



sightlines

ROPA+

Indiana University of PA

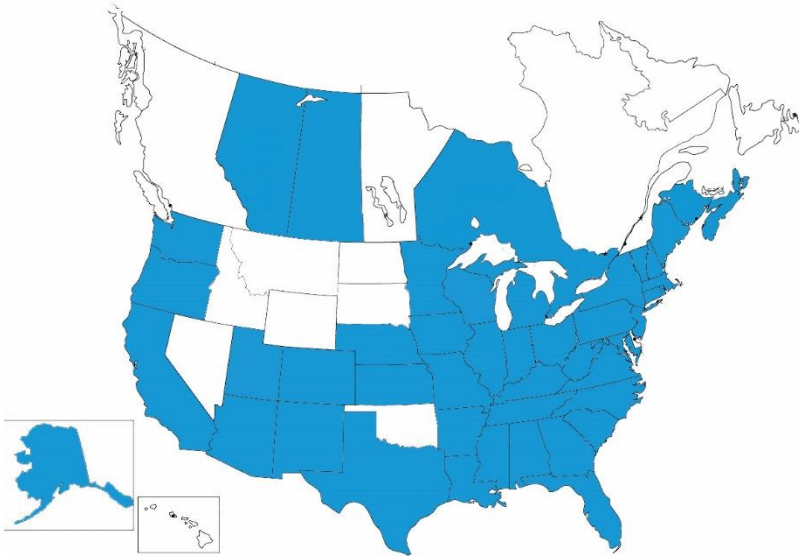
Presenters: Adam Gogolski & Ditee Hossain

June 17th, 2016

Immacurata University
Indiana University
Indiana University – Purdue University Indianapolis
Indiana University of PA
Iowa State University
Ithaca College
Jackson State University
Kansas State University
Keene State College
Kent State University
Kutztown University
LaSalle University
Lasell College
Le Moyne College
Lebanon Valley College
Lewis & Clark College
Lock Haven University
Louisiana State University
Loyola University in Maryland
Manchester Community College
Mansfield University of PA
Marshall University

Who Partners with Sightlines?

Robust membership includes colleges, universities, consortiums and state systems



Serving the Nation's Leading Institutions:

- **70% of the Top 20 Colleges***
- **75% of the Top 20 Universities***
- **34 Flagship State Universities**
- **14 of the 14 Big 10 Institutions**
- **9 of the 12 Ivy Plus Institutions**

* U.S. News 2016 Rankings

Sightlines is proud to announce that:

- 450 colleges and universities are Sightlines clients including over 325 ROPA members.
- Consistently over 90% member retention rate
- We have clients in over 40 states, the District of Columbia and four Canadian provinces
- More than 125 new institutions became Sightlines members since 2013

Sightlines advises state systems in:

- Alaska
- California
- Florida
- Hawaii
- Maine
- Massachusetts
- Minnesota
- Mississippi
- Missouri
- Nebraska
- New Hampshire
- New Jersey
- Pennsylvania
- Texas

A Vocabulary for Measurement



The Return on Physical Assets – ROPASM

The annual investment needed to ensure buildings will properly perform and reach their useful life
“Keep-Up Costs”

Annual Stewardship

The accumulation of repair and modernization needs and the definition of resource capacity to correct them
“Catch-Up Costs”

Asset Reinvestment

The effectiveness of the facilities operating budget, staffing, supervision, and energy management

Operational Effectiveness

The measure of service process, the maintenance quality of space and systems, and the customers opinion of service delivery

Service

Asset Value Change

Operations Success

Peer Institutions



ROPA+ Peer Benchmarking Includes All PASSHE Institutions

Institution	Location
Bloomsburg University of PA	Bloomsburg, Pennsylvania
California University of PA	California, Pennsylvania
Cheyney University of PA	West Chester, Pennsylvania
Clarion University of PA	Clarion, Pennsylvania
East Stroudsburg University of PA	Stroudsburg, Pennsylvania
Edinboro University of PA	Edinboro, Pennsylvania
Kutztown University of PA	Kutztown, Pennsylvania
Lock Haven University of PA	Lock Haven, Pennsylvania
Mansfield University of PA	Mansfield, Pennsylvania
Millersville University of PA	Millersville, Pennsylvania
Shippensburg University of PA	Shippensburg, Pennsylvania
Slippery Rock University of PA	Slippery Rock, Pennsylvania
West Chester University of PA	West Chester , Pennsylvania



Pennsylvania's
STATE SYSTEM
of Higher Education

Comparative Considerations

Size, technical complexity, region, geographic location, and setting

1. Significant amount of young space

2. Capital investment below Target

3.  Annual Stewardship =  Asset Reinvestment Needs

4. Staff cover more space than peers.

Core Observations



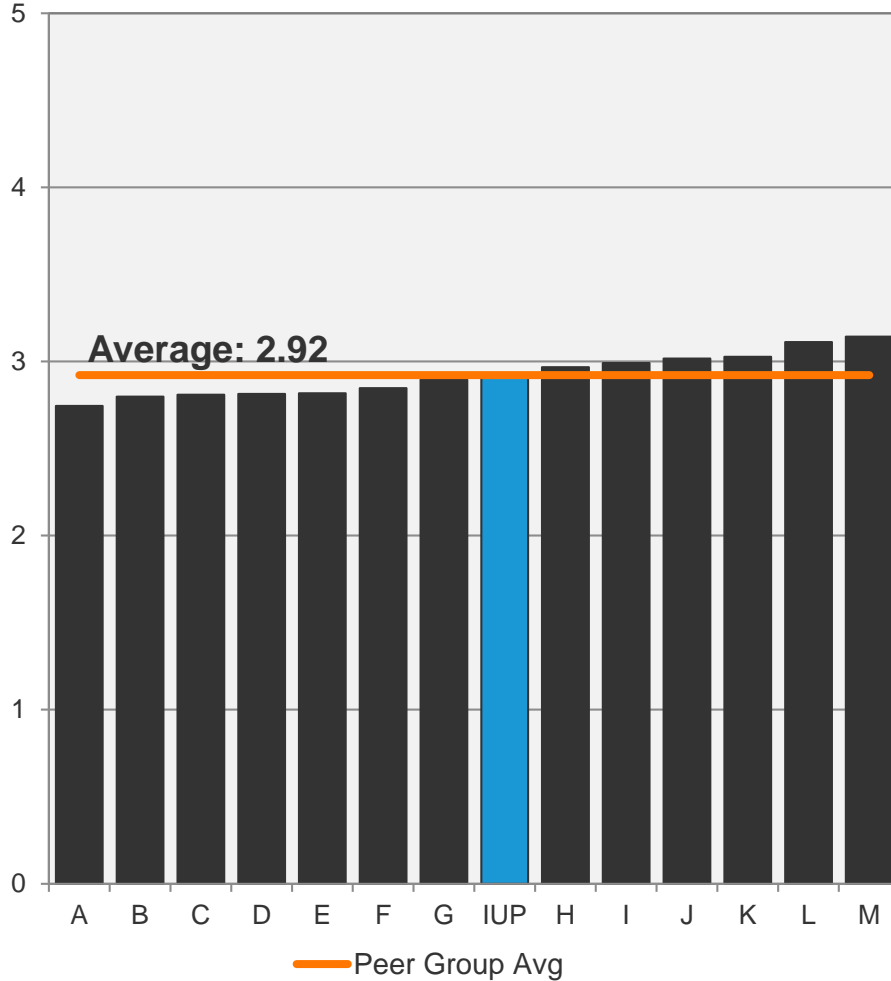
Diving into more detail with the observations from the previous slide

1. 43% of campus GSF is currently under 10 years old; this large portion of space will age concurrently, resulting in large demands for capital investment to maintain the currently young spaces in good condition
2. 48% of campus GSF is currently designated as high risk. However, capital investment levels have been below the identified target level of funding. If you can't maintain your high-risk spaces now, how will you manage to maintain both the high-risk spaces as they continue to age and the younger spaces of today that will hit major life cycles at once in the next 5 to 10 years?
3. Annual Stewardship levels have funded just 11% of target need on average since 2003. The lack of Stewardship results in a situation where Asset Reinvestment funds are playing a dual role – both catch-up and keep-up – to keep campus running in good condition
 - a) This has resulted in more rapid growth in the deferred maintenance which is now above peers
4. Both maintenance and custodial staff are covering 30% more space than peers & operating costs fall below peer levels. Investing into your daily operations will help to keep buildings in good condition and reduce the need for greater capital investments down the road

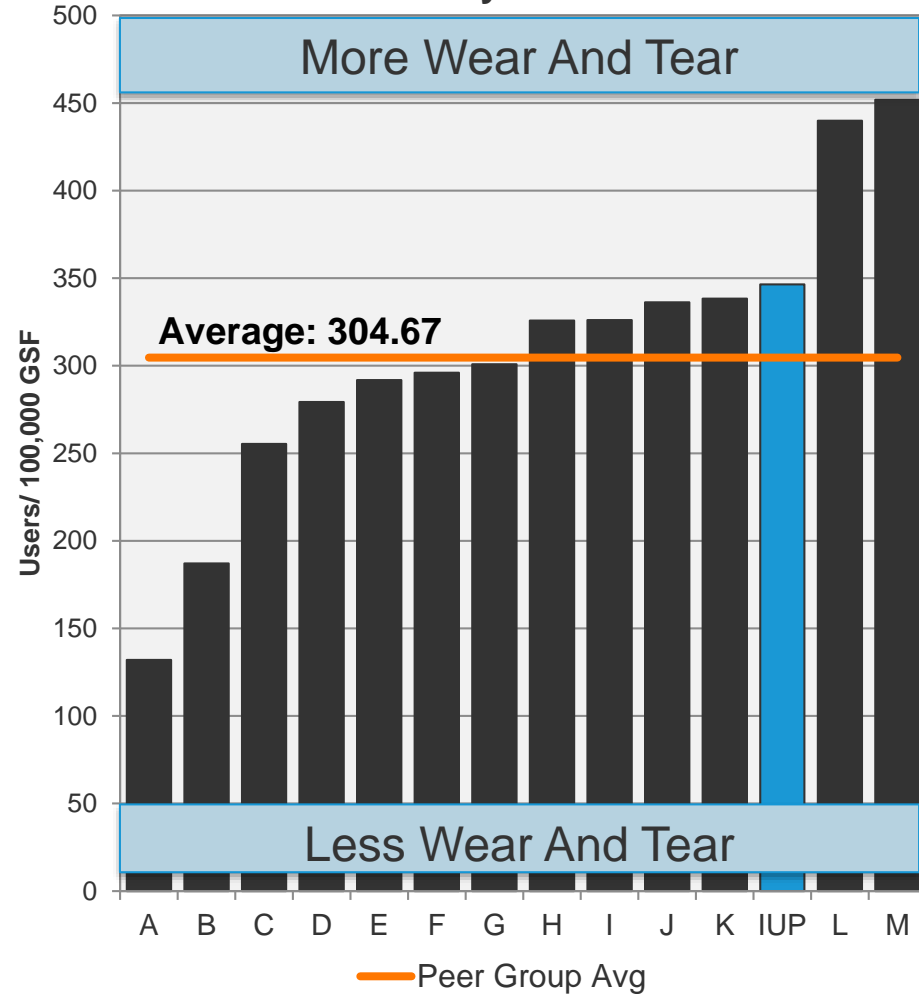
Qualifying Metrics – Tech Rating and Density Factor



Tech Rating



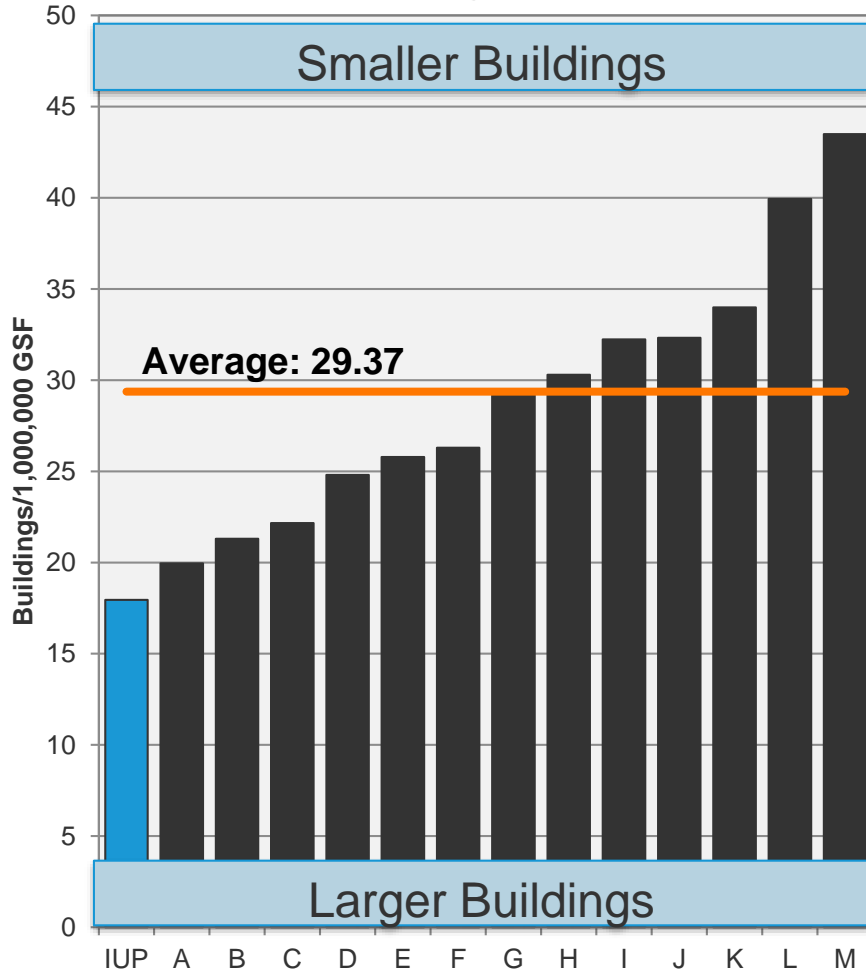
Density Factor



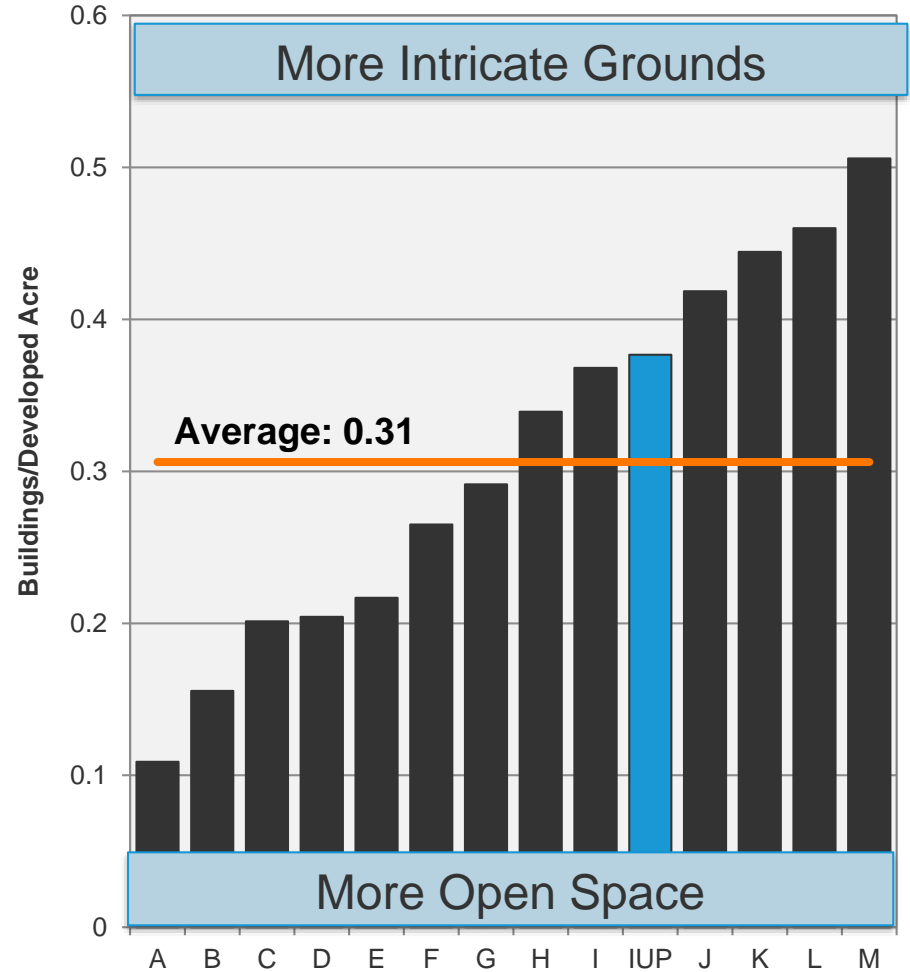
Qualifying Metrics - Building Intensity and Grounds Intensity



Building Intensity



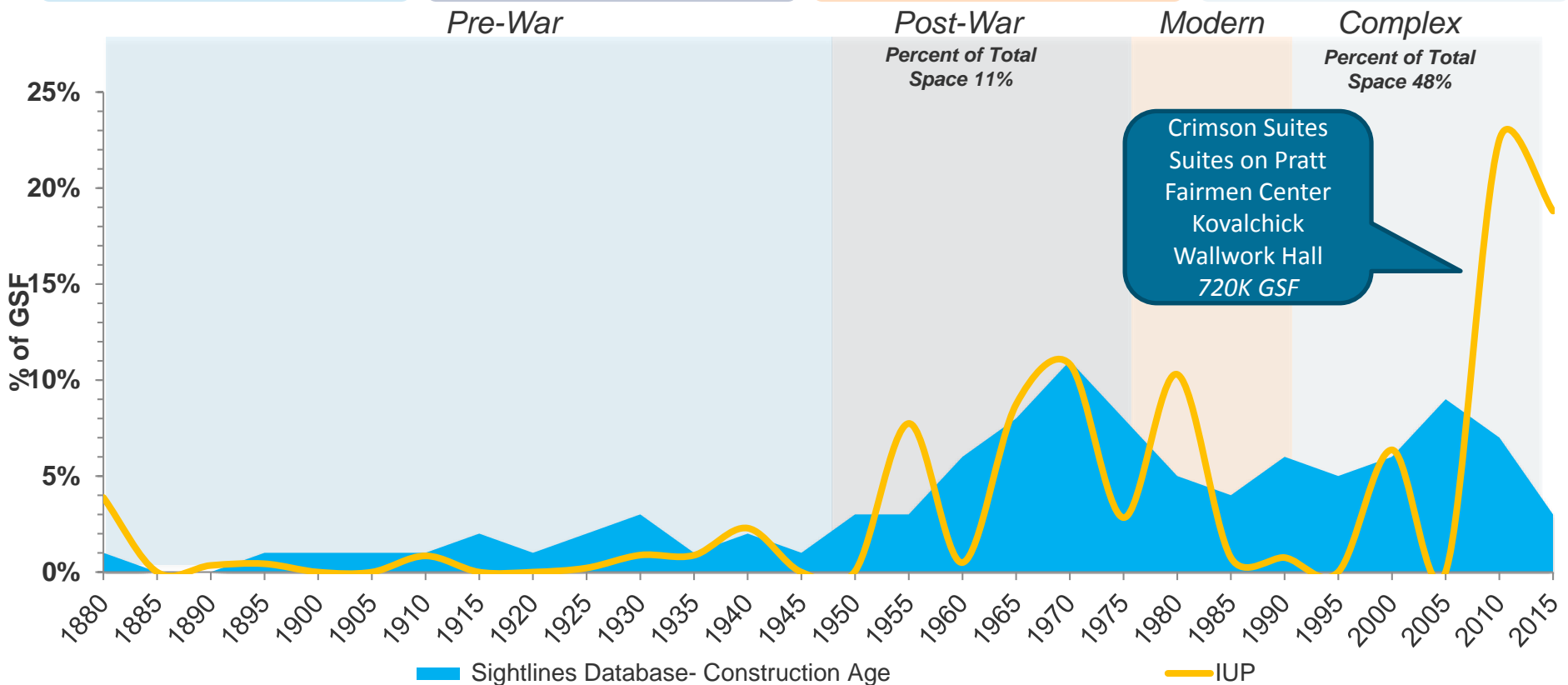
Grounds Intensity



Putting Your Campus Building Age in Context

The campus age drives the overall risk profile

<p>Pre-War</p> <p>Built before 1951</p> <p>Durable construction</p> <p>Older but typically lasts longer</p>	<p>Post-War</p> <p>Built from 1951 to 1975</p> <p>Lower-quality construction</p> <p>Already needing more repairs and renovations</p>	<p>Modern</p> <p>Built from 1976 to 1990</p> <p>Quick-flash construction</p> <p>Low-quality building components</p>	<p>Complex</p> <p>Built in 1991 and newer</p> <p>Technically complex spaces</p> <p>Higher-quality, more expensive to maintain & repair</p>
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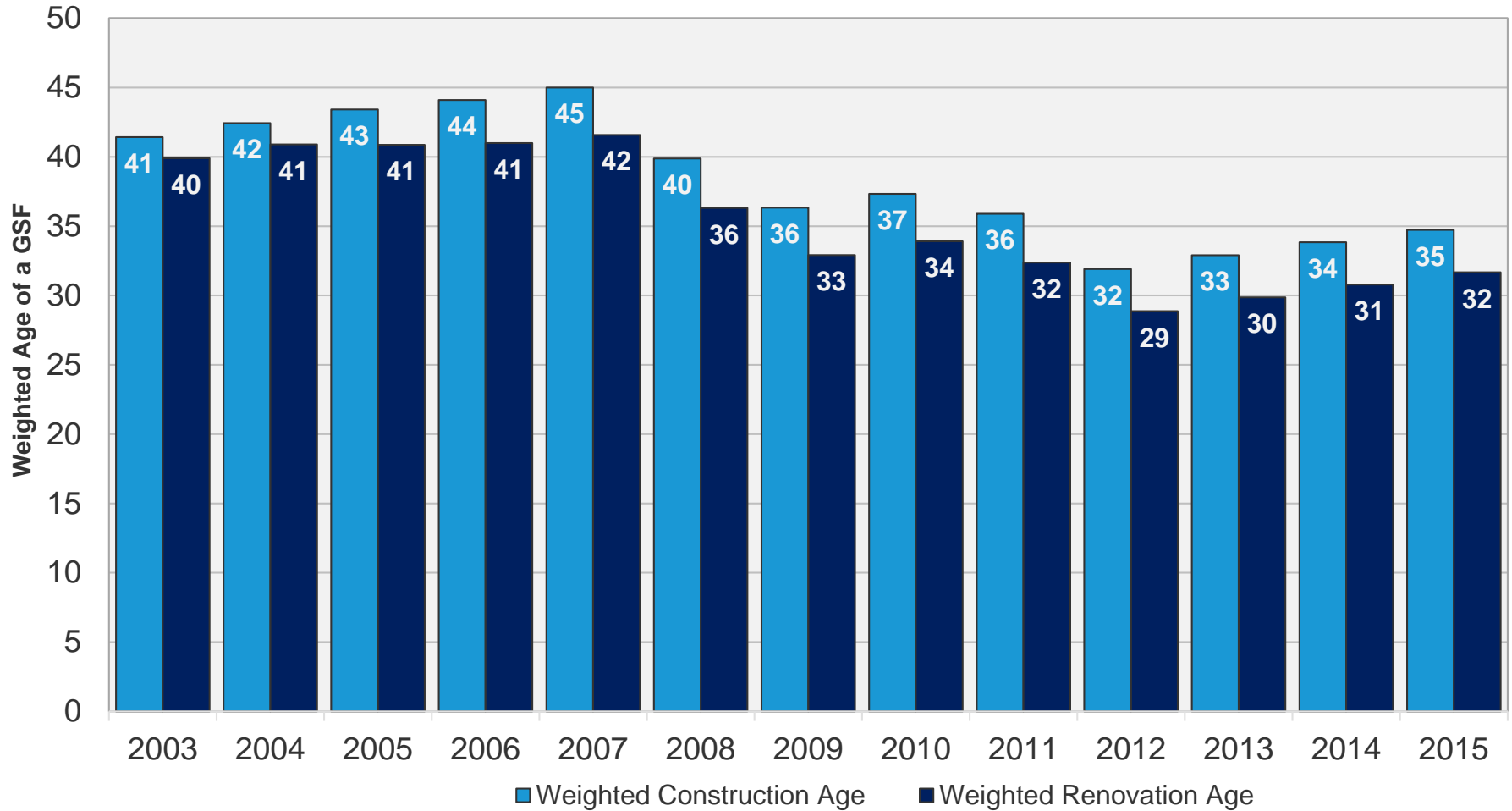


Construction Vs. Renovation Age



Campus is younger today than it was 12 years ago

Construction Vs. Renovation Age



43% of Space Constructed since 2006

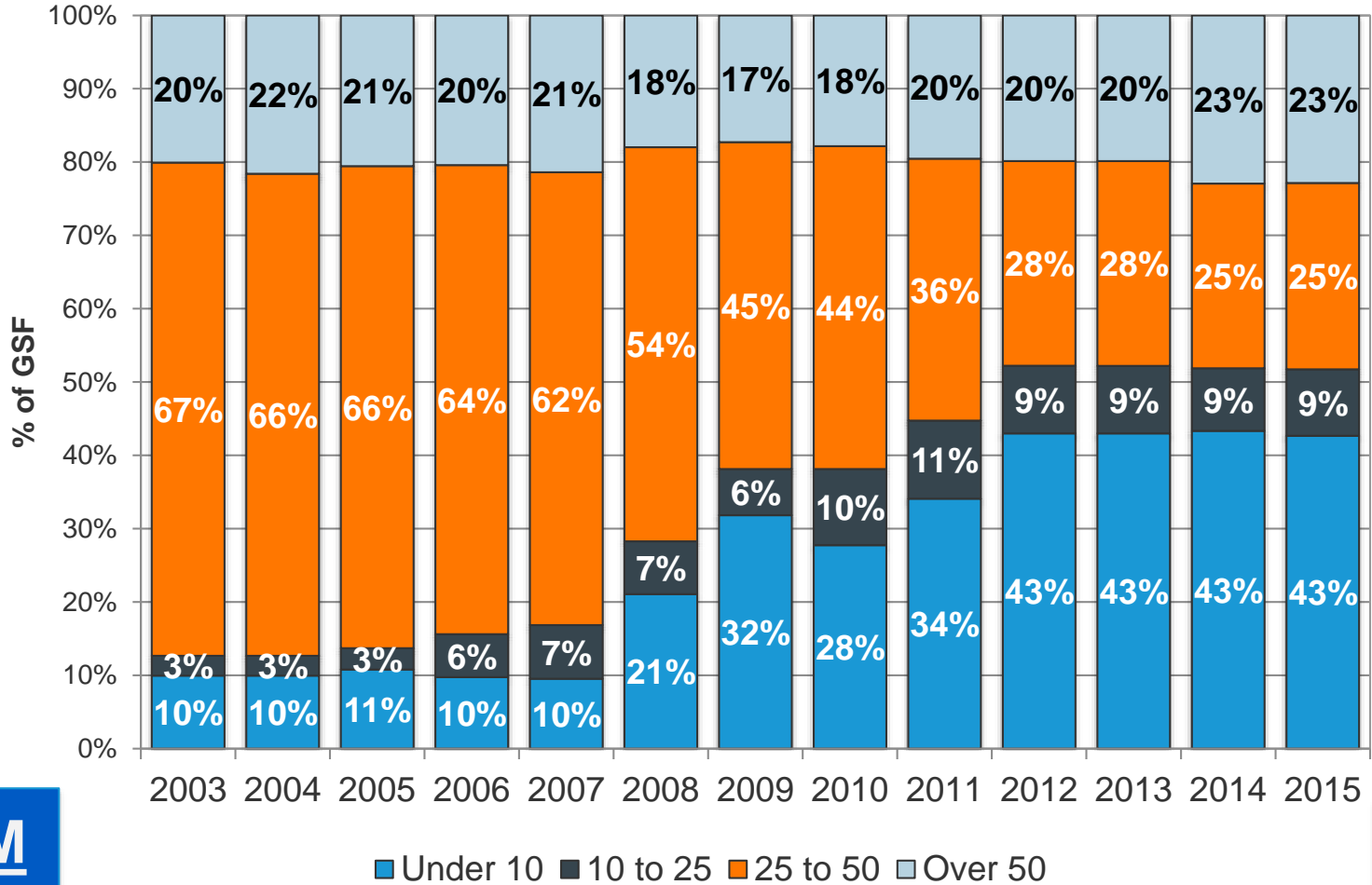


New, technologically advanced space will be costly to keep-up

2003 GSF:

Renovation Age by Category

2015 GSF:



629K

879K

2.1M

976K

84.5K

349K

312K

1.64M

3.13M

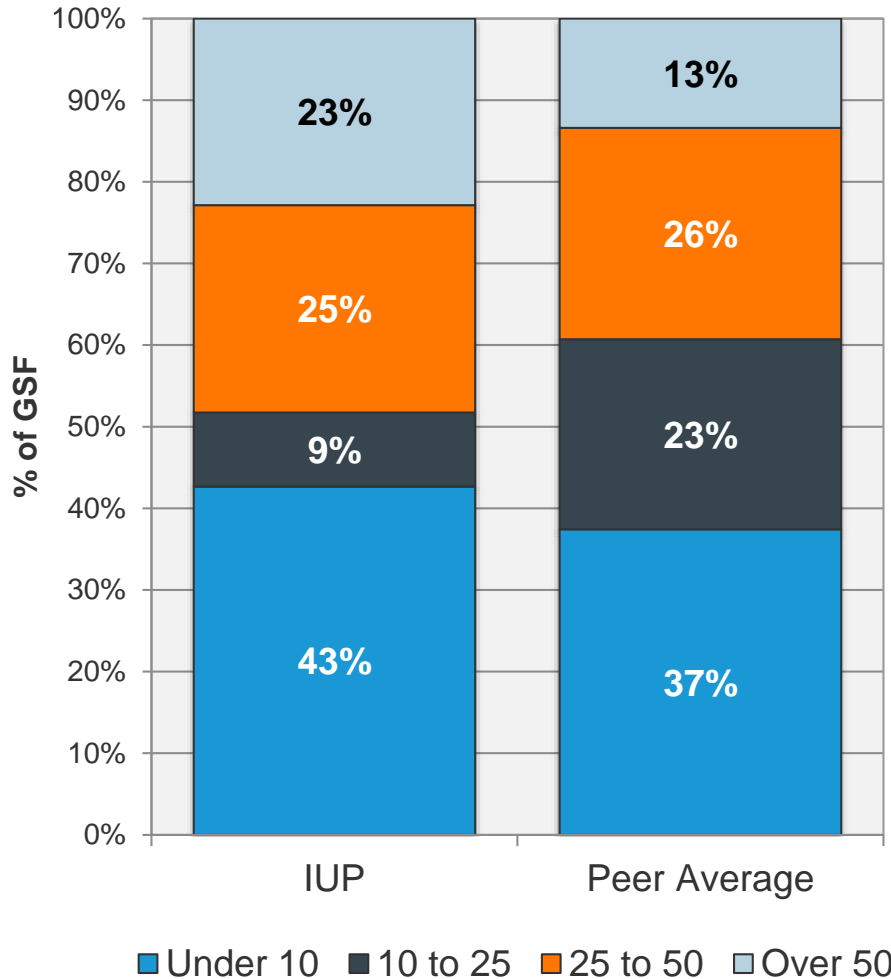
3.84M

■ Under 10 ■ 10 to 25 ■ 25 to 50 ■ Over 50

Campus Age Profile

Unevenly distributed profile causes risk to accumulate in one age group

Renovation Age by Category



Buildings over 50

Life cycles of major building components are past due. Failures are possible. Core modernization cycles are missed.

Highest risk

Buildings 25 to 50

Major envelope and mechanical life cycles come due. Functional obsolescence prevalent.

Higher Risk

Buildings 10 to 25

Short life-cycle needs; primarily space renewal.

Medium Risk

Buildings Under 10

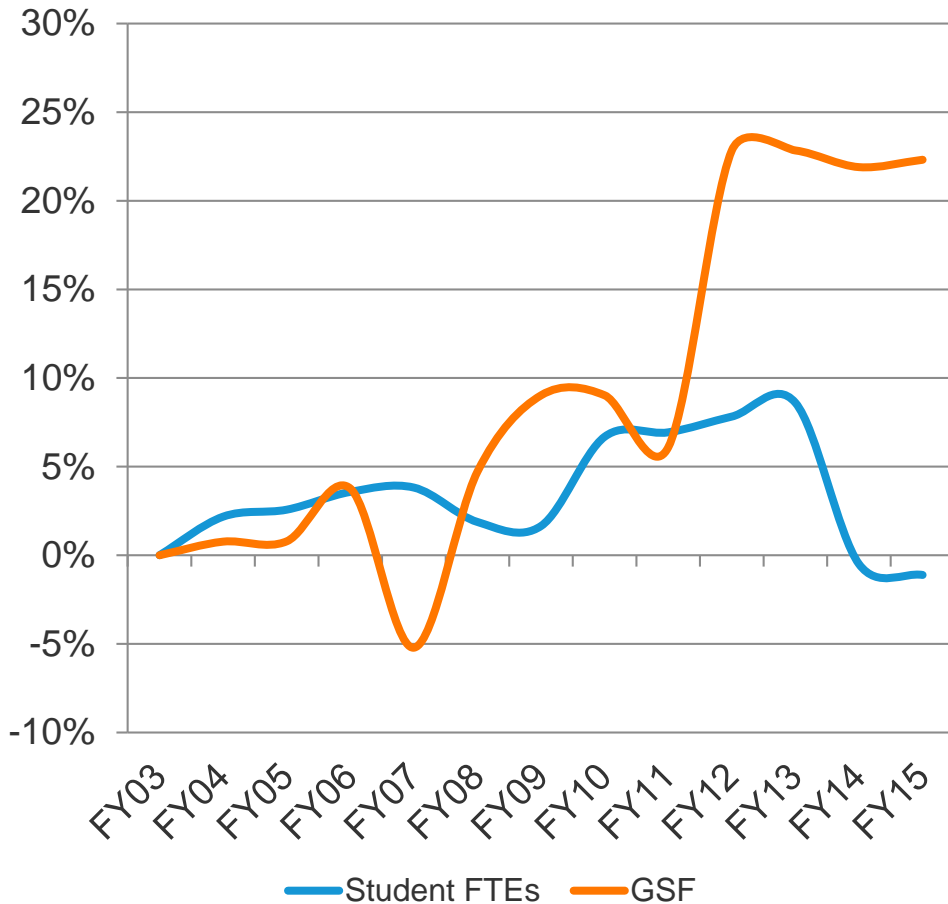
Little work. "Honeymoon" period.

Low Risk

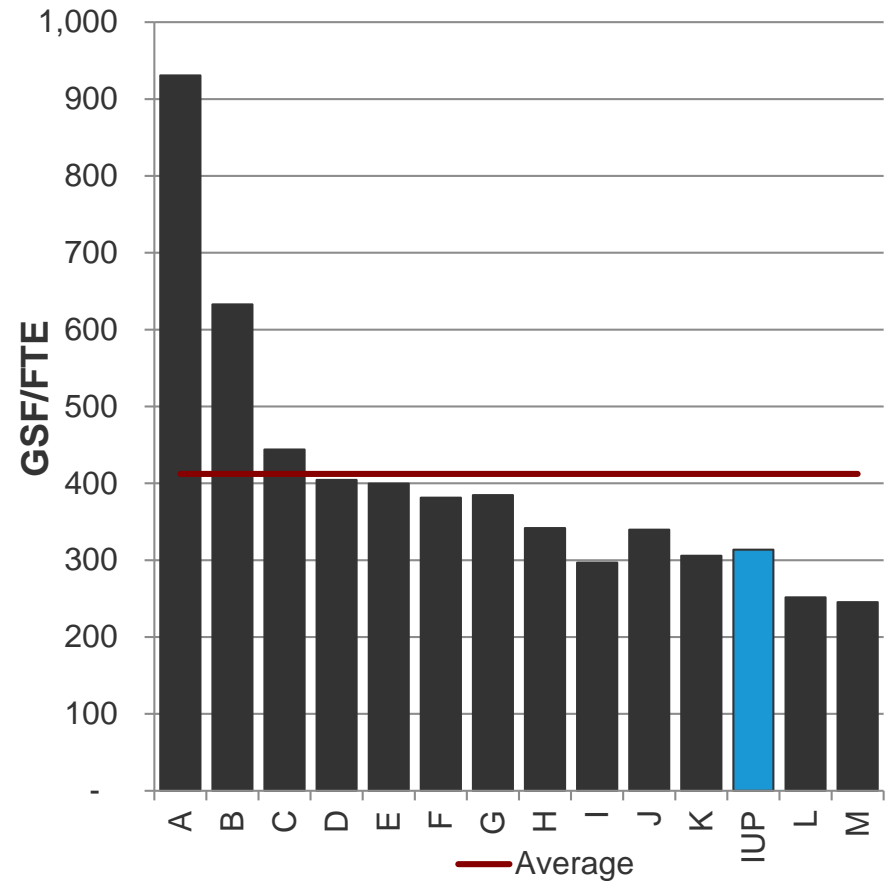
GSF Outpaces Student Enrollment Growth

Does the trend in growth and student space contribute to institutional goals?

Change in GSF vs. Students



Total Space per Student



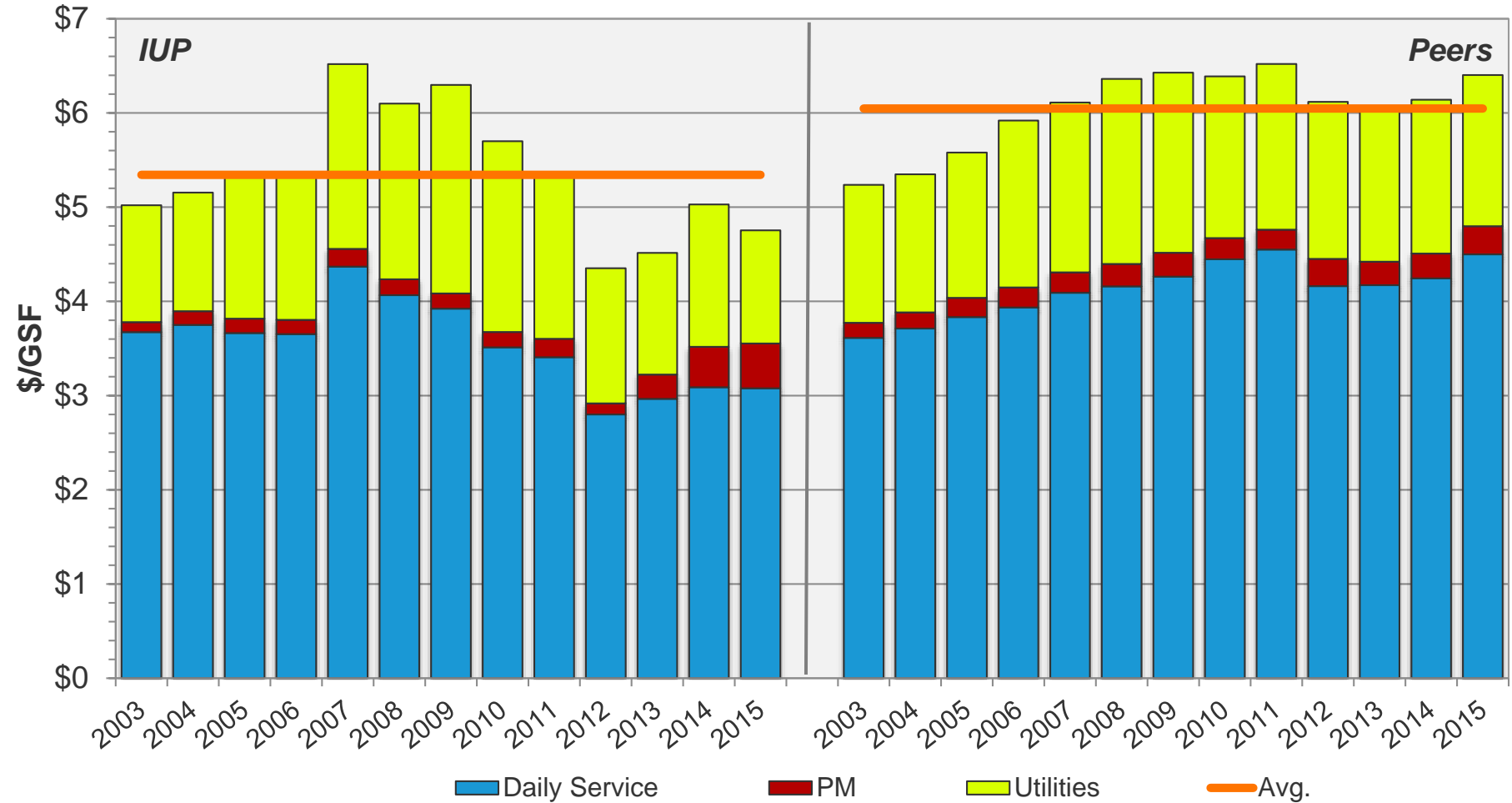
Institutions arranged by Density Factor

Facilities Operating Expenditures vs. Peers



Lower cost per GSF with younger space across campus

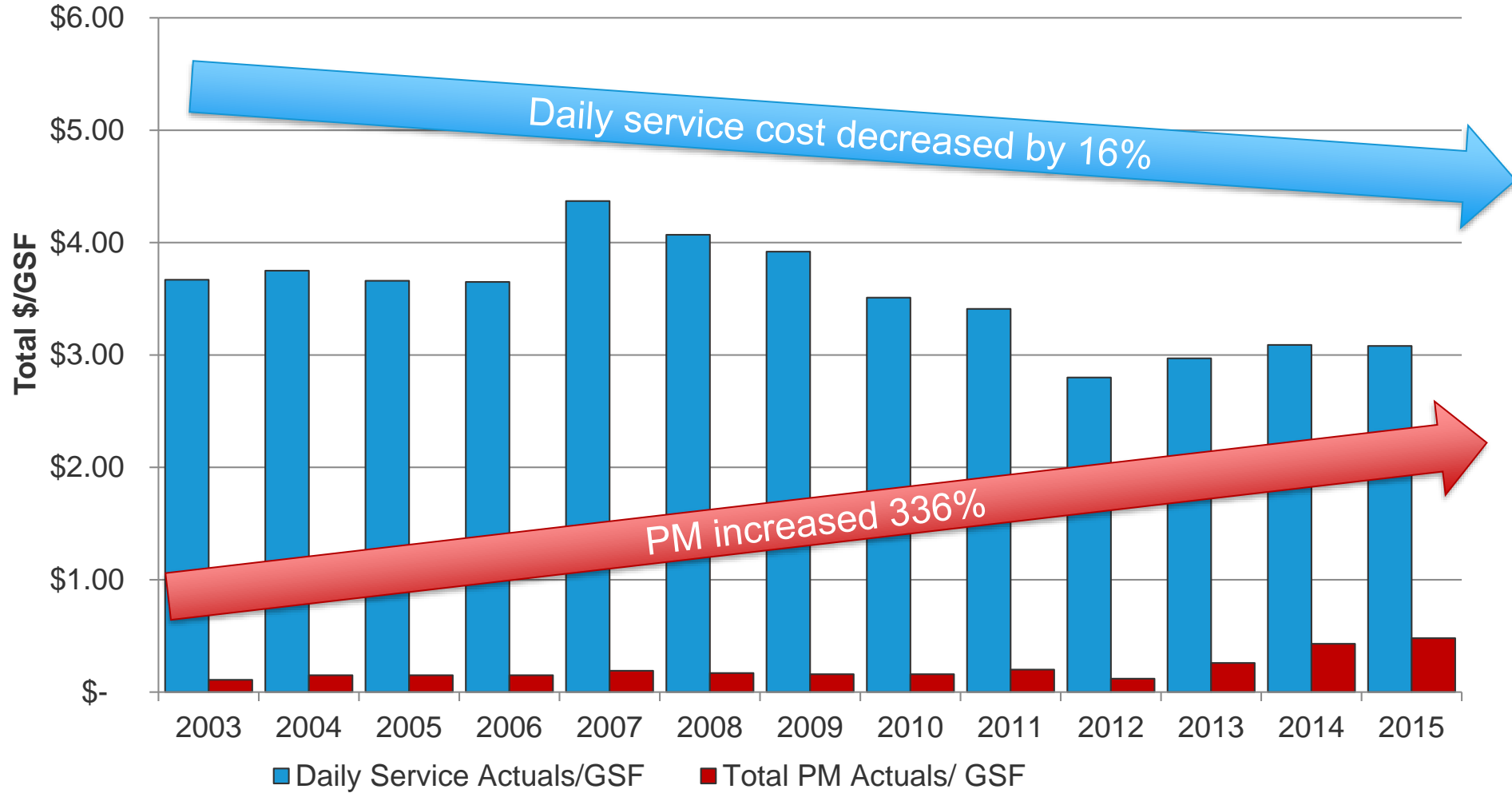
Facilities Operating Actuals



Lower FY15 Expenditures than FY03 Baseline



Daily Service & PM Expenses

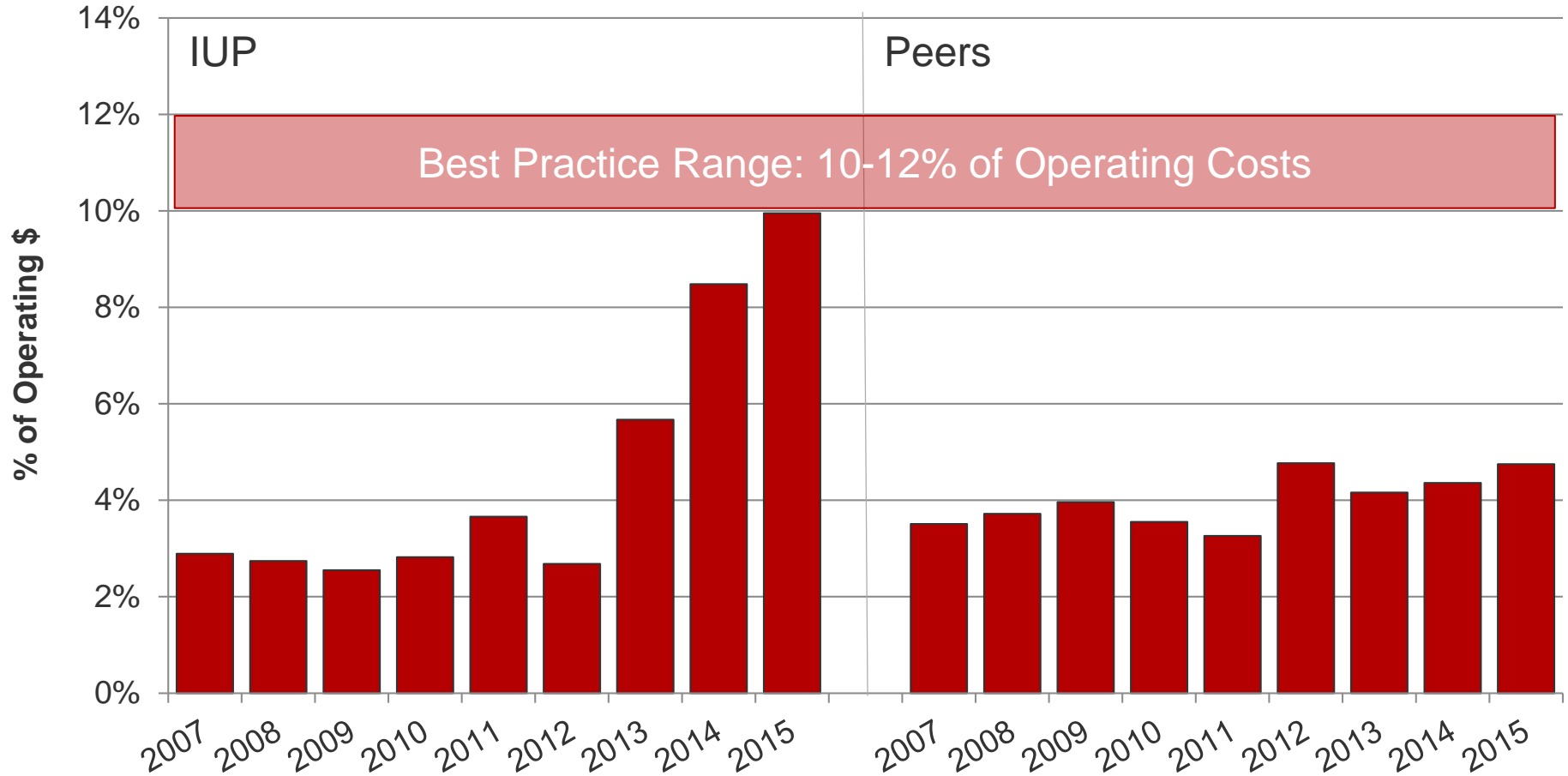


Opportunity for Better Internal PM Tracking



Investing in PM now is critical while spaces are young & in good condition

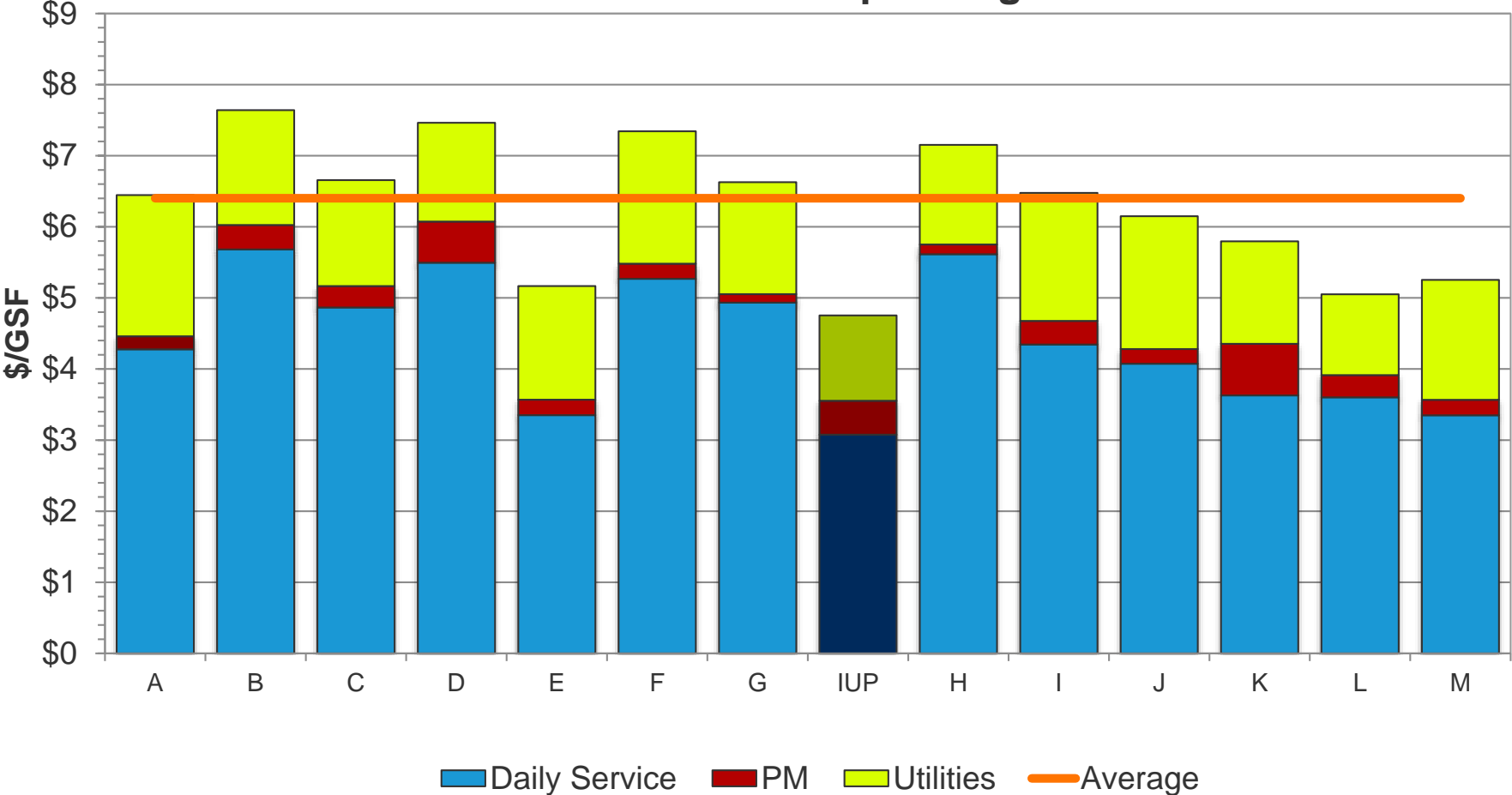
PM as % of Operating Budget



IUP's Operating Expenditures Lowest Among PASSHE



FY15 Facilities Operating Actuals



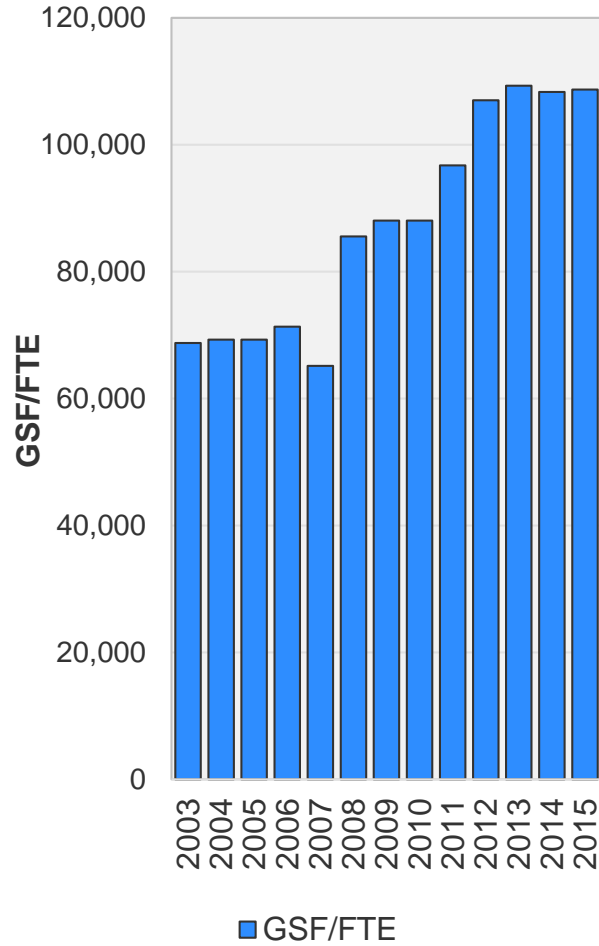
Institutions arranged by Tech Rating

Staffing Trend

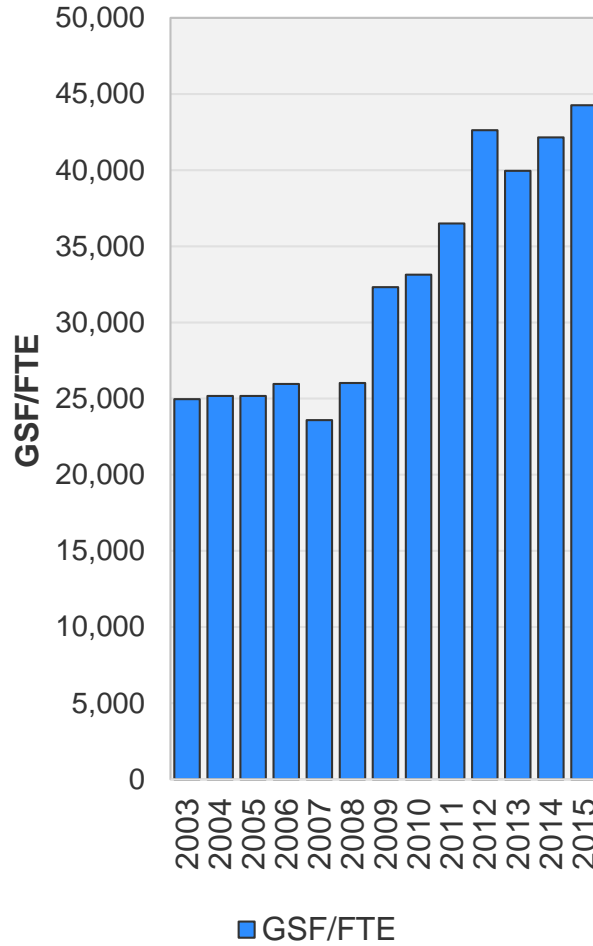


Staffing has not been added to meet space changes

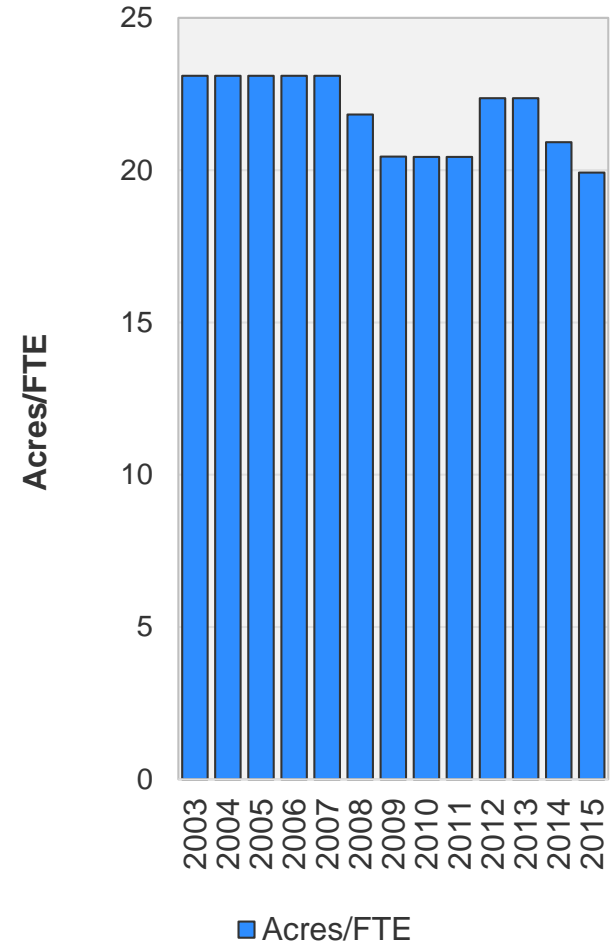
Maintenance



Custodial



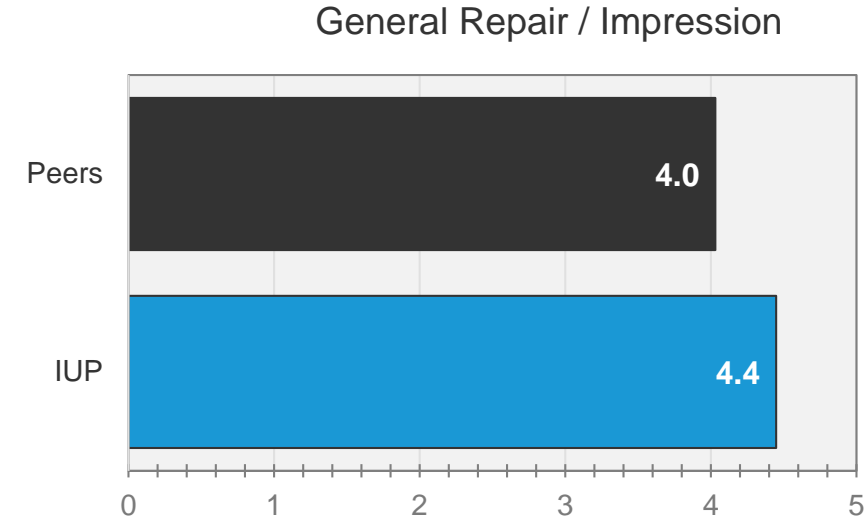
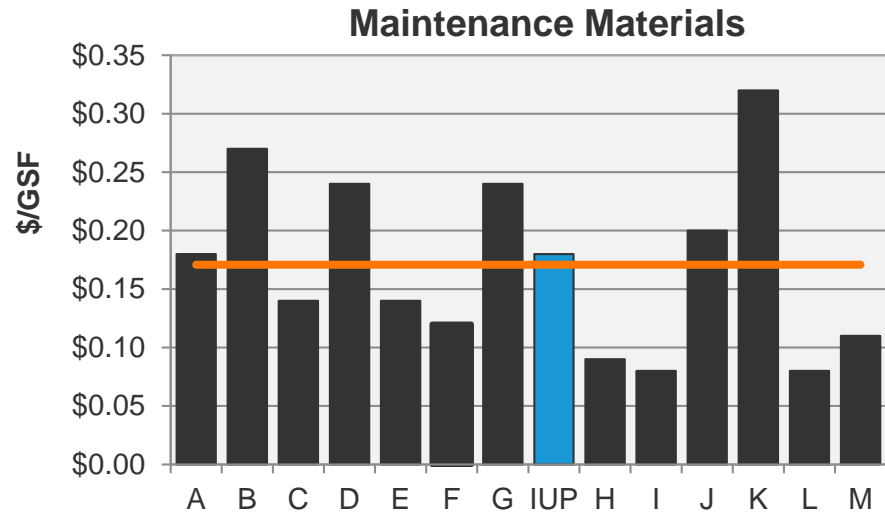
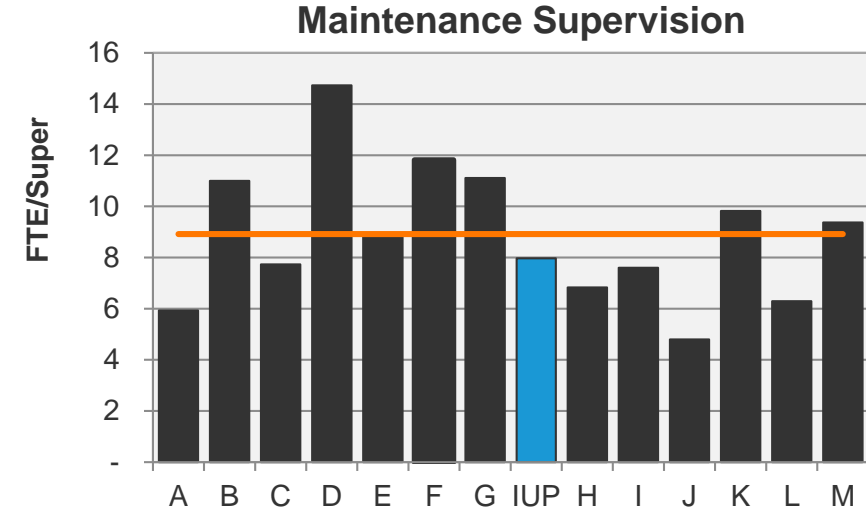
Grounds



Maintenance Metrics



Maintenance staff responsible for 30% more space coverage than peer average



Institutions arranged by Tech Rating

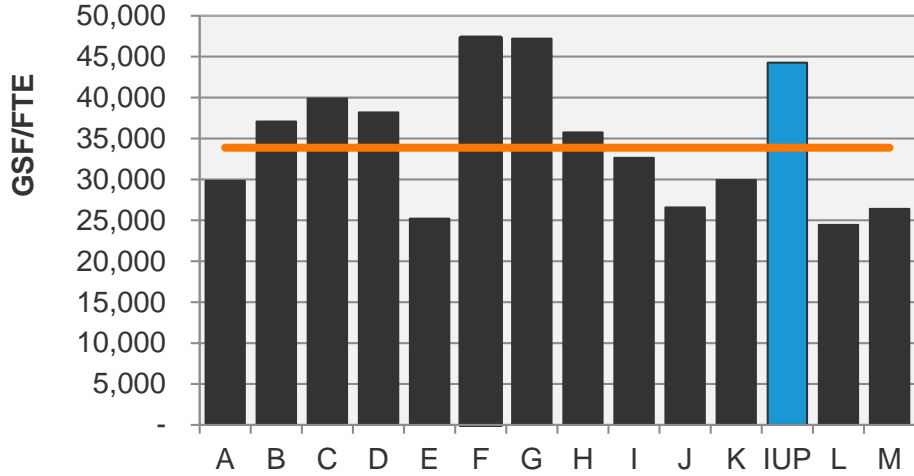


Custodial Metrics

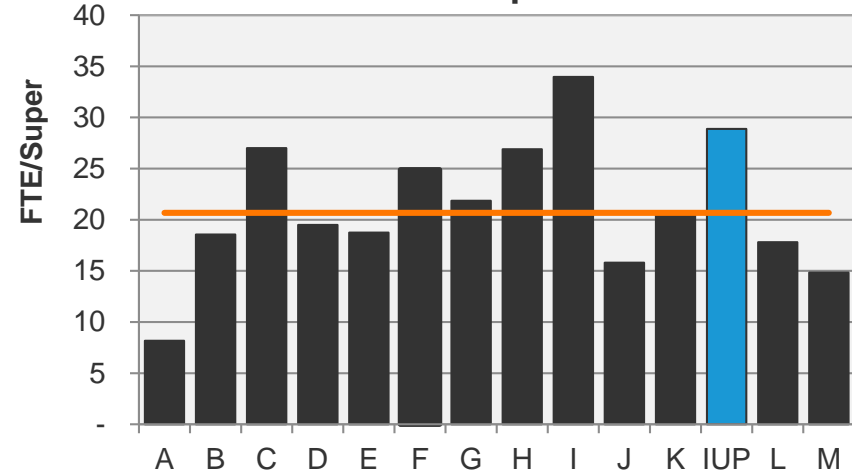


Custodial staff covering 31% more space than the peer average

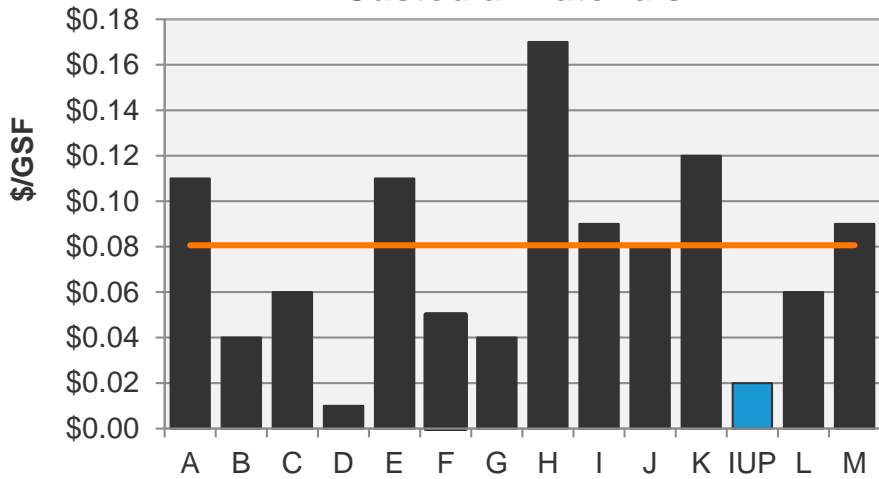
Custodial Staffing



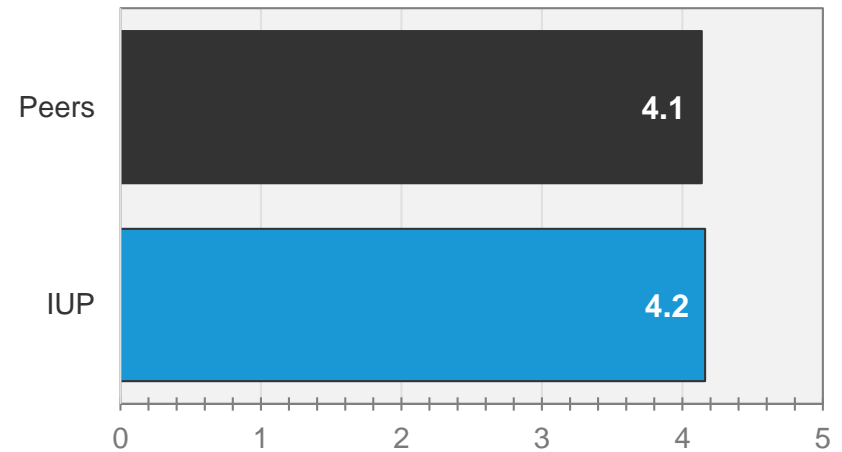
Custodial Supervision



Custodial Materials

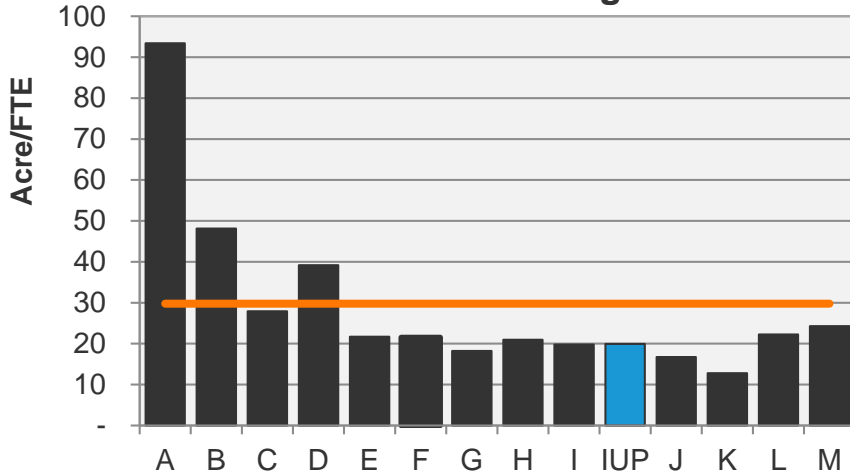


Cleanliness

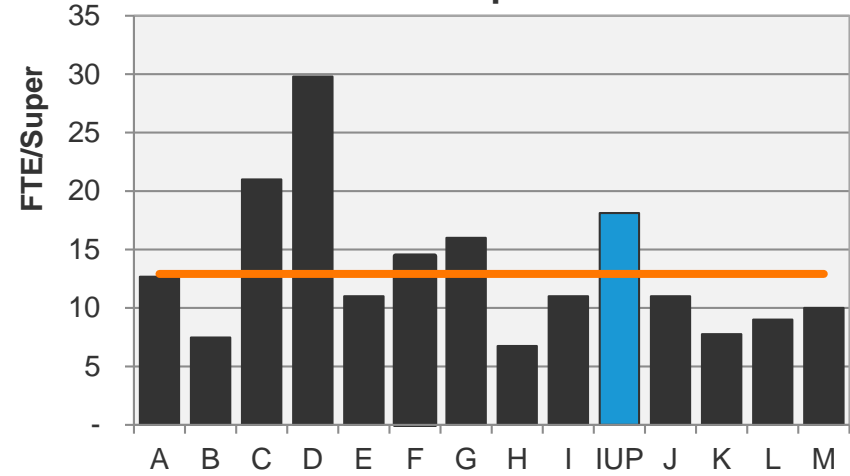


Institutions arranged by Density Factor

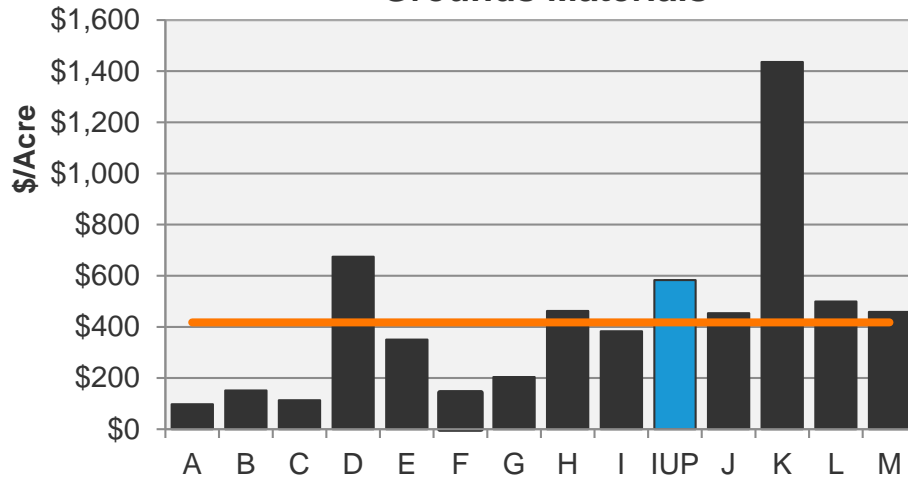
Grounds Staffing



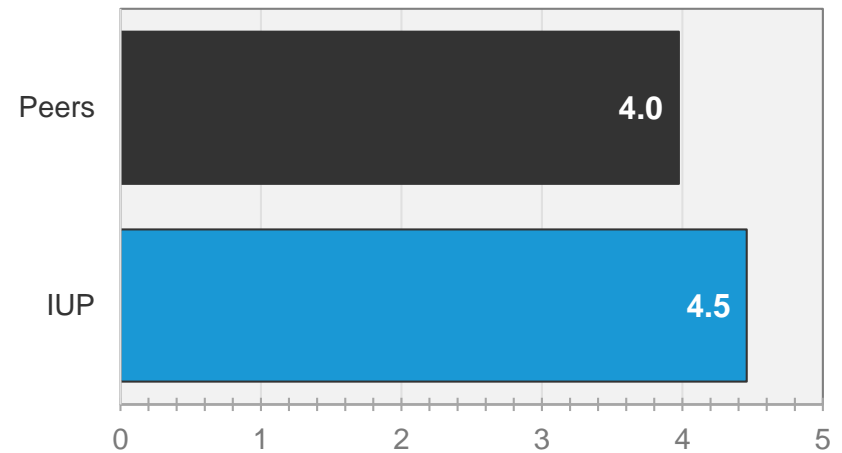
Grounds Supervision



Grounds Materials



Grounds Inspection Score



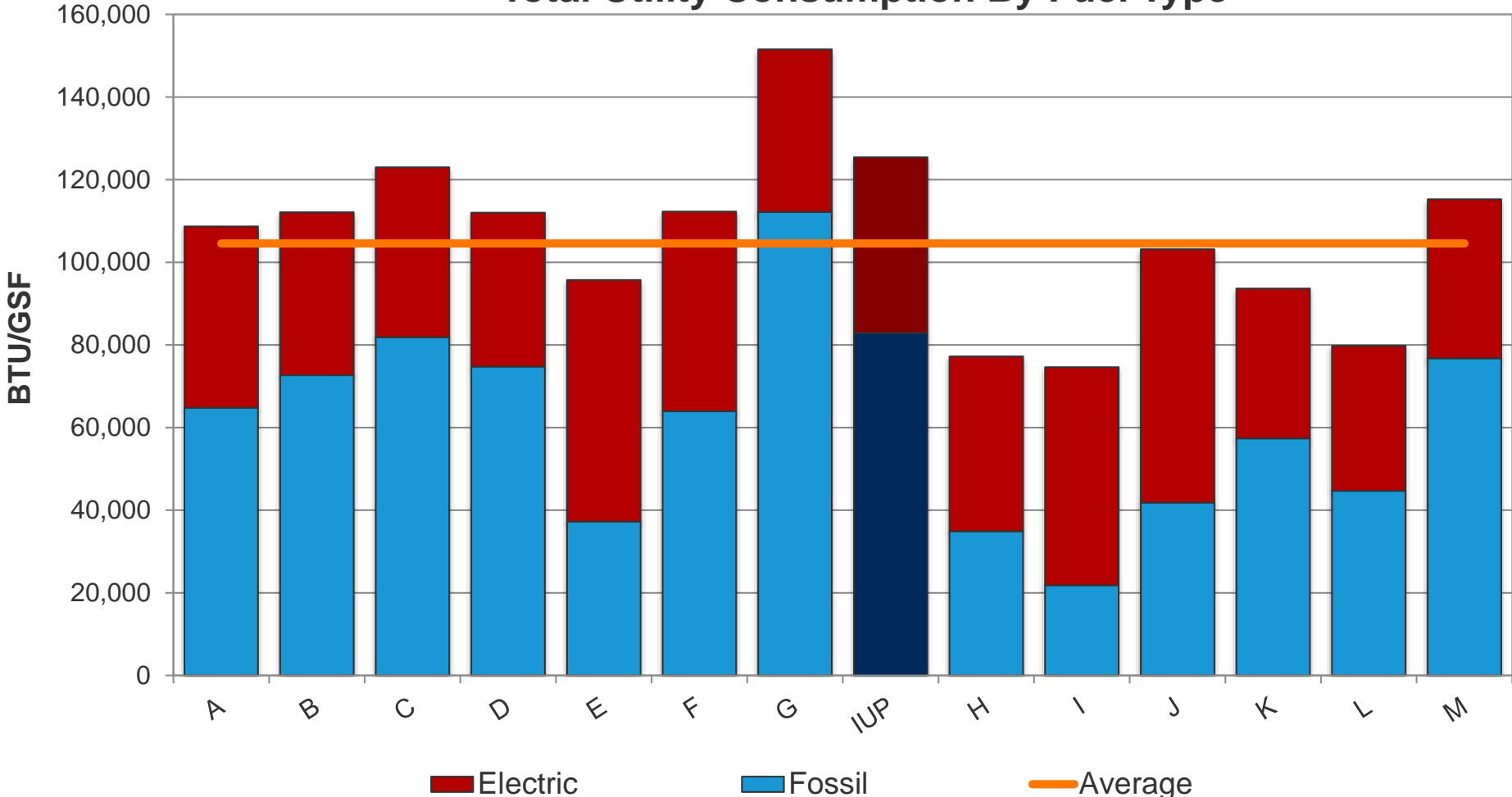
Institutions arranged by Grounds Intensity

2015 Energy Consumption vs. Peers



IUP's total energy consumption is 20% above peer average

Total Utility Consumption By Fuel Type

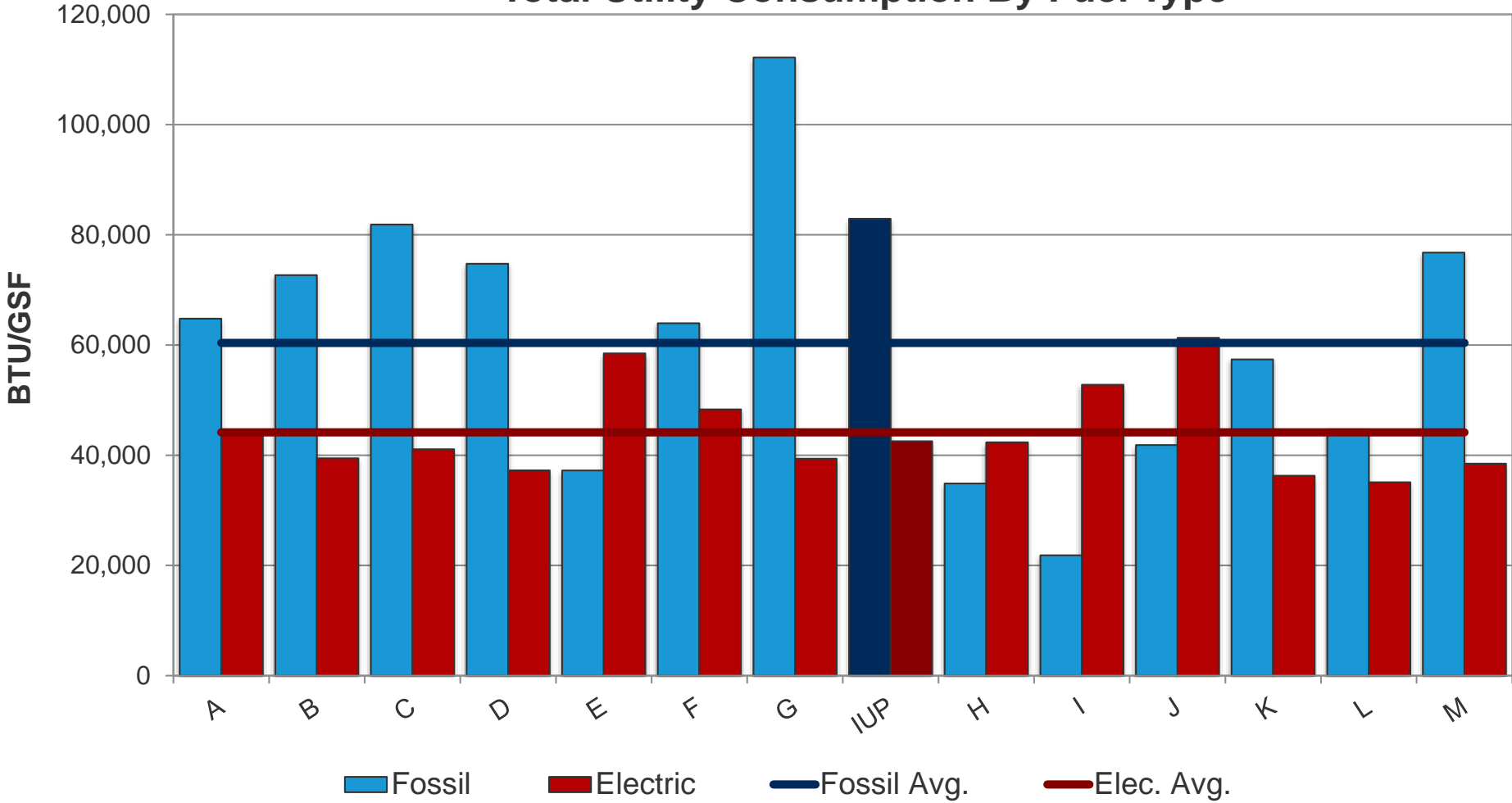


2015 Energy Consumption vs. Peers



IUP's total energy consumption is 20% above peer average; driven by fossil

Total Utility Consumption By Fuel Type

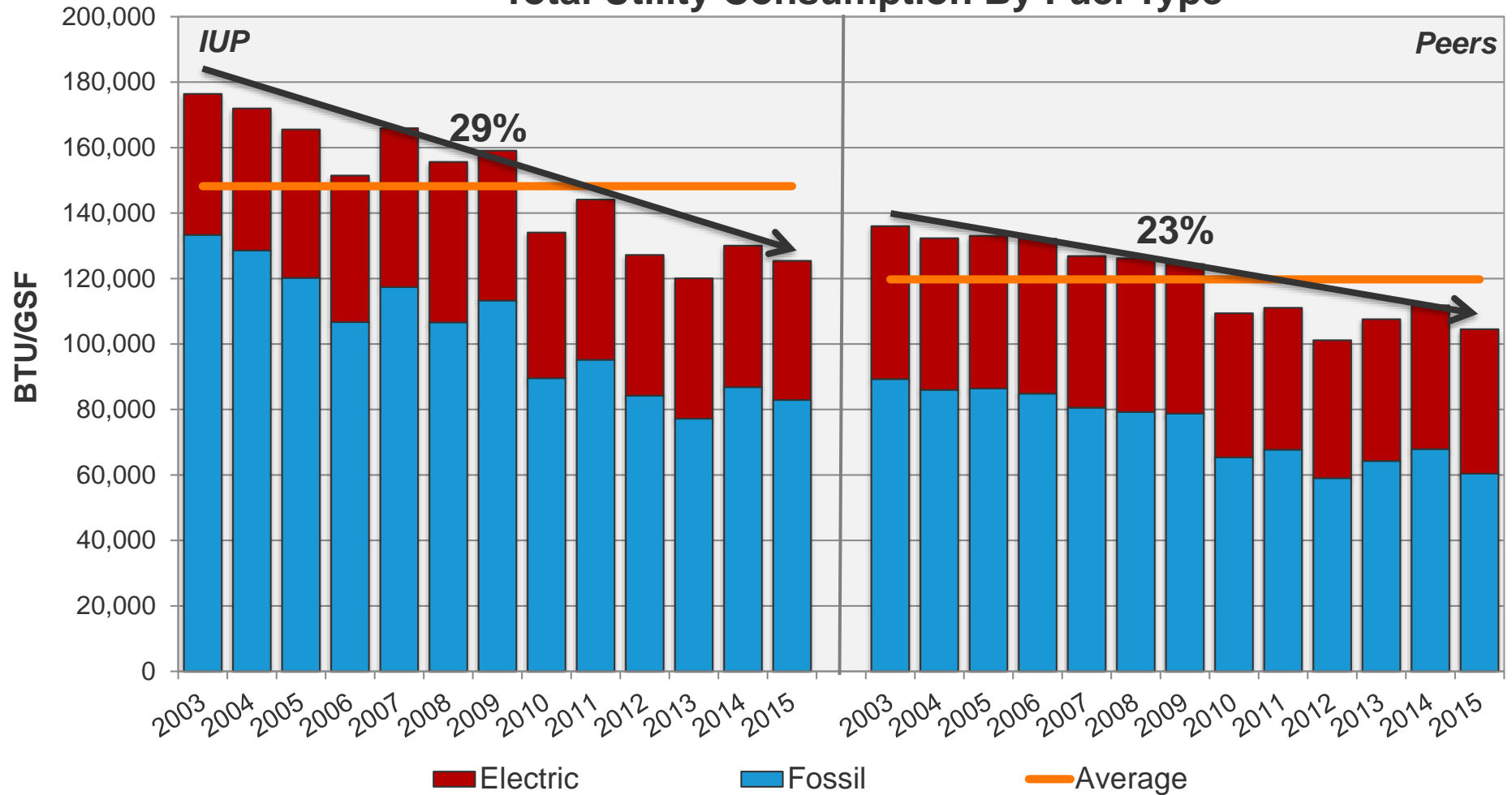


Energy Consumption vs. Peers



Continued steady decrease in fossil, Electric stays constant through FY15

Total Utility Consumption By Fuel Type

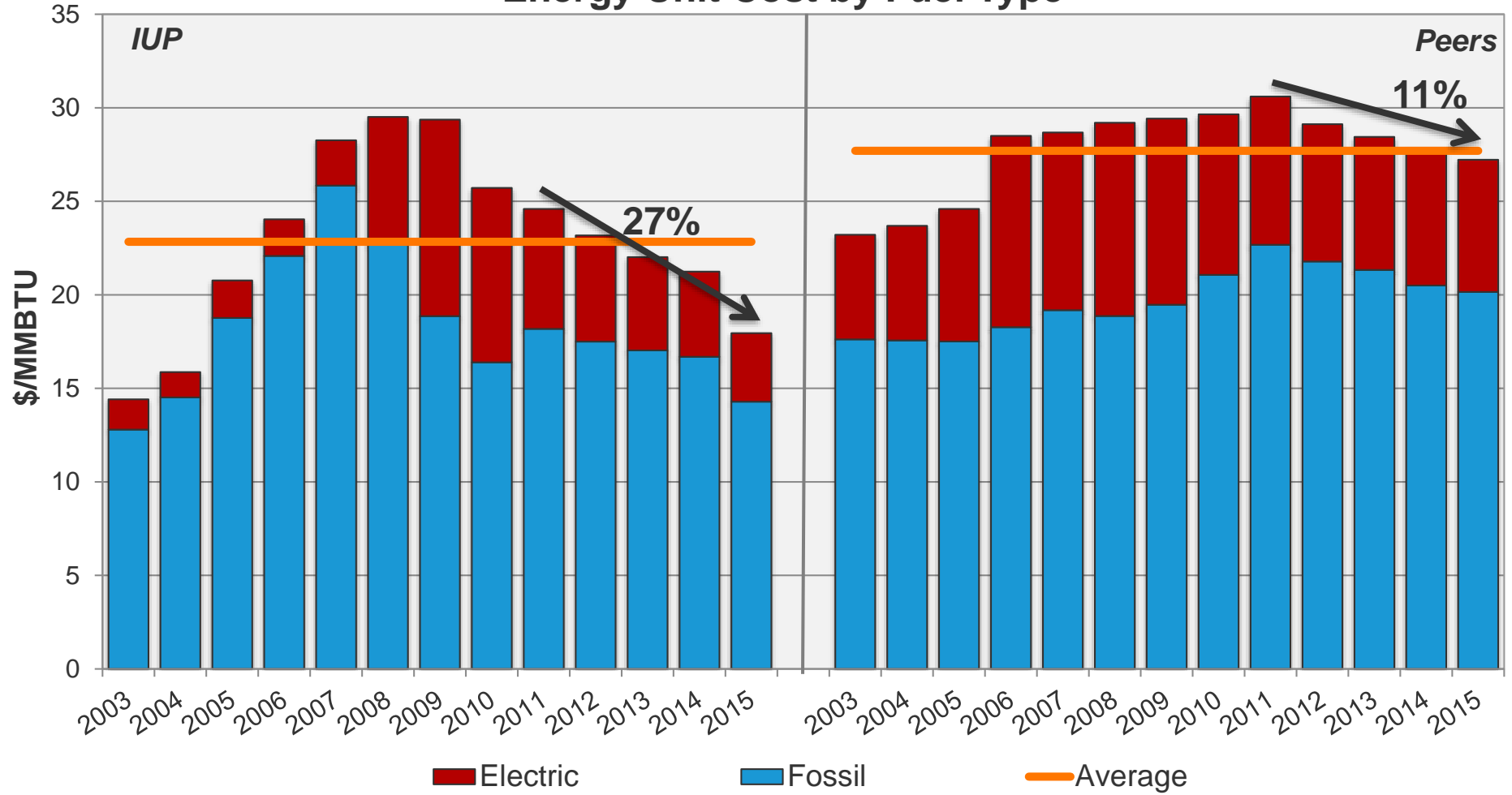


Energy Unit Cost by Fuel Type



\$/MMBTU

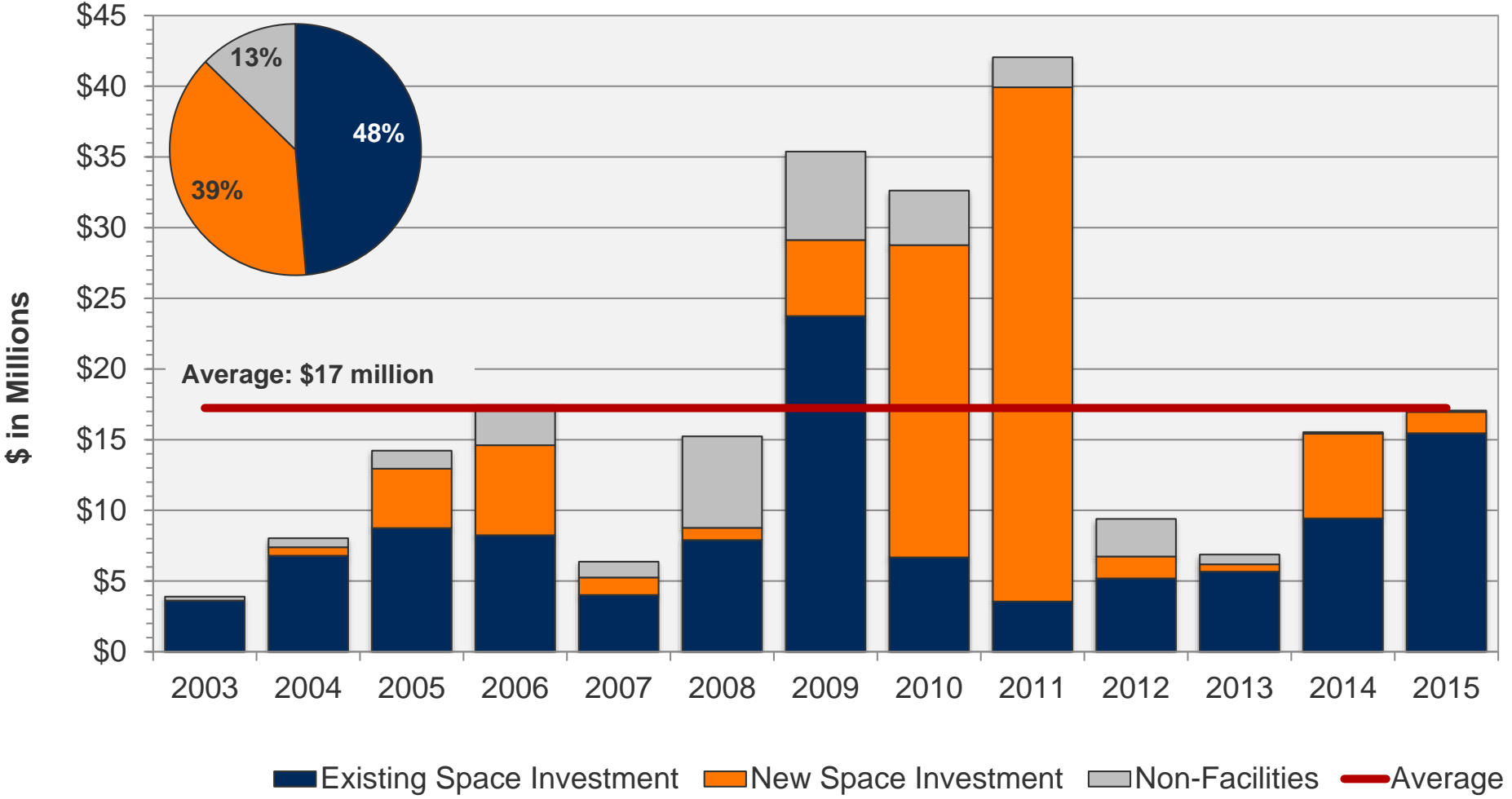
Energy Unit Cost by Fuel Type



Total Capital Investment



Total Capital Investment

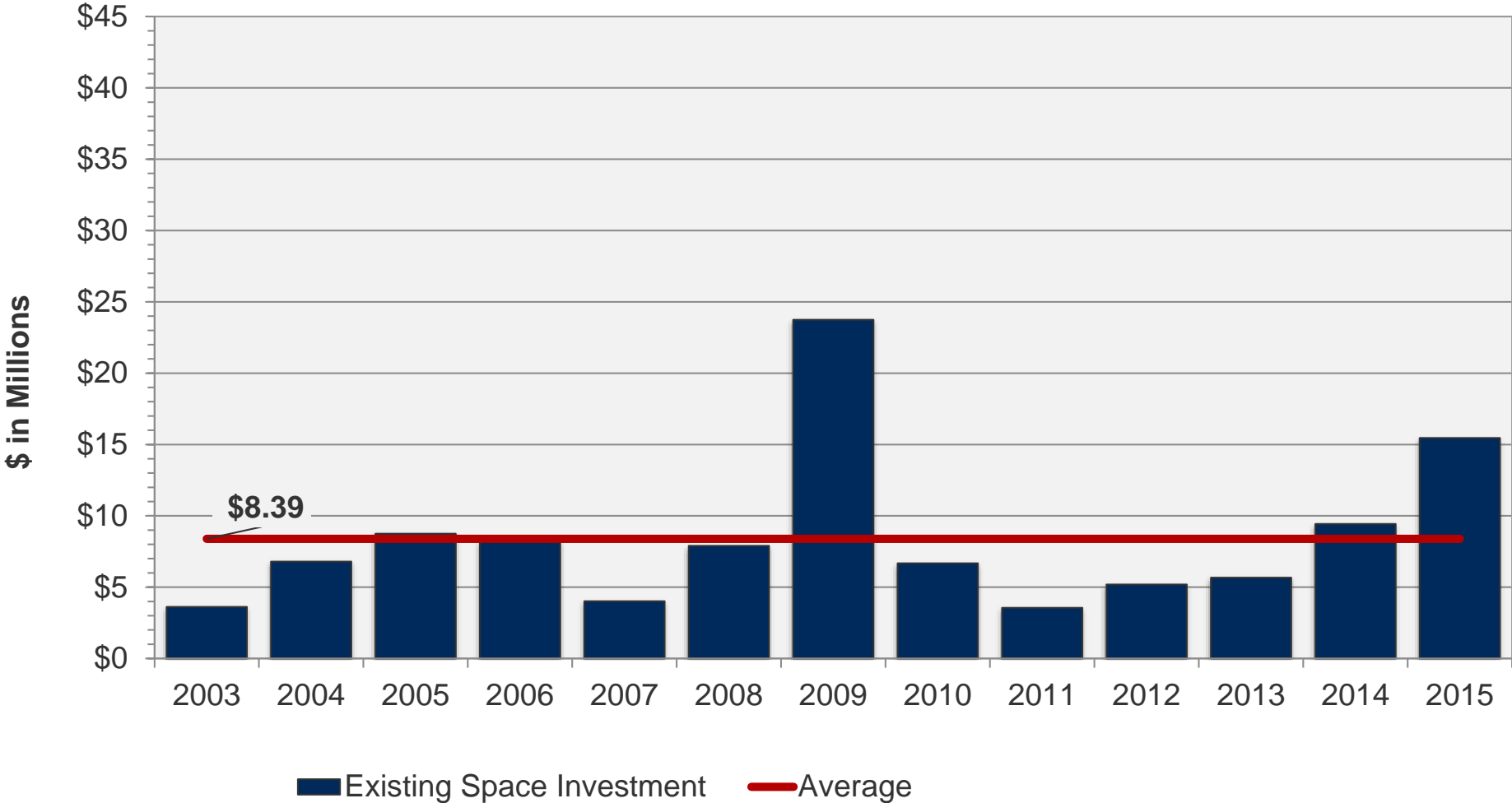


Total Capital Investment



Average into existing space reduces from \$17M to \$8.4M

Capital Investment into Existing Space



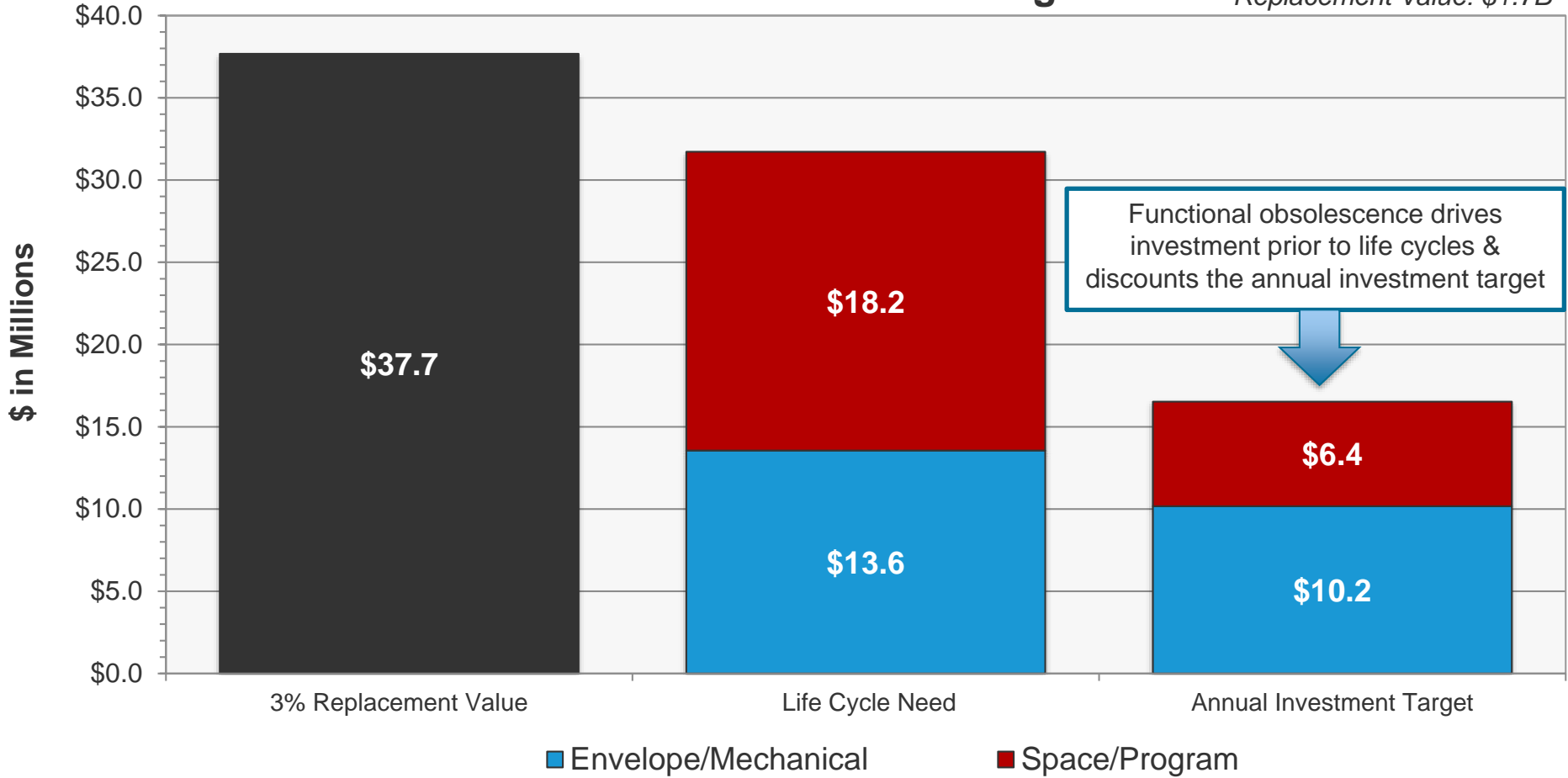
Defining an Annual Investment Target



Annual Funding Target: \$16.6M into existing space

FY15 Annual Investment Target

Replacement Value: \$1.7B

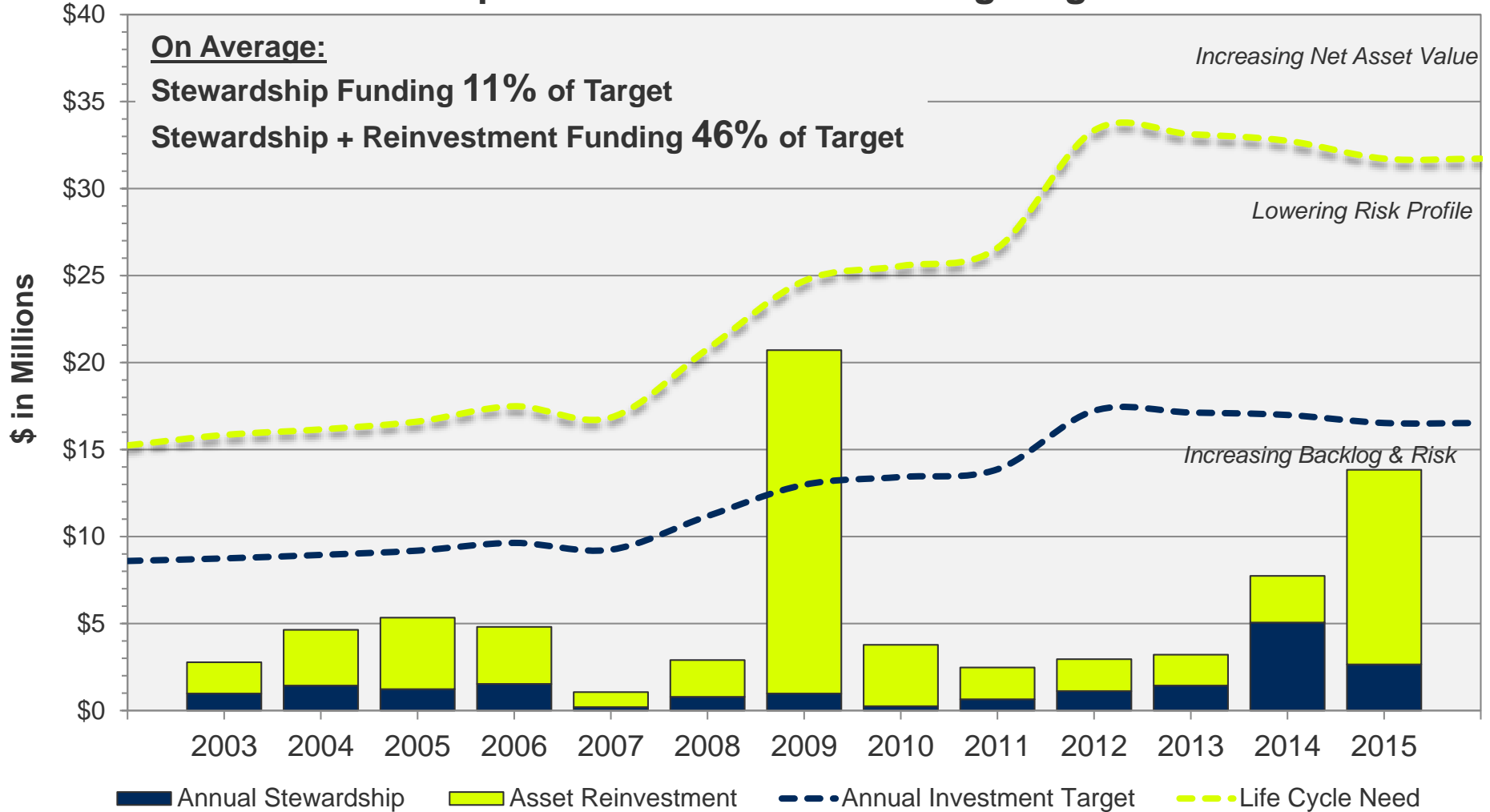


Total Capital Investment vs. Funding Target



Includes only the investment in existing facilities (excluding infrastructure)

Total Capital Investment vs. Funding Target

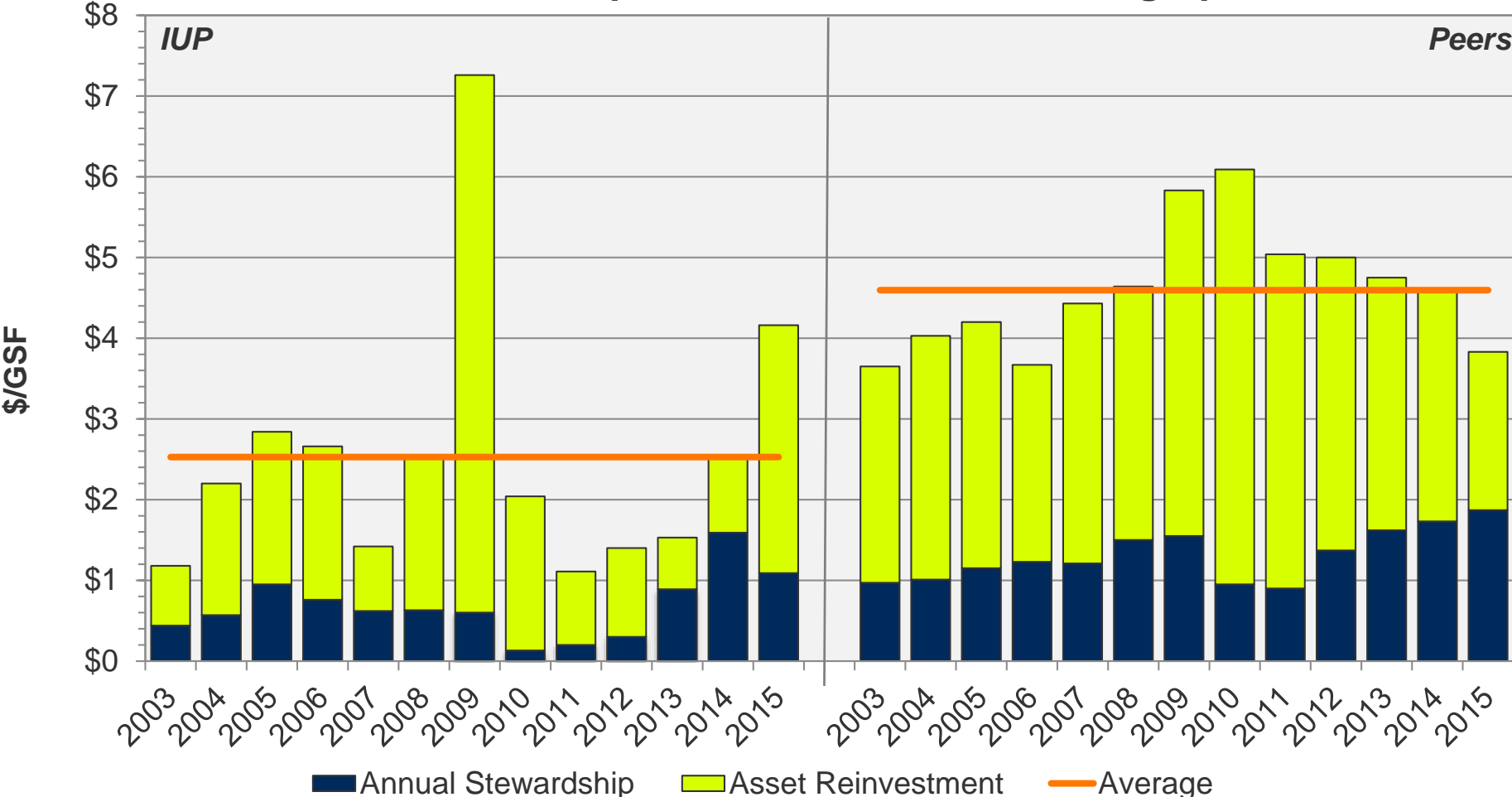


Total Project Spending vs. Peers



Includes only the investment in existing facilities

Total Capital Investment into Existing Space

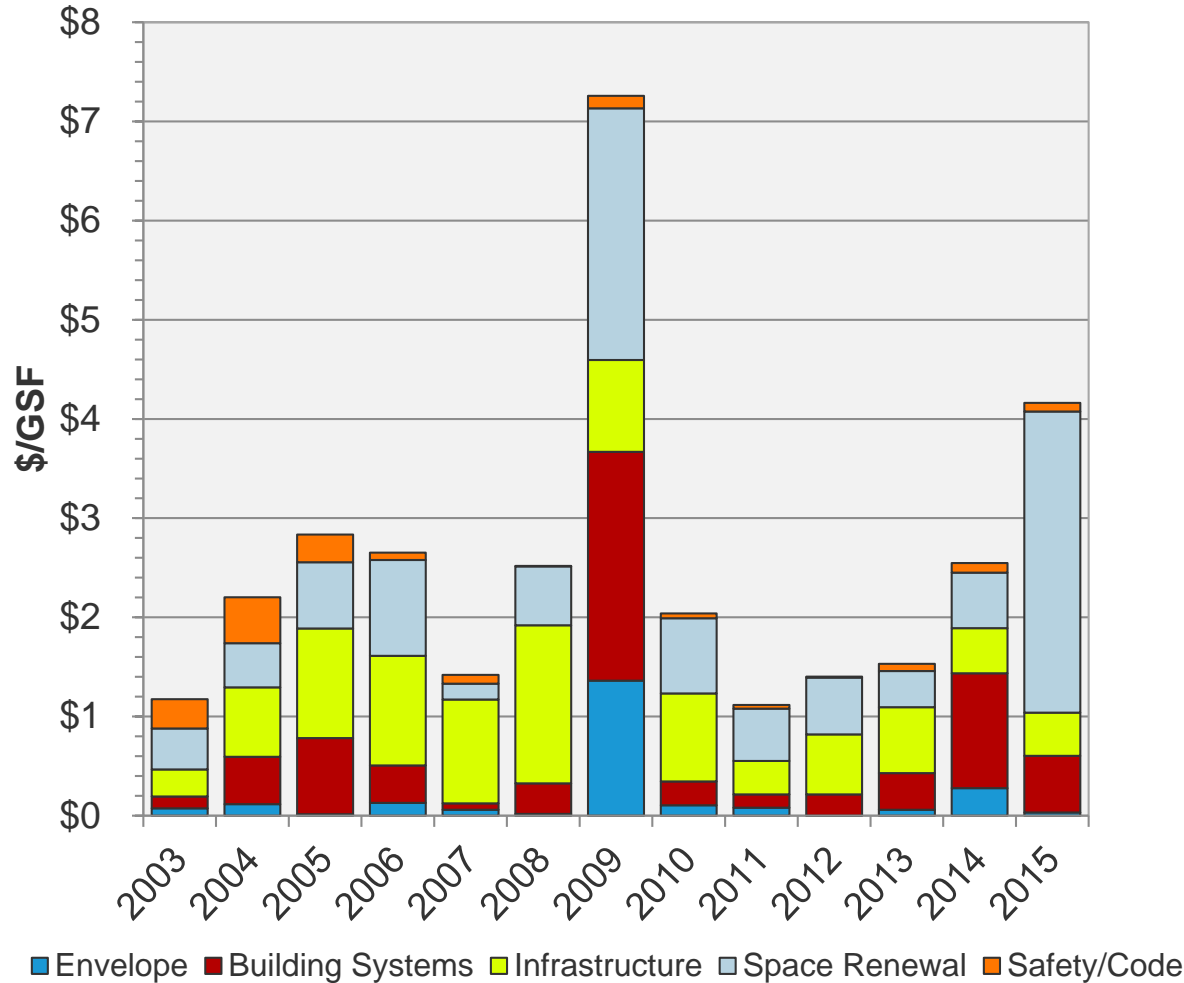


Total Project Spending by Package

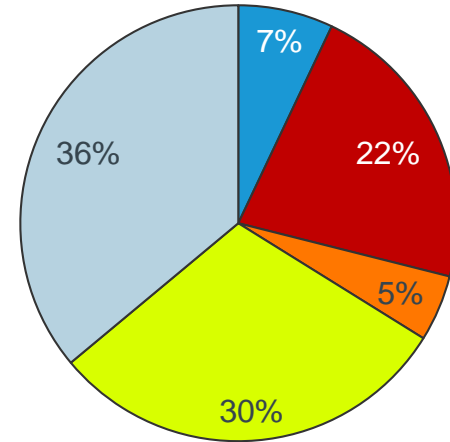


Envelope/Systems Investments Critical to Keep Buildings Running

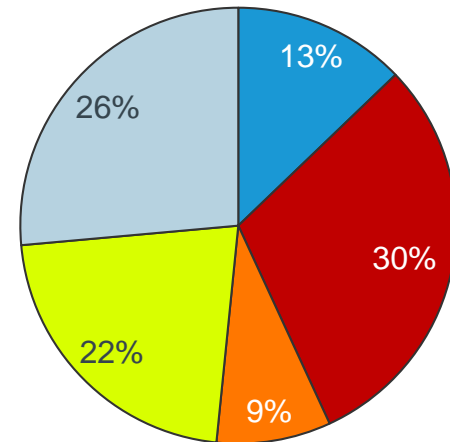
Capital Investment Mix by Year



IUP Investment Mix

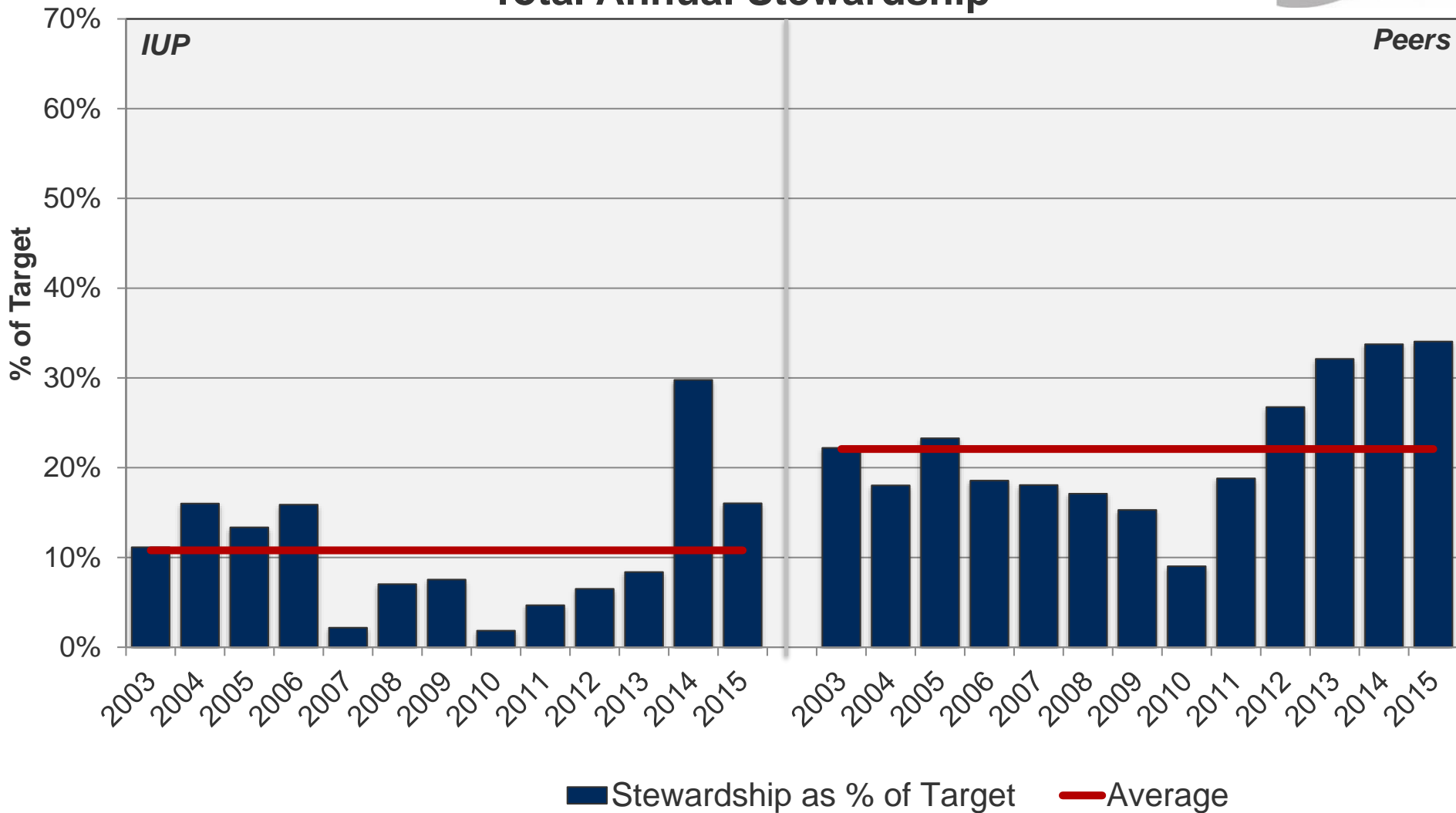


Peer Investment Mix



Peers are Focusing on Increasing Stewardship

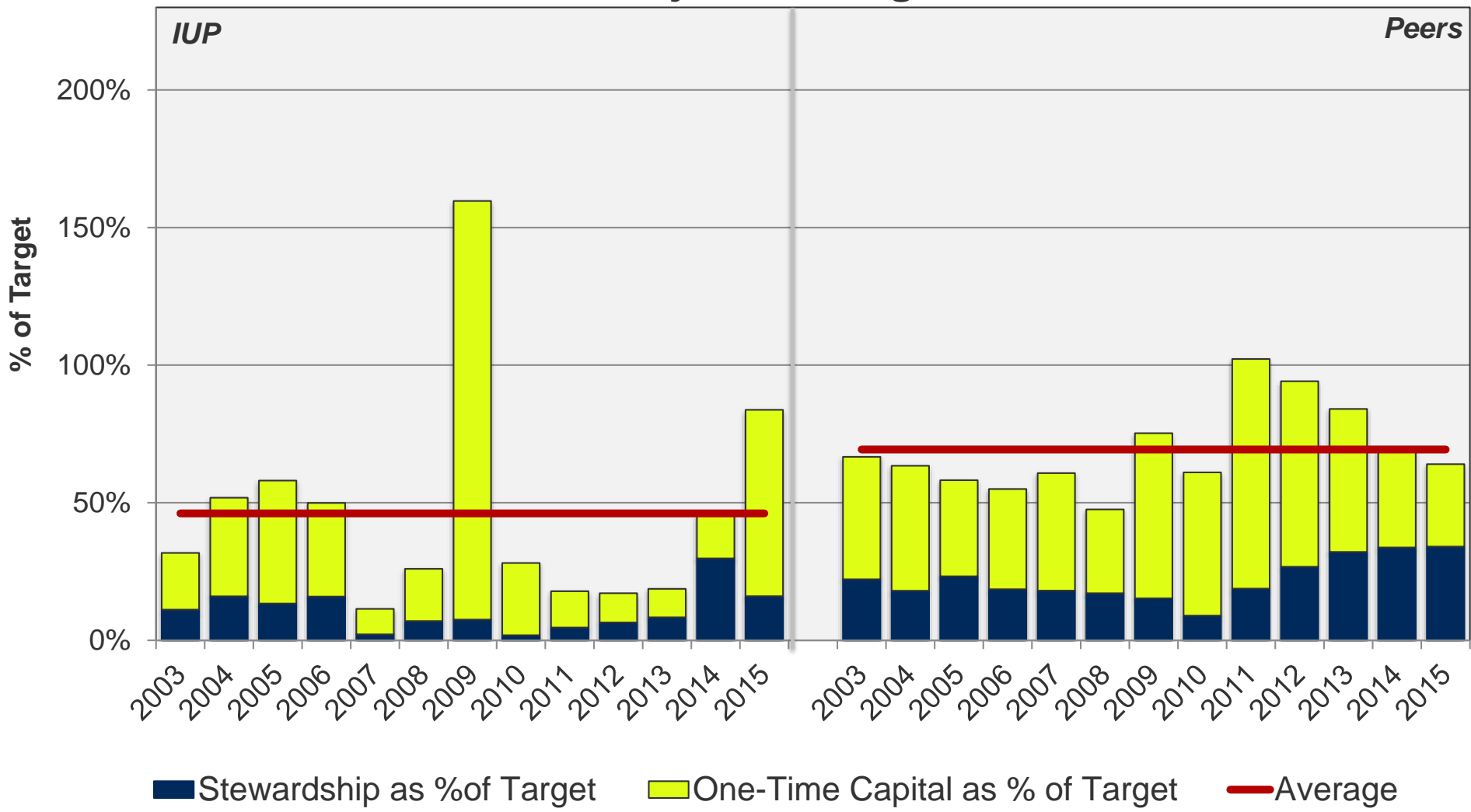
Total Annual Stewardship



Spending Below Peer Average over 13-Year Span



Total Project Vs. Target

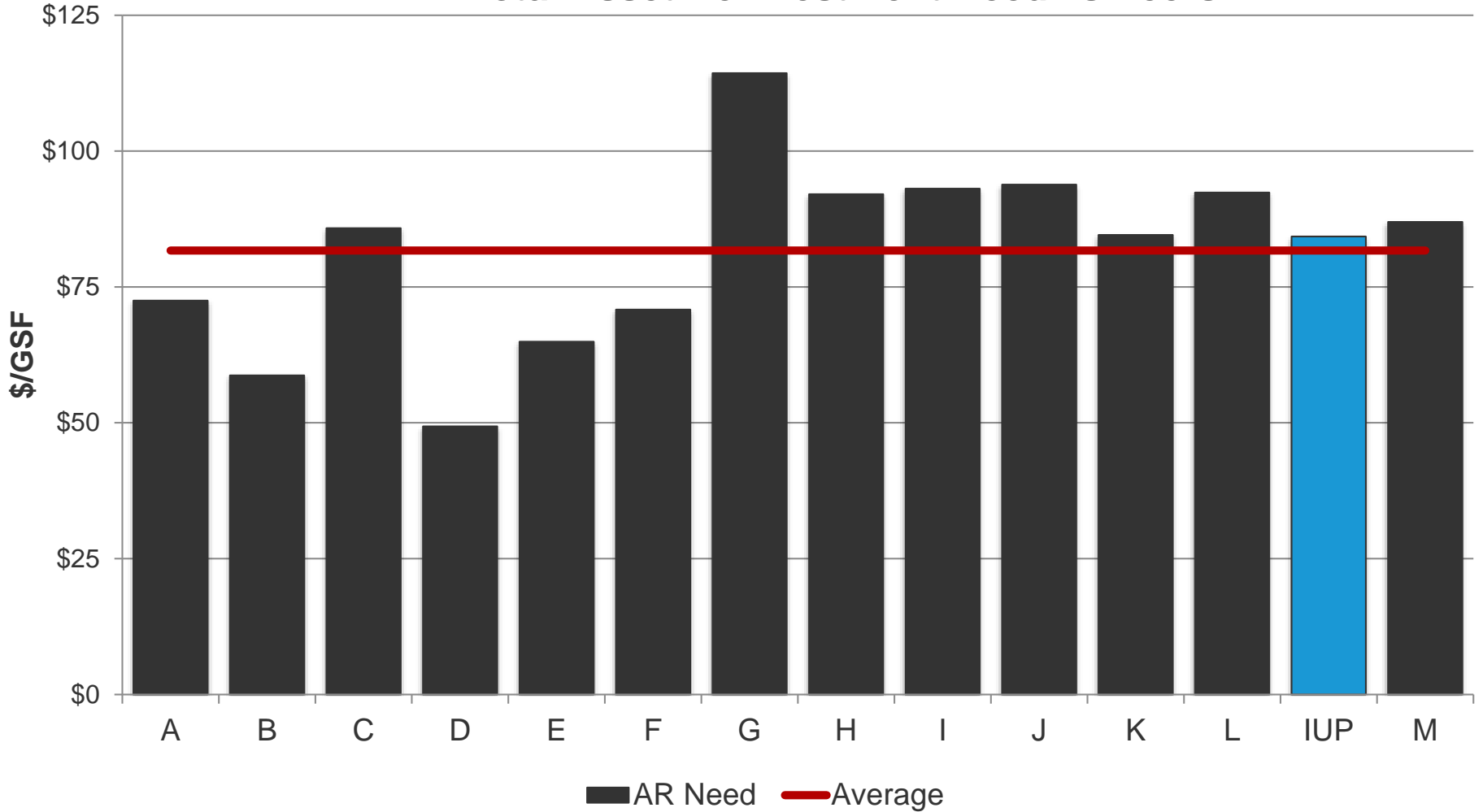


FY15 Total Asset Reinvestment Need vs. Peers



IUP need is aligned with peer of a similar campus renovation age

Total Asset Reinvestment Need vs Peers

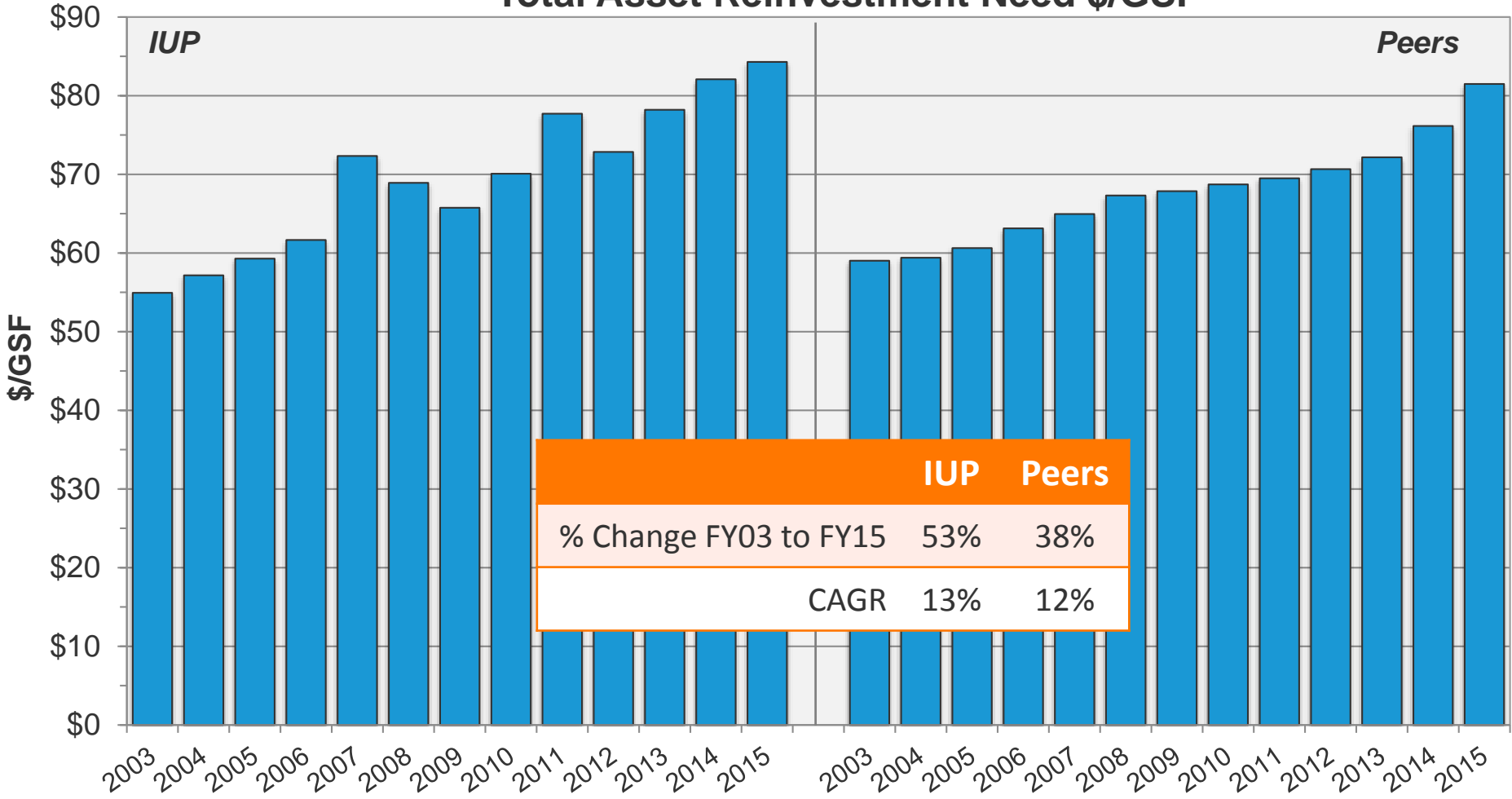


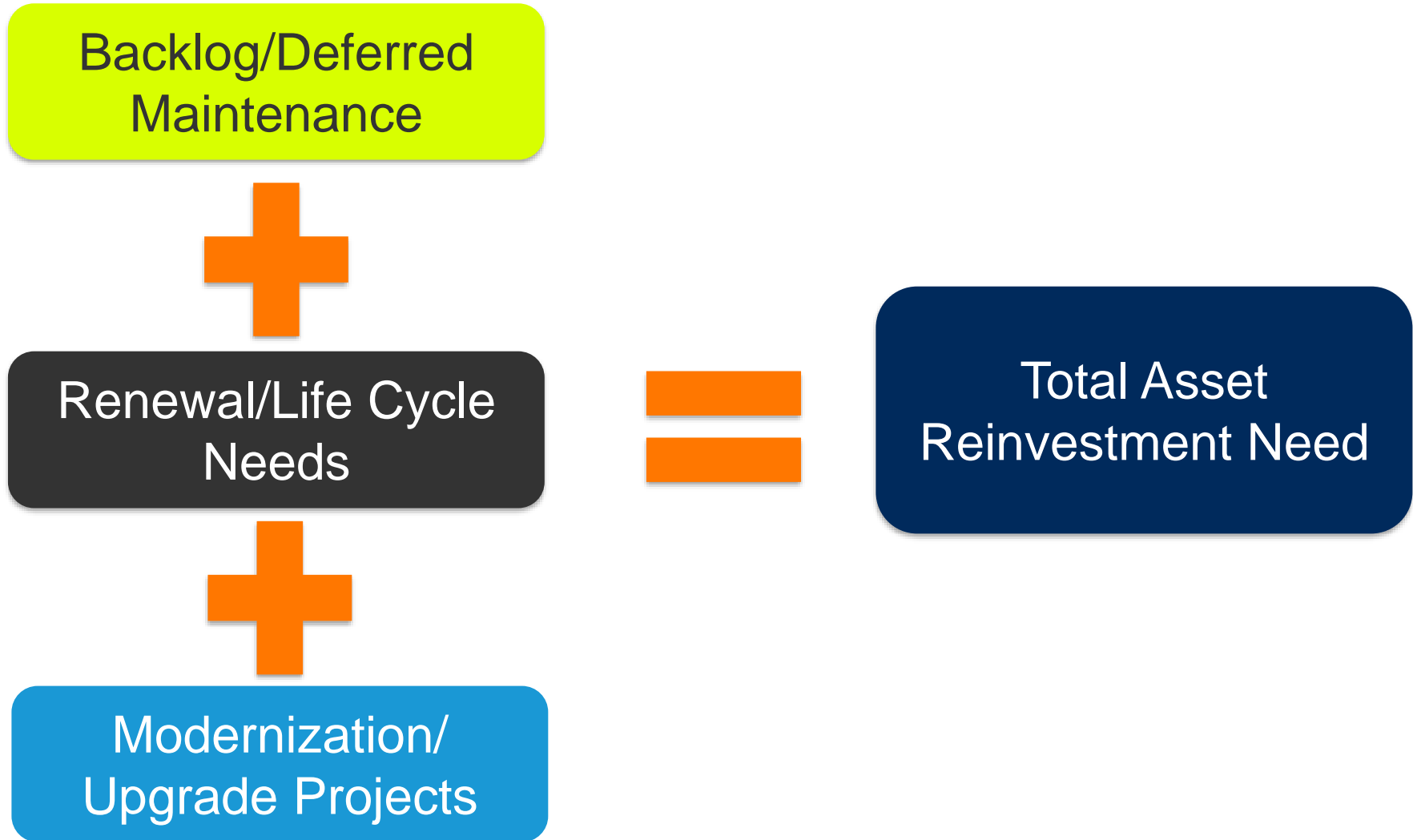
Total Asset Reinvestment Need vs. Peers



IUP has seen greater growth in AR need both annually and as a % change

Total Asset Reinvestment Need \$/GSF

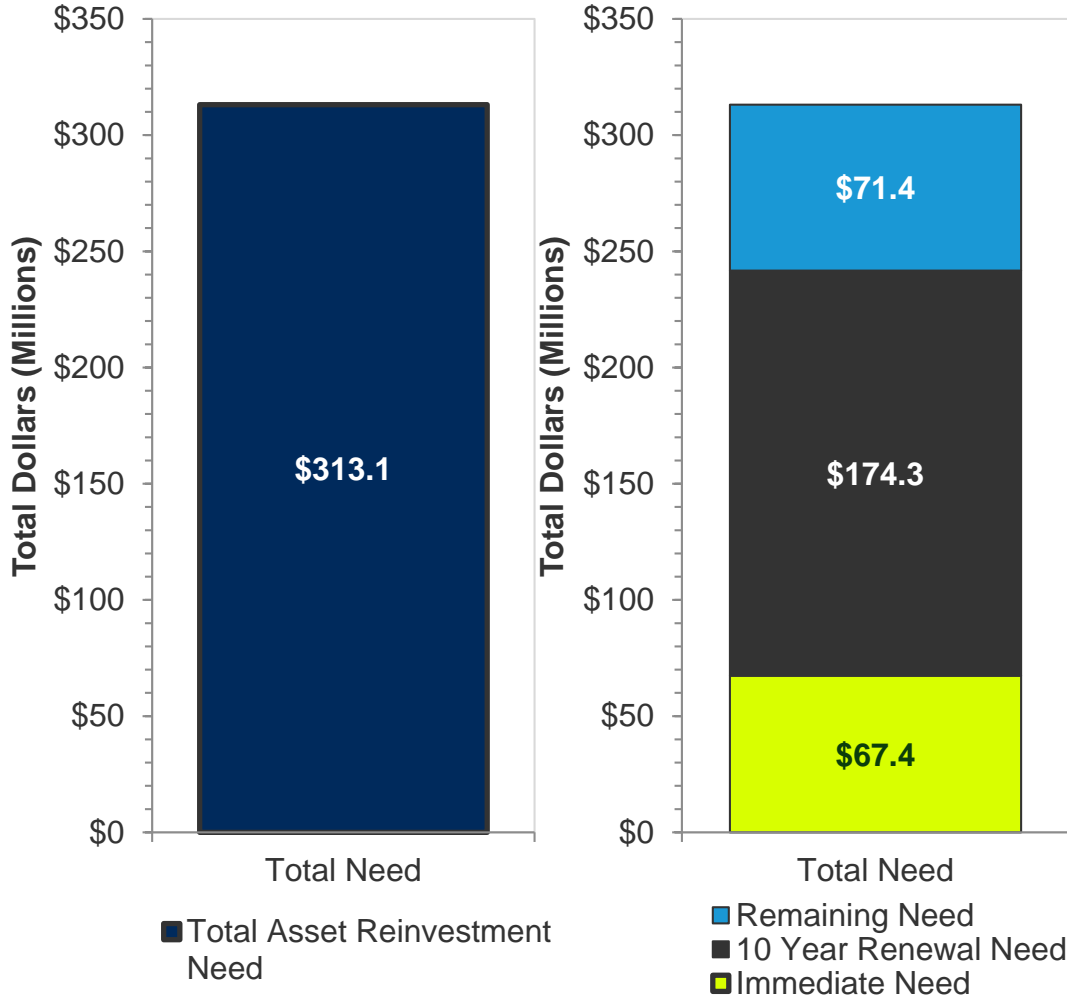




IUP's Ten Year Need



\$67.4M in immediate need



Infrastructure & Modernization Need:

- Estimated based on building function and age, against a Sightlines database of needs.

Remaining Renewal Need:

- Life cycle needs coming due between 2016-2025.

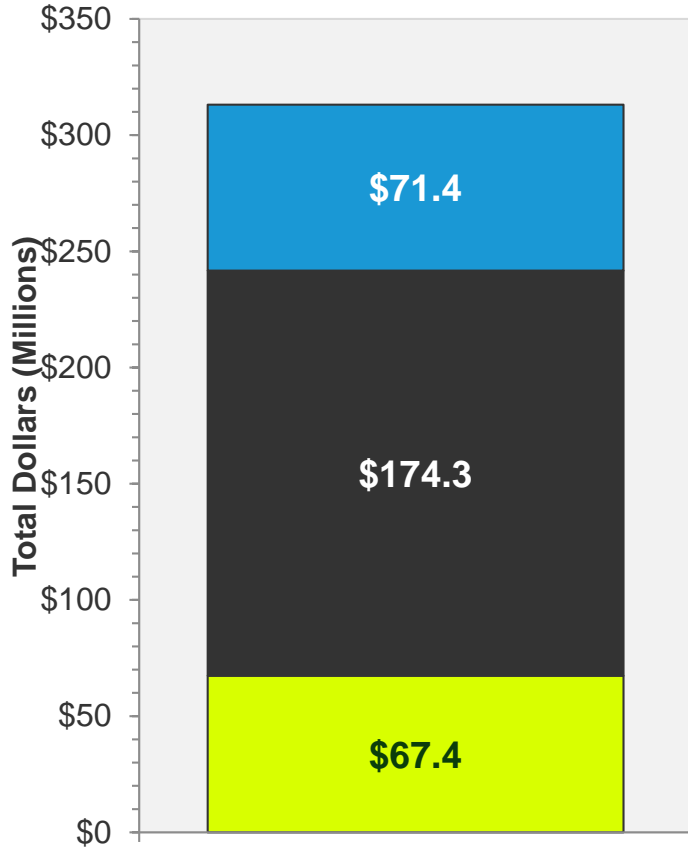
Immediate Need:

- The subsystem has already failed
- The subsystem is functioning with substantial degradation of efficiency or performing at increased cost
- Life cycle needs coming due between 2016-2018.

Total Immediate Need by System

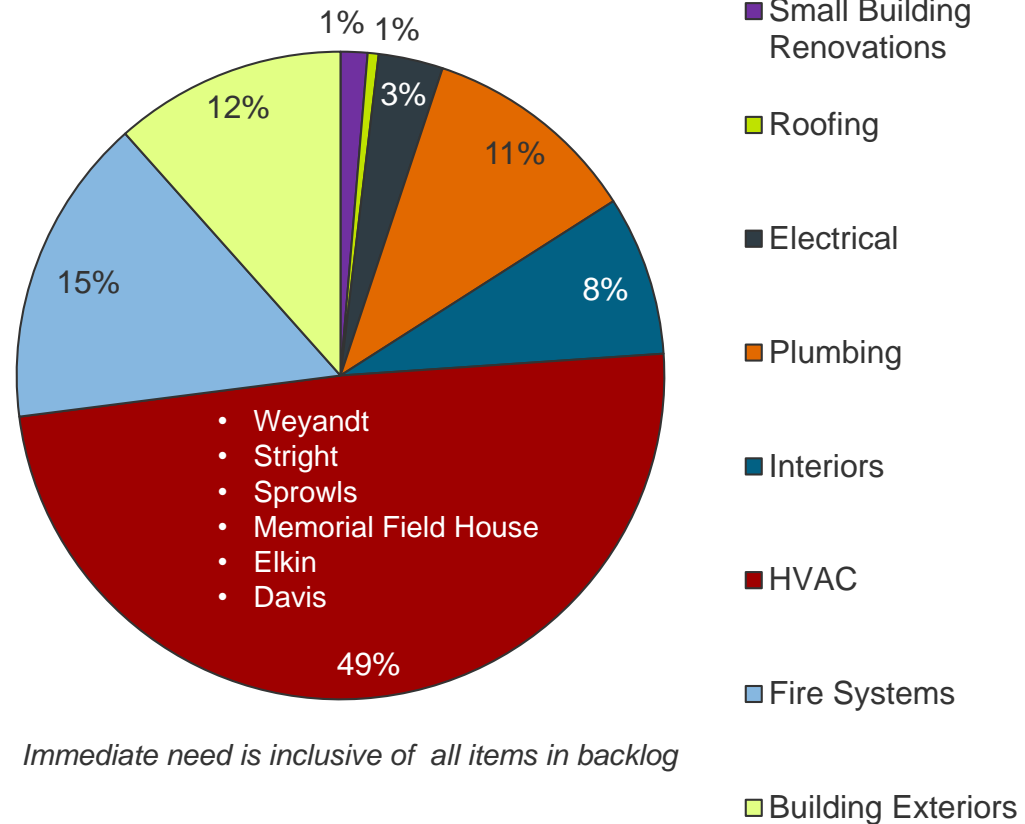


\$67.4M in immediate need



- Total Need
- Remaining Need
 - 10 Year Renewal Need
 - Immediate Need

Total Immediate Need by System



- Weyandt
- Stright
- Sprowls
- Memorial Field House
- Elkin
- Davis

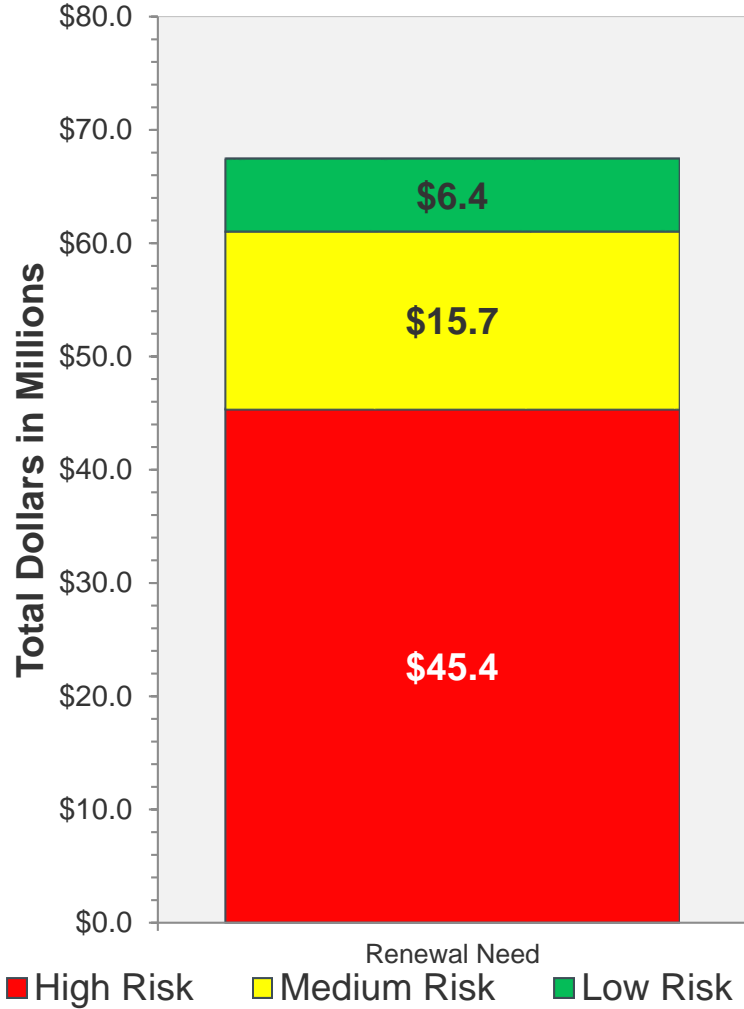
Immediate need is inclusive of all items in backlog

54% of Immediate Need is High Risk



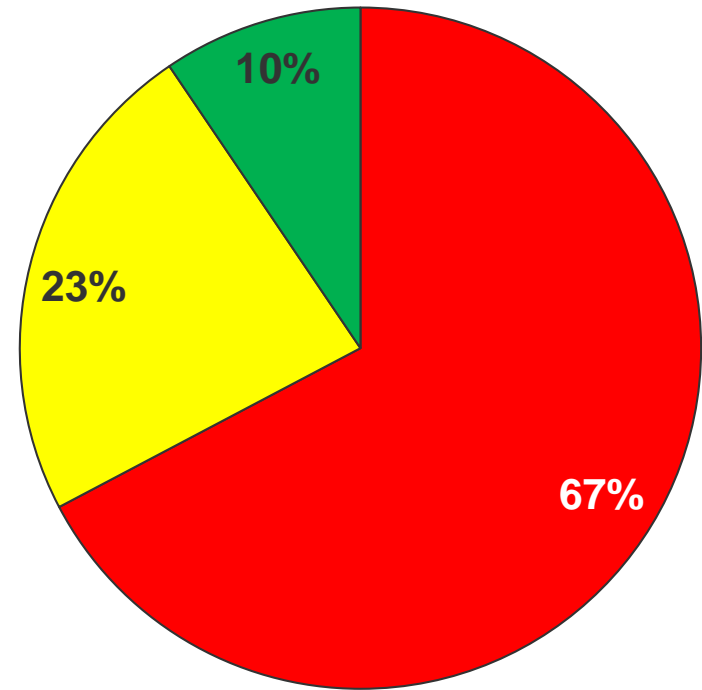
Comprised of HVAC, Electrical and Plumbing backlogged needs

Prediction



IUP: Immediate Needs by Risk

High = HVAC, Electrical, Plumbing
Medium = Exteriors, Roofing
Low = Interiors, Sm Bldg

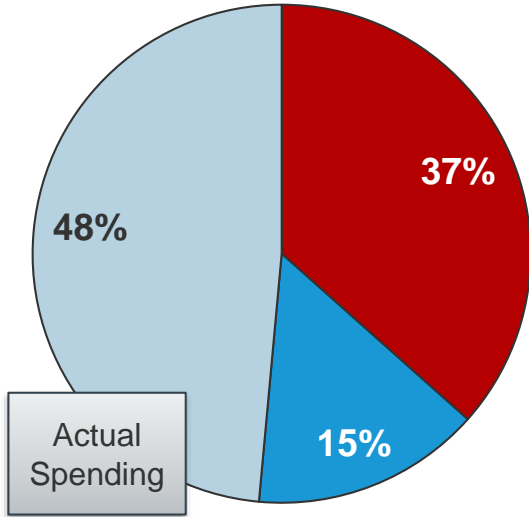


Past Investments Compared to Prediction Needs

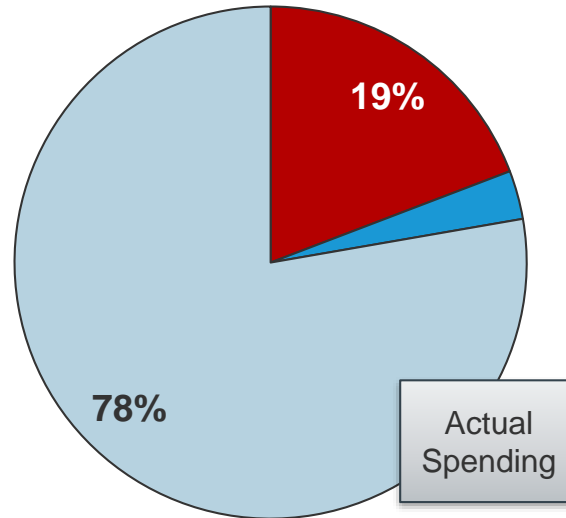


Future investments recommended to shift towards mechanical systems

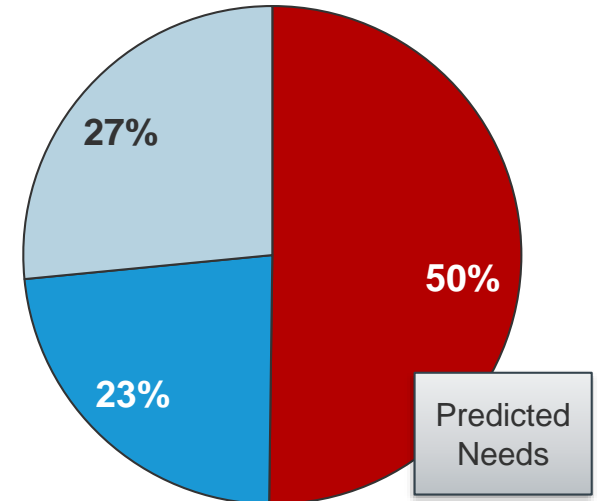
FY03-09



FY10-15



FY16-25 Renewal Needs

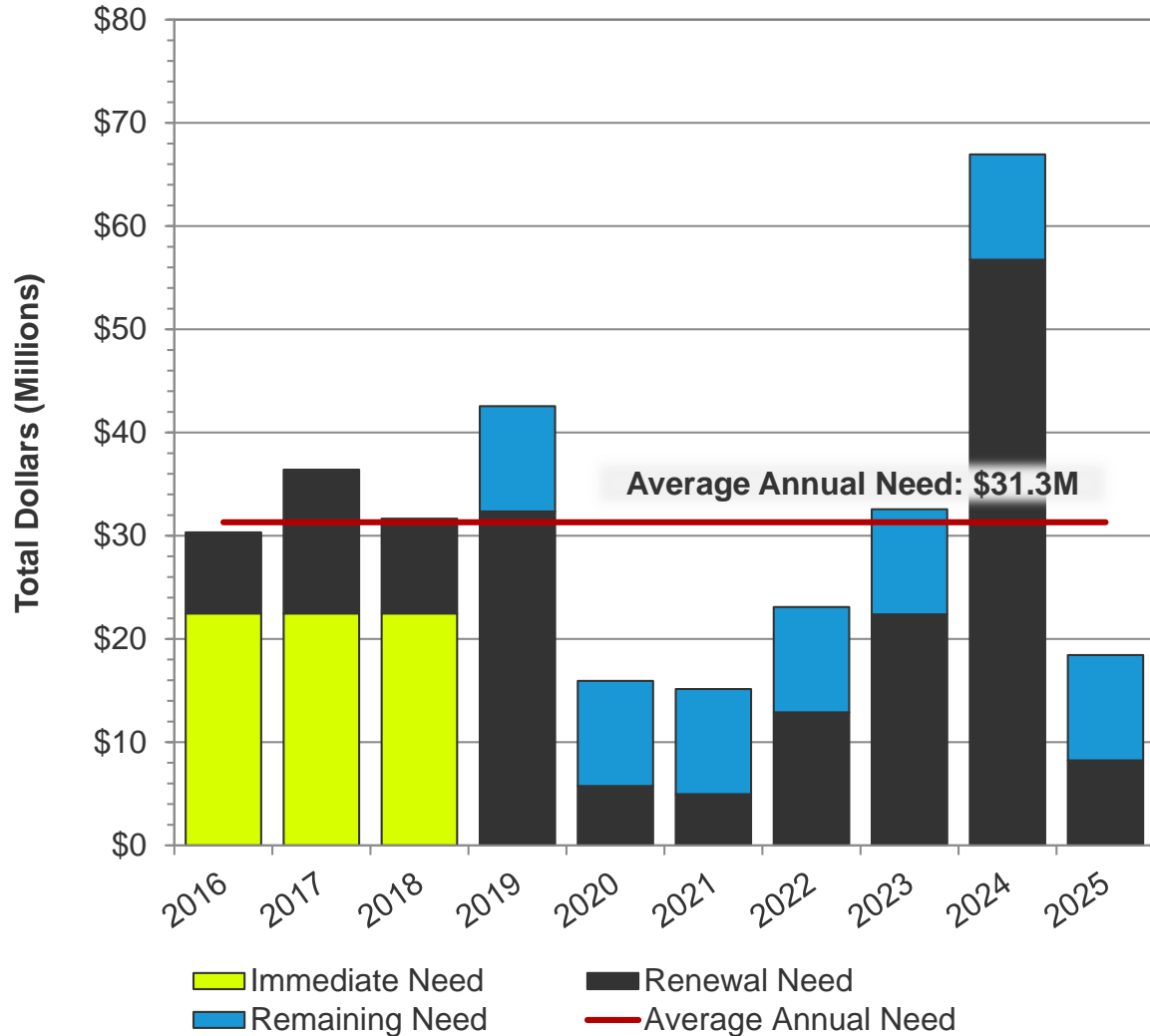
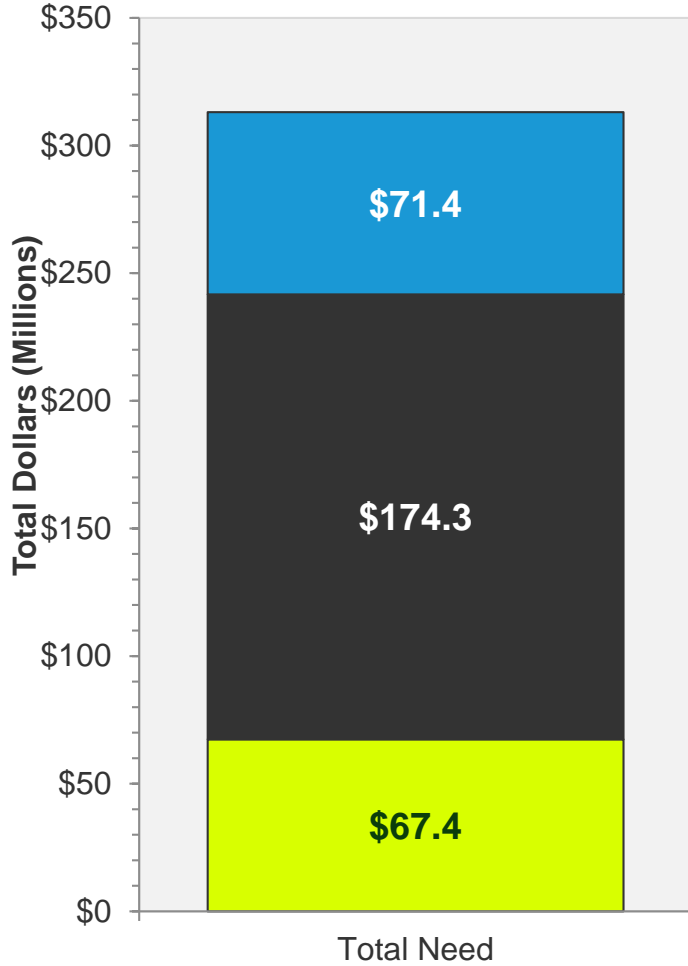


- Mechanical (High Risk)
- Envelope (Medium Risk)
- Space (Low Risk)

10-Year Renewal Need, Addressing Backlog



Immediate and 10-year renewal needs totaling \$241.7M

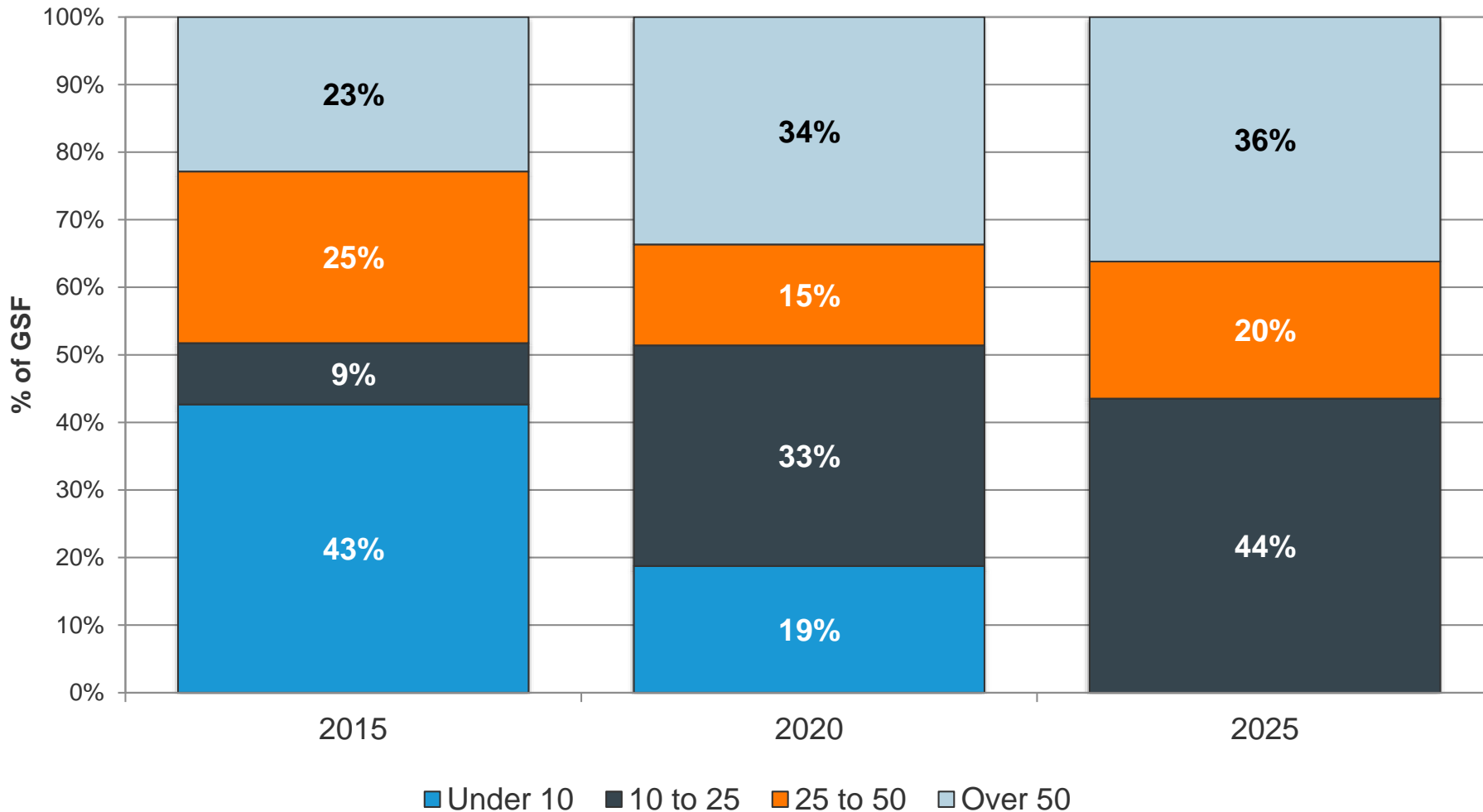


Young Spaces Today Facing Future Capital Infusions



Today's young campus will age concurrently and require significant investment

Renovation Age by Category



Breaking Down the ROPA Radar



A single chart to summarize IUP's performance in FY15

ROPA Radar Chart

Annual Stewardship

Annual Stewardship:
IUP is operating significantly below target in this category. Continuing to increase institution-level funding to facilities will increase this area

Operating Effectiveness:
IUP is operating at close to target. Reducing the strain on the custodial department through strategic hiring of staff and supervisors will close the gap here

Asset Reinvestment

Operating Effectiveness

Annual Stewardship:
IUP is operating significantly below target in this category. Identifying and executing on large-scale renovations and demolitions will improve this area

Service:
IUP is operating at close to target. Improving the ability for customers to communicate with staff when service requests are completed will improve this category

Service



Optimal:
“Ideal world” scenario in which IUP would be performing at the top of our database

Target:
What IUP should strive to reach in order to operate both effectively and efficiently

Actual:
Where IUP is operating based on fiscal year 2015 analysis

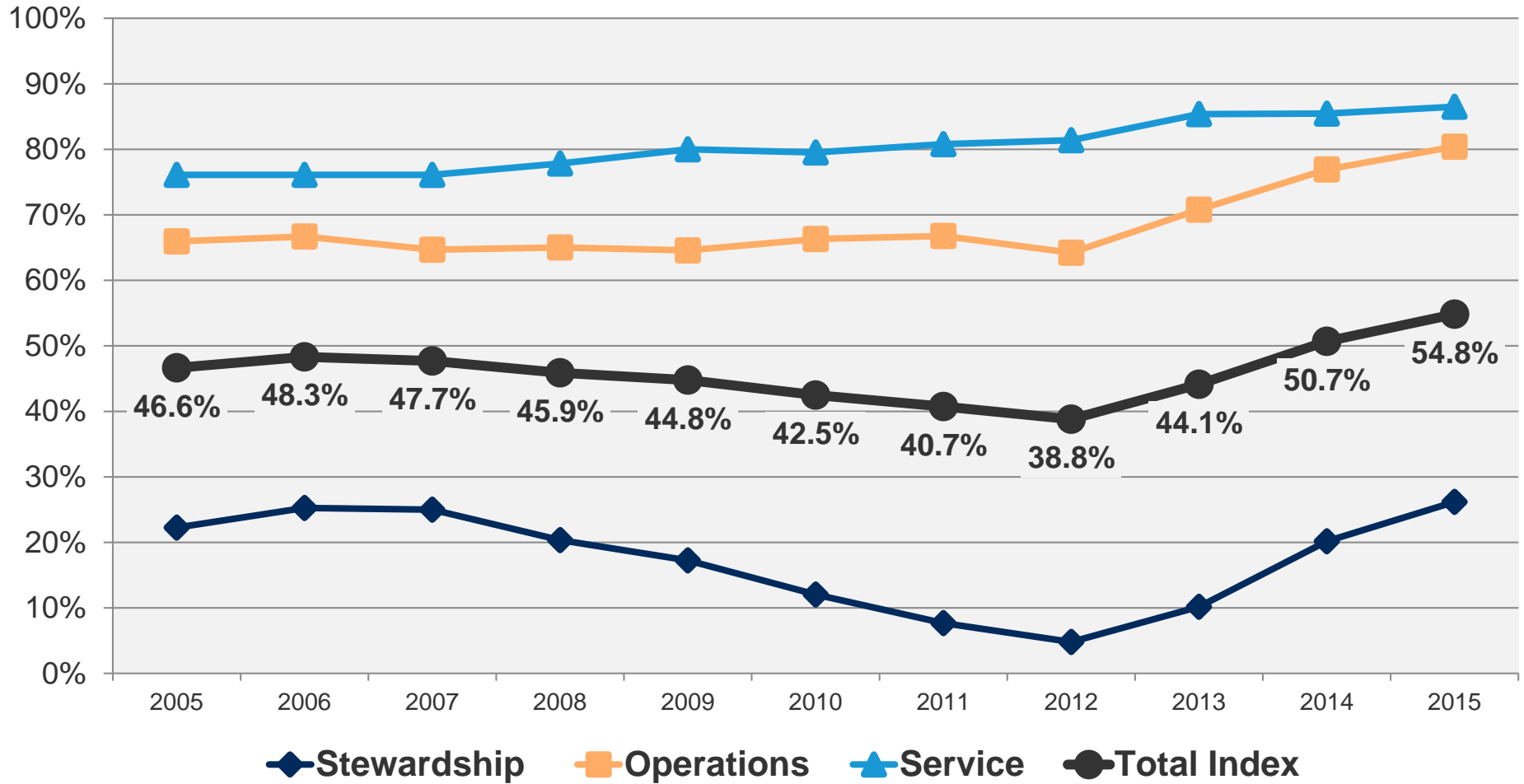
1. Protect the investments you've made in recent years. Are your current operating funds enough to maintain the new spaces in good condition?
 1. Maintenance and custodial staff are both stretched to cover more than peers by 30%. Is this model sustainable, and can your staff keep up a high expectation level?
2. The large percent of campus that is under 10 today will age together and meet major life cycles at once. Current investment levels are falling far below target levels of need and upcoming renewal needs; what is the plan to address the needs moving forward?
3. Historical investments have been more heavily weighted towards space renewal; future needs will lie in the mechanical/high-risk systems. Work to strategize limited funding to maximize results and benefits
4. Recent investments into PM have been commendable, and it needs to be sustained. Investing \$1 in PM today can save \$2.73 in reactive maintenance down the road; ensuring continuation of these investments will be key for both cost effectiveness and building preservation

Key Performance Indicator

How is the Indicator Calculated?

1	Annual Stewardship	Stewardship and Operating Budget – PM	50%	
2	Preventive Maintenance	PM (% of facilities operating budget)	5%	
	Maintenance	Coverage (GSF/FTE)	1.67%	
		Supervision (FTE/Supervisor)	1.67%	
		Materials (\$/FTE)	1.67%	
	Custodial	Coverage (GSF/FTE)	1.67%	
		Supervision (FTE/Supervisor)	1.67%	
		Materials (\$/FTE)	1.67%	
	Grounds	Coverage (GSF/FTE)	2.5%	
		Supervision (FTE/Supervisor)	2.5%	
	Energy	Consumption (BTU/GSF)	5%	
	3	Service	Campus Inspection	12.5%
			Service Process	12.5%

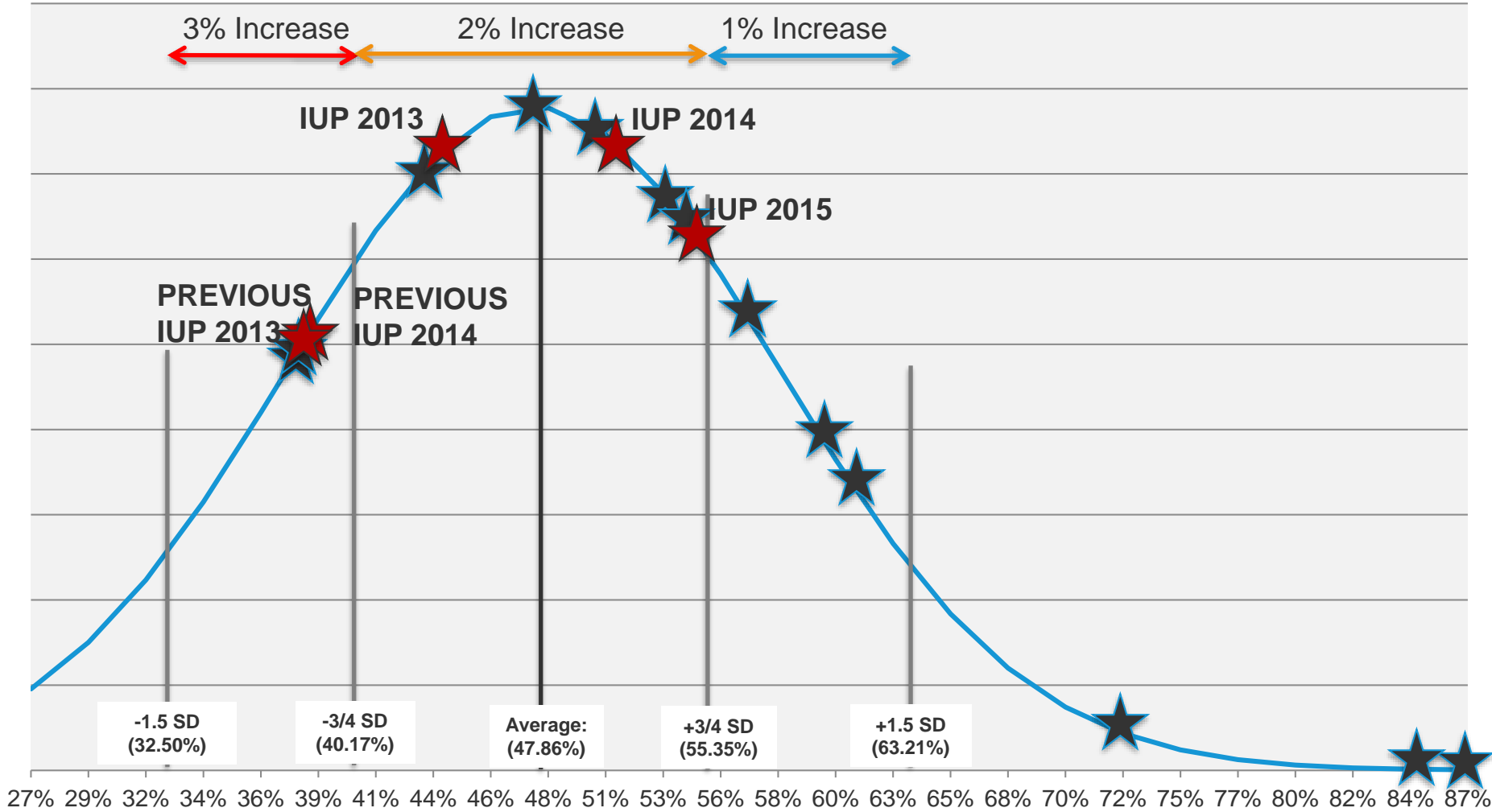
IUP Performance



KPI Score Distribution



Distribution of Peer KPI Index Value



Questions & Discussion