



sightlines

ROPA+

# Rhode Island School of Design

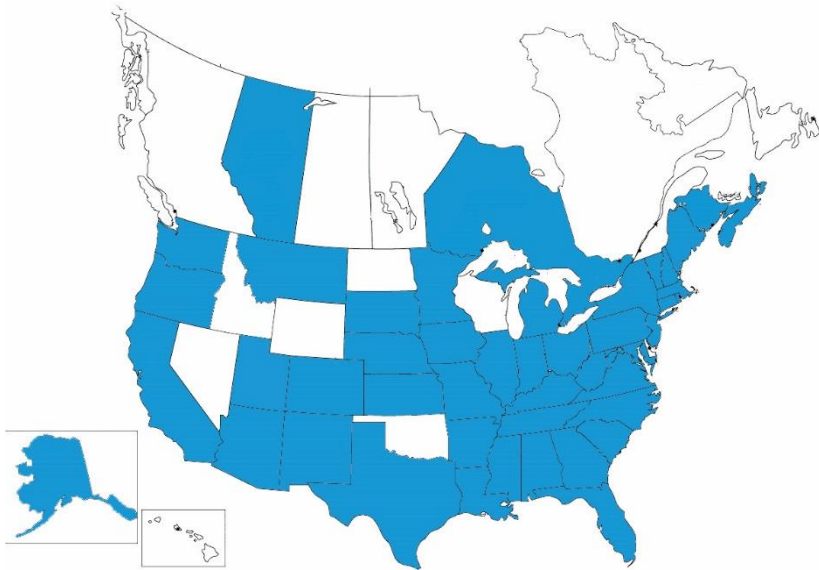
Presenters: Caroline Johnson & Jayne Dabrah

- Vanderbilt University
- Virginia Commonwealth University
- Virginia Department of General Services
- Wagner College
- Wake Forest University
- Washburn University
- Washington University in St. Louis
- Wellesley College
- Wesleyan University
- West Chester University
- West Liberty University
- West Virginia Health Science Center
- West Virginia Institute of Technology
- West Virginia School of Osteopathic Medicine
- West Virginia State University
- West Virginia University
- Western Connecticut State University
- Western Oregon University
- Westfield State University
- Wheaton College
- Widener University
- William & Mary



# 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**
- **13 of the 14 Big 10 Institutions**
- **9 of the 12 Ivy Plus Institutions**
- **8 of 13 Selective Liberal Arts Colleges**

\* U.S. News Rankings

## Sightlines is proud to announce that:

- 450 colleges and universities are Sightlines clients including over 325 ROPA members.
- 93% of ROPA members renewed in 2014
- We have clients in 42 states, the District of Columbia and four Canadian provinces
- More than 100 new institutions became Sightlines members since 2013

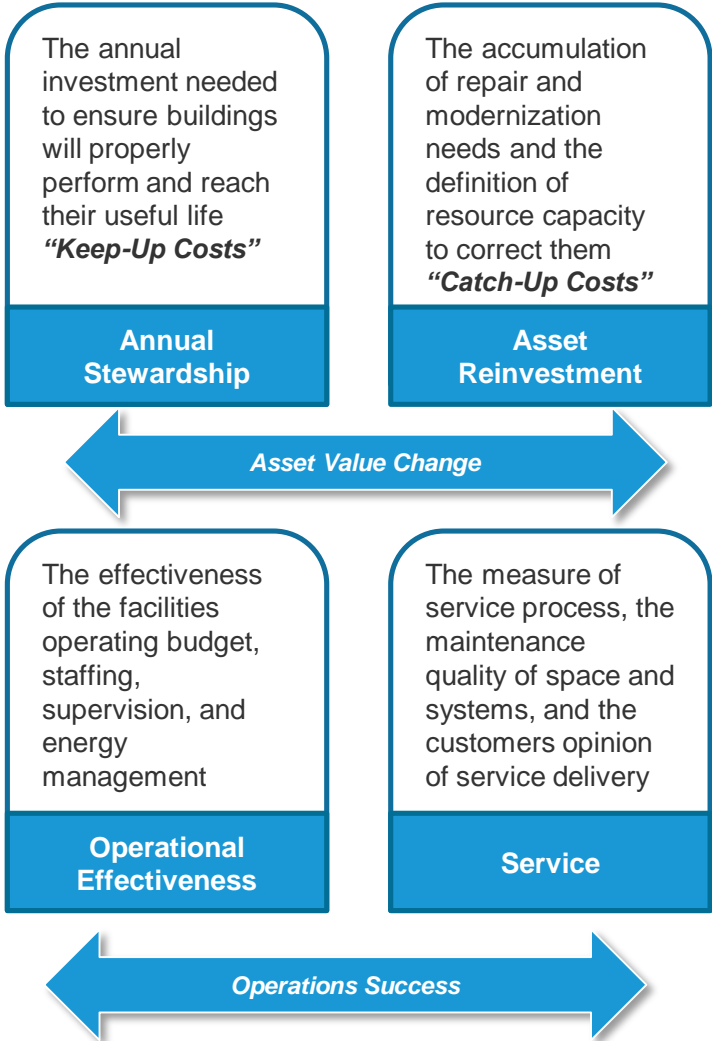
## Sightlines advises state systems in:

- Alaska
- California
- Connecticut
- Hawaii
- Maine
- Massachusetts
- Minnesota
- Mississippi
- Missouri
- Nebraska
- New Hampshire
- New Jersey
- Pennsylvania
- Texas
- West Virginia

# A Vocabulary for Measurement



## The Return on Physical Assets – ROPA<sup>SM</sup>



Institution
Art Center College of Design
Bentley University
Berklee College of Music
Bowdoin College
Brown University
California Institute of the Arts
Connecticut College
Ithaca College
Massachusetts College of Art and Design
Mount Holyoke College

Comparative Considerations

Size, technical complexity, region, geographic location, and setting are all factors included in the selection of peer institutions

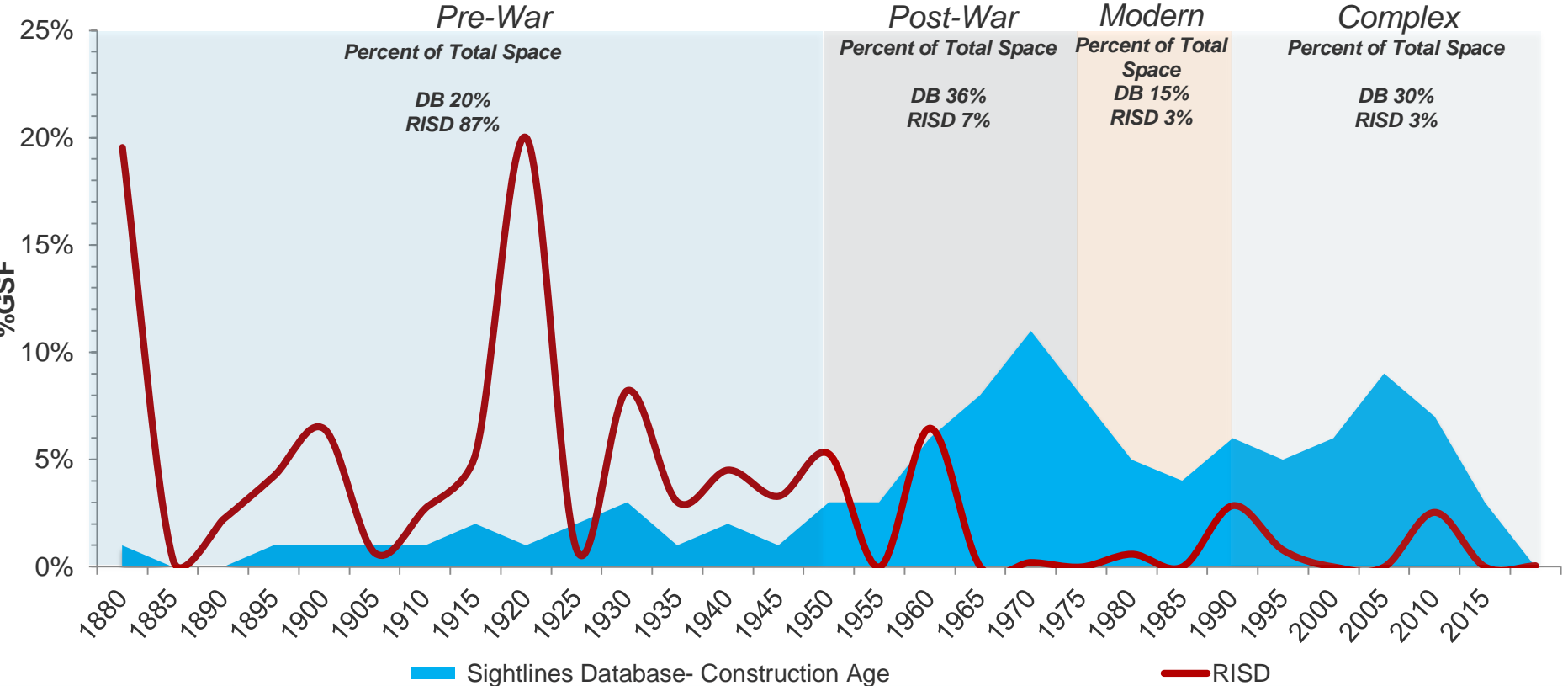
- > Campus was built earlier than the Sightlines database
  - > Sturdy bones but in need of modernization
  - > Smaller, historic buildings place stress on operations
- > Campus needs are split between “Keep Up” and “Catch Up”
  - > RISD’s current capital strategy puts pressure on “Keep Up” funds
  - > Limited one-time funding creates high overall backlog of need
- > RISD has more program space / student than peers
  - > Studio space driving need?
- > New emissions data shows downward trends



# Putting Your Campus Building Age in Context

The campus age drives the overall risk profile

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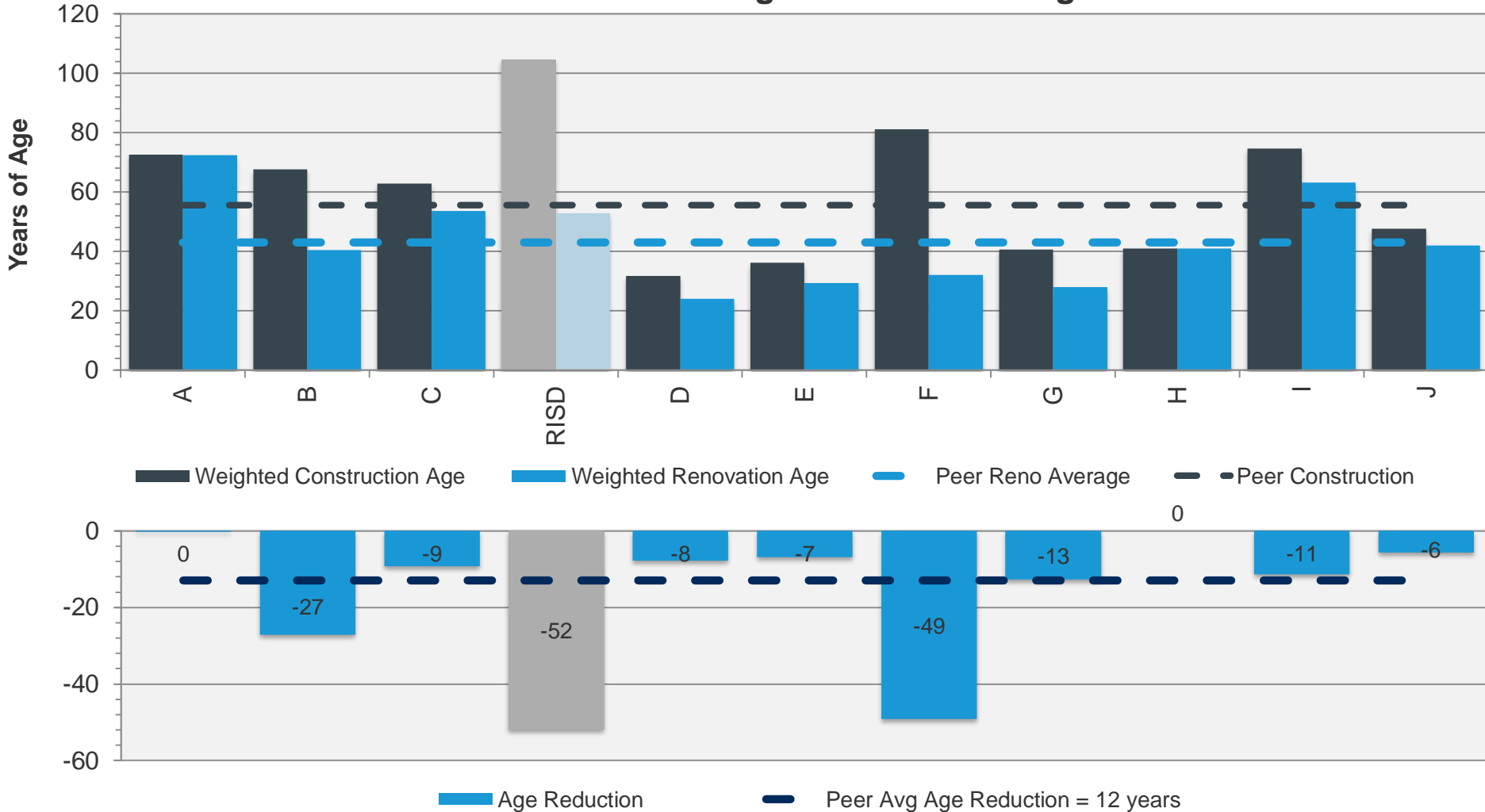


# Resetting the Clock Through Renovations



*RISD has older facilities on average, but has made more impact with renovations*

## Construction Age v. Renovation Age



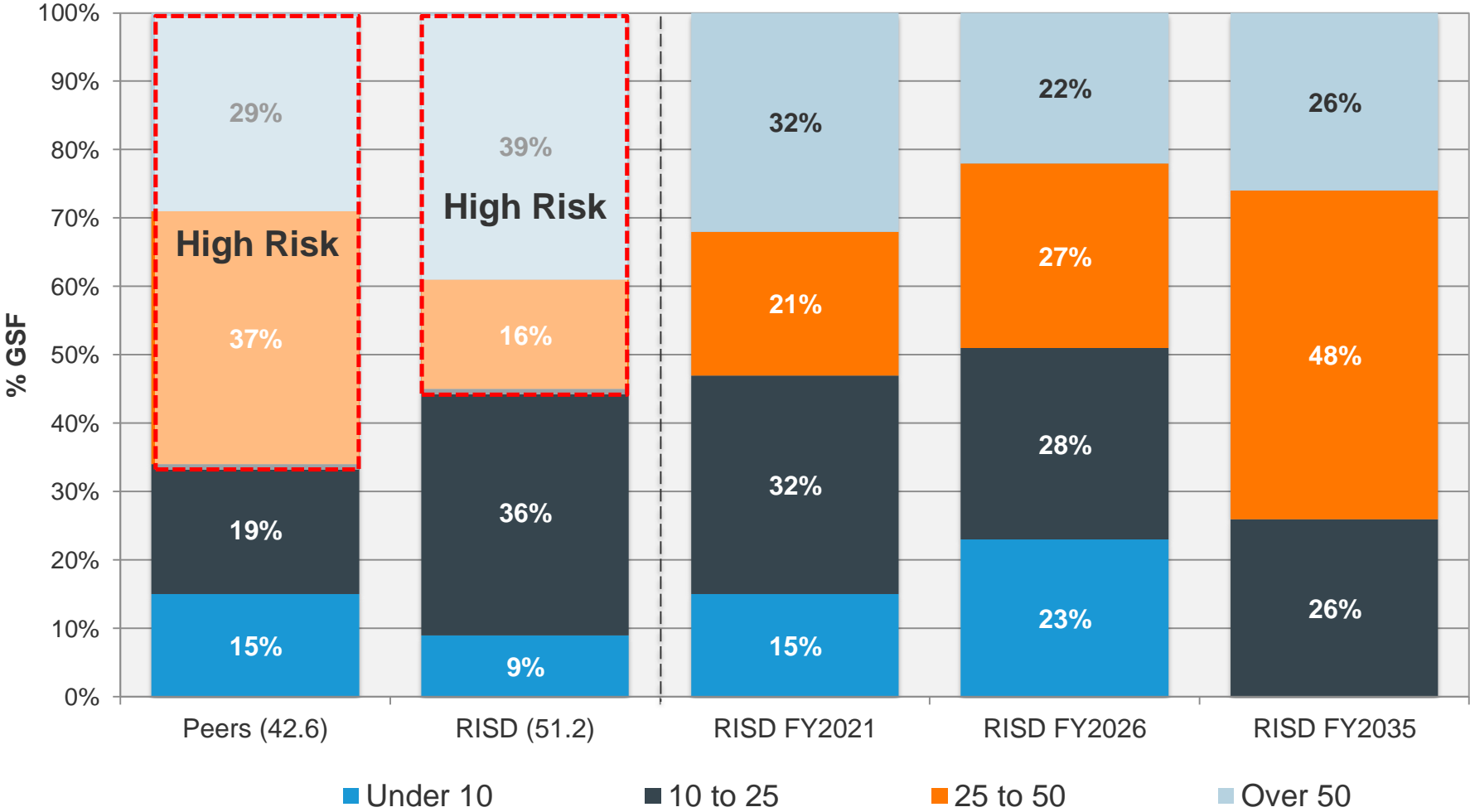
Peers ordered by increasing tech rating

# A Shifting Campus Age Profile



Understanding the Impact of Age on Capital Demands

Campus Age by Category



**New construction:** ~100K GSF 250 South Water Street, ~ 100K Housing and Student Life at Angell Street  
**Renovations:** College, Metcalf, Homer, Nickerson, Barstow, Larned, Thompson & Alumni, B.E.B.(Bayard Ewing Building)

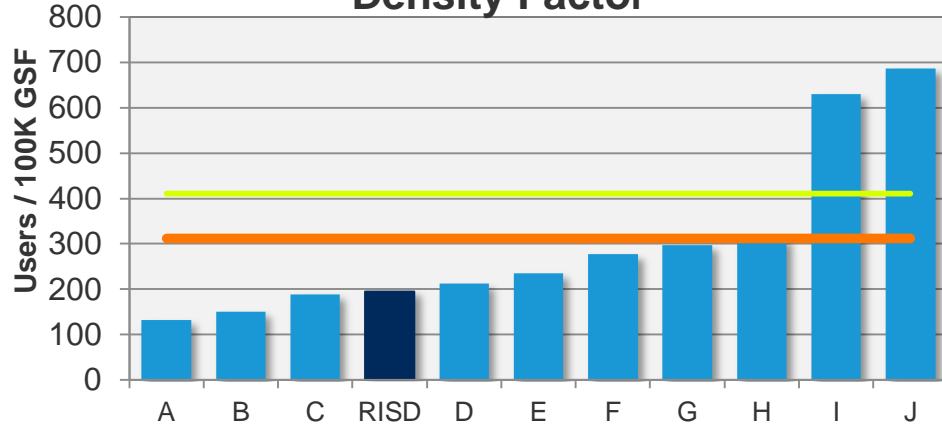


# Physical Drivers of Campus

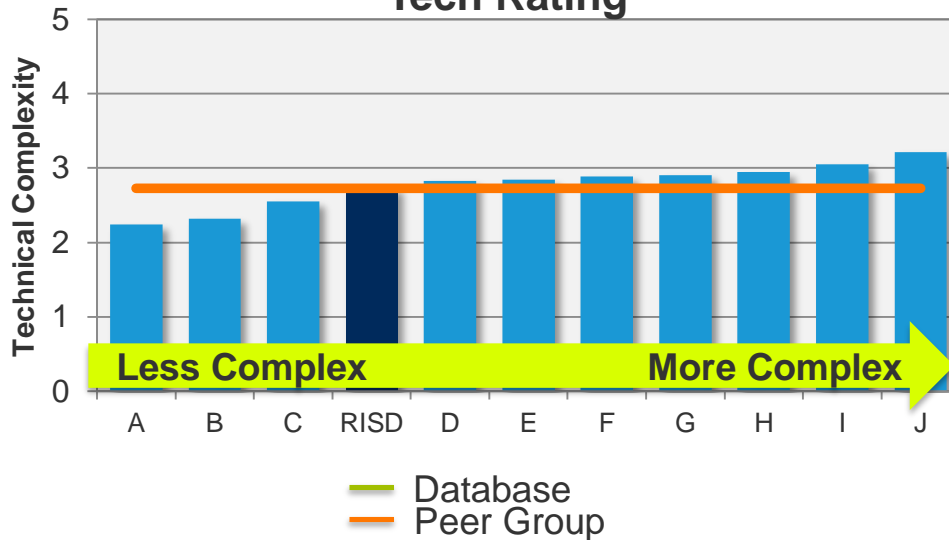


Similar physical attributes to peer institutions

### Density Factor



### Tech Rating



### Density Factor Impacts:

- Wear & Tear of Space
- Life Cycles of Building Components
- Operational Demands

### Tech Rating Impacts:

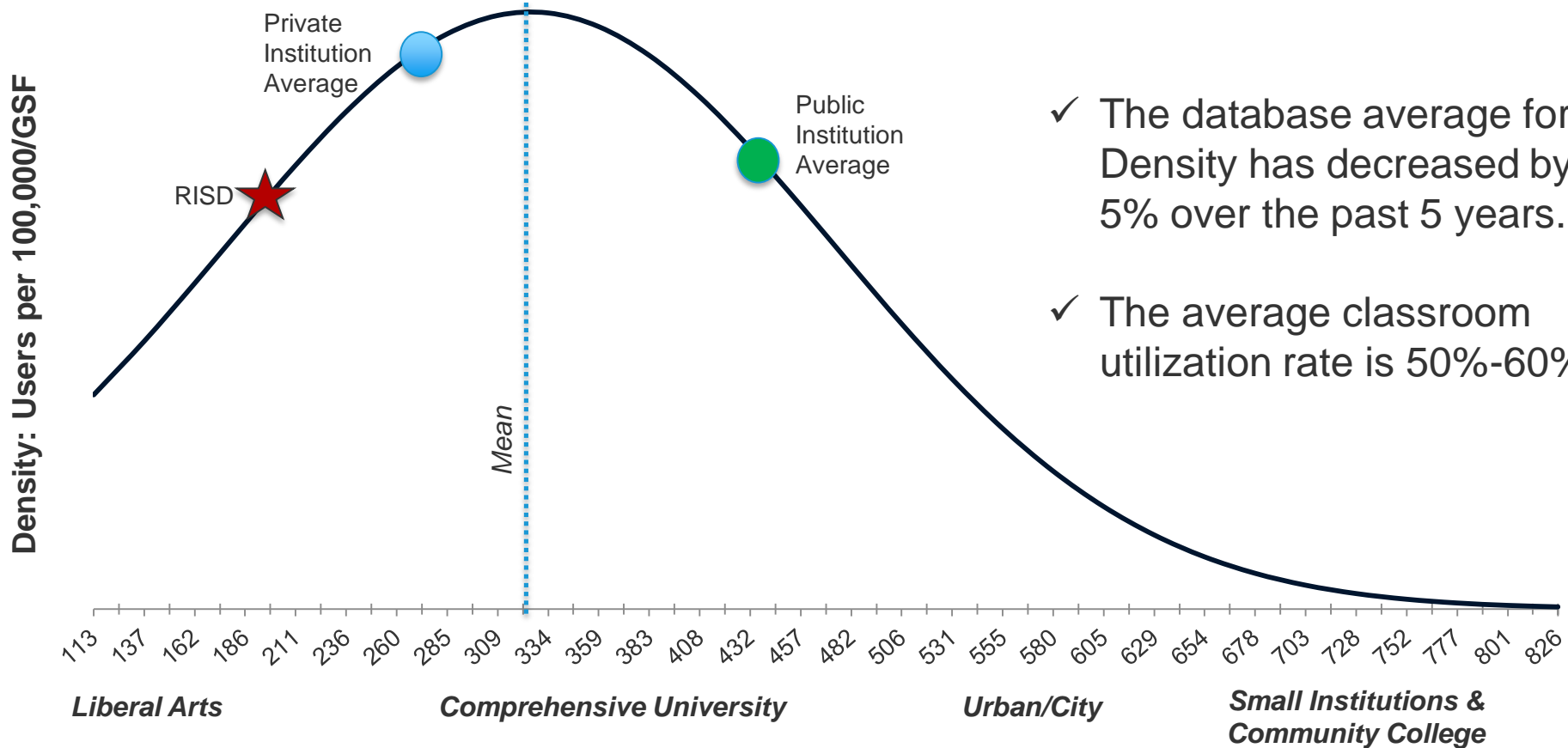
- Repair & Replacement Costs
- Energy Consumption Levels
- Operational Demands



# Density across the Sightlines Database



## Density Factor Across the Sightlines Database



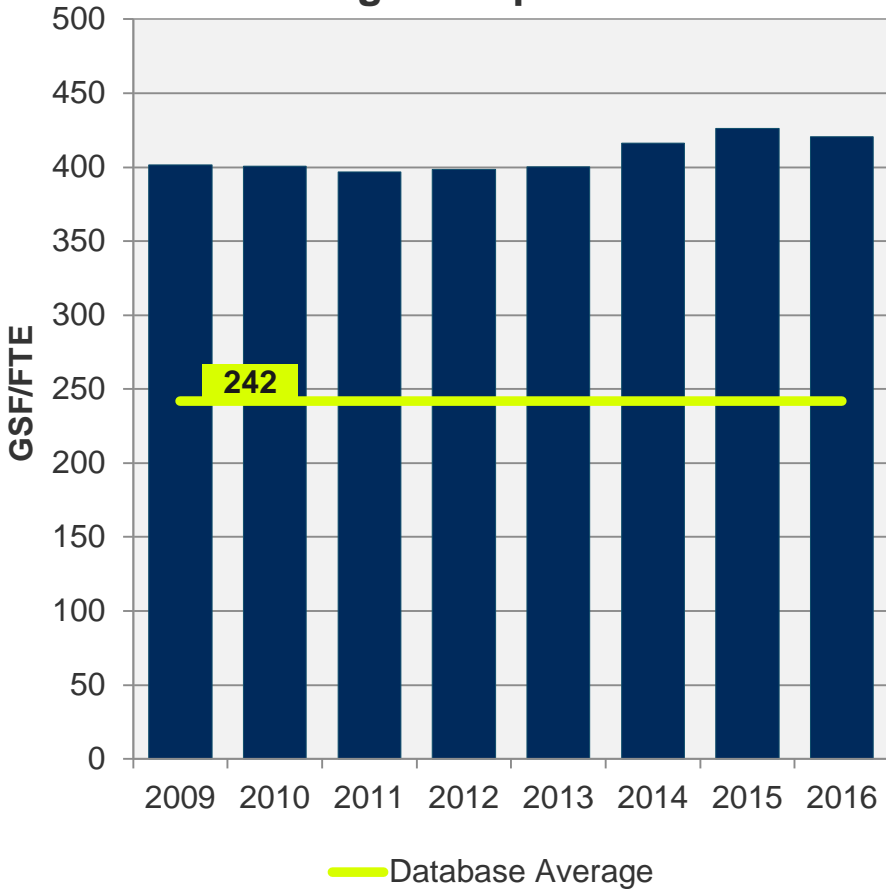
\*Density Factor measures the number of faculty, staff and students FTEs on campus per hundred thousand square feet.

# Program Space Per Student

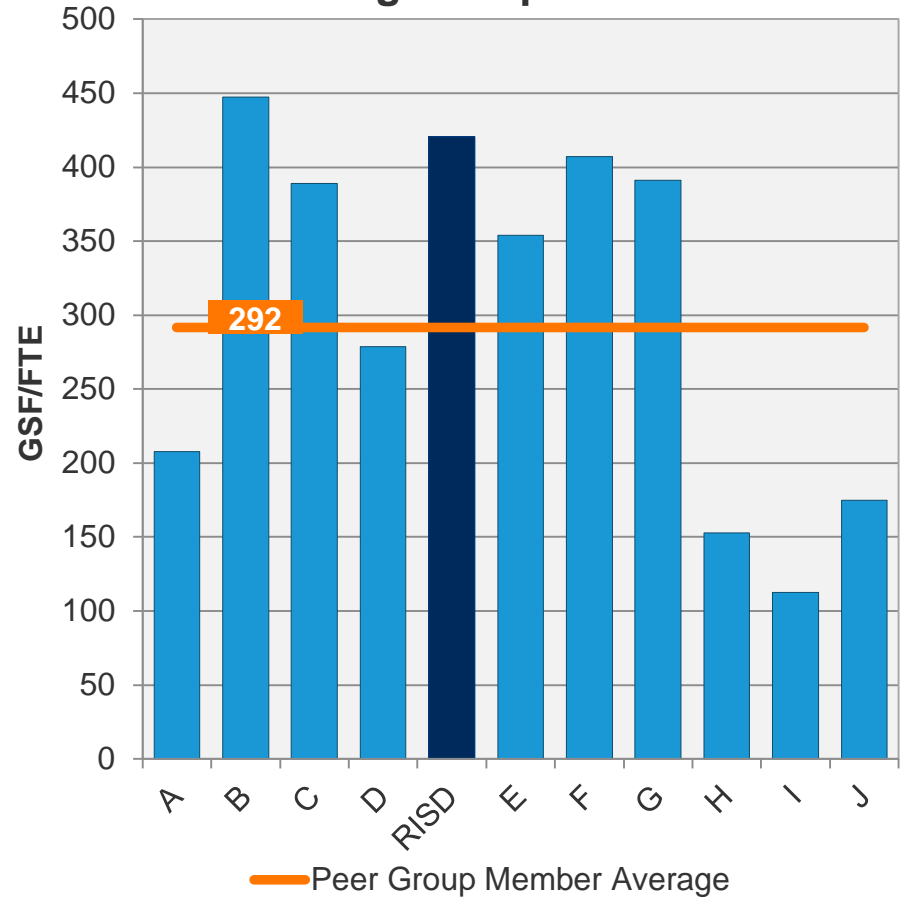


*RISD has more program space per student than peer and database average*

### RISD Program Space Per Student



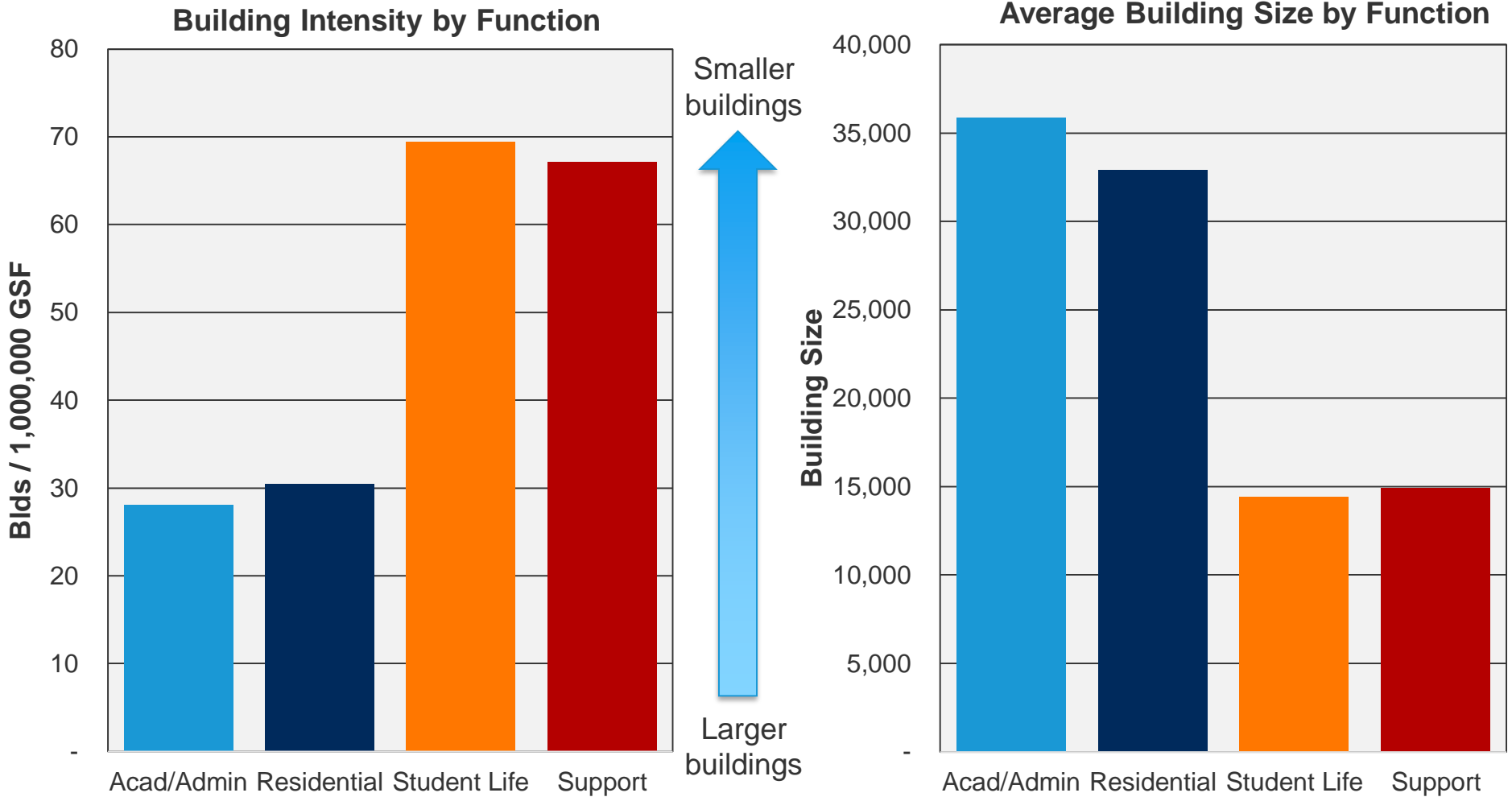
### Peers Program Space Per Student



*\*Arranged by Density Factor*



# Less Economies of Scale w/ Student Life Space



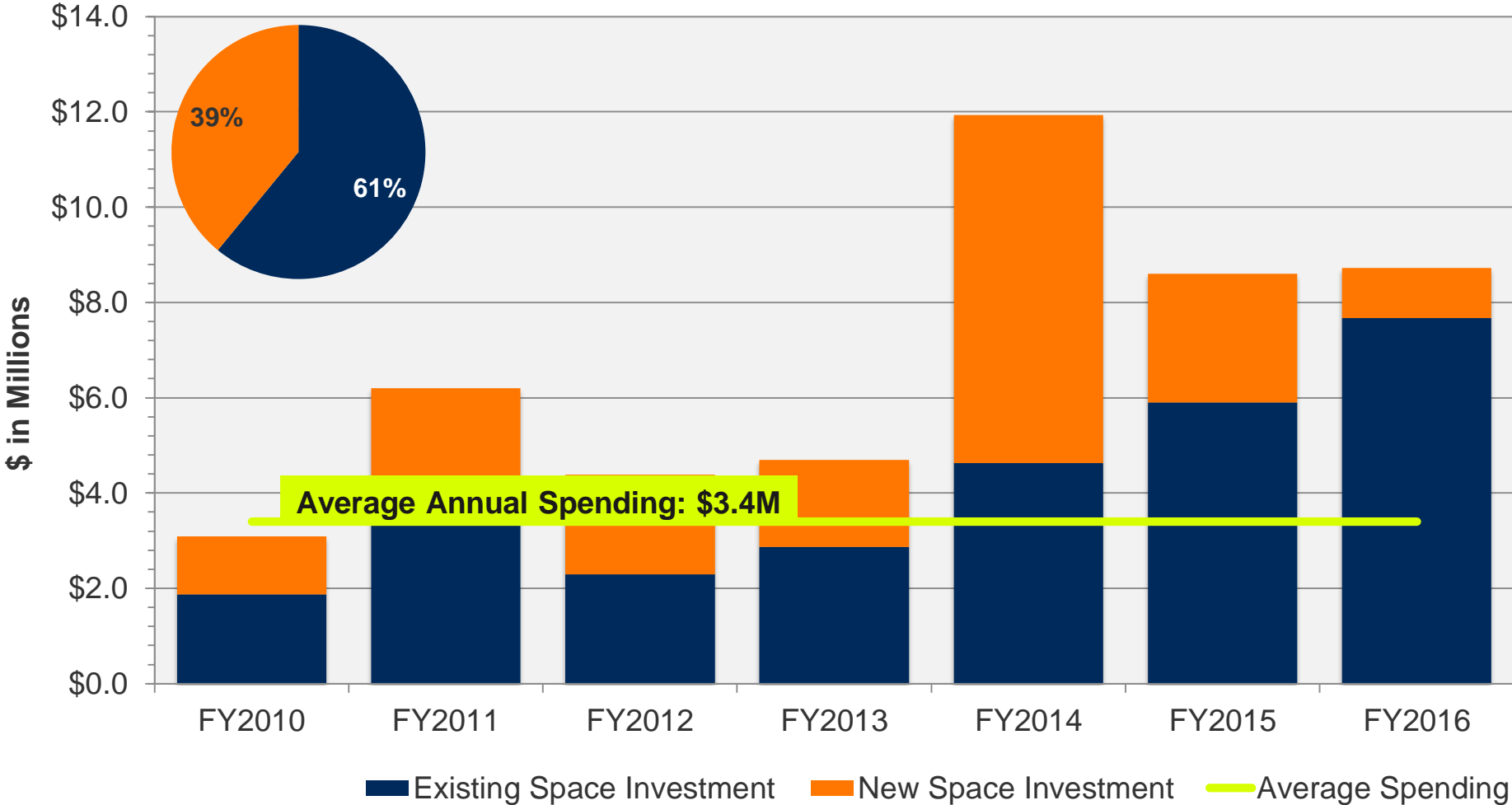
Appendix 1 for more on building intensity

# Total Capital Investment Over Time



*At RISD, focus has been on existing space*

## Total Capital Investment

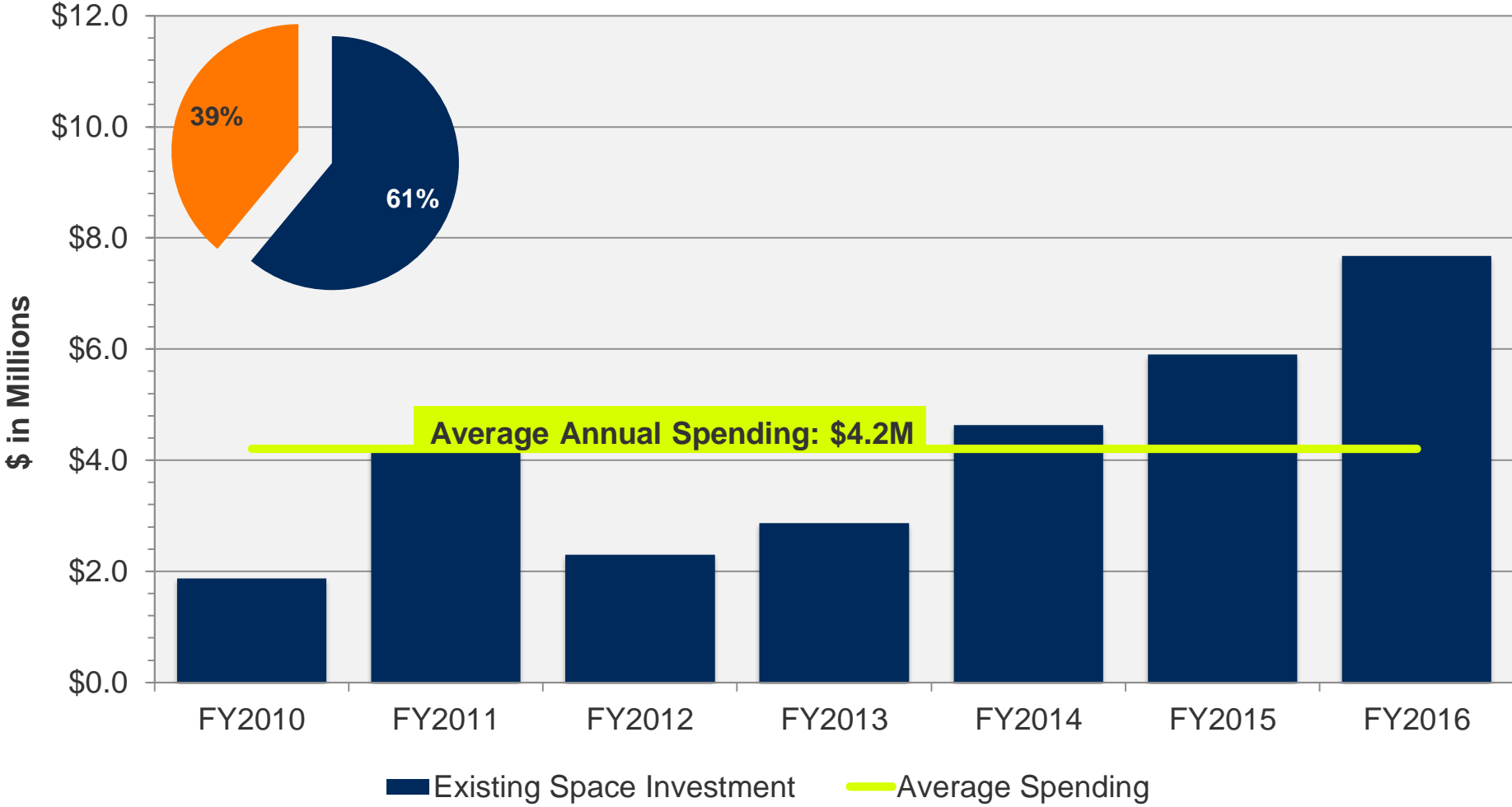


# Total Capital Investment- Existing Space



Investment levels rise in FY14-16 due to the ISB project

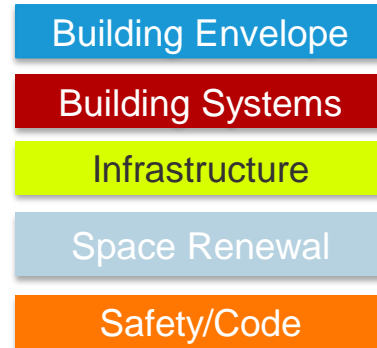
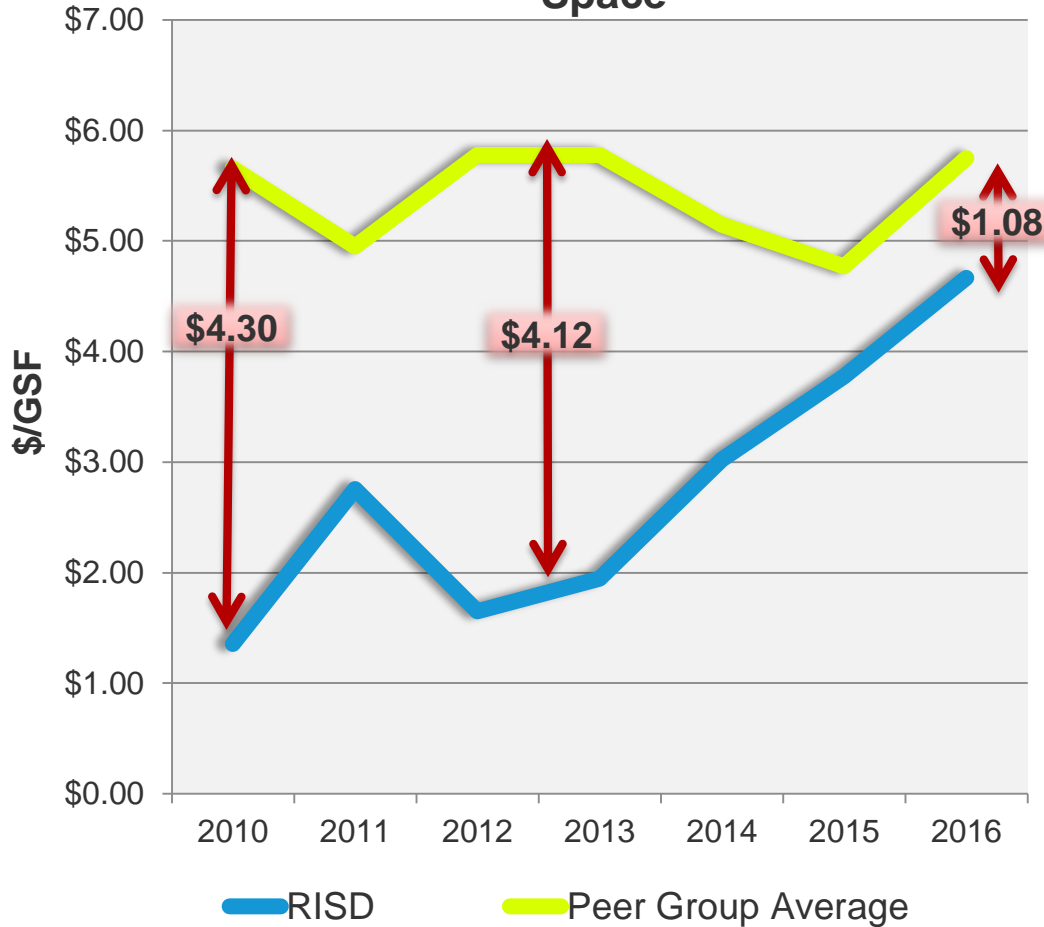
## Total Capital Investment



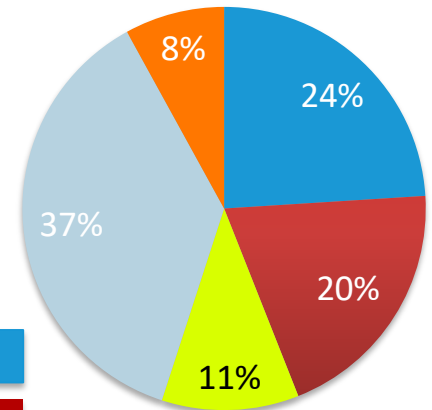
# Peers Out Invest RISD



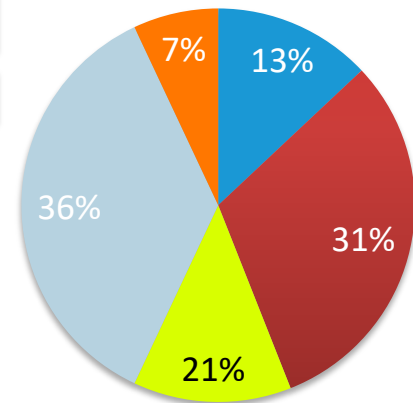
## Total Project Spending into Existing Space



### RISD FY10-16 Investment Mix



### Peer Systems FY10-16 Investment Mix

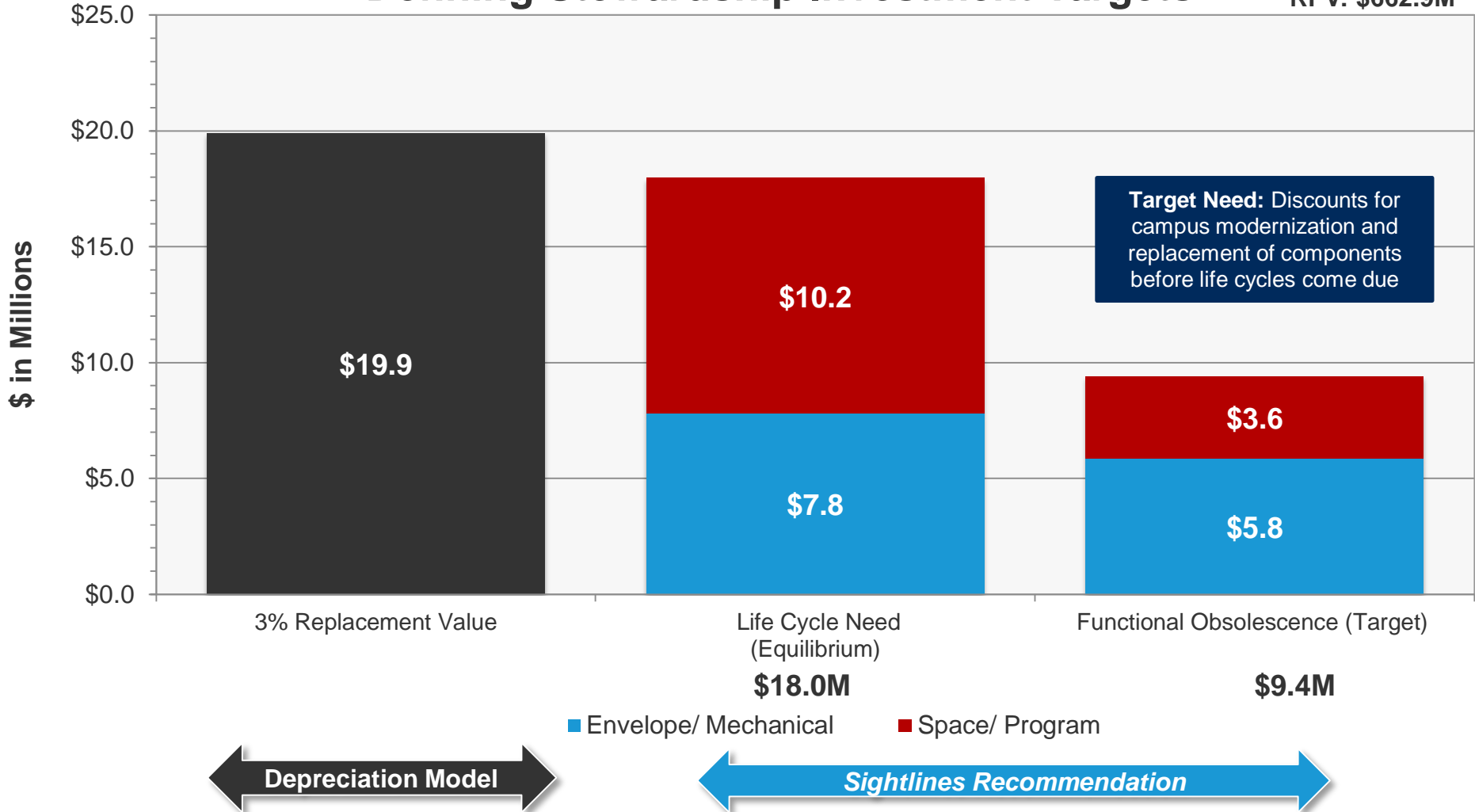


# Understanding RISD's Investment Target



## Defining Stewardship Investment Targets

RPV: \$662.9M

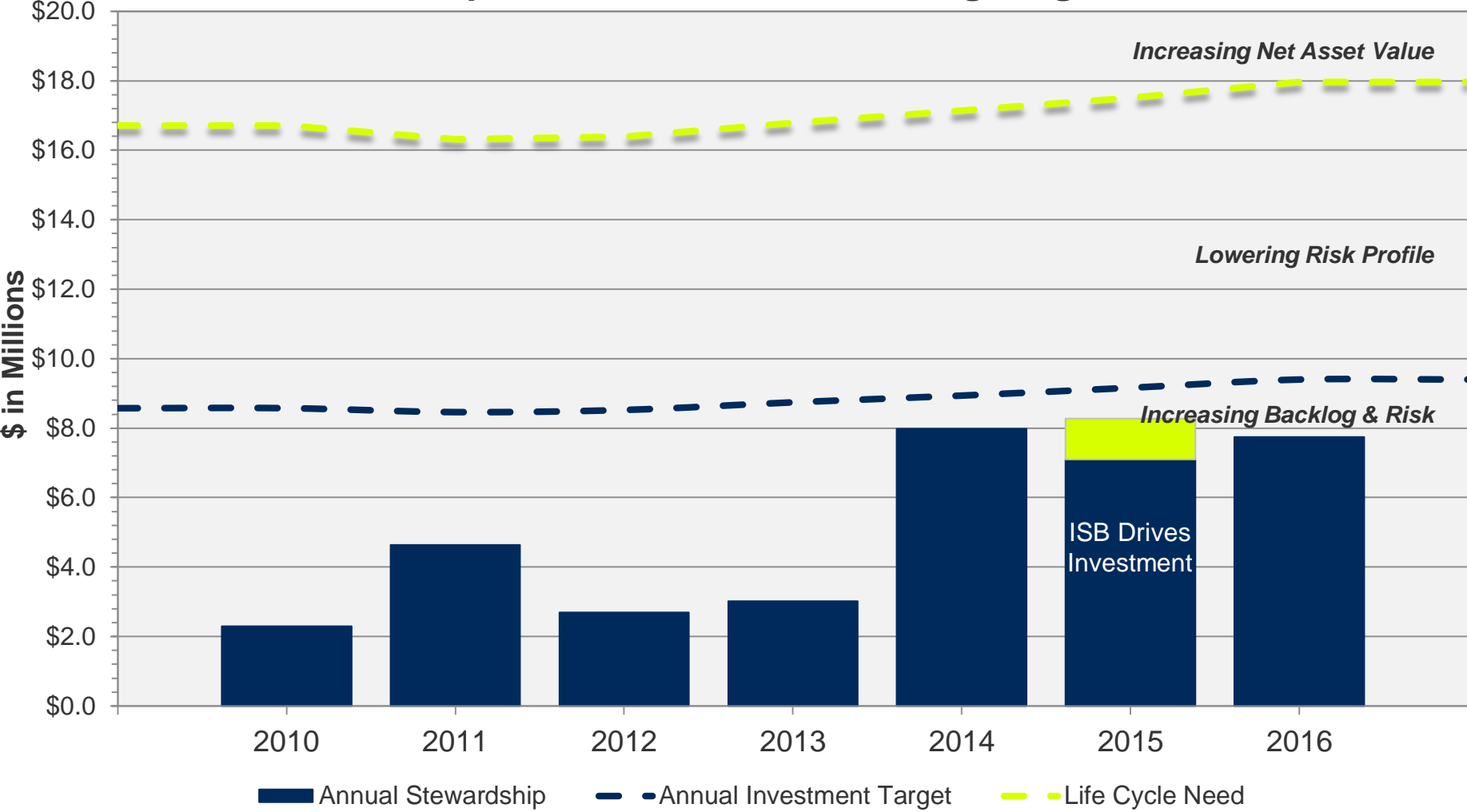


# ISB Project Helps to Bridge the Gap



*Includes only the investment into existing facilities*

## Total Capital Investment vs. Funding Target

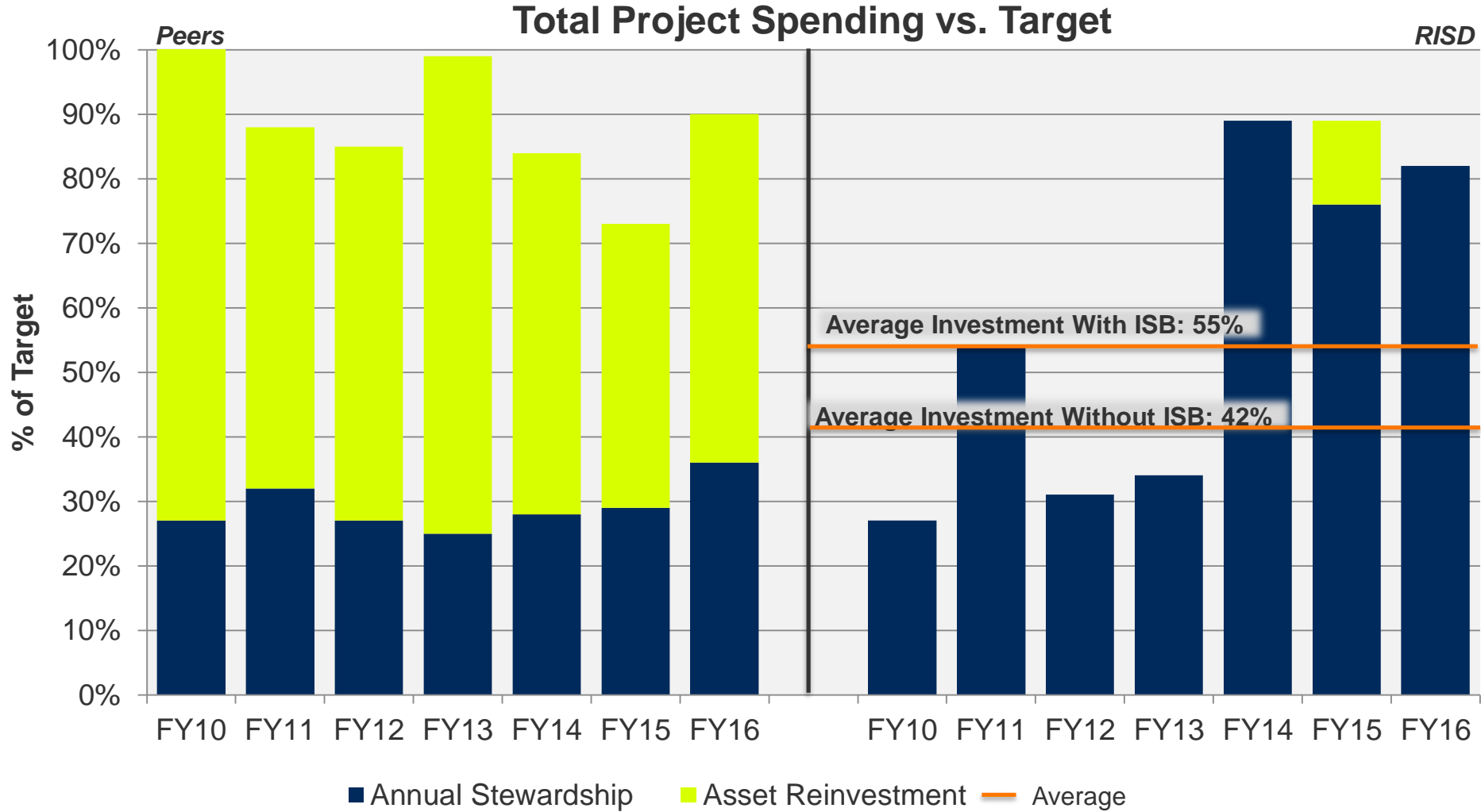




# Peers Sustaining Value of Campus



*One-Time funds assist peers in reaching target*

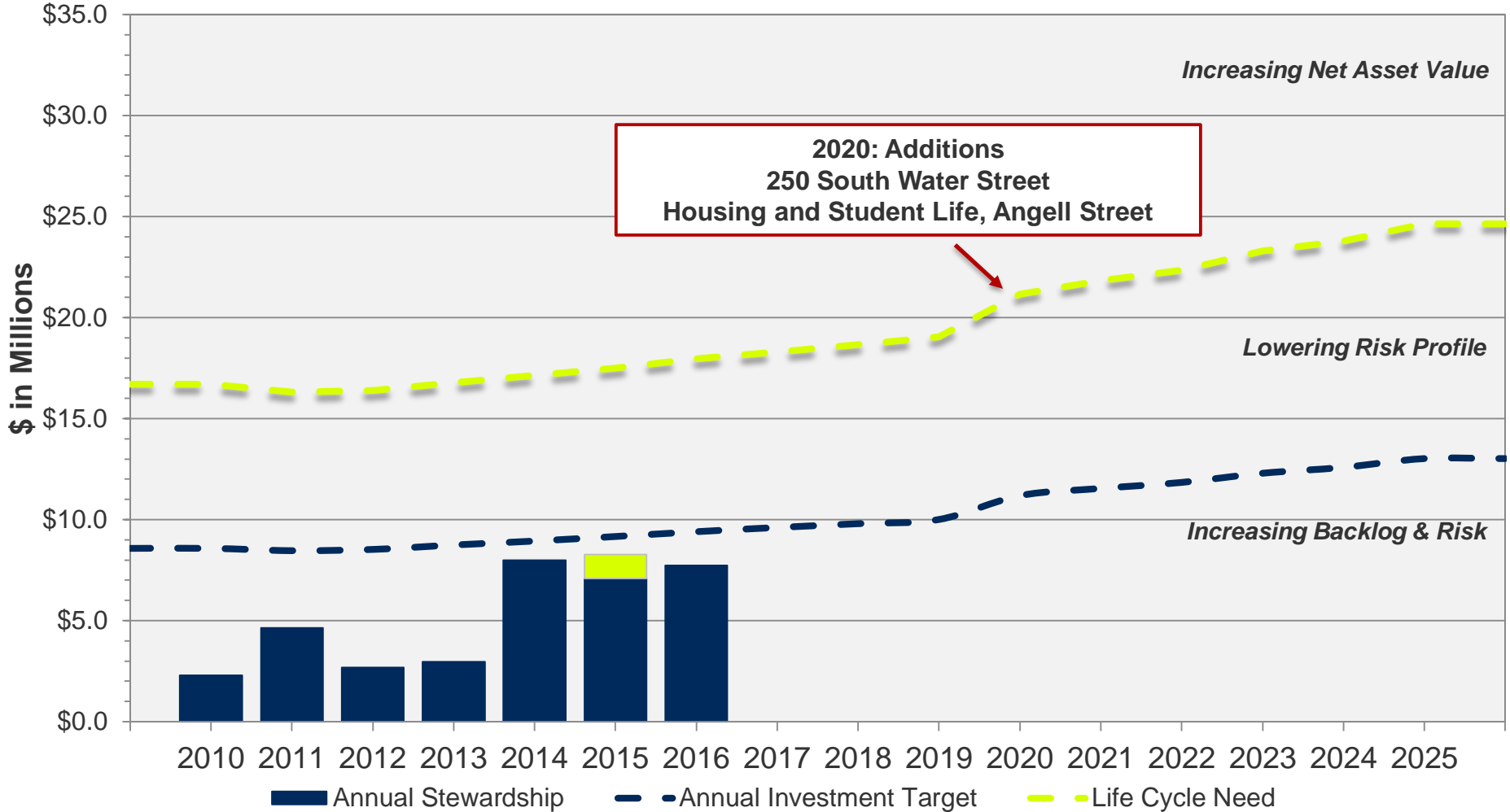


# Projected 2025 Target Funding Level



*Future target levels continue to rise due to building backlog increase*

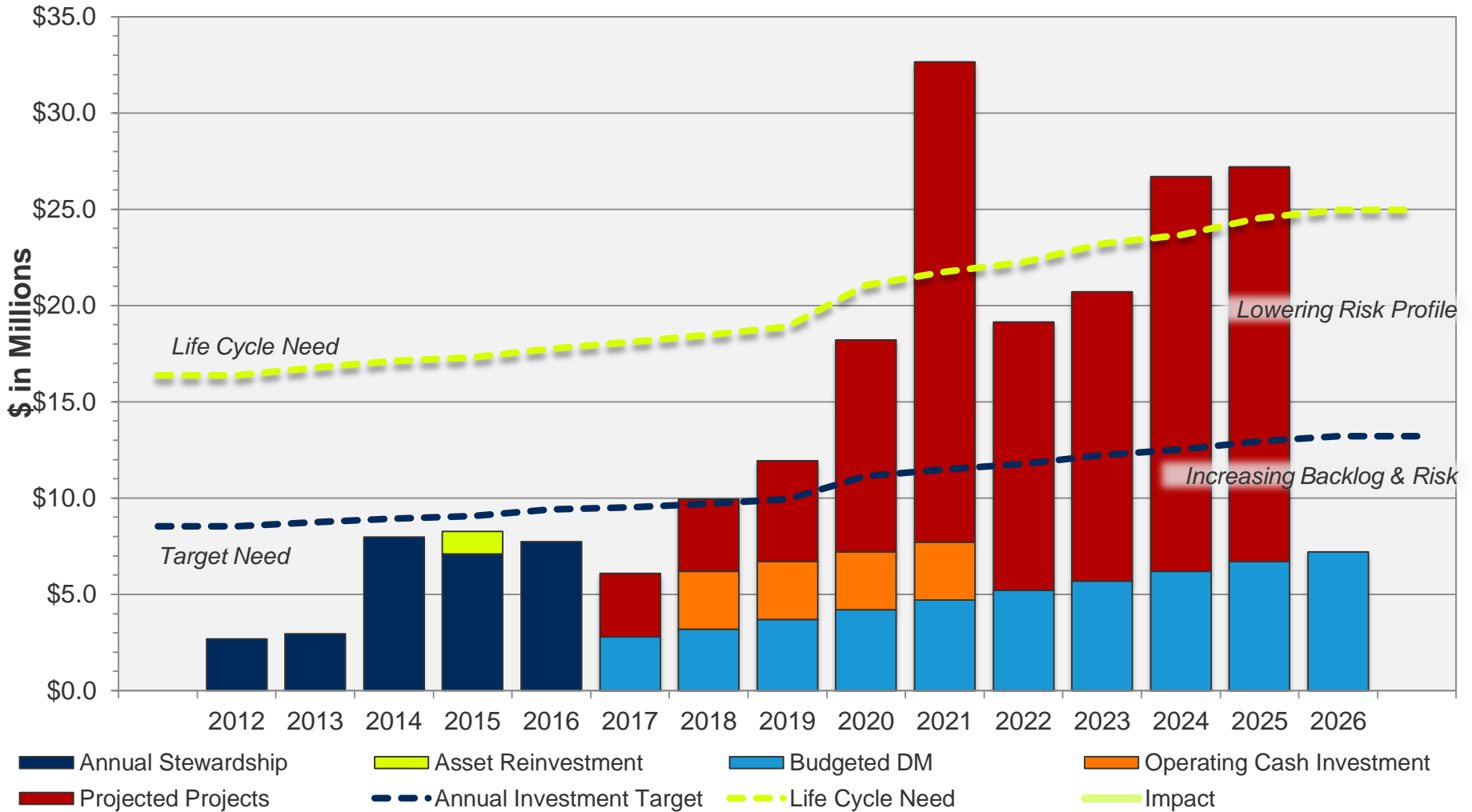
## Total Capital Investment vs. Funding Target



# Projected 2026 Target Funding Level



## Total Capital Investment vs. Funding Target



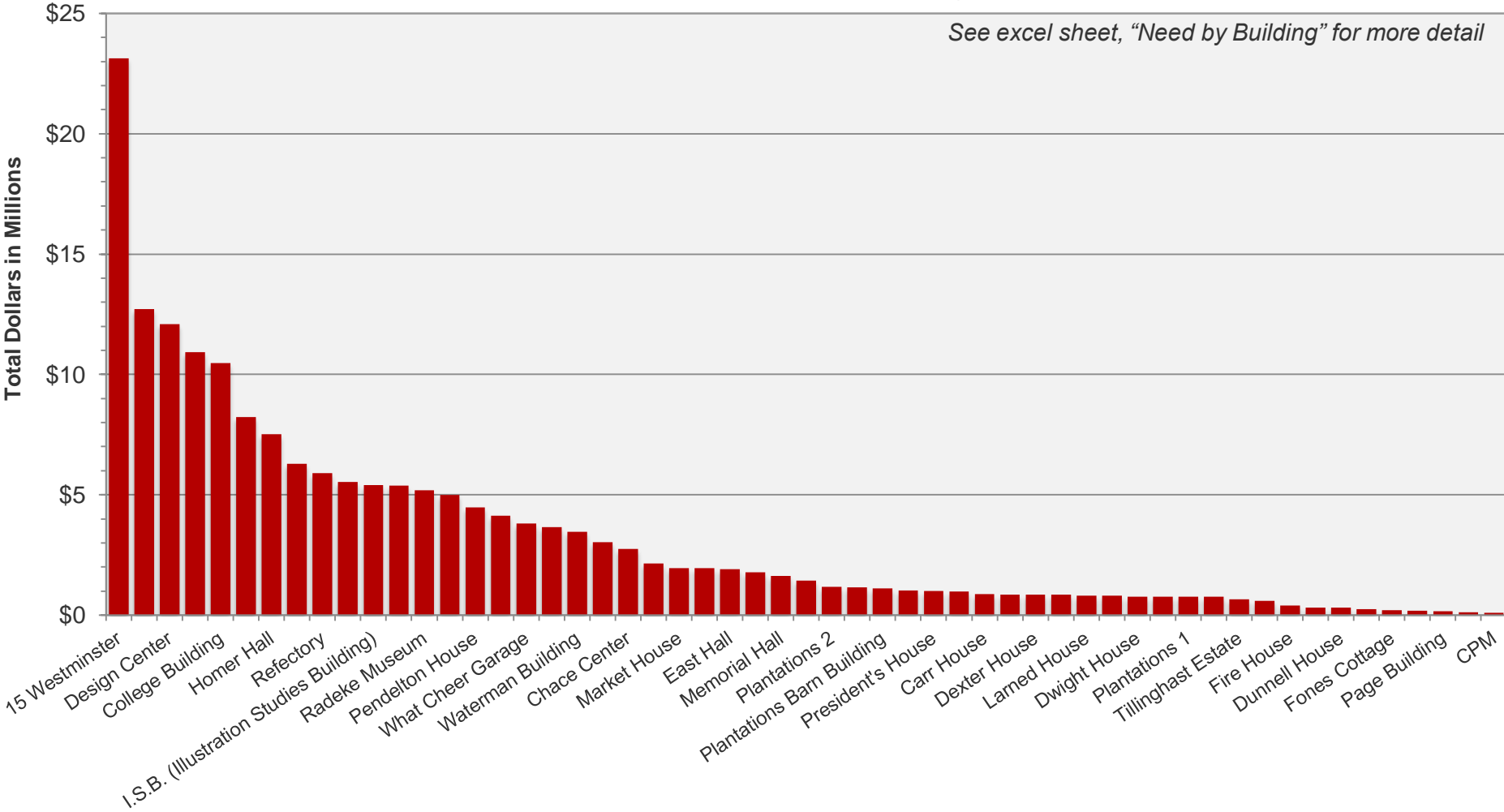
# Total Asset Reinvestment Need by Building



Estimated using Sightlines prediction model

Total Need by Building

See excel sheet, "Need by Building" for more detail

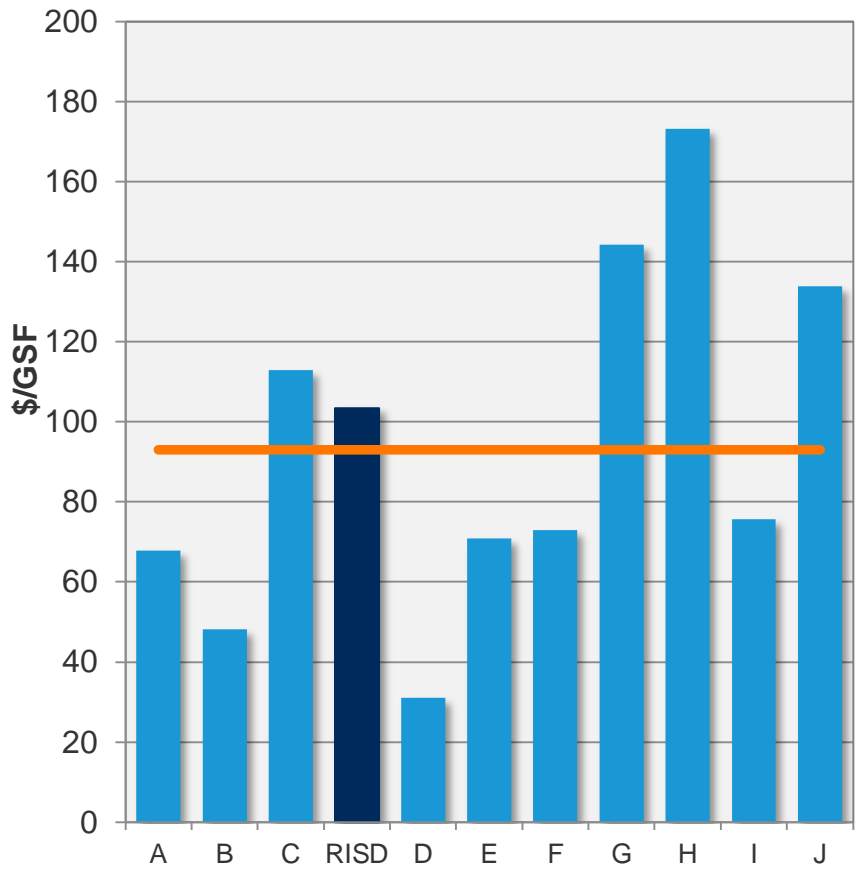


# Asset Reinvestment Above Peer Levels

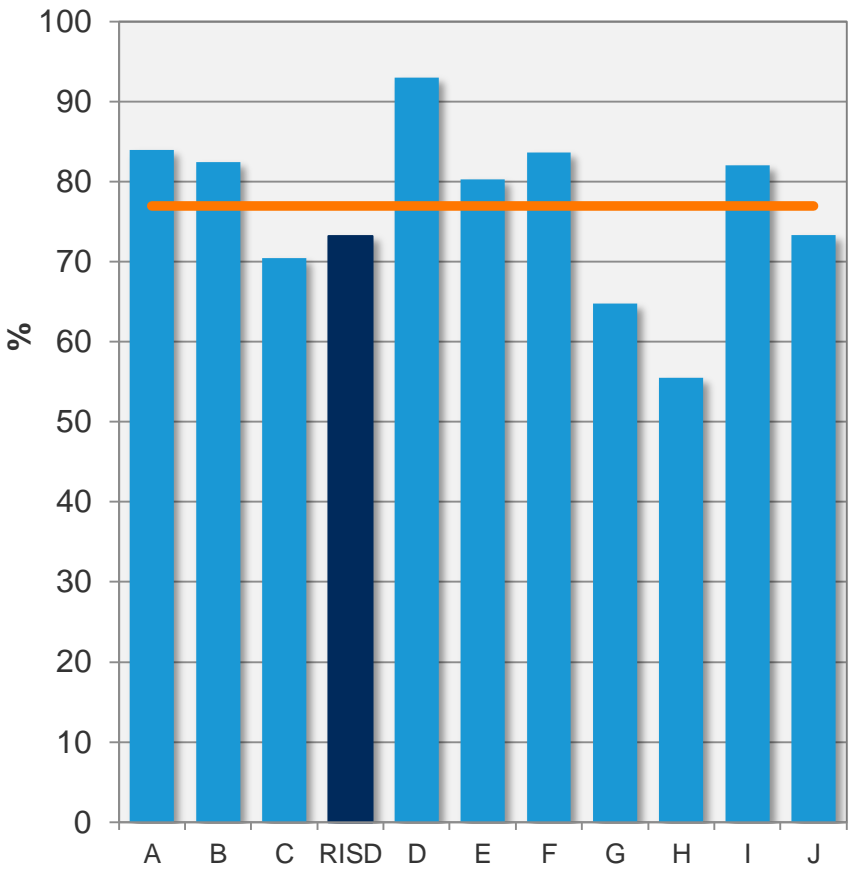


\$103/GSF at RISD

### Asset Reinvestment Need



### Net Asset Value



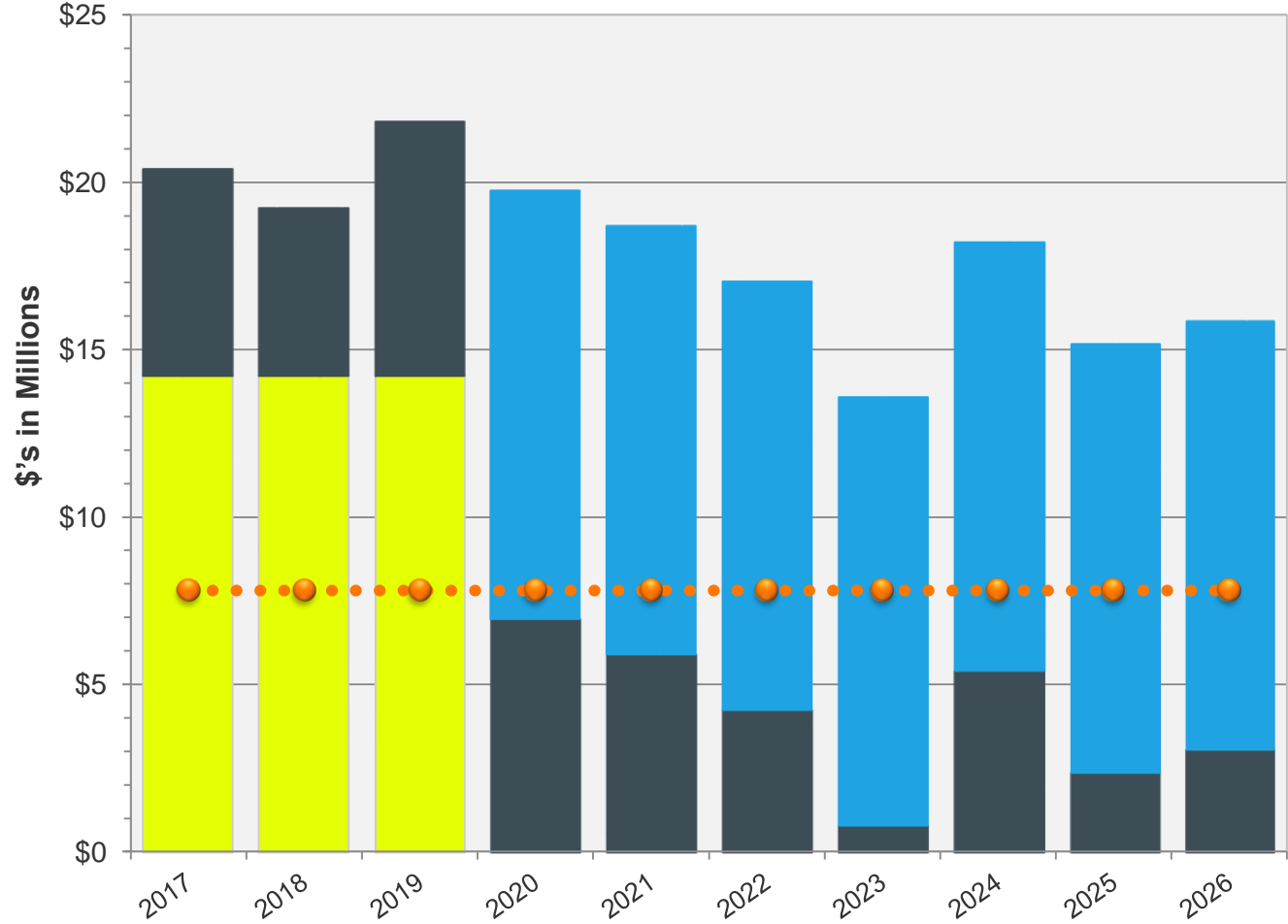
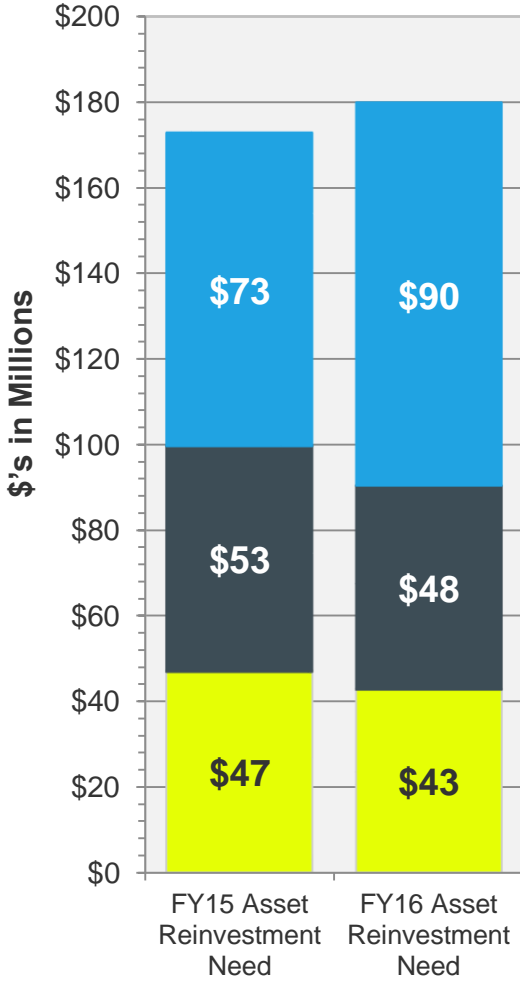
\* Institutions arranged by Tech Rating

# Projected Investment vs. 10 Year Needs



## Asset Reinvestment Need

## 10 Year Capital Forecast

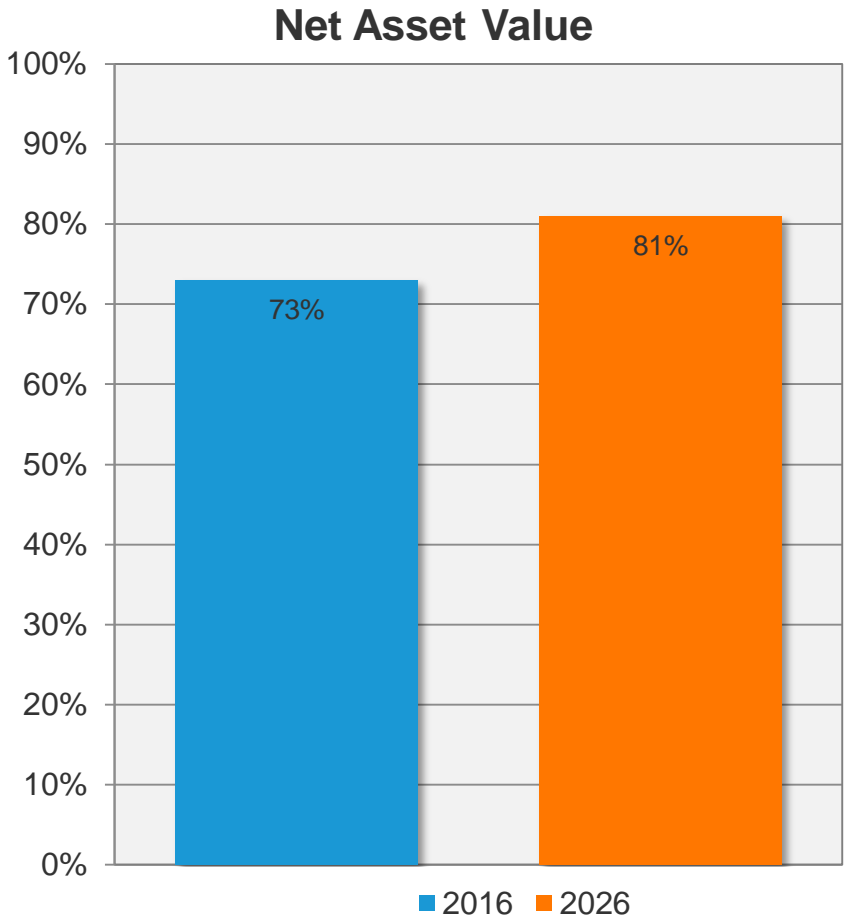
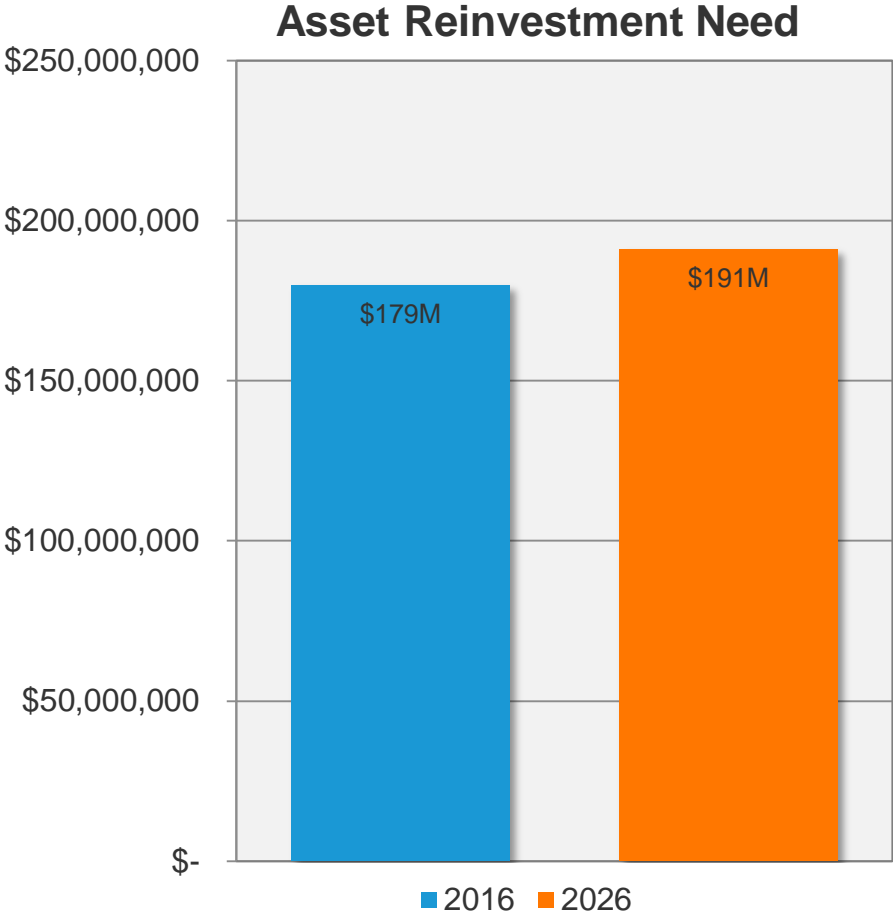


■ Current Need   
 ■ Renewal Need   
 ■ Modernization & Infrastructure   
 ● Projected Investment

# AR Need and NAV Today and Future



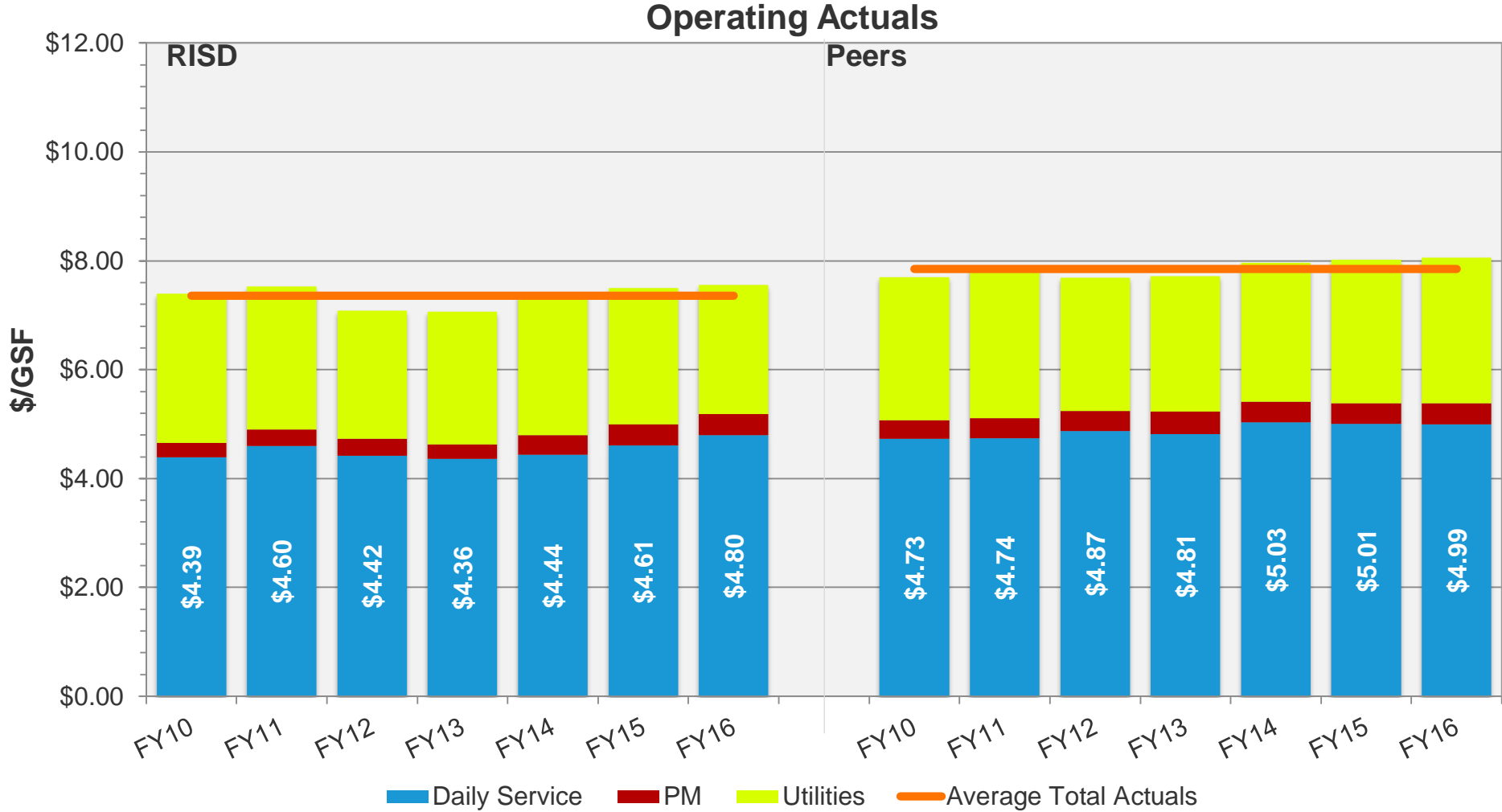
*Despite, strong funding plan backlog grows. However, NAV increases.*



# Historical Operating Actuals



On average, RISD has \$.49 less to run campus than peers

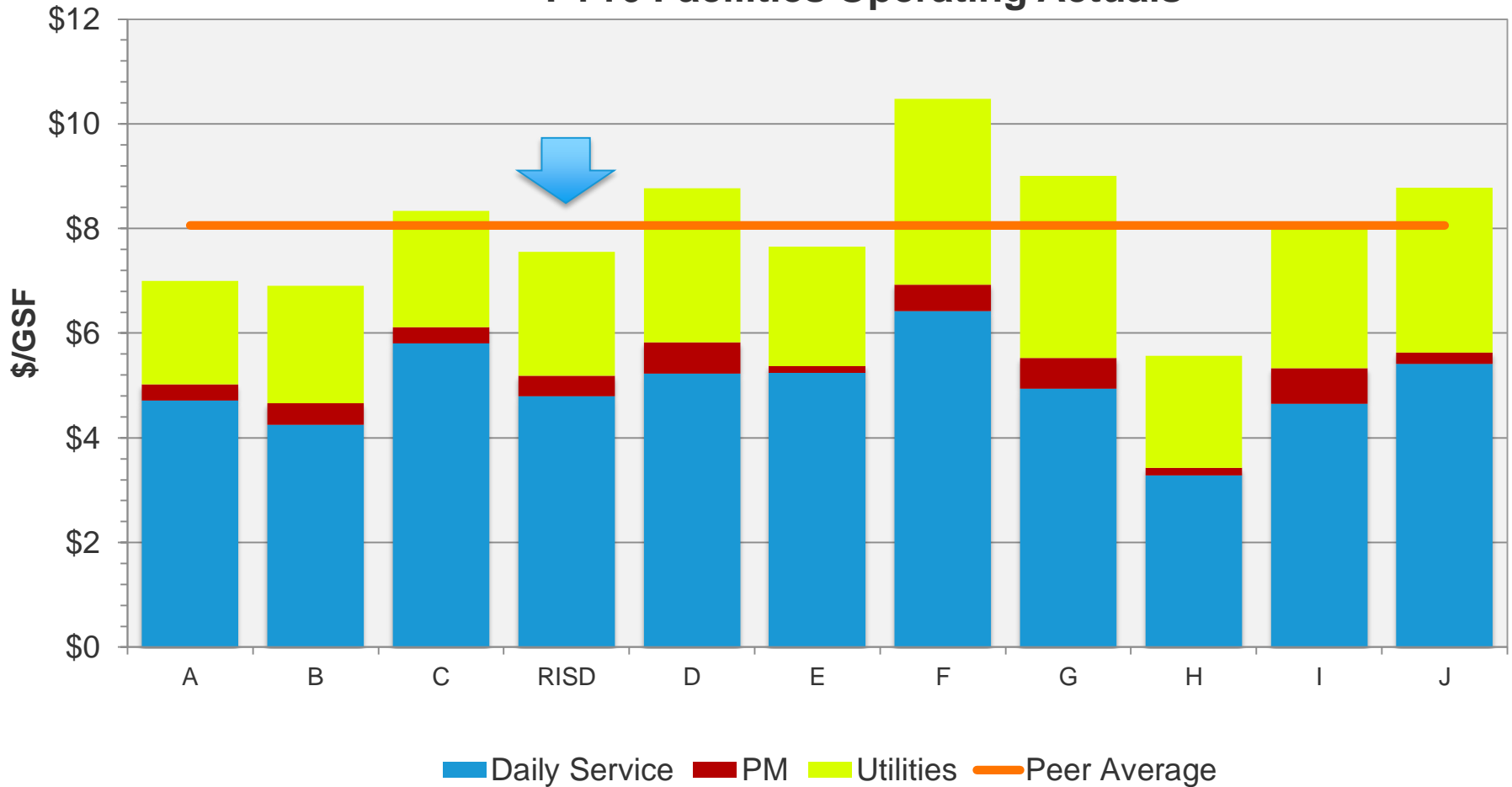




# FY16 Facilities Operating Expenditures Below Peers



## FY16 Facilities Operating Actuals



\* Institutions arranged by Tech Rating

# New Space: O&M Estimated Costs



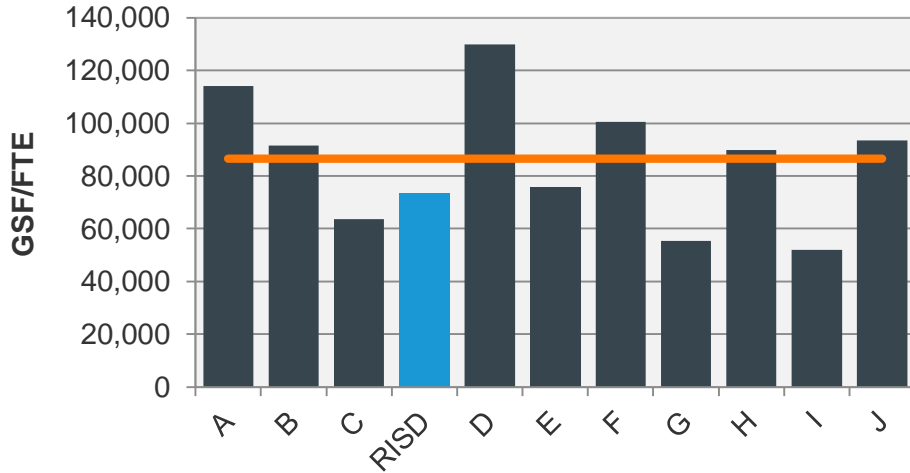
Using Sightlines Cost Forecaster

Building Name	Est. GSF	Daily Service	PM	Utility	Materials	Staff FTEs	Total Additional Cost
Housing and Student Life Angell Street	100,000	\$549,887	\$44,120	\$228,848	\$31,308	4.6	\$822,855
250 South Water Street	100,000	\$518,162	\$41,574	\$212,646	\$31,308	4.4	\$806,690
<b><u>Total</u></b>	<b><u>200,000</u></b>	<b><u>\$1,068,049</u></b>	<b><u>\$85,694</u></b>	<b><u>\$441,494</u></b>	<b><u>\$62,616</u></b>	<b><u>9.0</u></b>	<b><u>\$1,629,545</u></b>

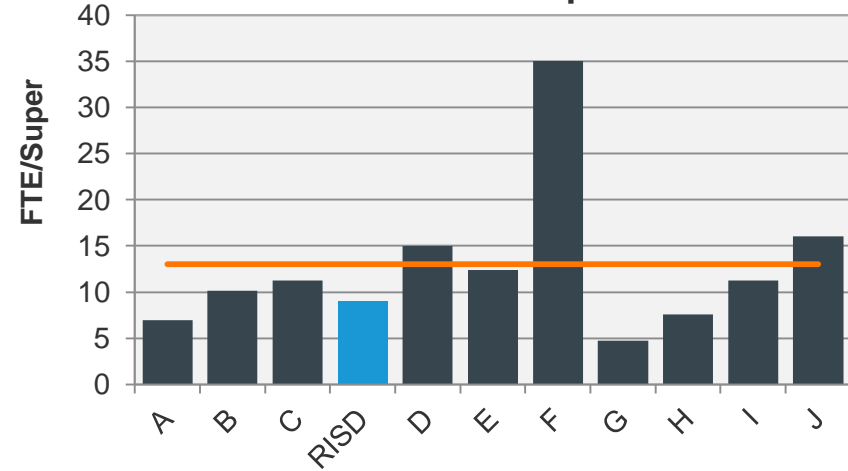
# Maintenance Metrics



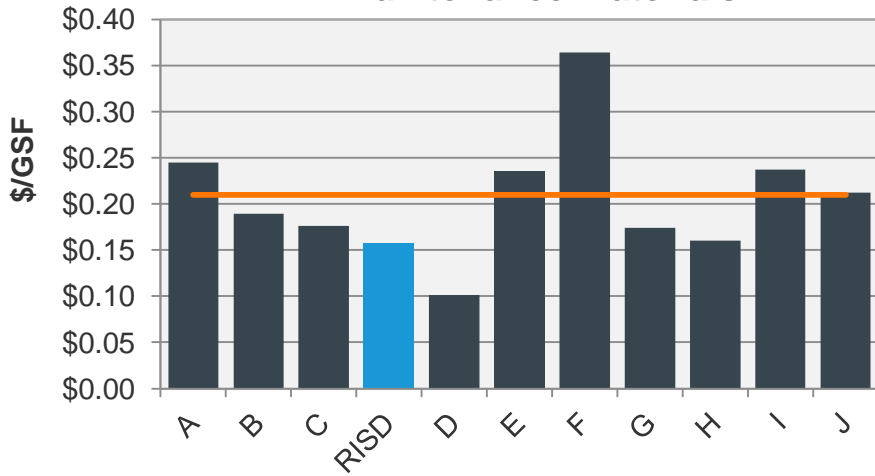
### Maintenance Staffing



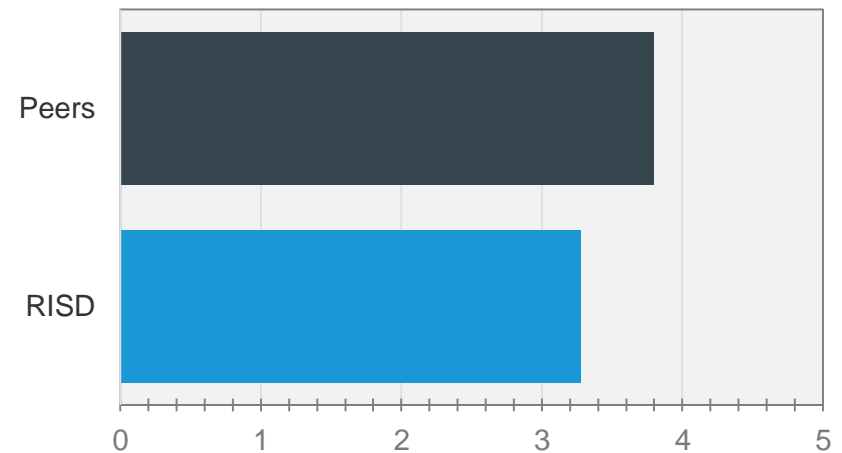
### Maintenance Supervision



### Maintenance Materials



### General Repair

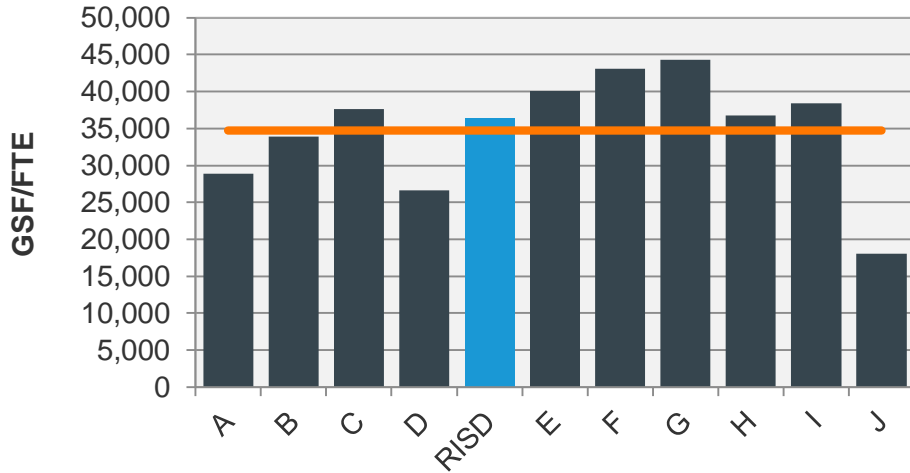


Peers ordered by increasing tech complexity

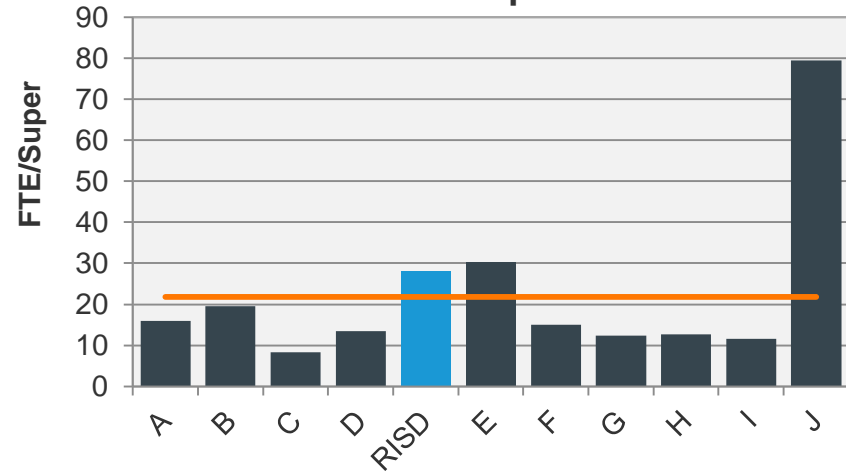
# Custodial Metrics



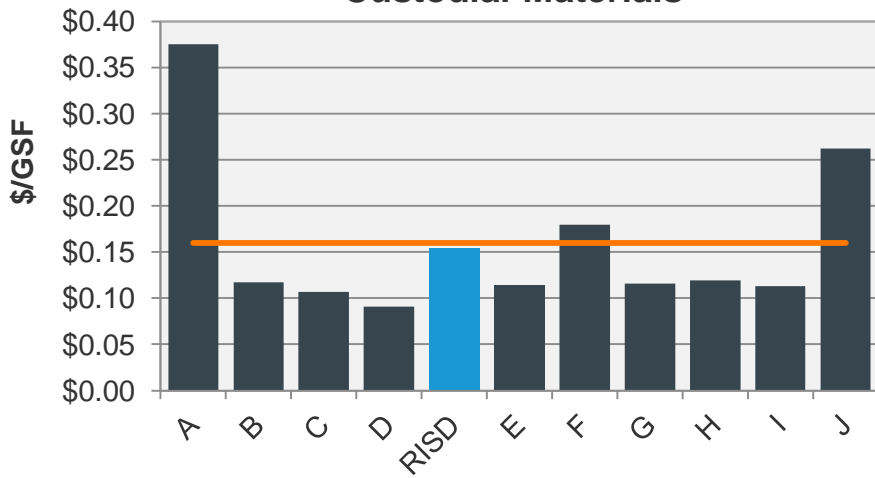
### Custodial Staffing



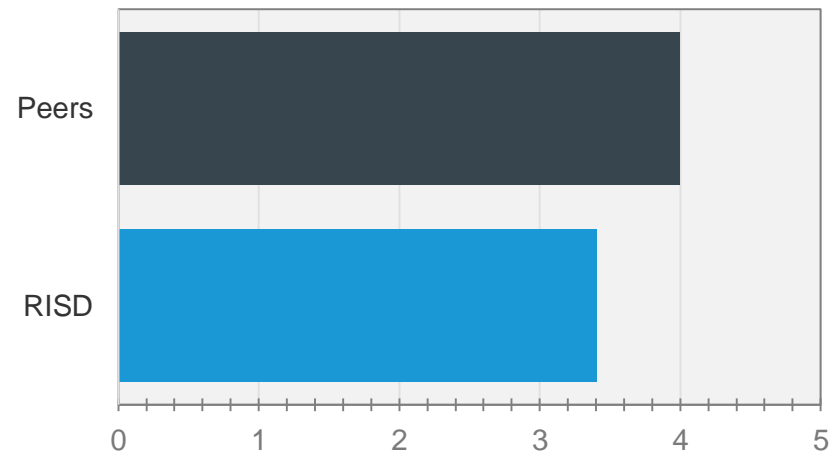
### Custodial Supervision



### Custodial Materials



### Cleanliness

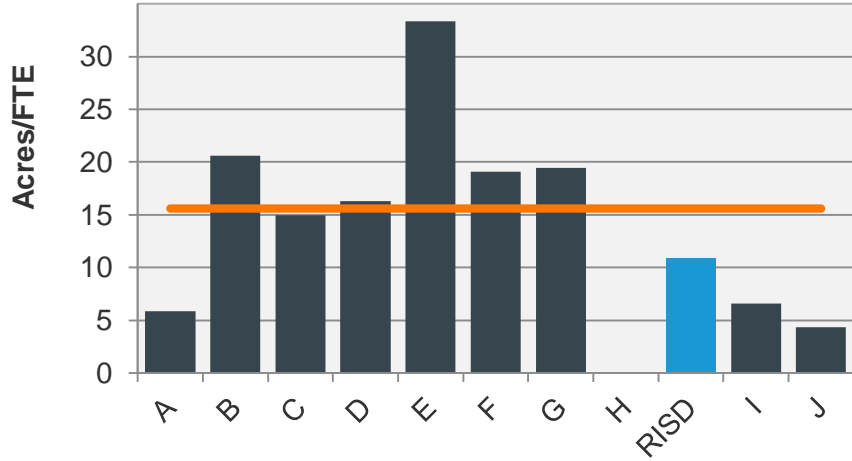


Peers ordered by increasing density factor

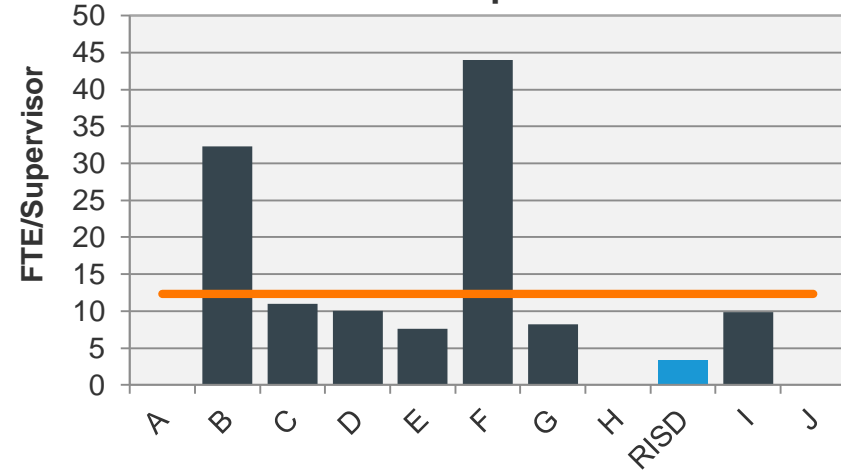
# Grounds Metrics



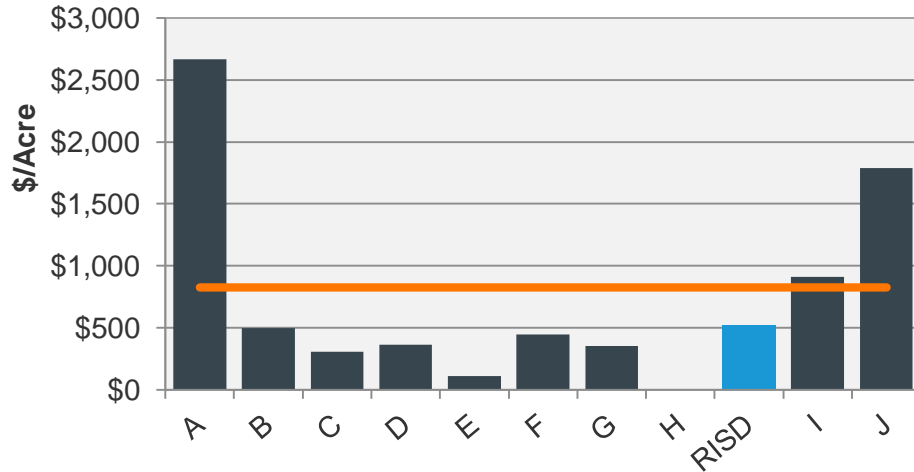
### Grounds Staffing



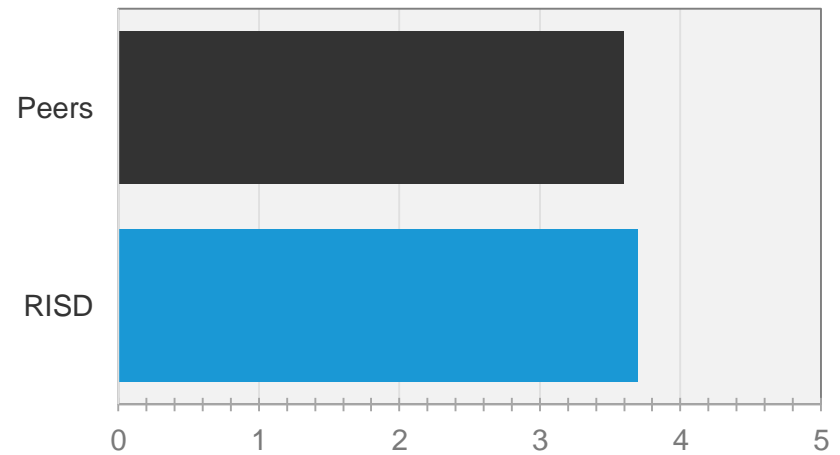
### Grounds Supervision



### Grounds Materials



### Grounds Inspection Score

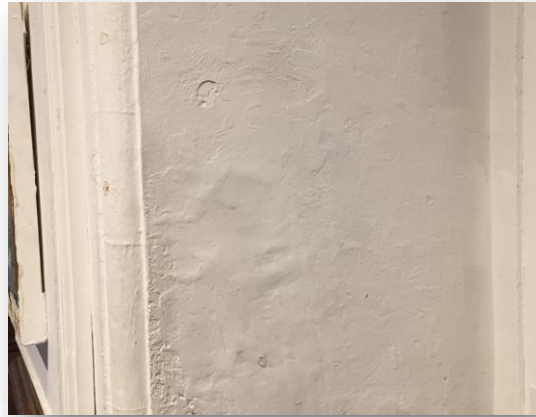


*Institutions arranged by Grounds Intensity*

# Pictures



*From fall 2016 inspection*

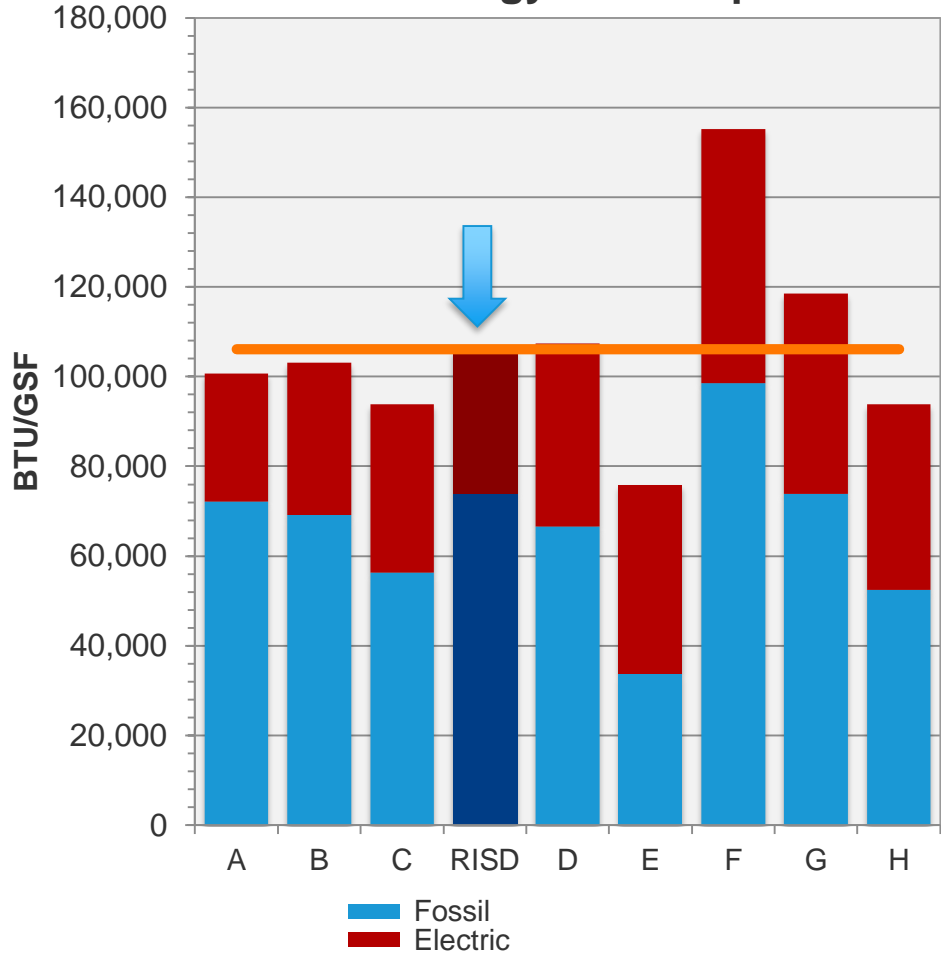


# Energy Snapshot

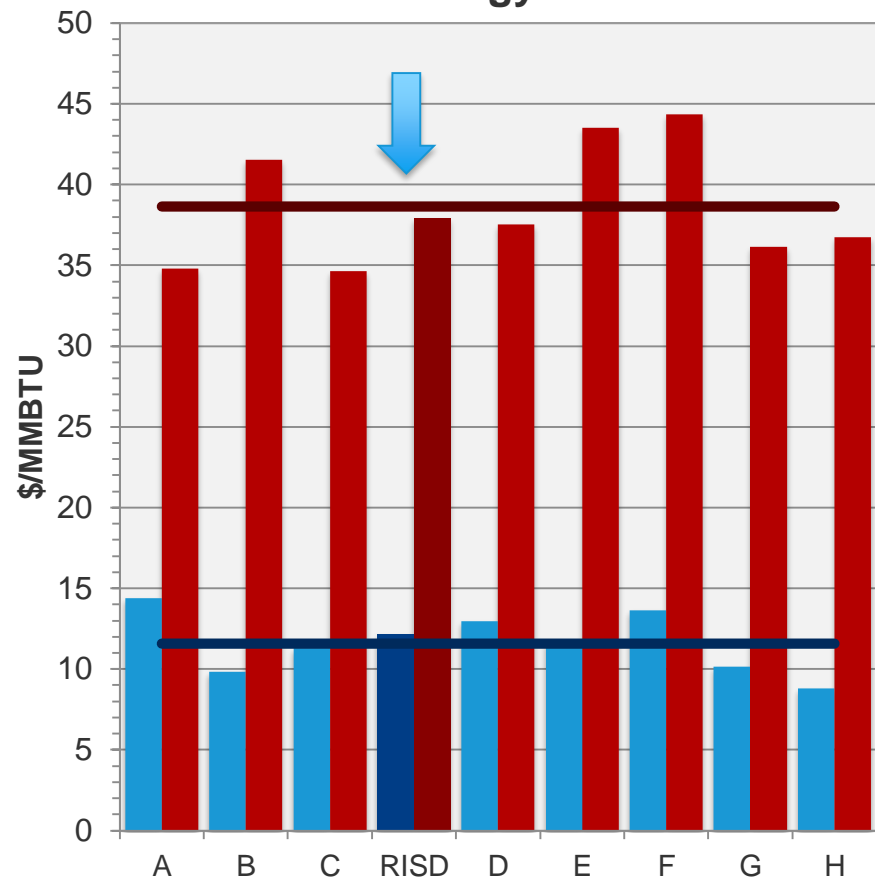


Consuming at peer levels

### FY16 Energy Consumption



### FY16 Energy Cost



Peers ordered by increasing technical complexity



## **AVOIDANCE:**

Don't consume energy

## **ACTIVITY:**

Consume less by increasing efficiency

## **INTENSITY:**

Switch high-carbon energy sources for low-carbon ones

## **OFFSET:**

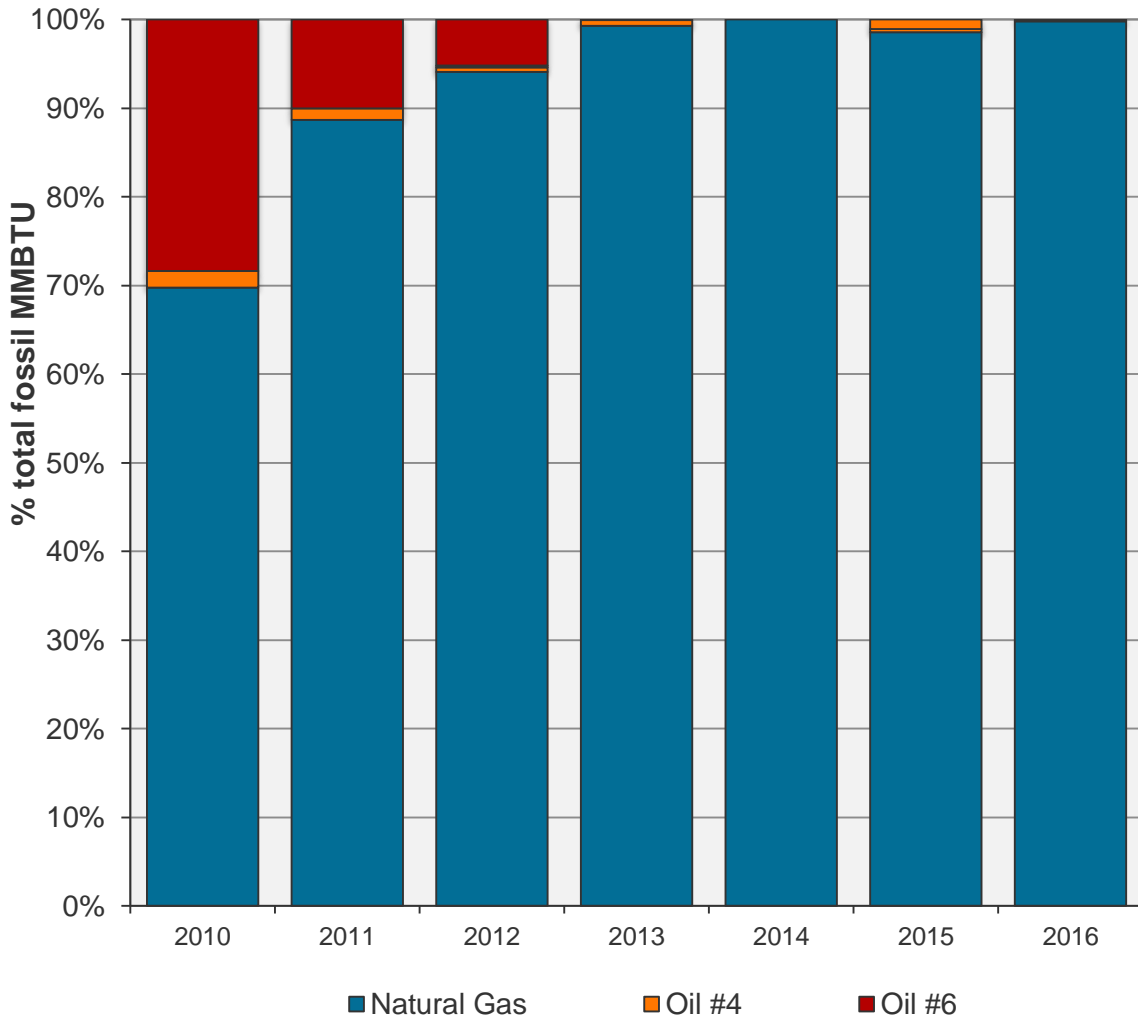
Offset the emissions from consumption



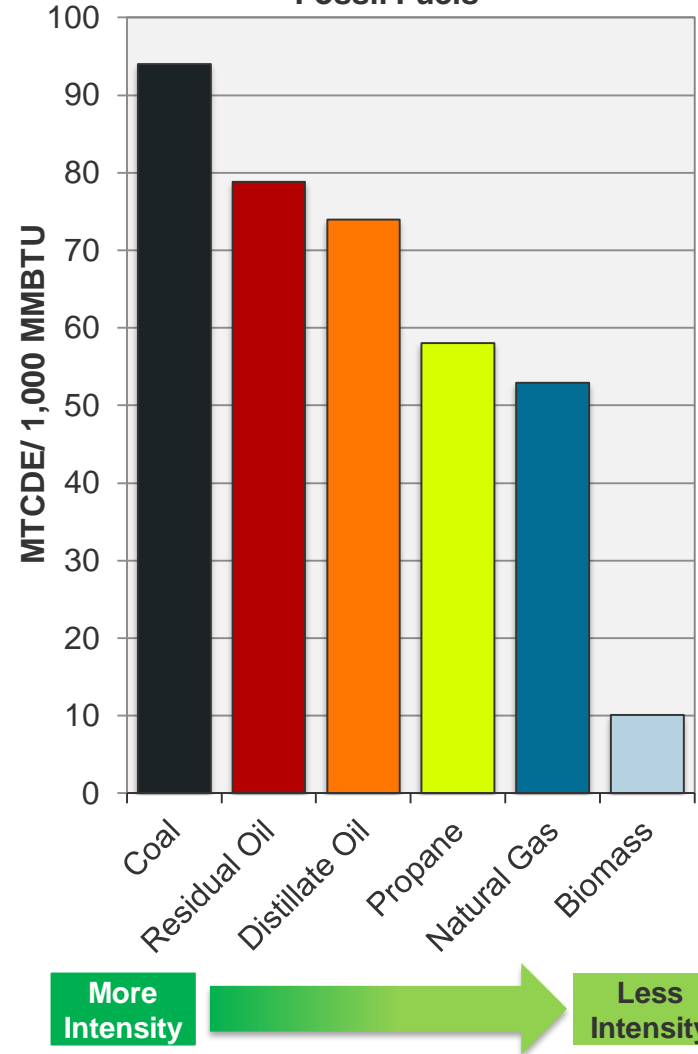
# Scope 1 Stationary: Fuel Mix



RISD Longitudinal Fuel Mix



Carbon Intensity of Commonly Used Fossil Fuels



# Scope 2 Purchased Electric: Fuel Mix



NEWE Grid Fuel Mix (2010)



NEWE Grid Fuel Mix (2012)



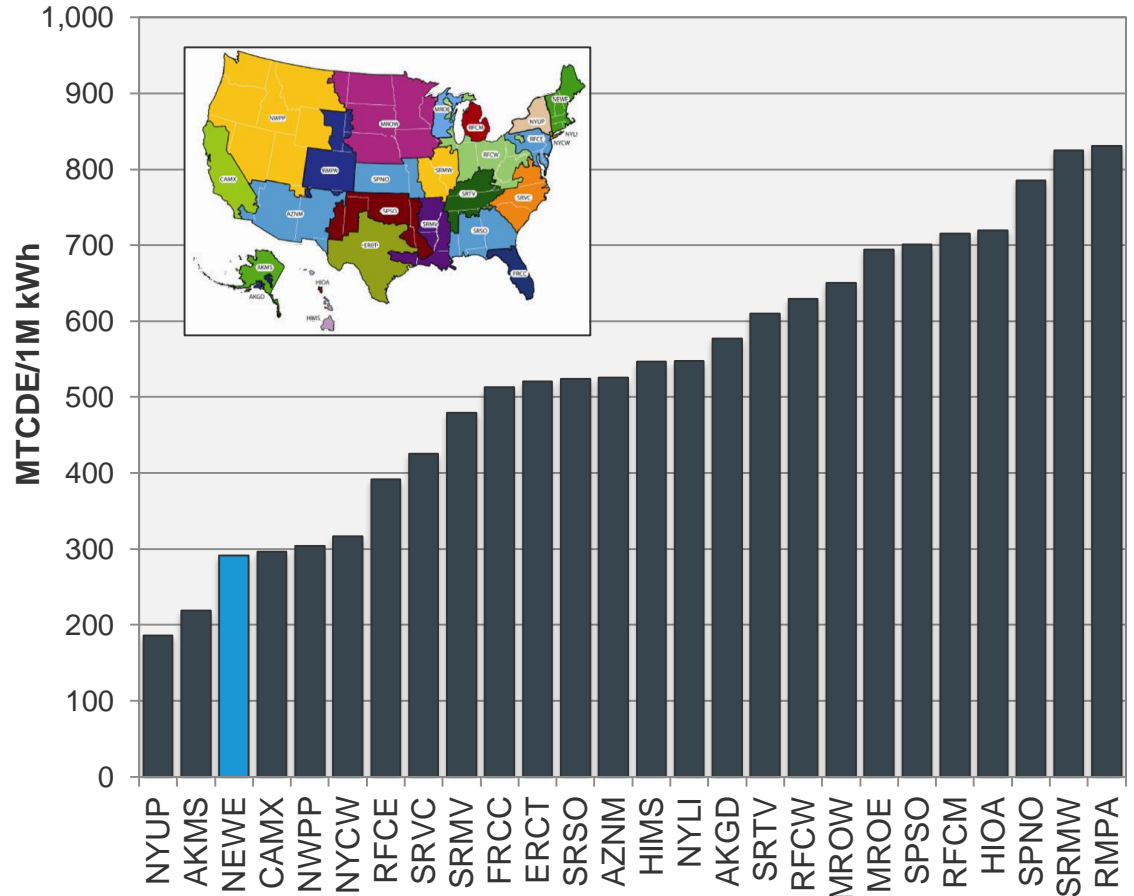
- Coal
- Natural Gas
- Other Fossil
- Nuclear
- Renewable

More Intensity



Less Intensity

Carbon Intensity by Grid Region



# Scope 1 Stationary and Scope 2 Electric Emissions

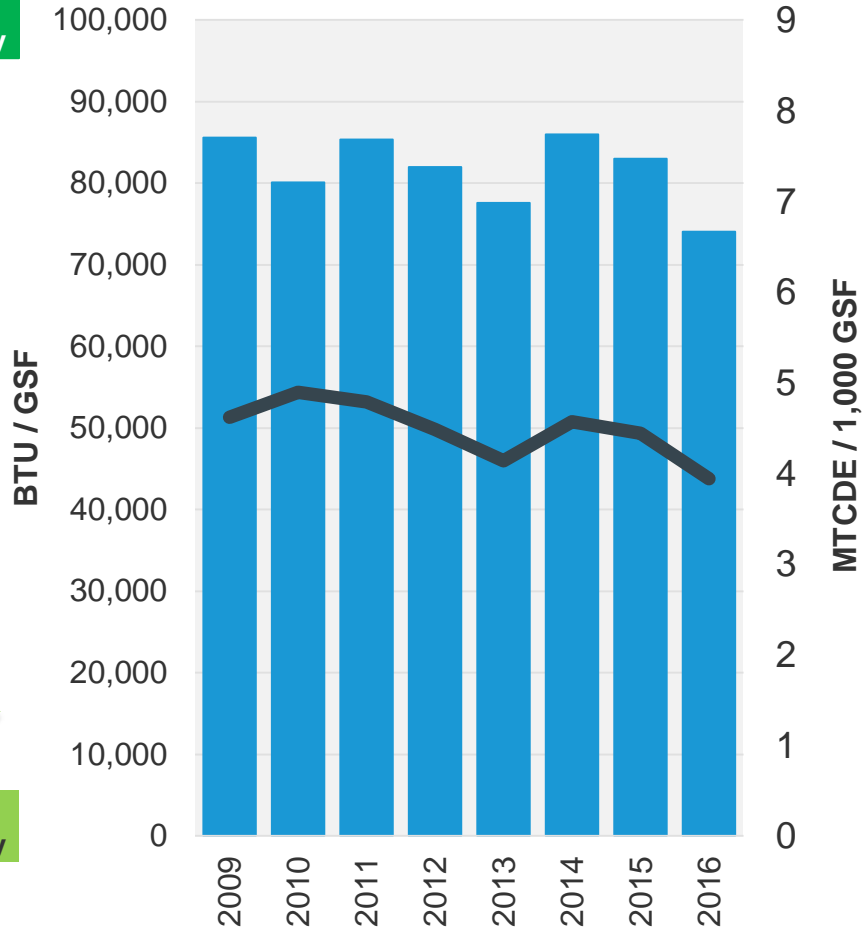


## Consumption vs. Emissions

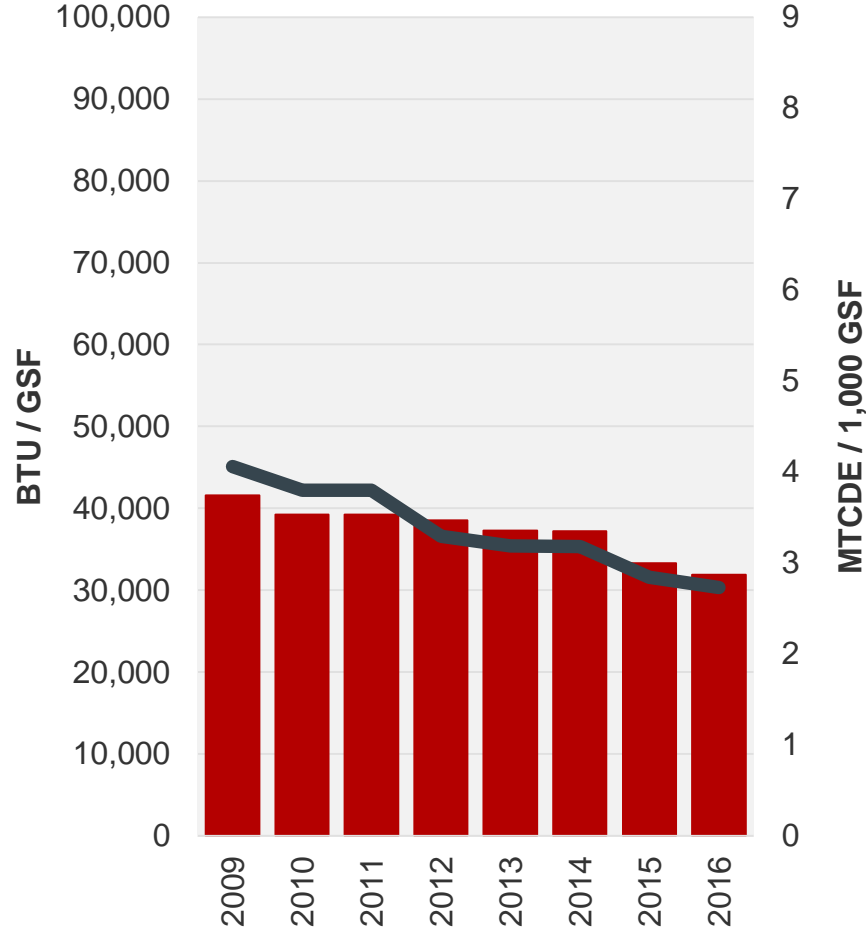
More Activity



Less Activity



Purchased Fossil Emissions



Purchased Electric Emissions

# Concluding Comments

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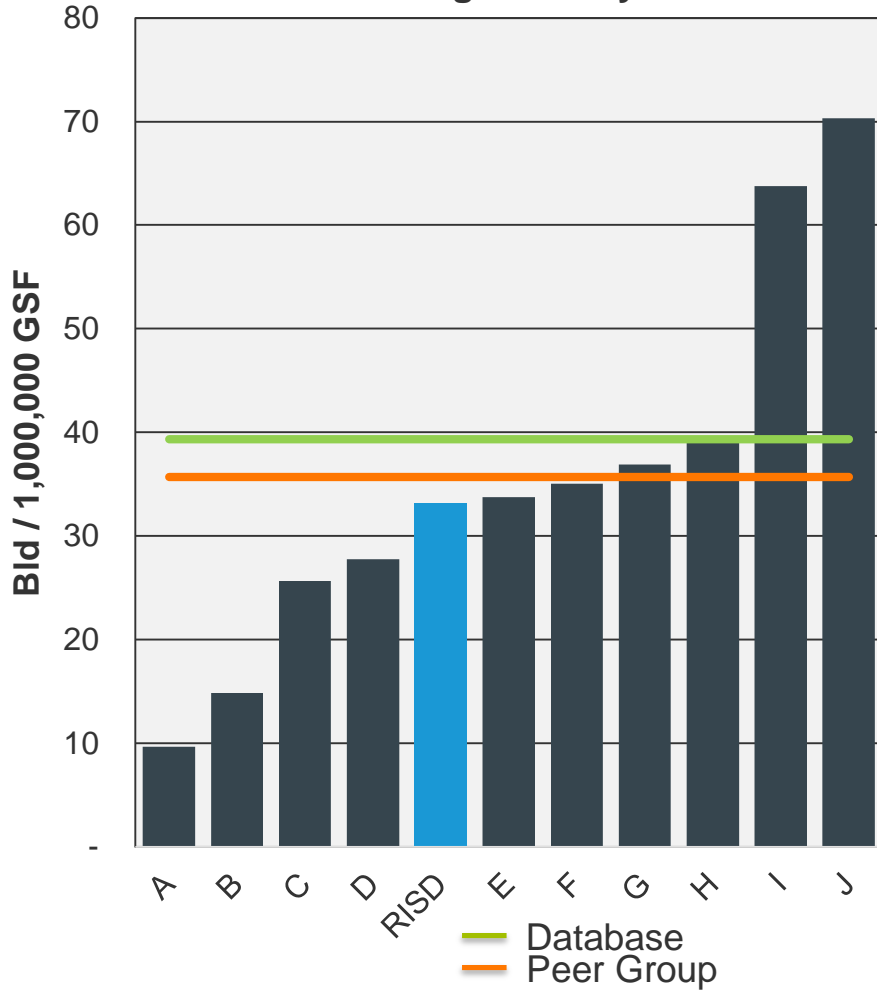


- > Despite a growing investment (ISB), total Asset Reinvestment has not continued to grow. Additional resources are needed to stabilize this growth and tackle the backlog of need at RISD.
- > RISD is operating with less daily resources compared to peers. This shortfall coupled with the lack of capital, increases RISD's risk profile. Investing proactively, supervising staff and strong utilization of the work order system will help to minimize the impact of this gap.
- > As RISD looks to expand campus and increase the overall footprint, a close look at how the O&M budget will be impacted is a critical exercise. Will RISD's budget grow with this additional square footage?
- > New emissions data shows positive declines in MTCDEs/GSF

# Building Intensity- Appendix 1



### Building Intensity



### Average Building Size by Reno Age Group

