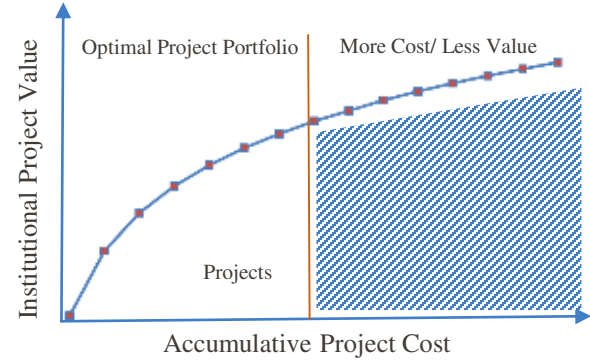
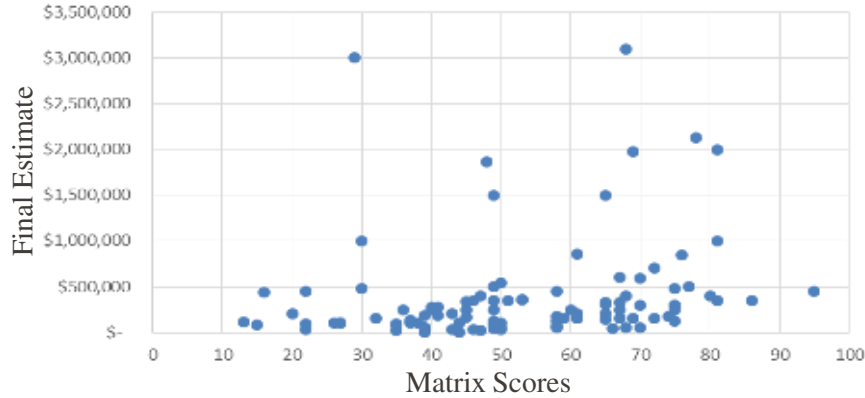


Feeds Project Candidates for a given FY

(Supplements O&M operational needs)

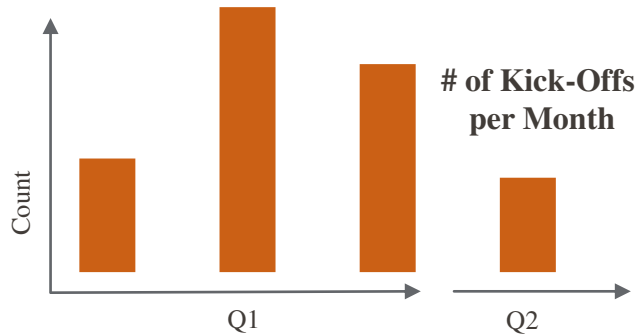
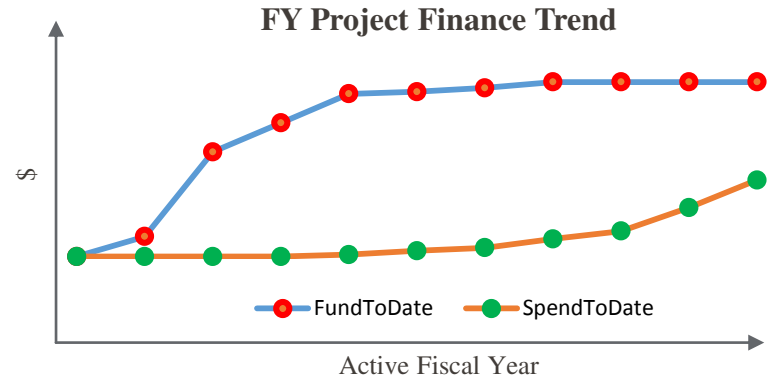
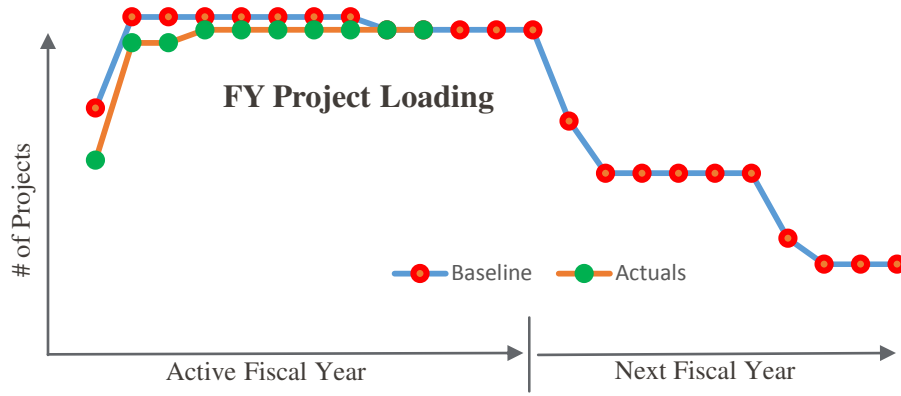
Per Assessment - Leverage Both Immediate & General Life Cycle Needs

Budget Analysis



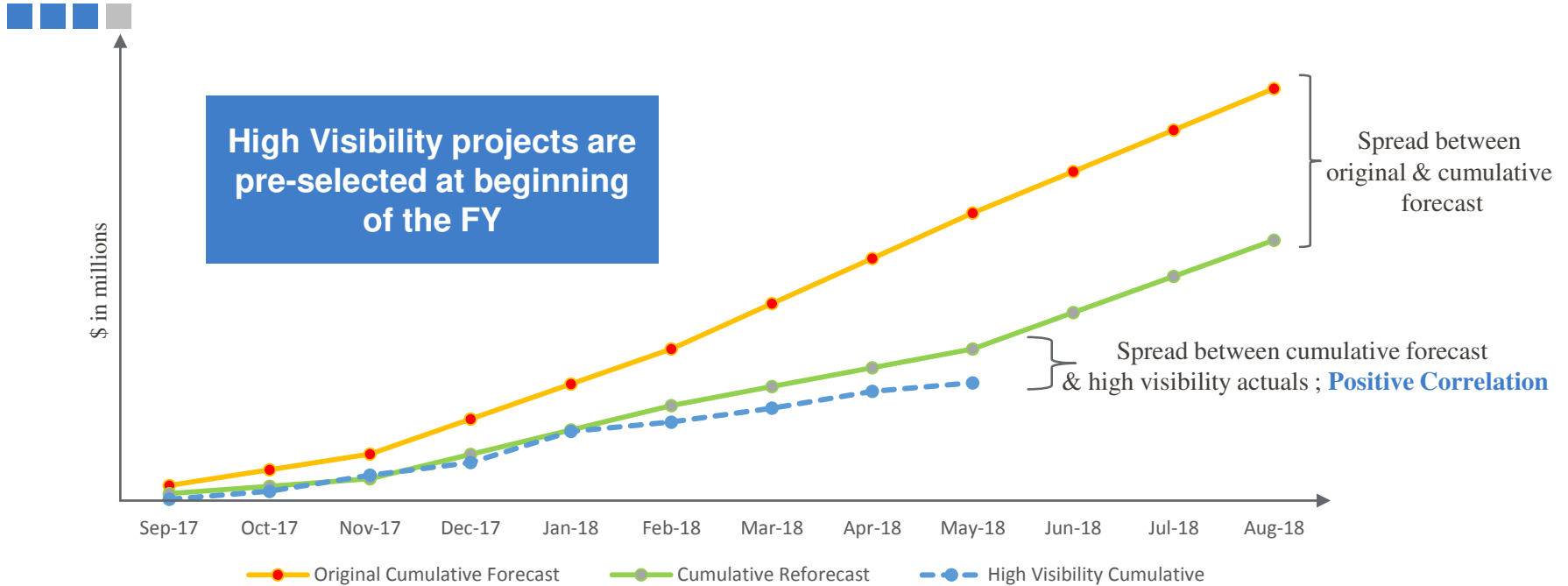
Data analysis allows transparency and fair educated decisions among the various FM stakeholders with how the project portfolio is being put together

Execution Plan – Project Portfolio Sub-set



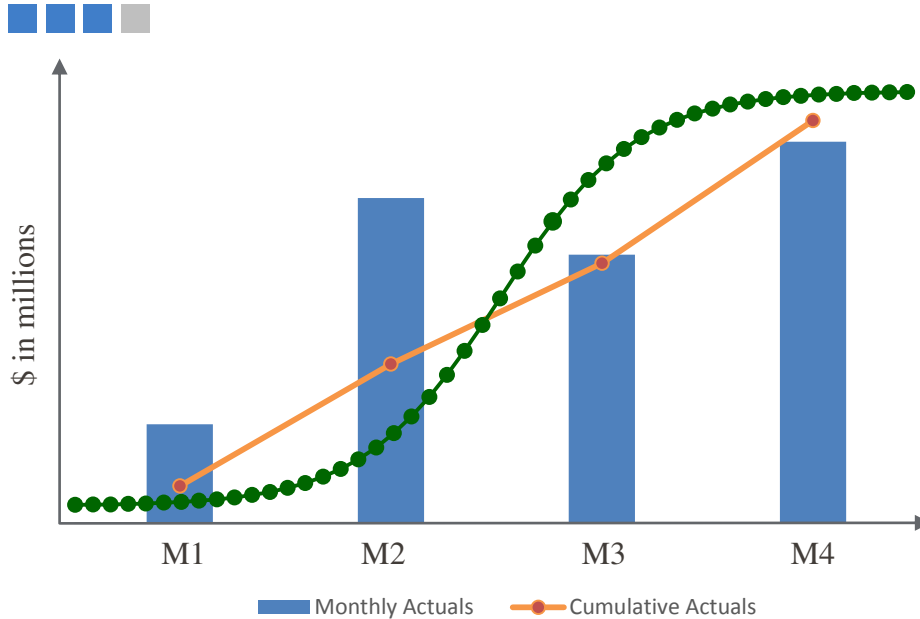
- Strategic kick-off dates
- Establish PM Resources upfront per current workload & strengths
- Create project schedule templates (6, 12, 18 months)
- Establish internal/external Design resources
- Monitor financial trends for a sub-set of projects

Execution Plan - Project Portfolio Sub-set



Analyze top projected expenditure projects for the fiscal year

Project Portfolio Spend Forecasting

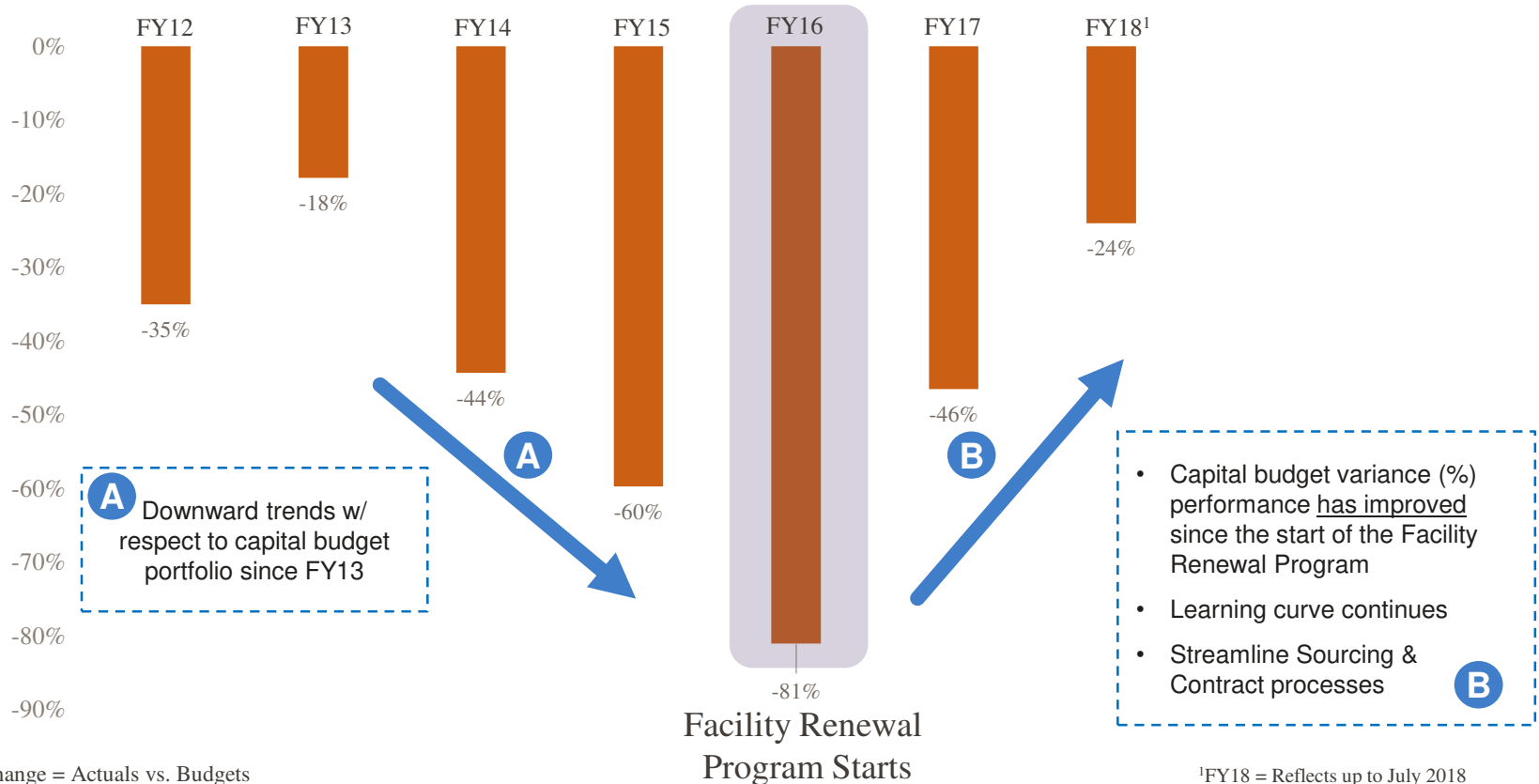


Dynamic Forecasting provides an opportunity to anticipate future variance needs

Evolving model (s-curve driven) that takes into account various project lengths and Design Intent (internal vs. external resources)

FUTURE IMPROVEMENTS

Capital Budget/Actuals Trend



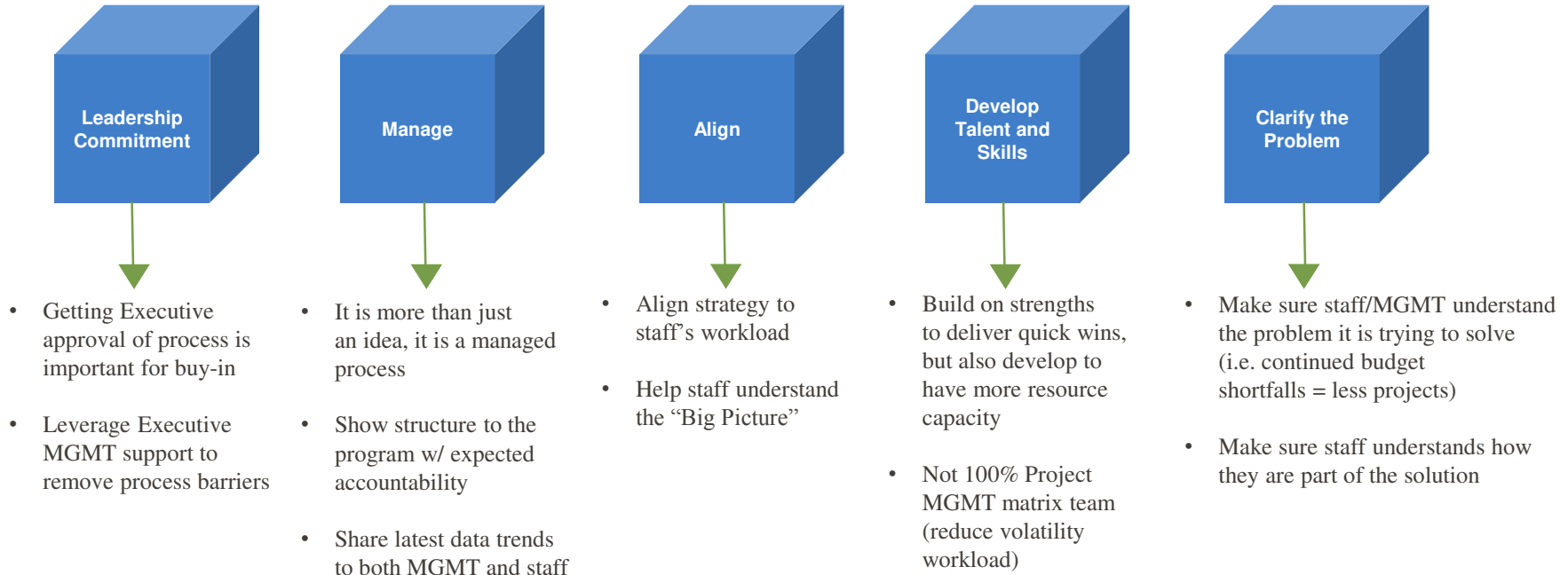
Note: % Change = Actuals vs. Budgets

Future Improvements – Lessons Learned



Challenge	Details
Strategy/Plan will change throughout the year	<ol style="list-style-type: none"> 1. Weather and Organizational Changes will impact a given year's project portfolio plan. Be flexible and adjust resources as needed to manage the plan. 2. Priorities & Emergencies that were not "Planned" work will cause the plan to shift
Data is just Data ; Still need to enforce the plan	<ol style="list-style-type: none"> 1. Communicating project portfolio progress to executives is important, but more importantly is to communicate w/ staff (see the big picture) 2. Don't assume that a project being in the correct stage also translates to it is progressing
Predicting ramp rate of construction spend	<ol style="list-style-type: none"> 1. For a given sub-set of projects that started in the same FY, it takes time to see significant construction dollars being expensed 2. Important to improve upfront project documentation throughout time 3. Avoid Design Stage stagnation 4. Competitive Sealed Proposal's Lag Time
Coordinating w/ other parallel initiatives	<ol style="list-style-type: none"> 1. Take advantage of other <u>active projects</u> that are leveraging the same space use ; minimize multiple disruptions to customer 2. Take advantage of <u>future projects</u> that will leverage the same space and have more complexity to it
Integrate better both aesthetic renewal and infrastructure needs	<ol style="list-style-type: none"> 1. Invest in "Patient Experience" 2. The book <u>does</u> get judge by its cover

Future Enhancements – Building Blocks of Culture Change



This concludes The American Institute of Architects Continuing
Education Systems Course

Please take a moment to complete the evaluation form.



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