

# Rhode Island School of Design

## FY20 ROPA+ Analysis

### Budget Committee

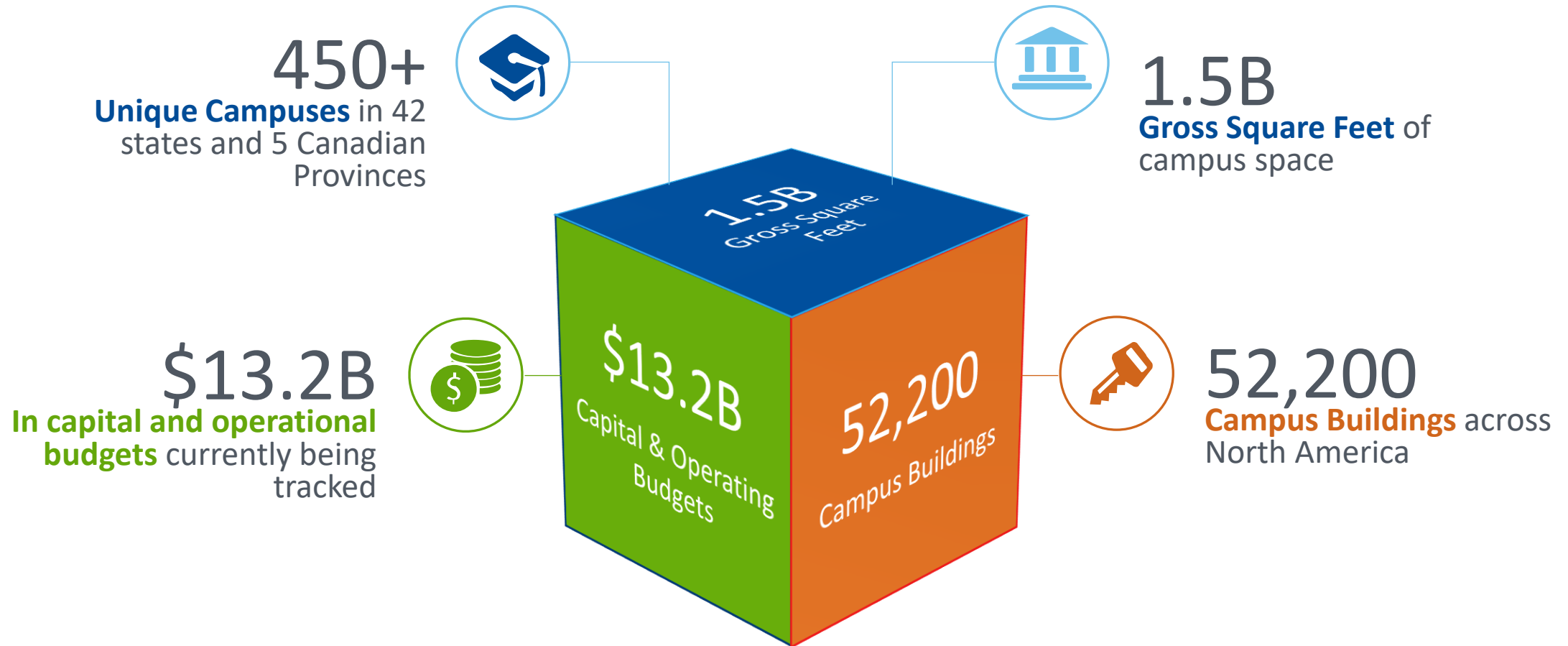
February 4, 2021

University of the Sciences in Philadelphia  
University of Toledo  
University of Vermont  
University of Washington  
University of West Florida  
University of Wisconsin - Madison  
Vanderbilt University  
Virginia Commonwealth University  
Wake Forest University  
Washburn University  
Washington State University  
Washington State University - Tri-Cities Campus  
Washington State University - Vancouver  
Washington University in St. Louis  
Wayne State University  
Wellesley College  
Wesleyan University  
West Chester University  
West Virginia Health Science Center  
West Virginia University  
Western Oregon University  
Westfield State University  
Widener University  
Williams College  
Worcester Polytechnic Institute  
Worcester State University



# Gordian and Sightlines

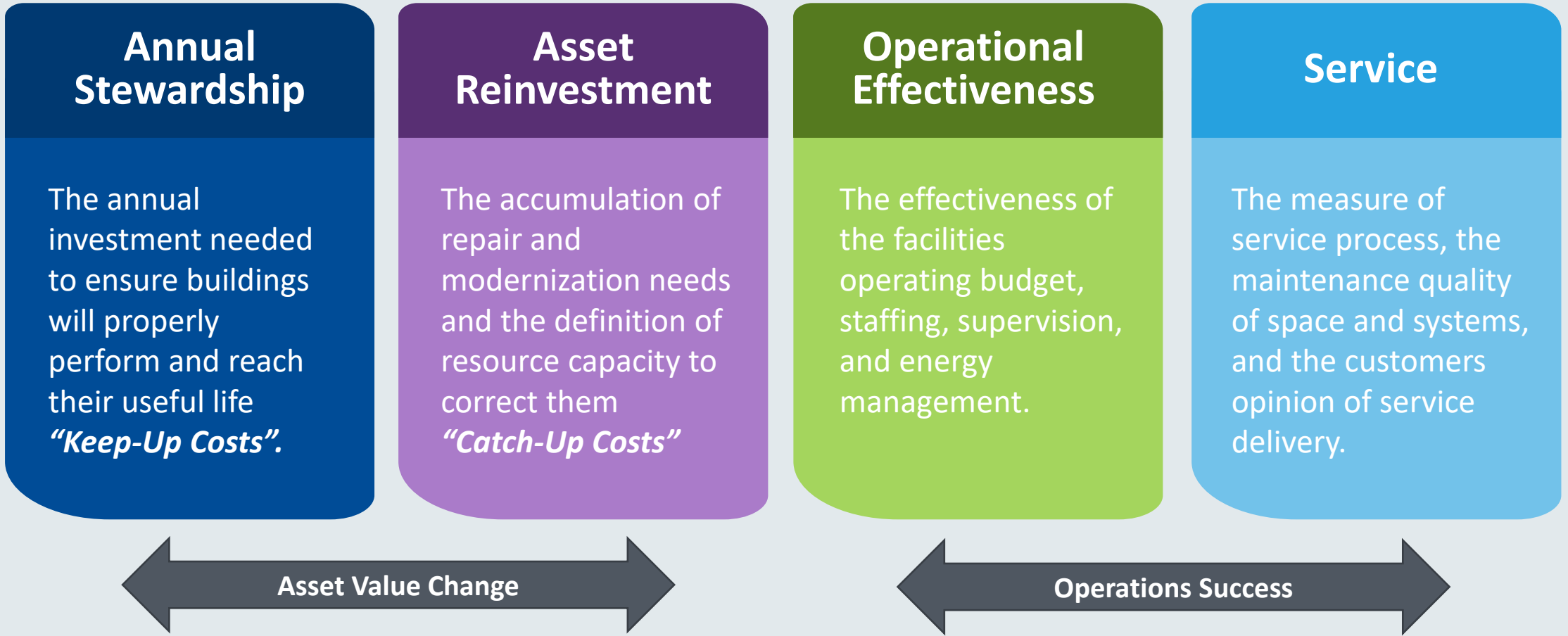
Owners of the largest verified facilities database in higher education



Sightline's members serve **over 20%** of US College Enrollment



# Vocabulary for Facilities Benchmarking & Analysis

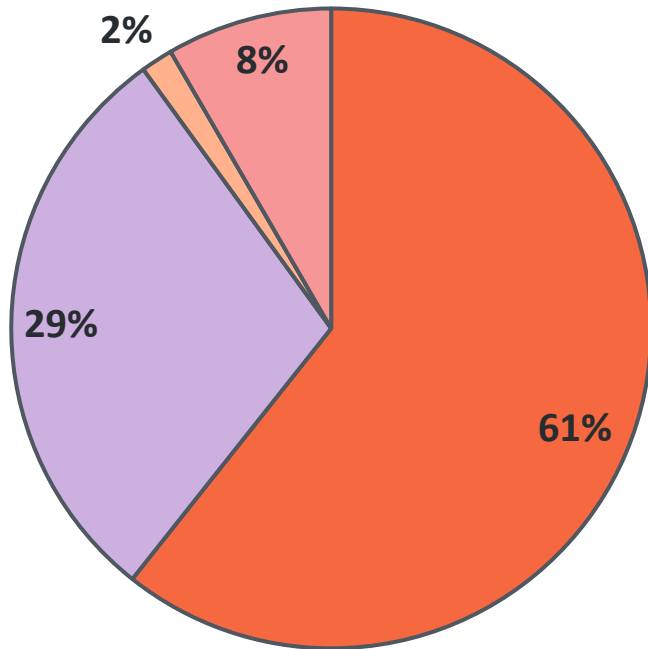




# Scope of Analysis & Meeting Agenda

FY20 analysis is focused on 1.8M GSF across 61 buildings

Scope of Facilities Included in Analysis



■ Acad/Admin ■ Residential ■ Student Life ■ Support

## Space & Capital Profile

- Identify key space characteristics that have a significant impact on future capital and operation demand.
- Understand historical capital investment compared to both peers and Sightline's target levels over time.
- Outline where the future building need is by system and highlight several key buildings.
- Illustrate funding scenarios and their corresponding effect on predicted need.

## Operations Profile

- Provide insight into the operational changes across RISD and Peers for FY20.
- Review historic trends across operating expenditure and staffing levels across Maintenance, Custodial and Grounds.

# RISD: Peer Institutions



Observing total 1.8M GSF, across 61 buildings on campus

Institution	Location
Arts Center College of Design	Pasadena, CA
Bentley University	Waltham, MA
Bowdoin College	Bowdoin, ME
Brown University	Providence, RI
Connecticut College	New London, CT
*Emerson College	Boston, MA
Ithaca College	Ithaca, NY
Massachusetts College of Arts and Design	Boston, MA
Mount Holyoke College	South Hadley, MA
Pratt Institute	Brooklyn, NY



## Comparative Considerations

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

# Qualifying Metrics – *Tech Rating*

## Tech Rating Affects:



### Staffing Demands

More complex systems will require higher skillsets to maintain.



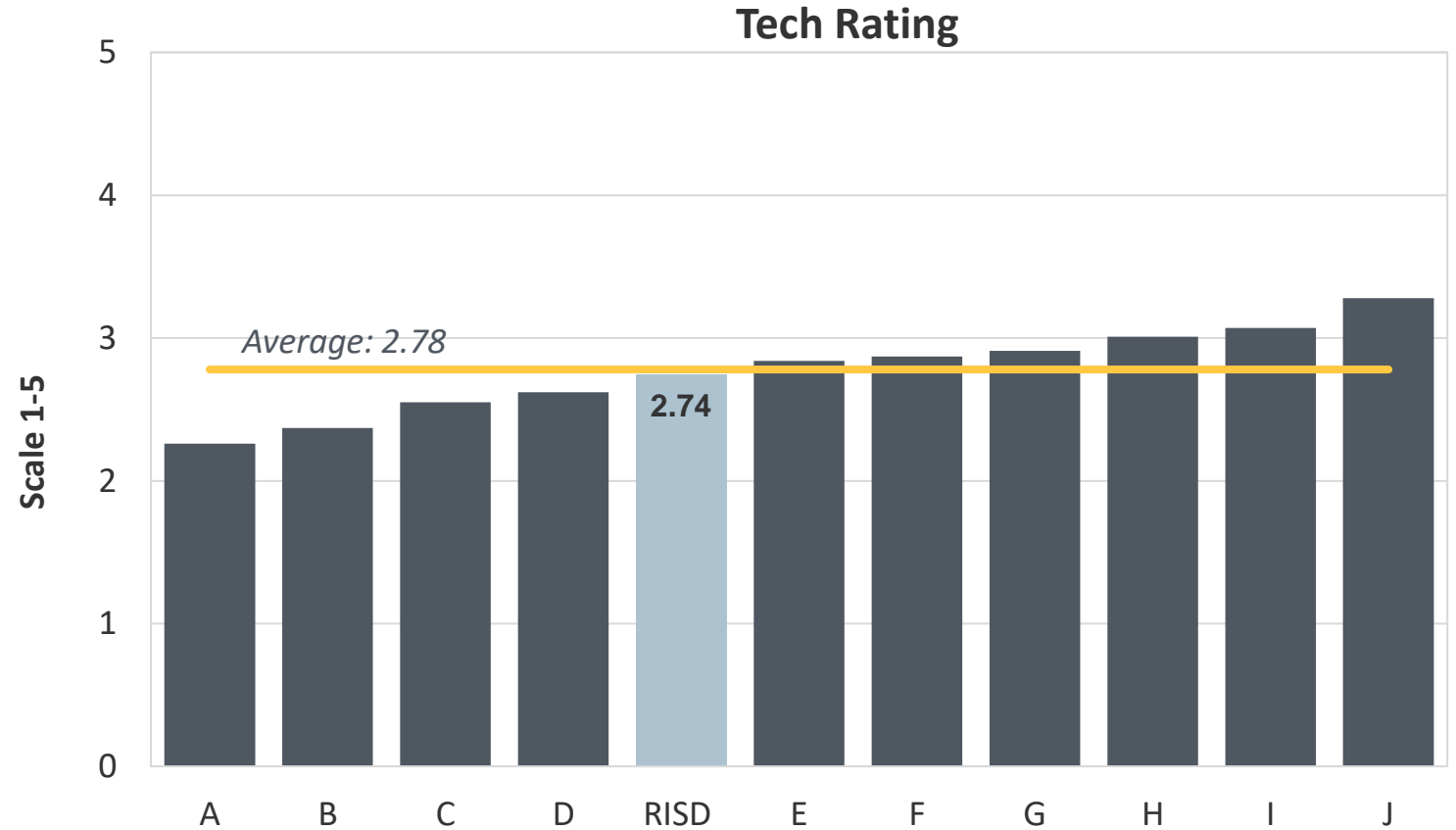
### Repair & Replacement Cost

Complex systems will require more capital investment to repair and replace.



### Energy Consumption

Complex systems can be more energy intensive.



# Qualifying Metrics – *Density Factor*

## Density Affects:



### Staffing Levels

More space will require more staff to clean/maintain space to meet facility standards.



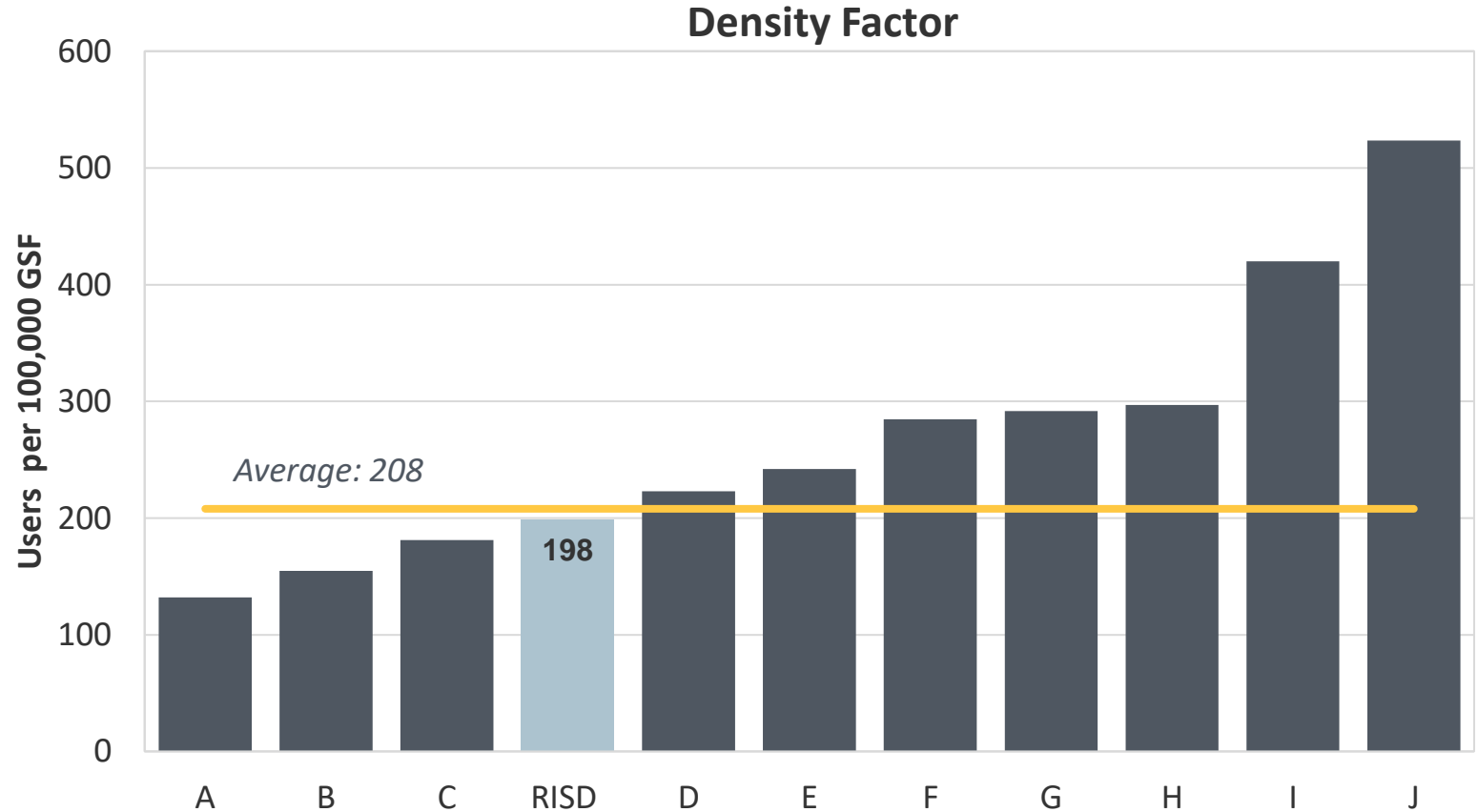
### Material and Supplies

Material and supply demand influenced by how often the space is used.



### Wear and Tear of Facilities

High traffic and space usage result in sooner lifecycle replacement.



# RISD's Density Decreases Further Looking Forward



Due to COVID-19, Fall 2020 will start with 1,766 students on campus

## Density Affects:



### Staffing Levels

More space will require more staff to clean/maintain space to meet facility standards.



### Material and Supplies

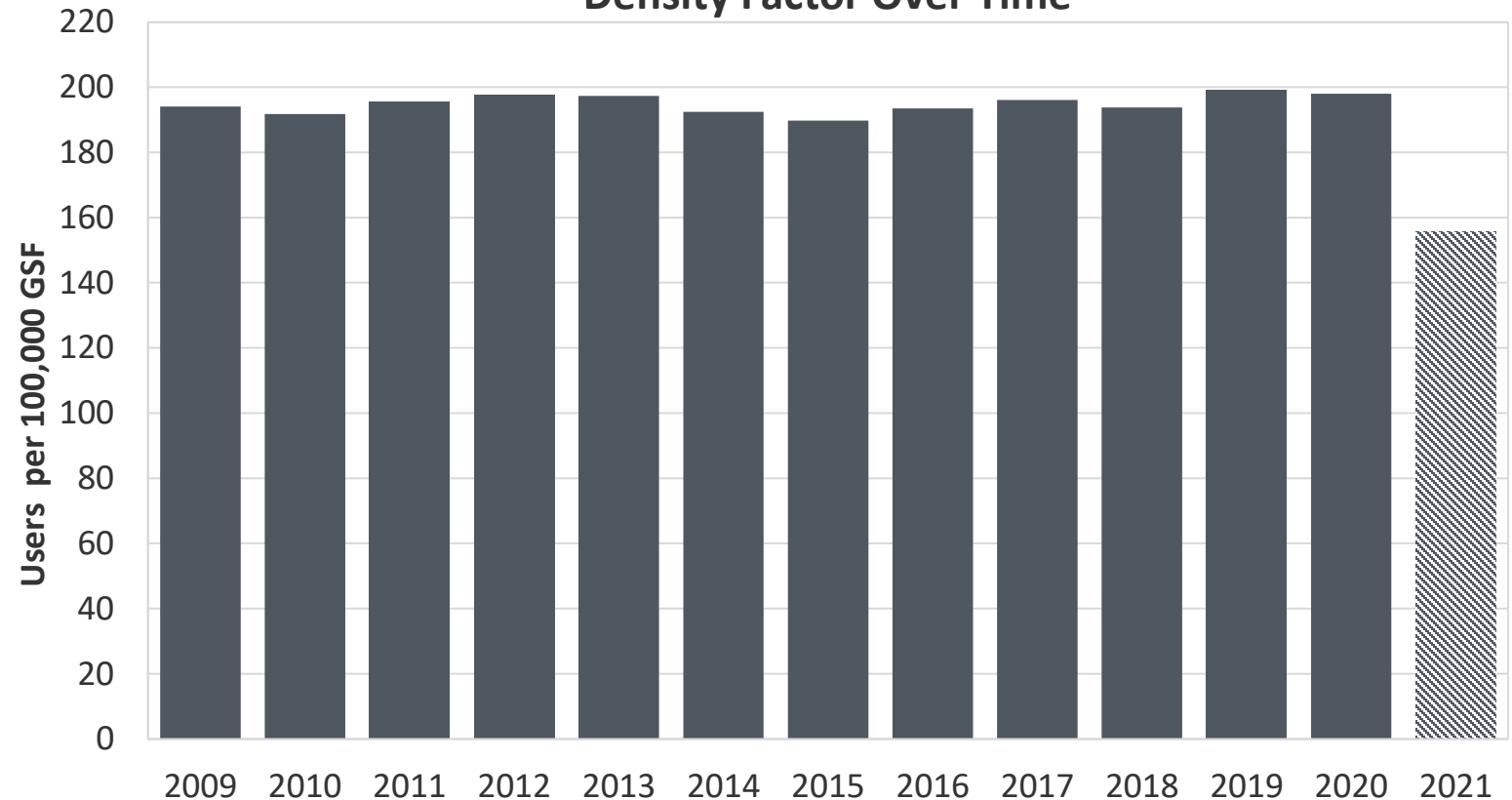
Material and supply demand influenced by how often the space is used.



### Wear and Tear of Facilities

High traffic and space usage result in sooner lifecycle replacement.

## Density Factor Over Time



*\*2021 staff and faculty at 2020 levels*

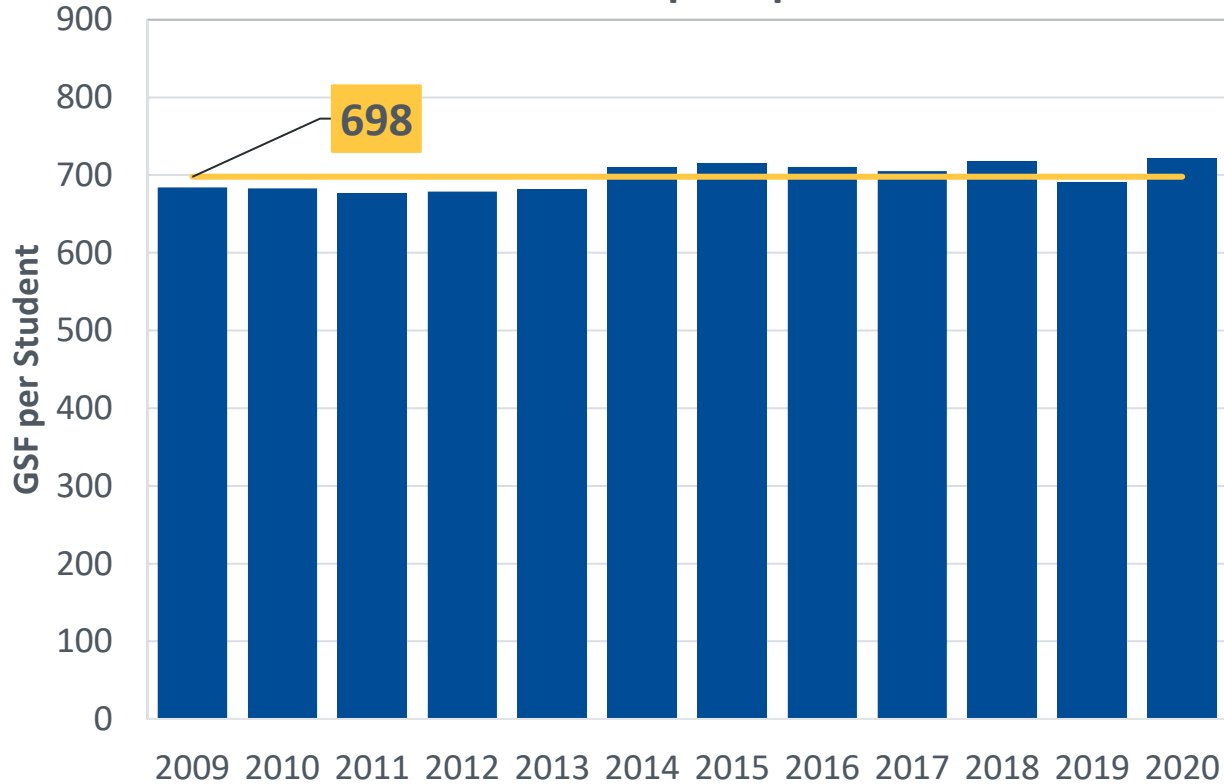




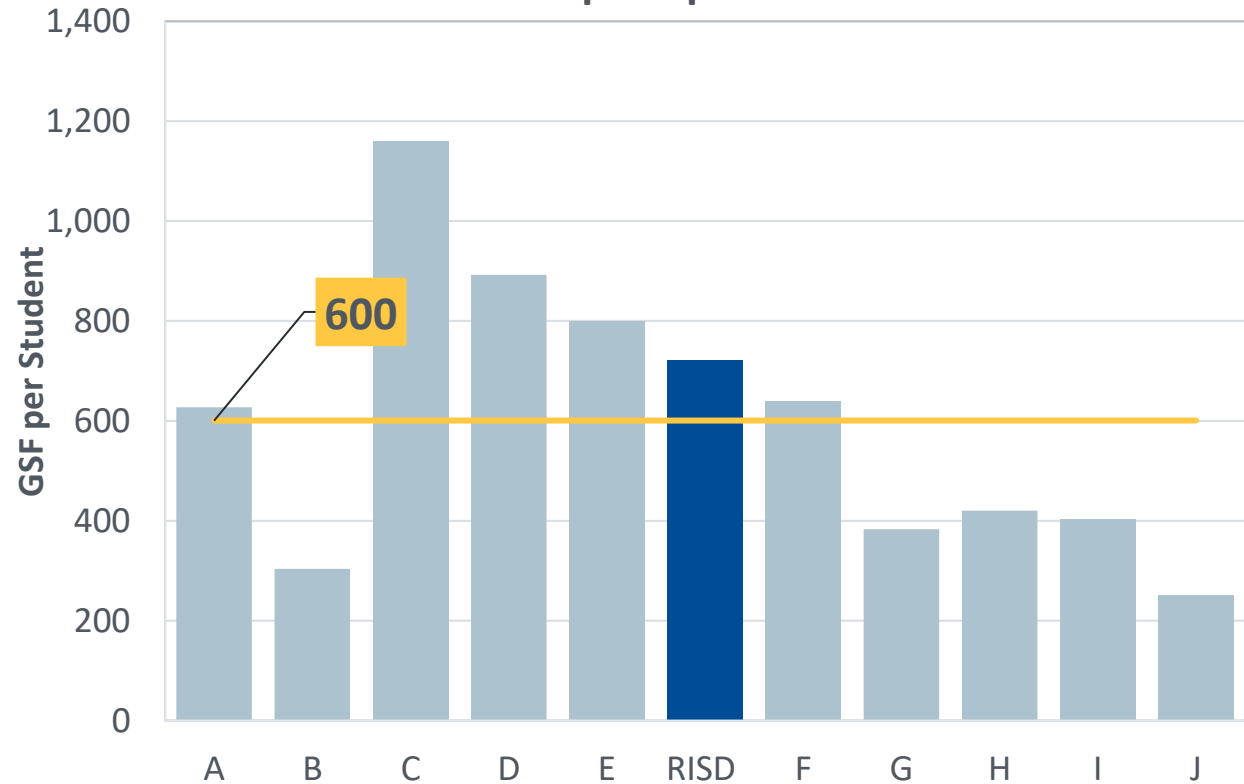
# Space per Student Levels at RISD Above Peer Average

*More space per students provides a benefit in COVID social distancing policies*

### RISD Total Space per Student



### Total Space per Student



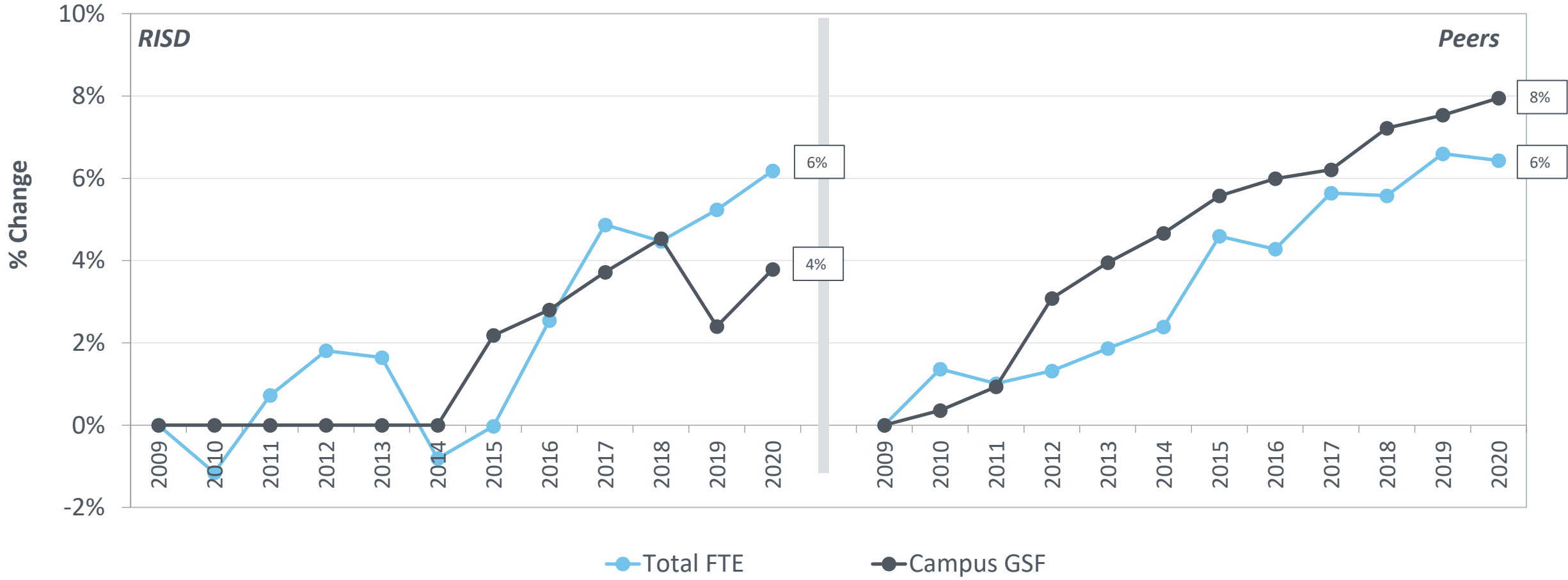
*\*Arranged by Density Factor*



# RISD Growing Users Faster Than GSF

Since 2009 baseline both RISD and Peers have seen campus footprint and total FTEs continue to rise

### Change in Campus Size versus Campus Users Indexed to 2009

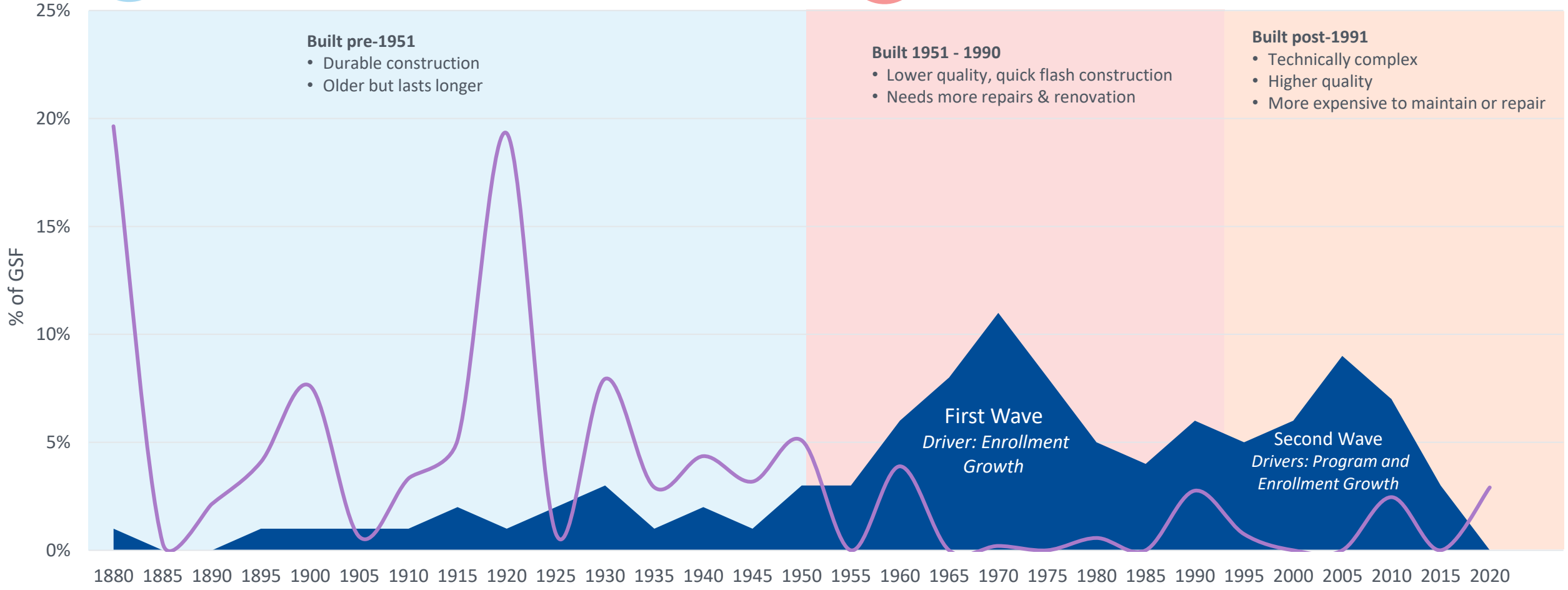
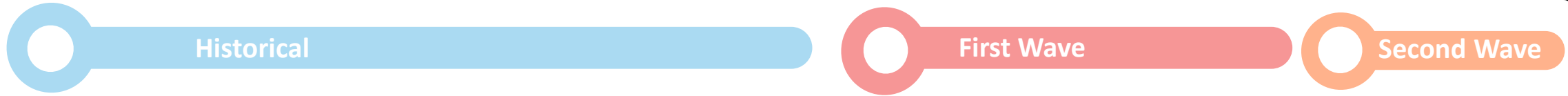


Total FTES exclude Continuing Education FTES

# Space Profile



# RISD Construction Profile Compared to Database



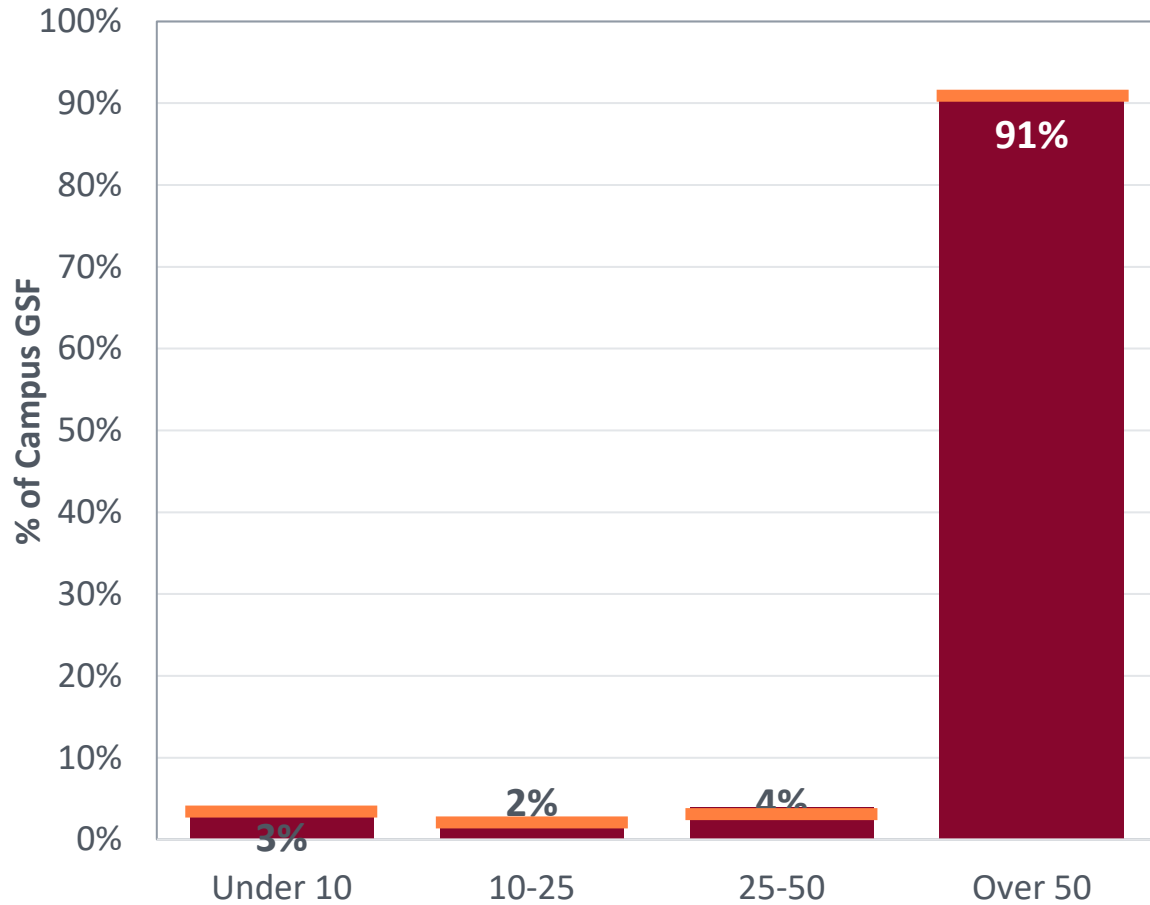
■ Sightlines Database- Construction Age      — Rhode Island School of Design



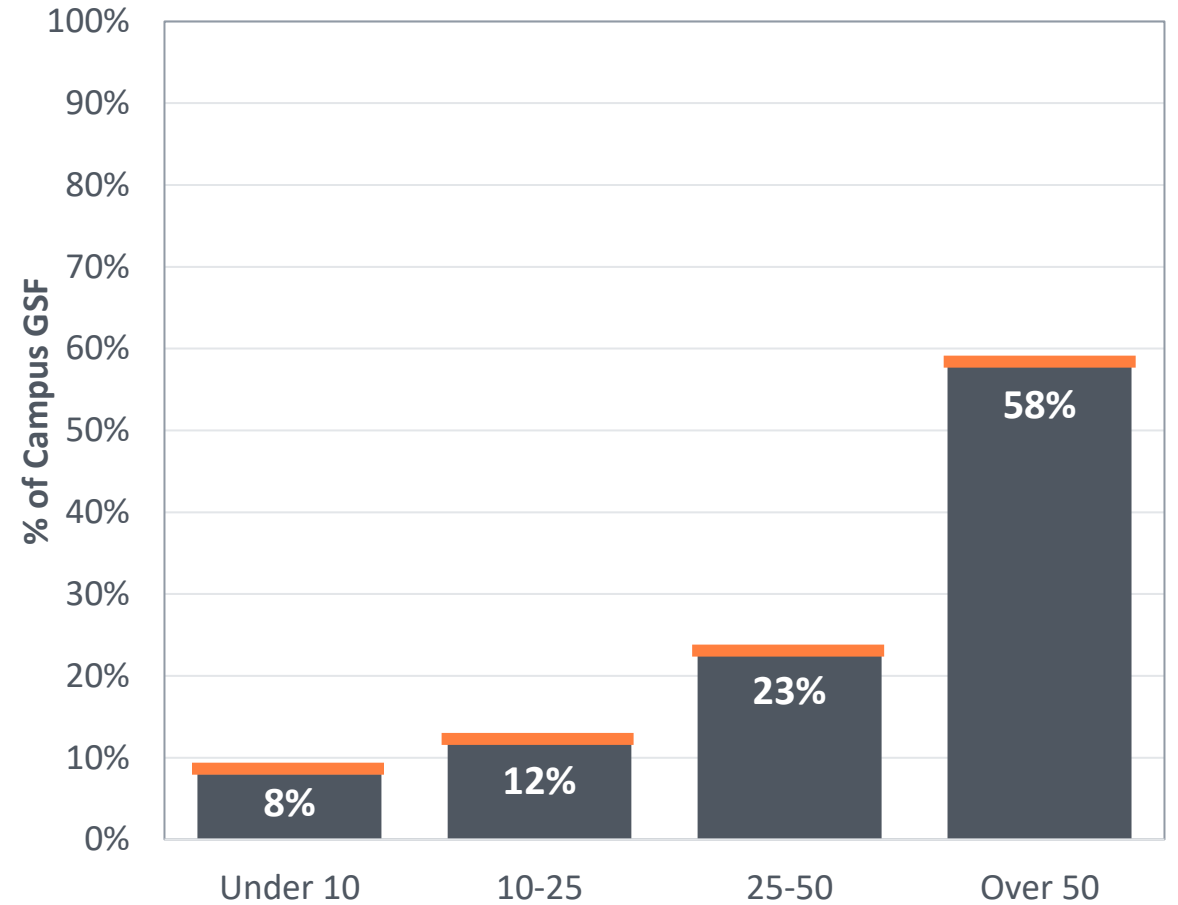
# Construction Age Profile By Age Group

*Vast majority of space on RISD and peer campuses is over 50 based on original construction date*

### RISD - Construction Age Distribution



### Peers - Construction Age Distribution

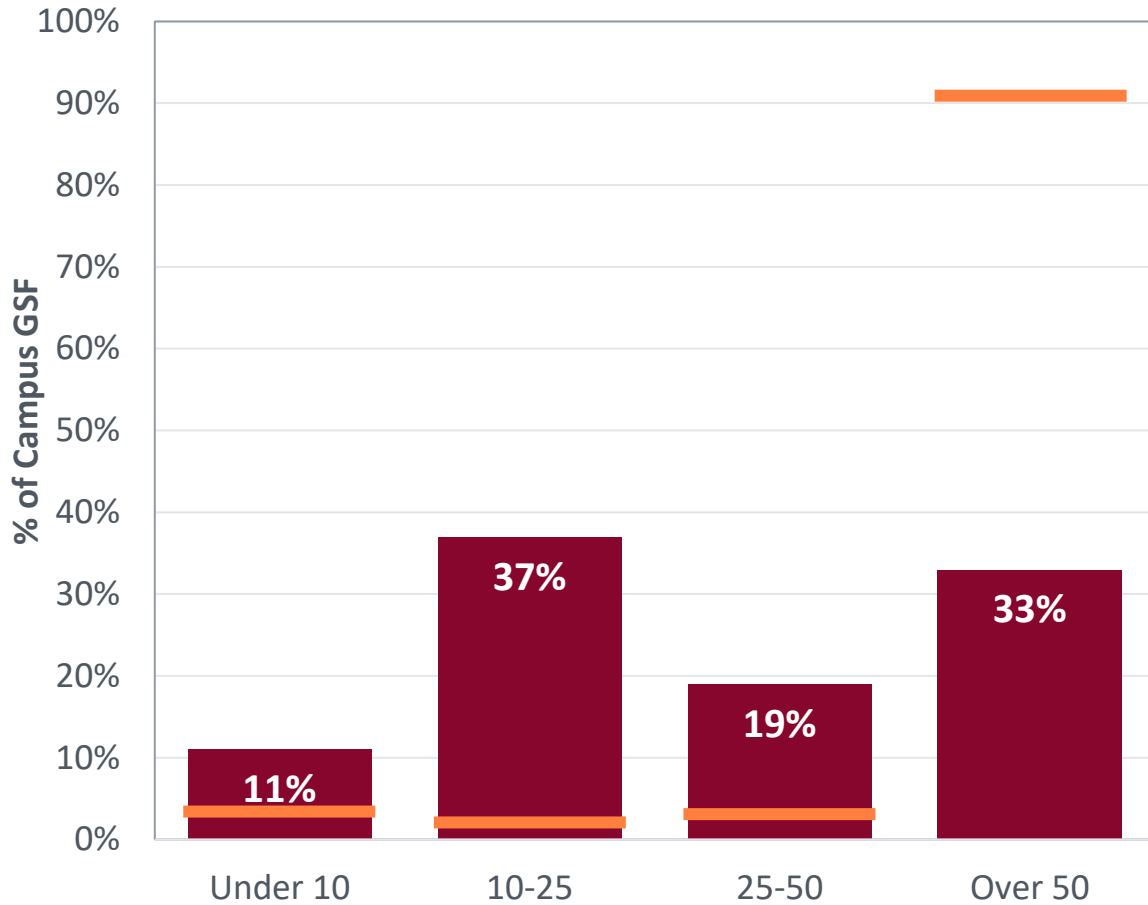




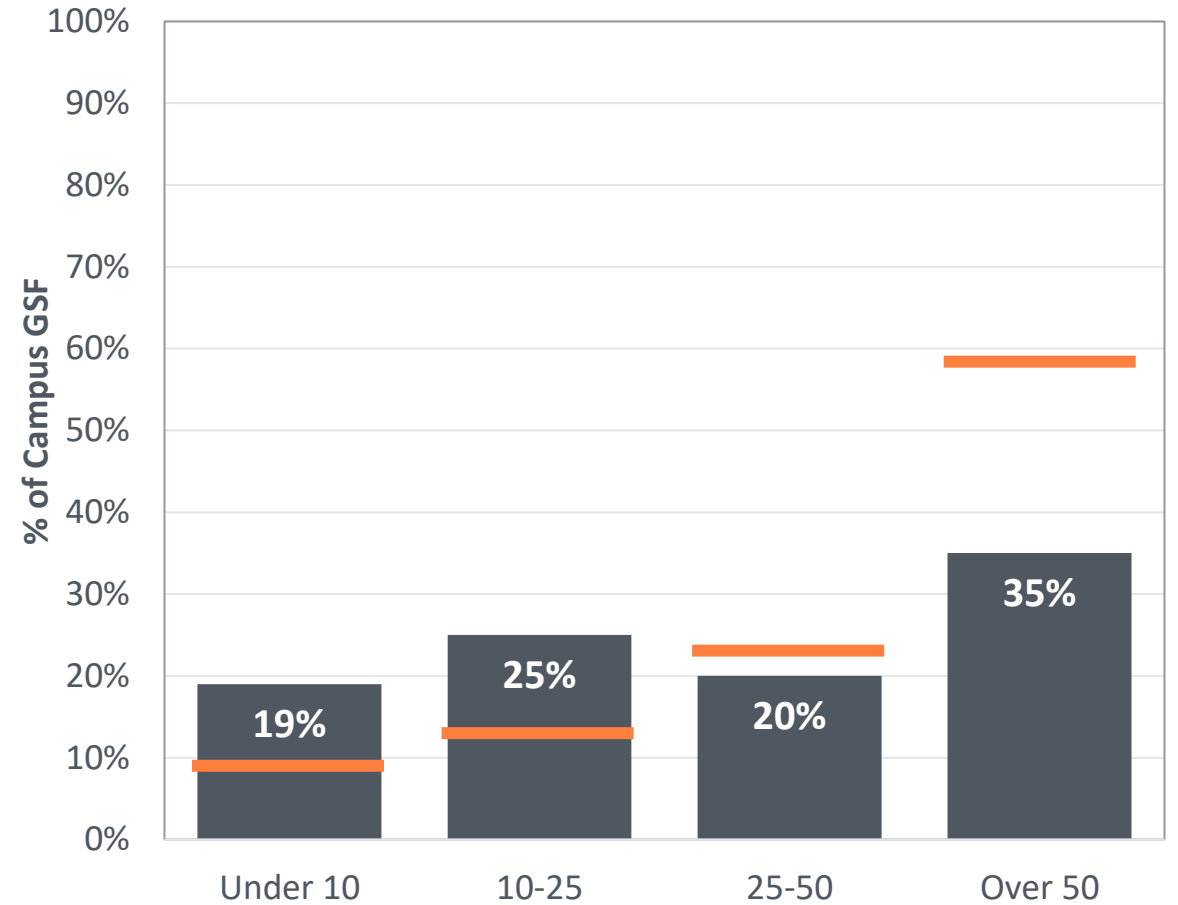
# Renovations Have Had Greater Impact at RISD

*RISD has offset construction age by 57 years through renovations; peers have offset age by 21 years*

### RISD - Renovation Age Distribution



### Peers - Renovation Age Distribution

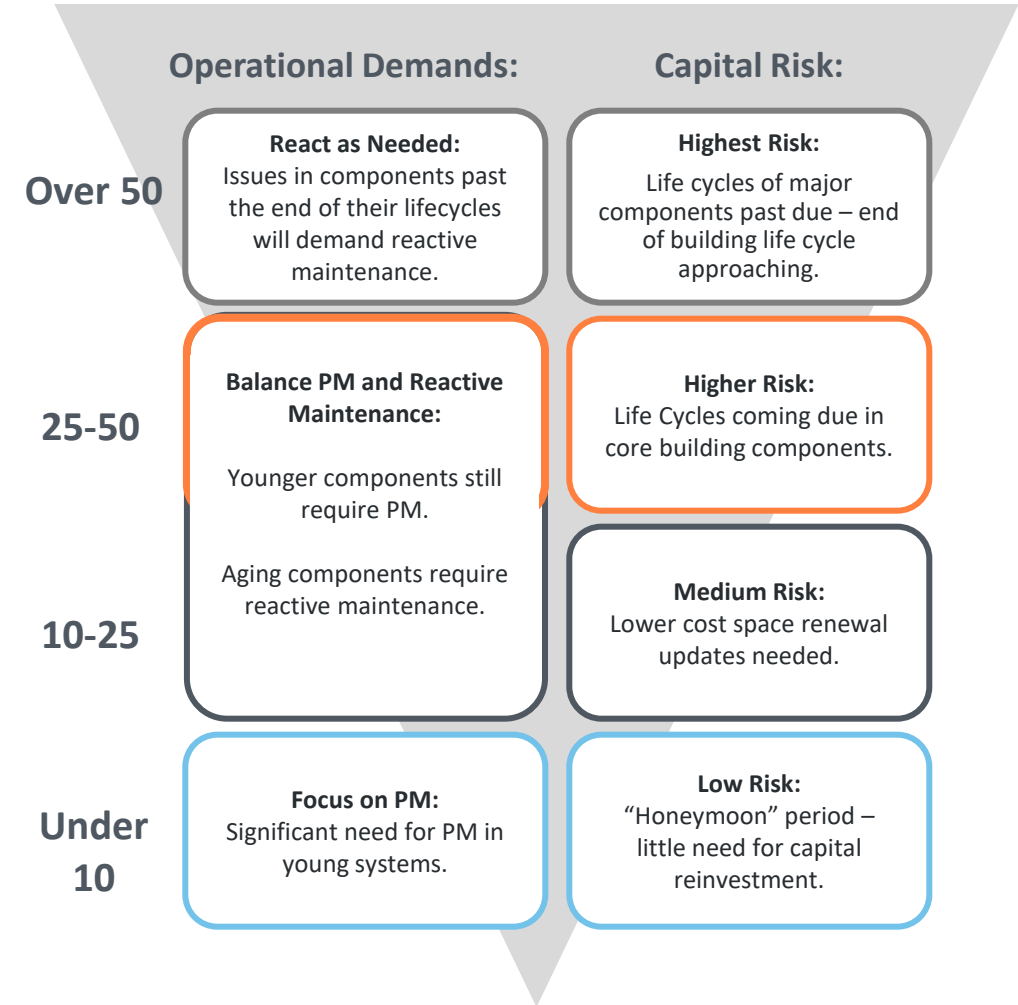
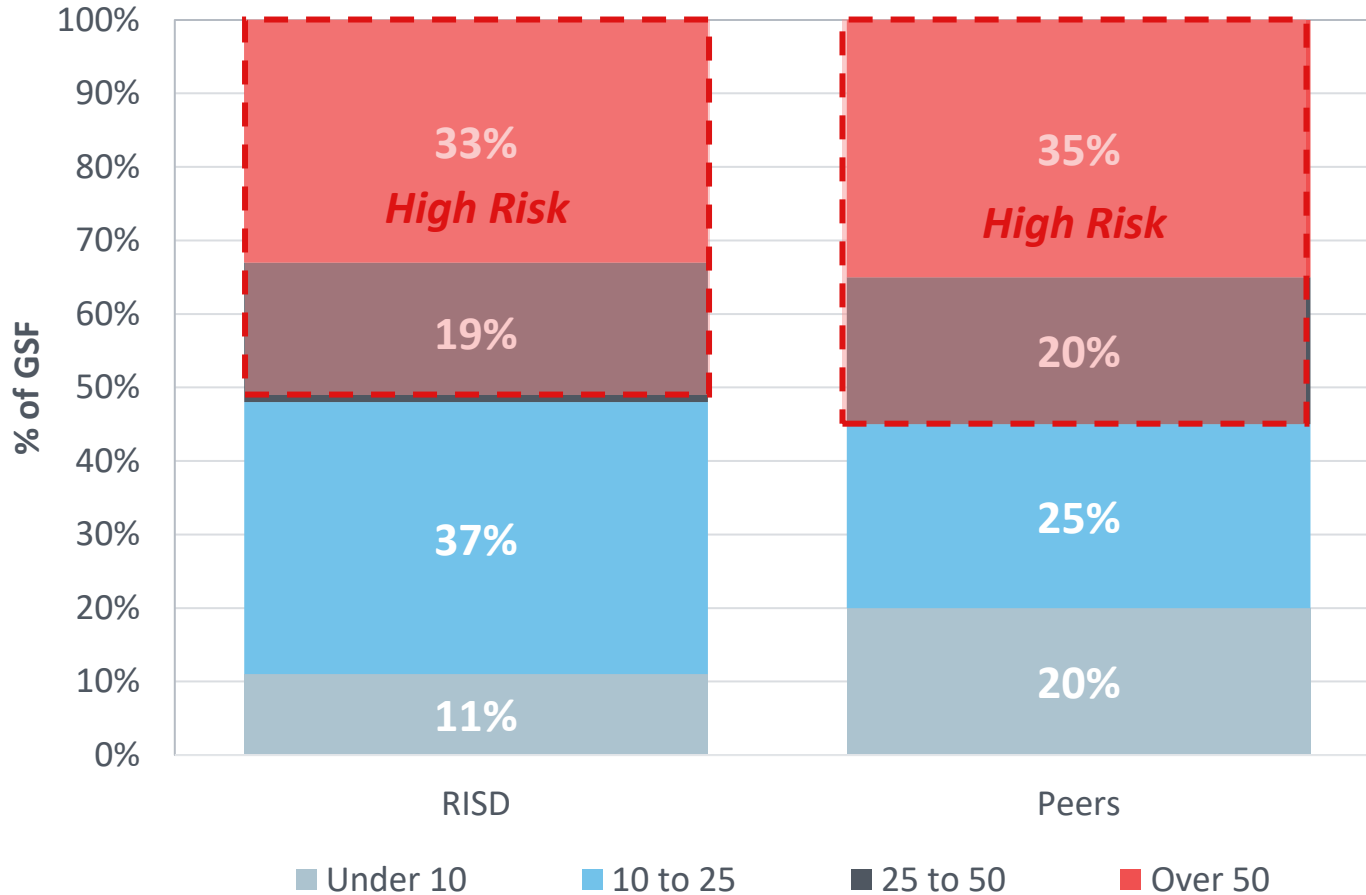




# Renovations Lower RISD's Risk Exposure

52% of space is high risk at RISD, vs. 55% of peers space

### Renovation Age Categories

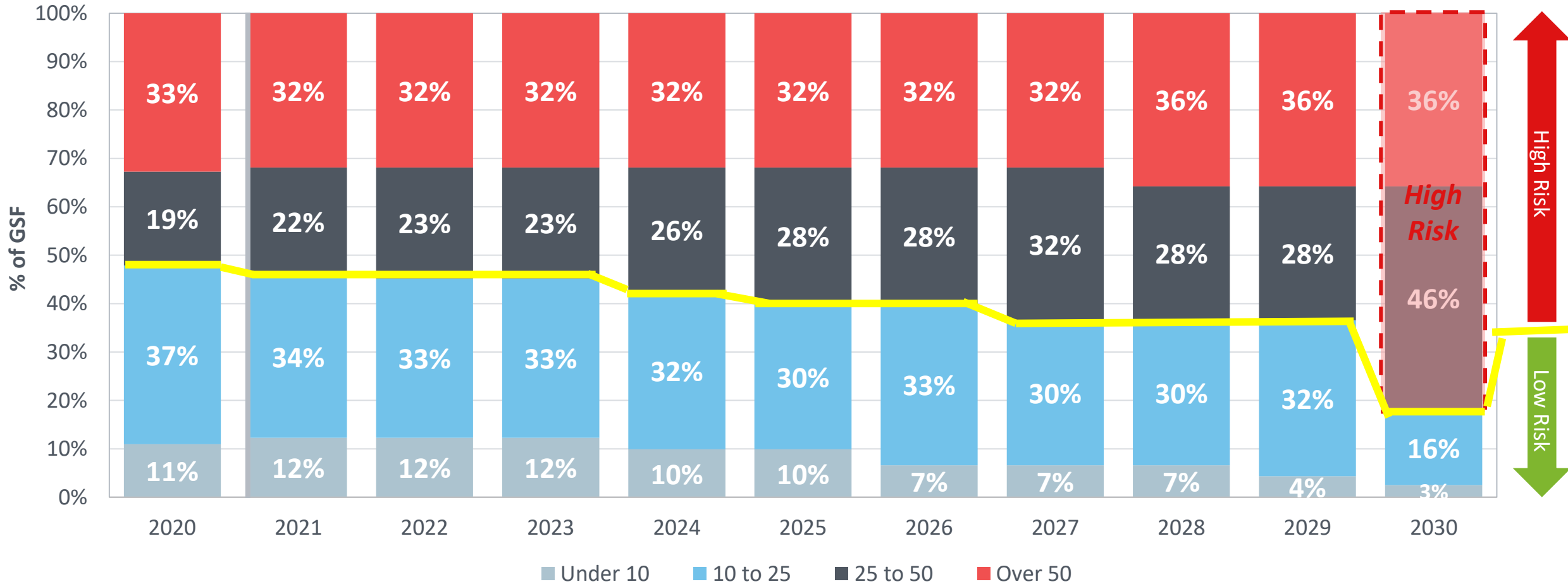




# Without Renovations, Risk Will Continue to Grow

Currently 52% of campus is considered high risk; by 2030 that could grow to 82%

### Campus Renovation Age by Category – 10 Year Projection



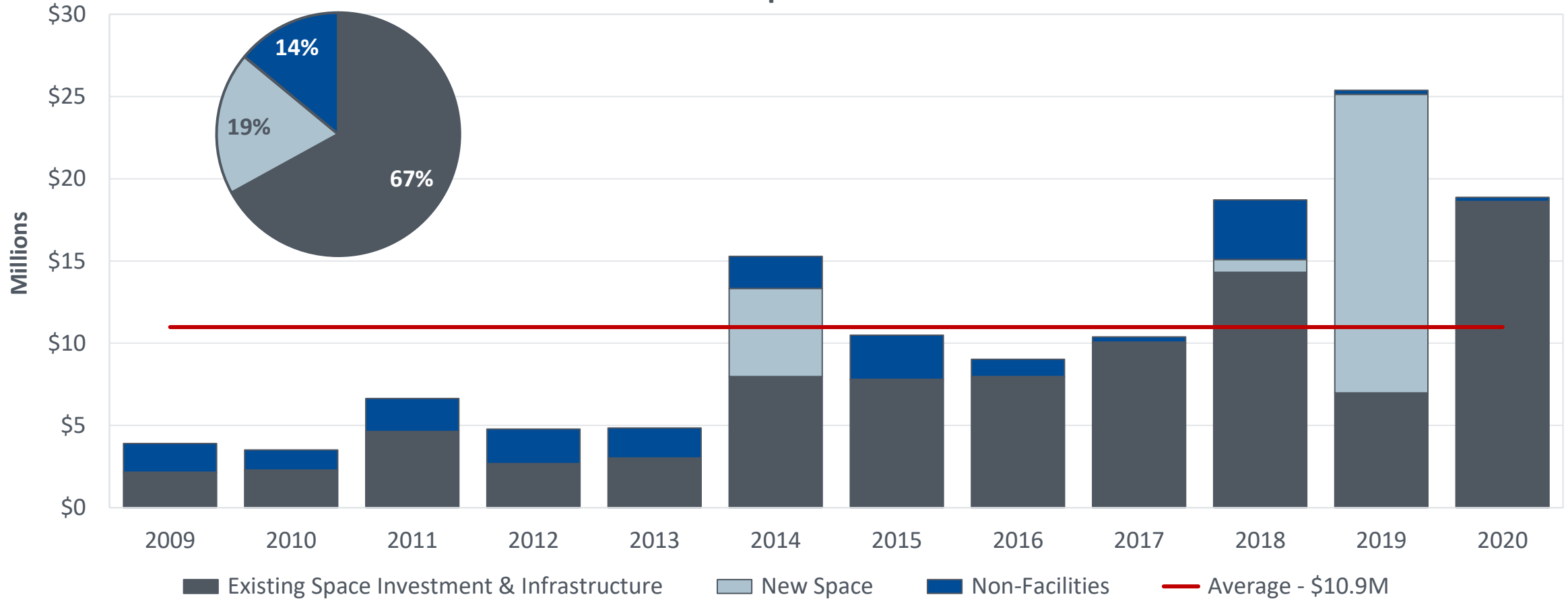




# Capital Investment Shifts to Existing Space in FY20

Capital investment into existing space increases by \$11.6M in FY20

### Total Capital Investment

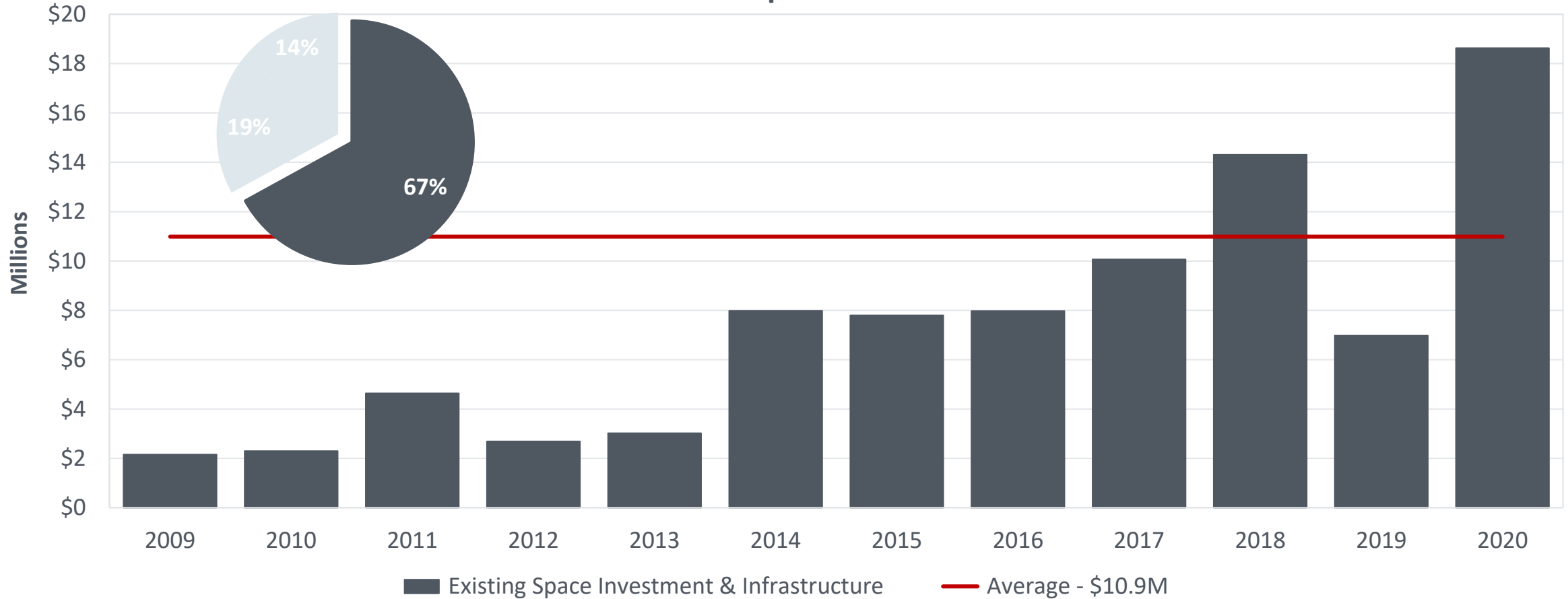




# Existing Space Investment Peaks in FY20

*Nickerson Hall renovation accounts for 63% of FY20 total existing space expenditures*

### Total Capital Investment

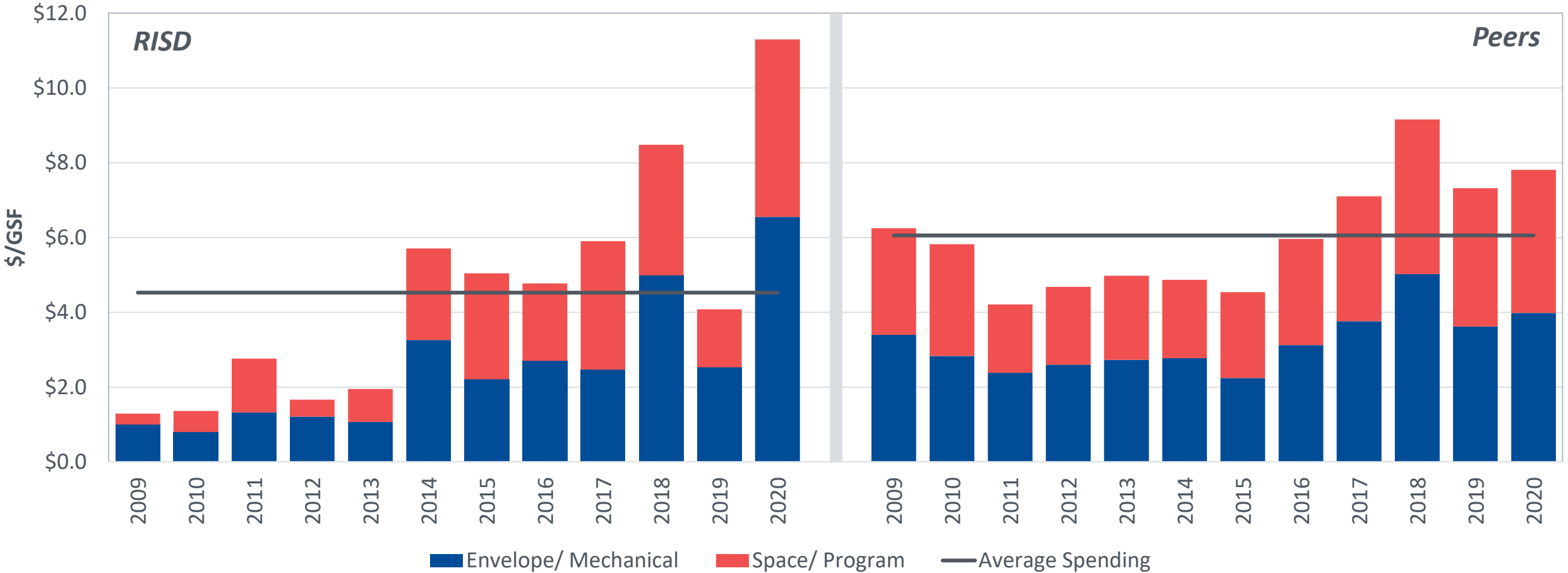




# RISD Total Spending Has Outgrown Peers' in FY20

*RISD allocating a higher percentage of resources to high ROI project work*

## Capital Investment into Existing Space



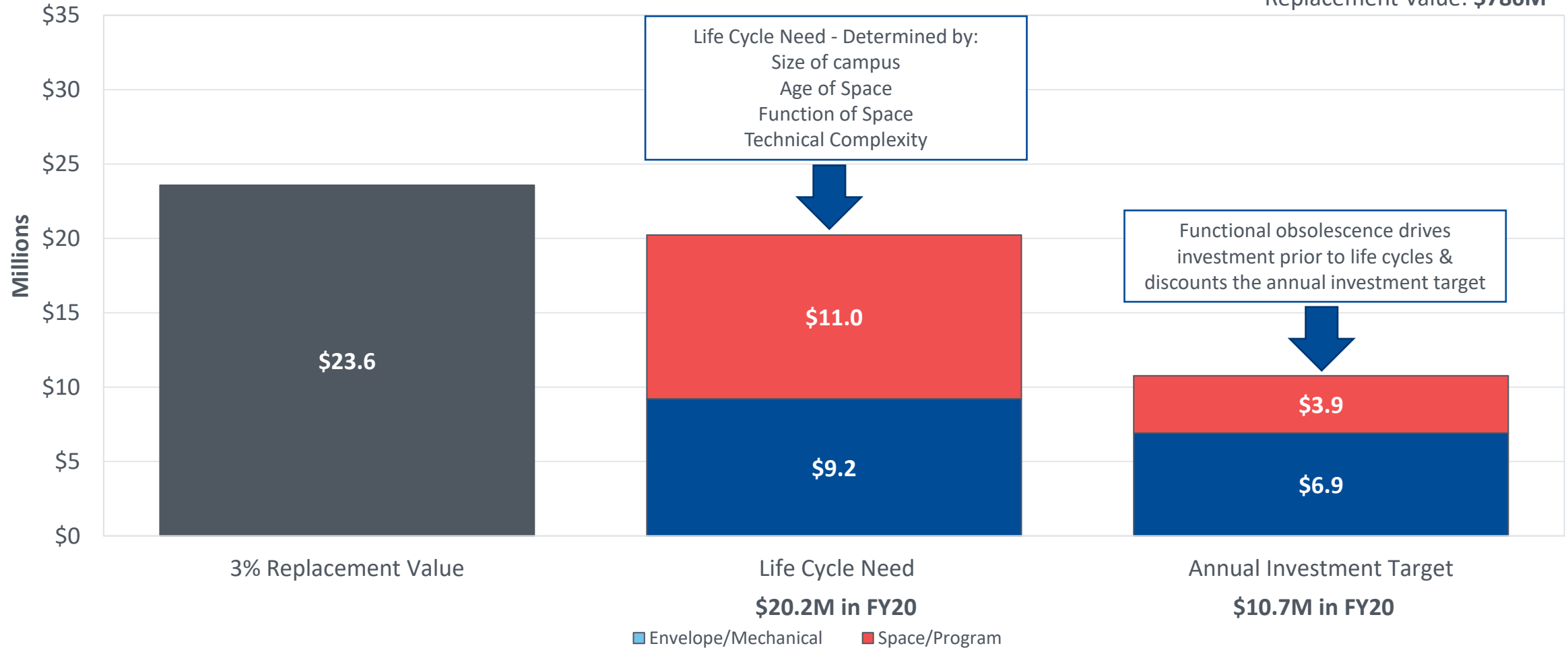


# Defining an Annual Investment Target

FY20 Annual Funding Target: \$10.7M

## FY20 Annual Investment Target

Replacement Value: \$786M

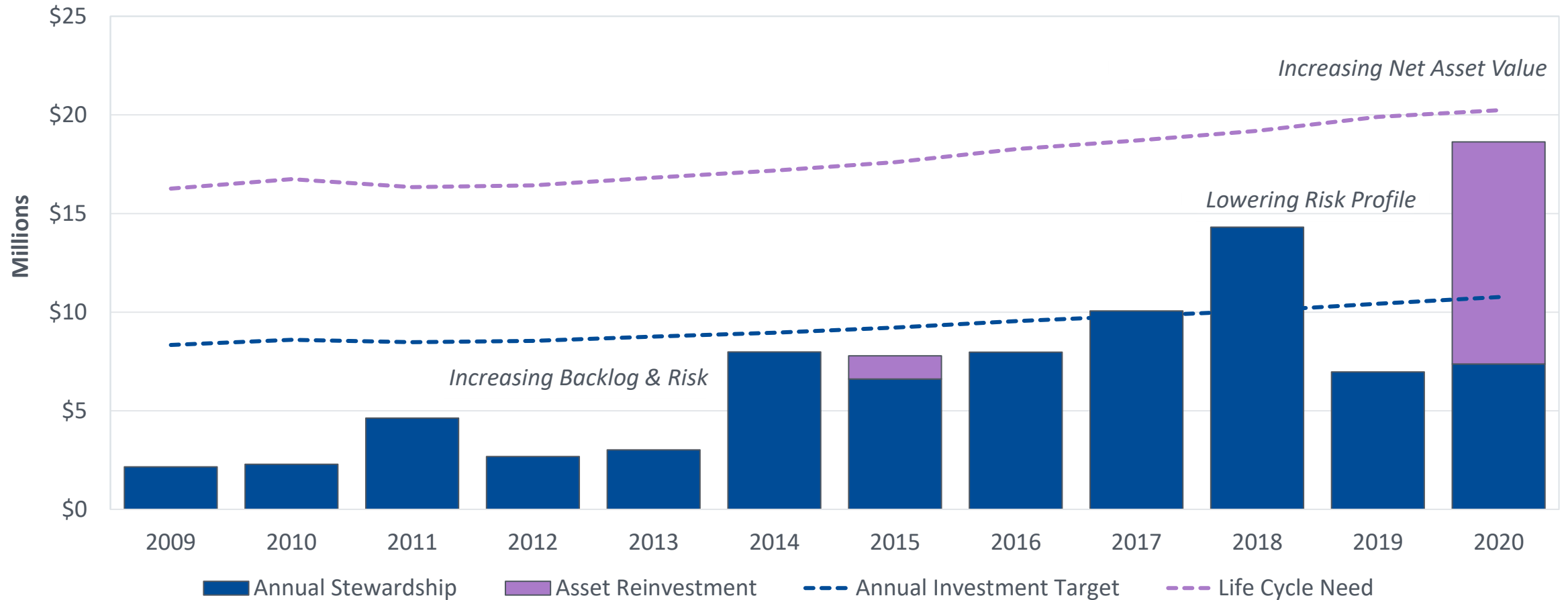


# Strong Capital Investment in FY20 Aids to Low RISD's Risk Profile



*Achieving the Annual Investment Target will help to offset backlog*

**Total Capital Investment into Existing Space vs. Funding Target**

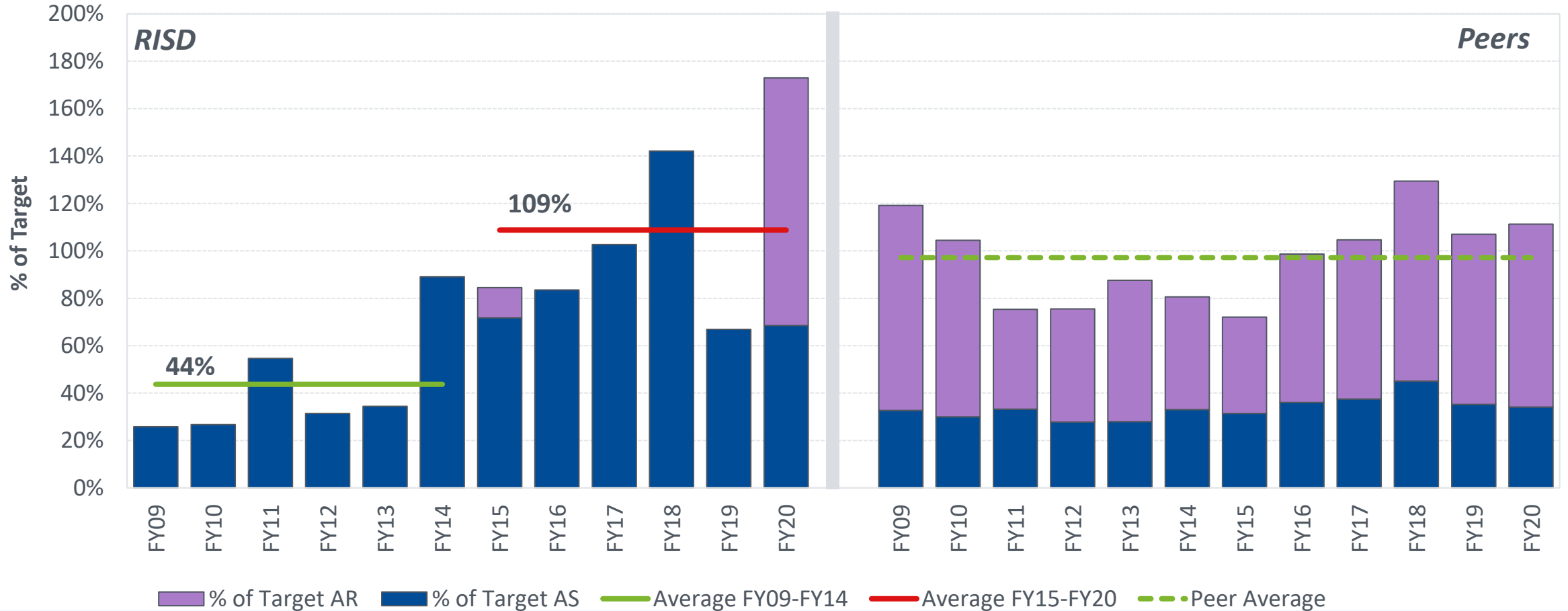




# Total Capital Investment Performance to Target

Shift in existing space investment allows RISD to performance above target in the last 5 years

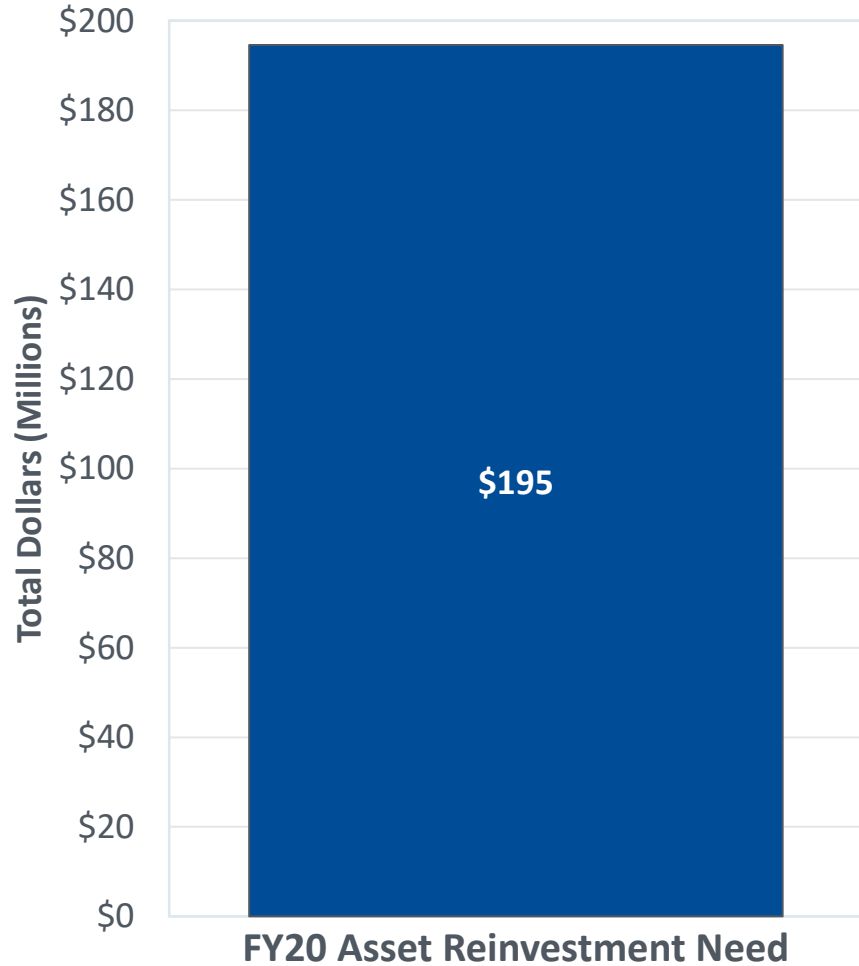
### Historical Capital Investment in Existing Space



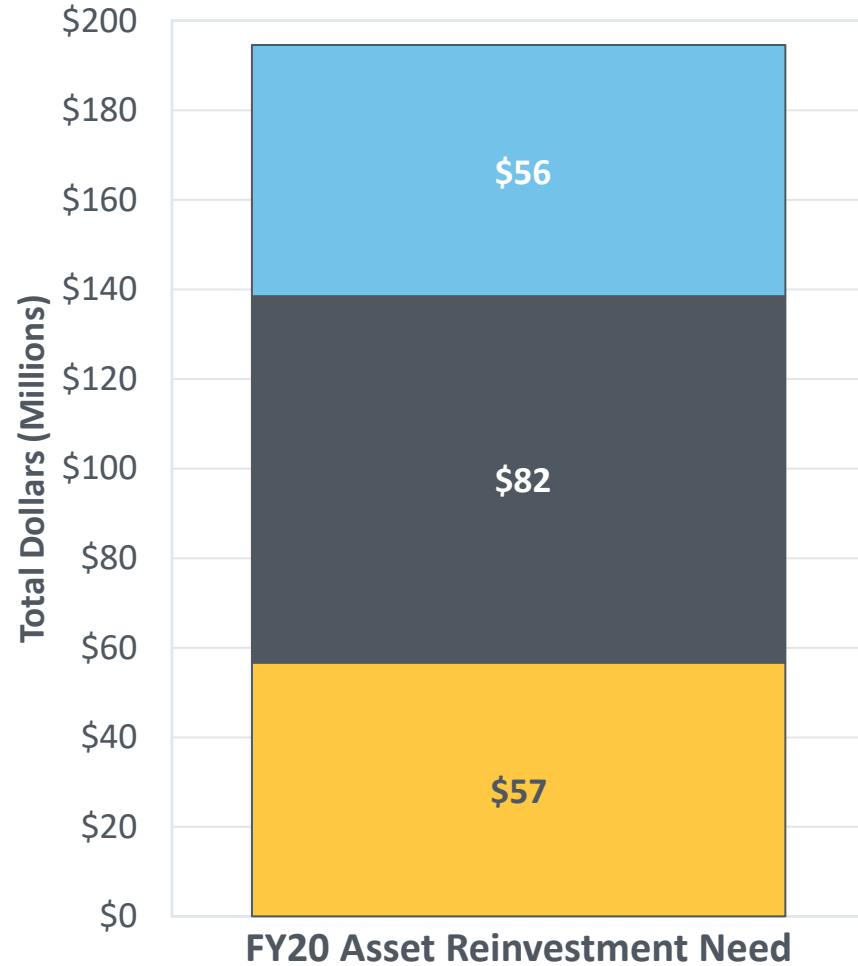


# ROPA+ Prediction: Predictive Investment Model

### Asset Reinvestment Need



### Asset Reinvestment Need

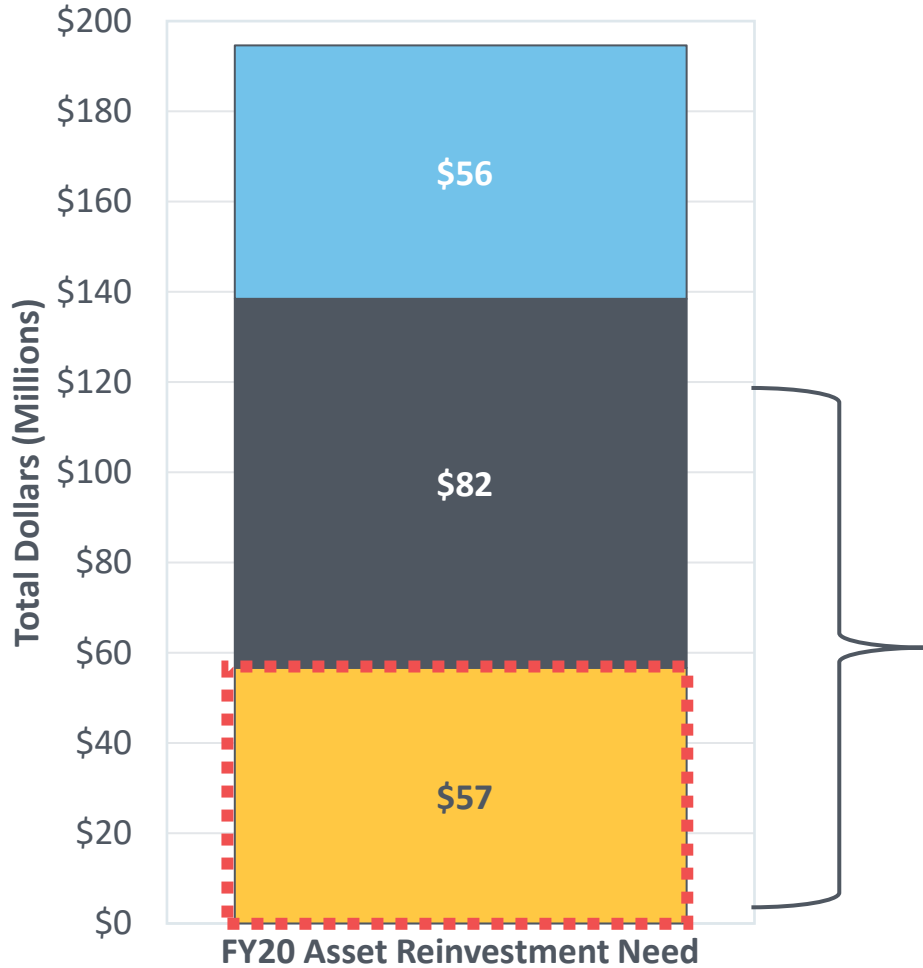


- ✓ Modernization and Infrastructure need is \$56M.
- ✓ Sightlines recommends a 10-year capital strategy to address the total need.
- ✓ Total 10-year renewal need is \$82M.
- ✓ This represents the life cycle needs coming due between 2020-2029.
- ✓ Current Need Today (Highest Risk)

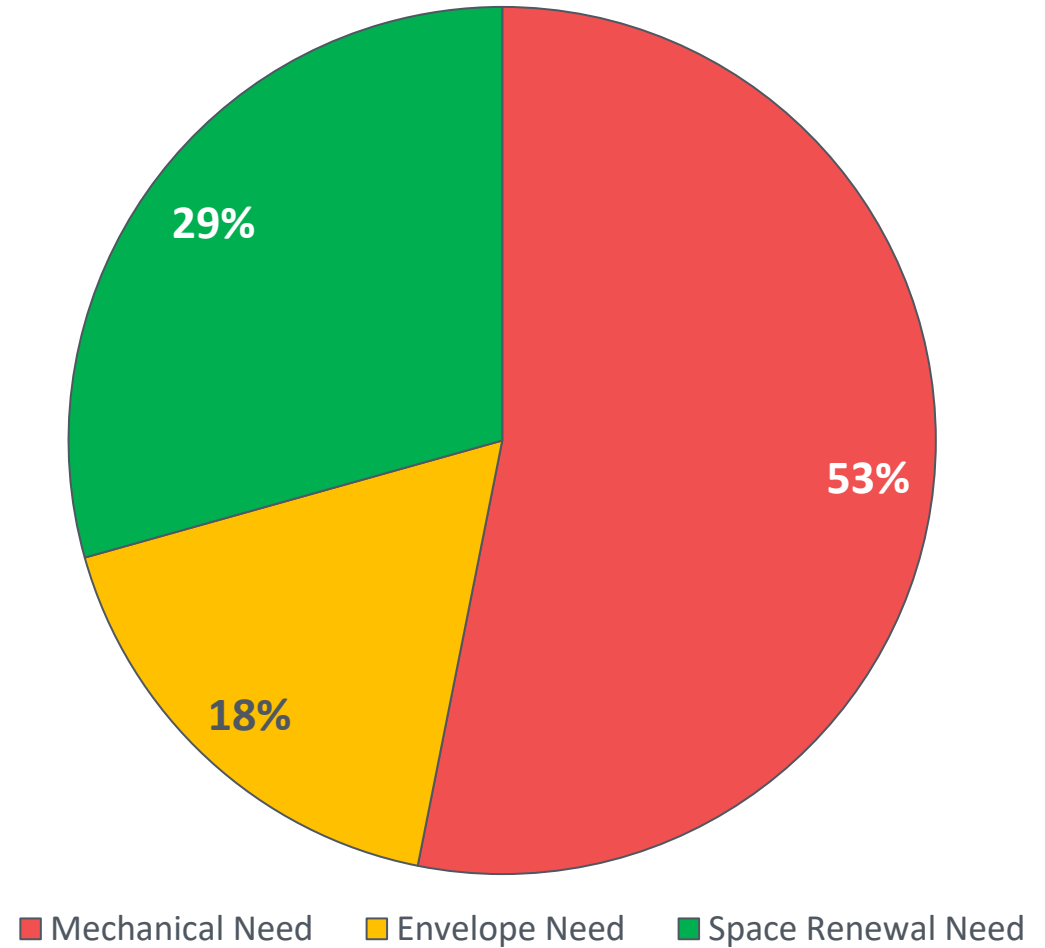
# 53% of Needs Falls into Mechanical Systems



Asset Reinvestment Need



Total Need (10 Year Renewal and Current)\*



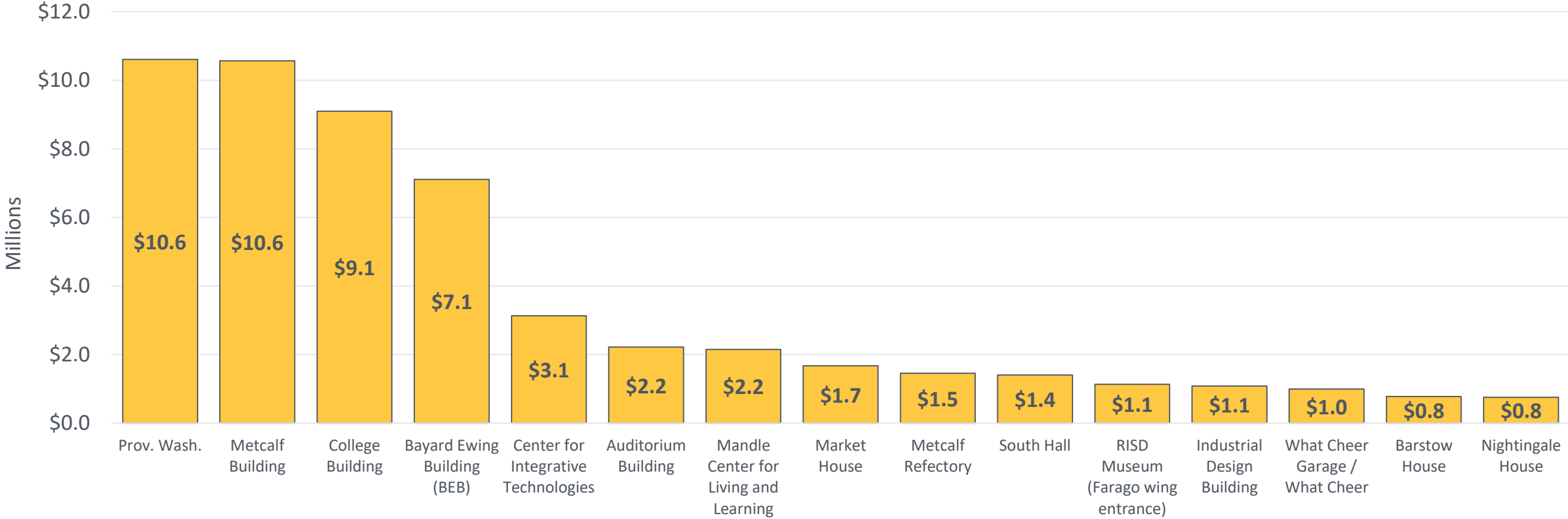




# Deeper Dive: Current Need Totals Across Top 15 Bldgs.

54% of RISD'S GSF Carries 93% of Total Estimated Current Needs

### 15 Highest Current Need Buildings



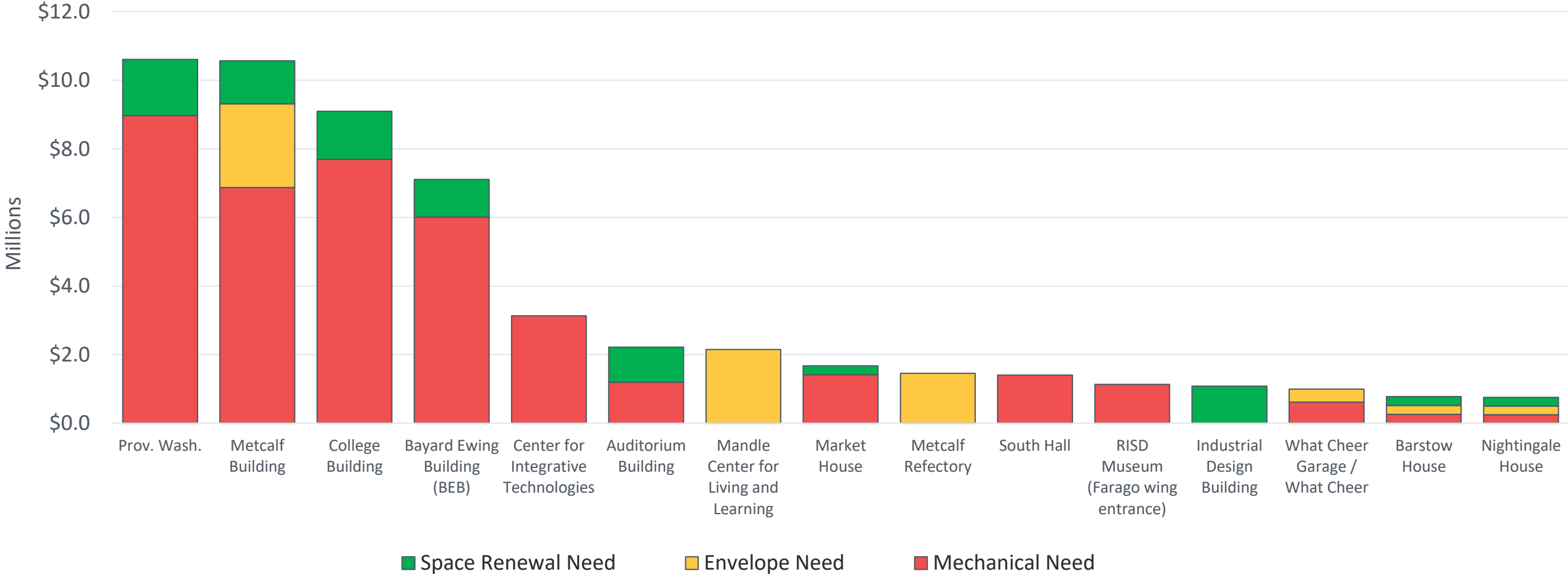
Reno Age Building	71	105	83	42	18	79	15	165	25	33	27	24	30	163	166
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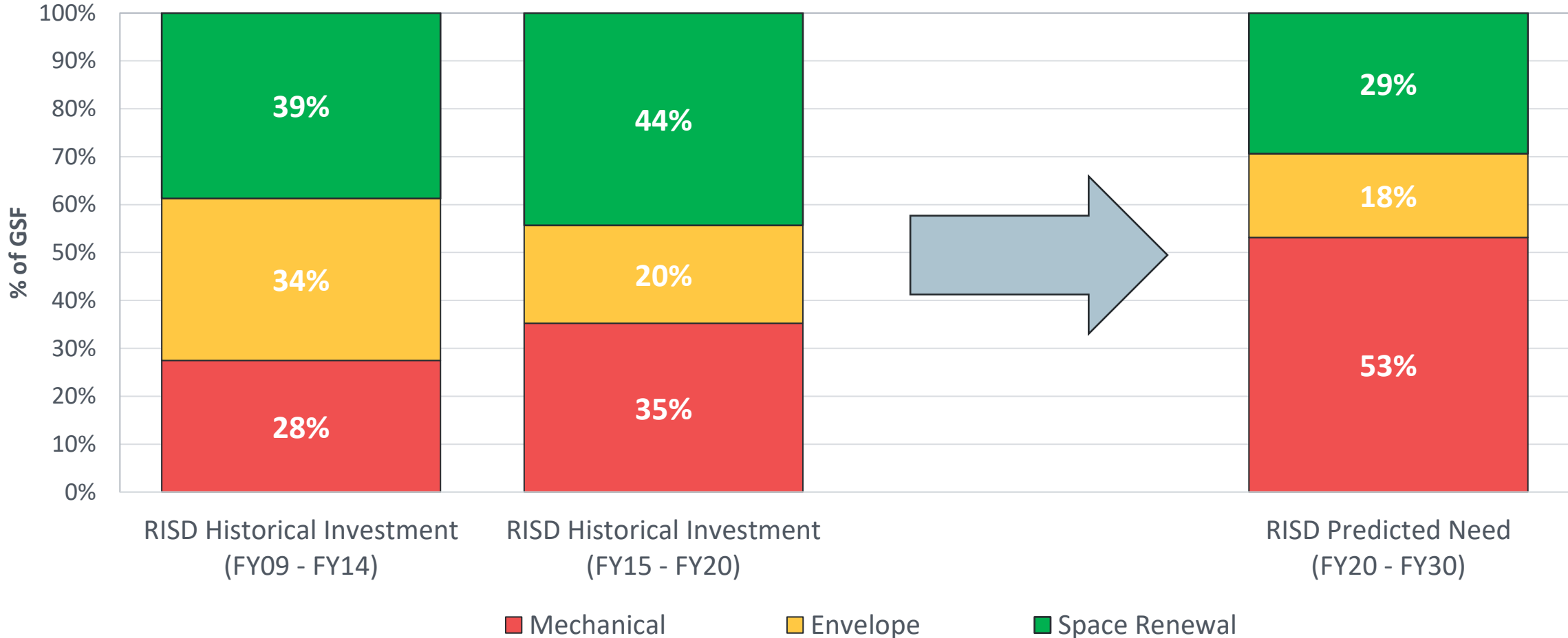




# Predicted Building Need Concentrated in MEP

Recent historical spending has aligned with prediction model, with high investment dedicated to existing space

### Historical Capital Investment & Predicted Capital Need



# Operations

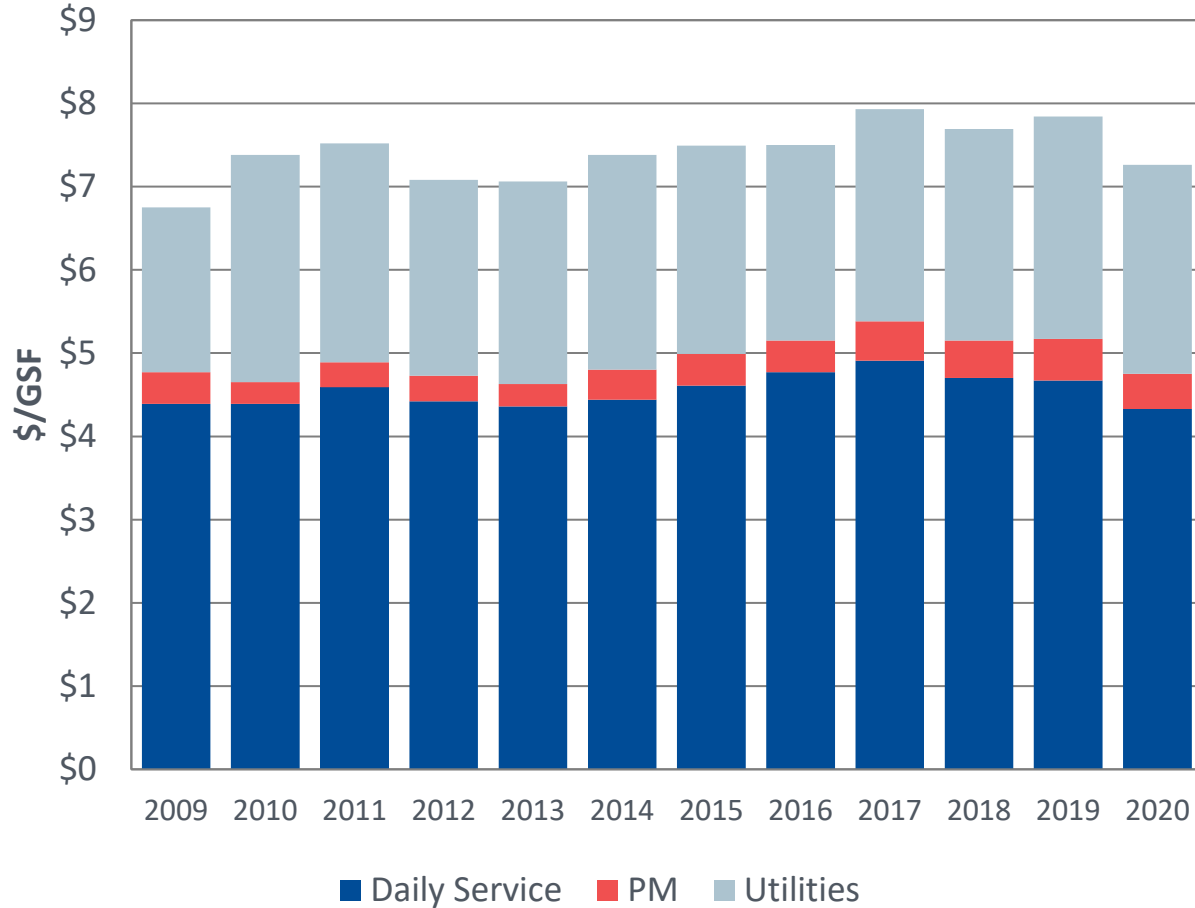




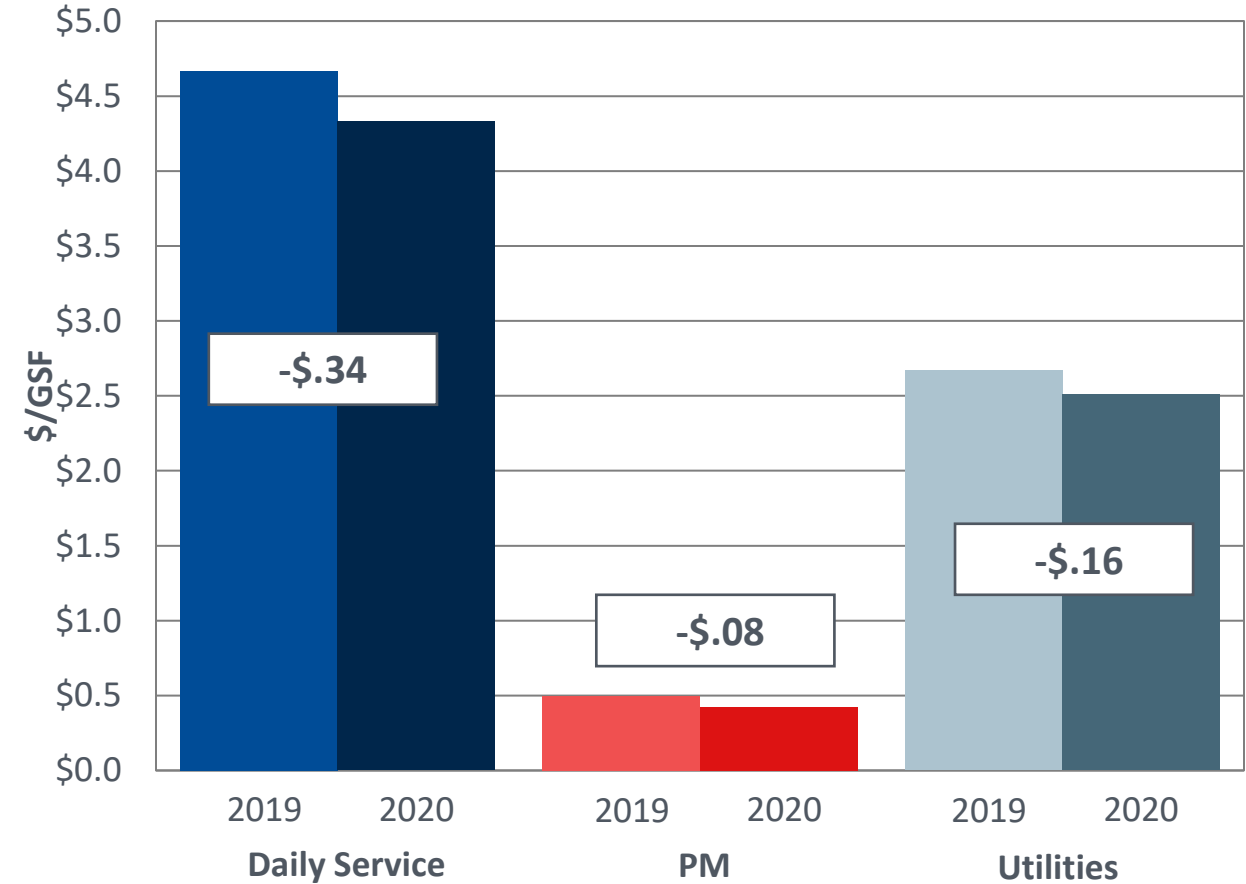
# RISD Facilities Operating Actuals Over Time

*Facilities expenditures decreased in FY20; COVID has impacted operating costs*

### Facilities Operating Actuals - RISD



### Facilities Operating Actuals

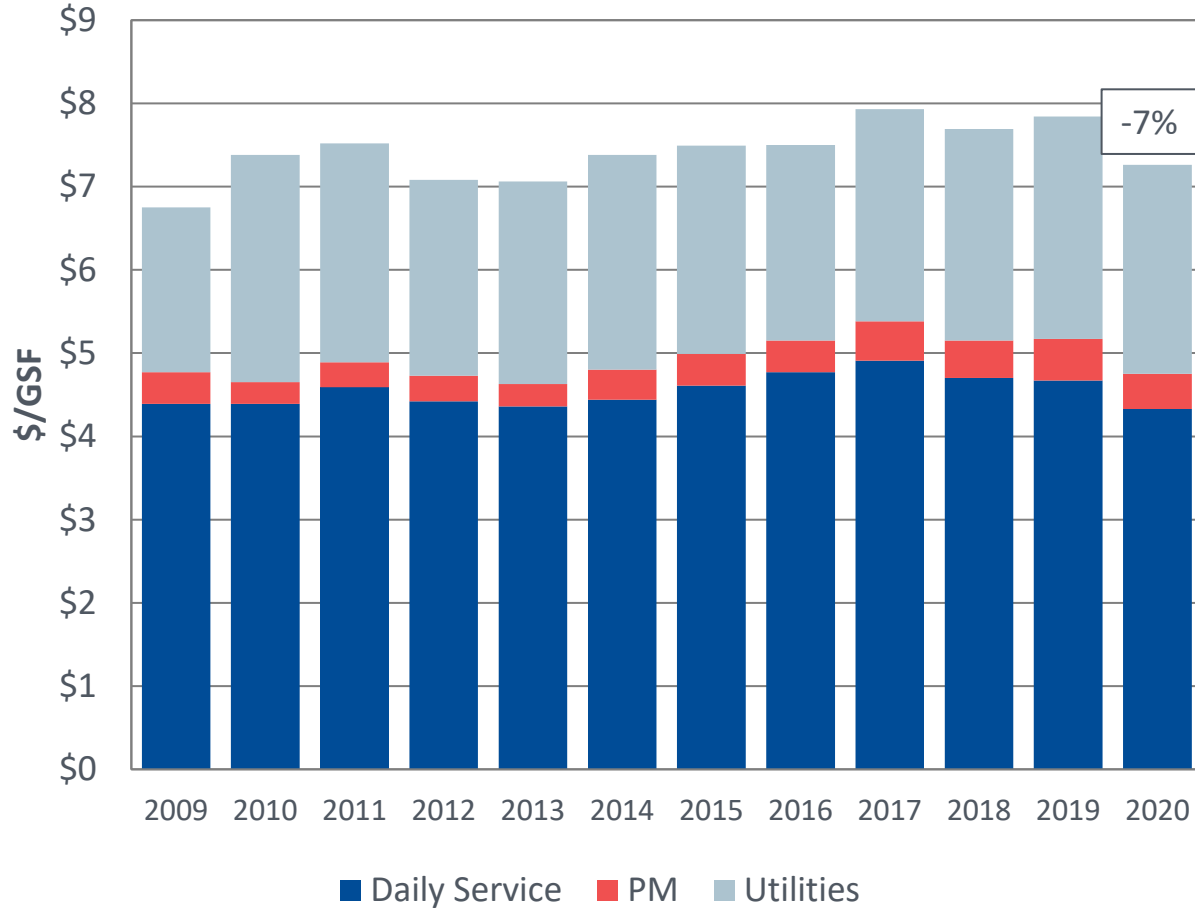




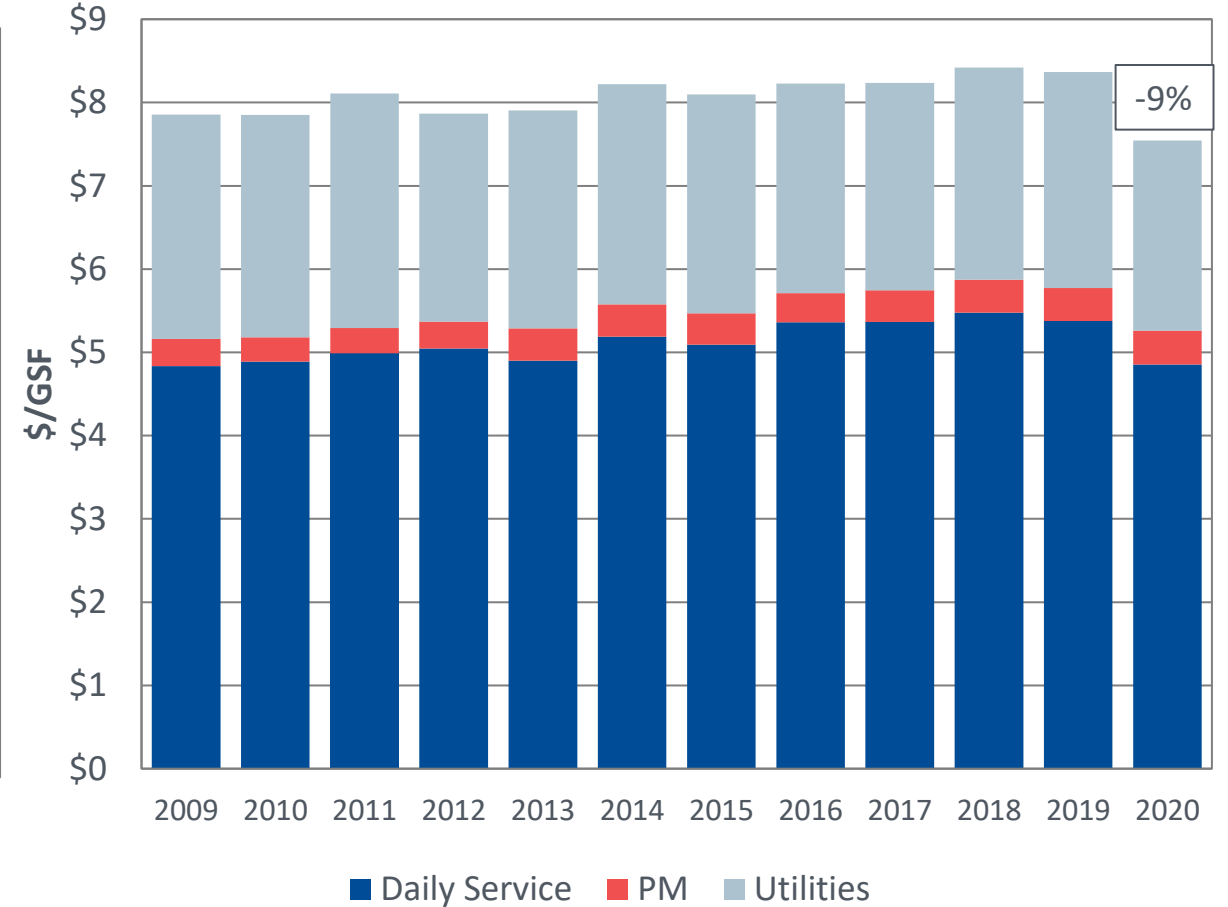
# RISD Facilities Operating Actuals Over Time

Facilities expenditures decreased in FY20; COVID has impacted operating costs

### Facilities Operating Actuals - RISD



### Facilities Operating Actuals - Peers

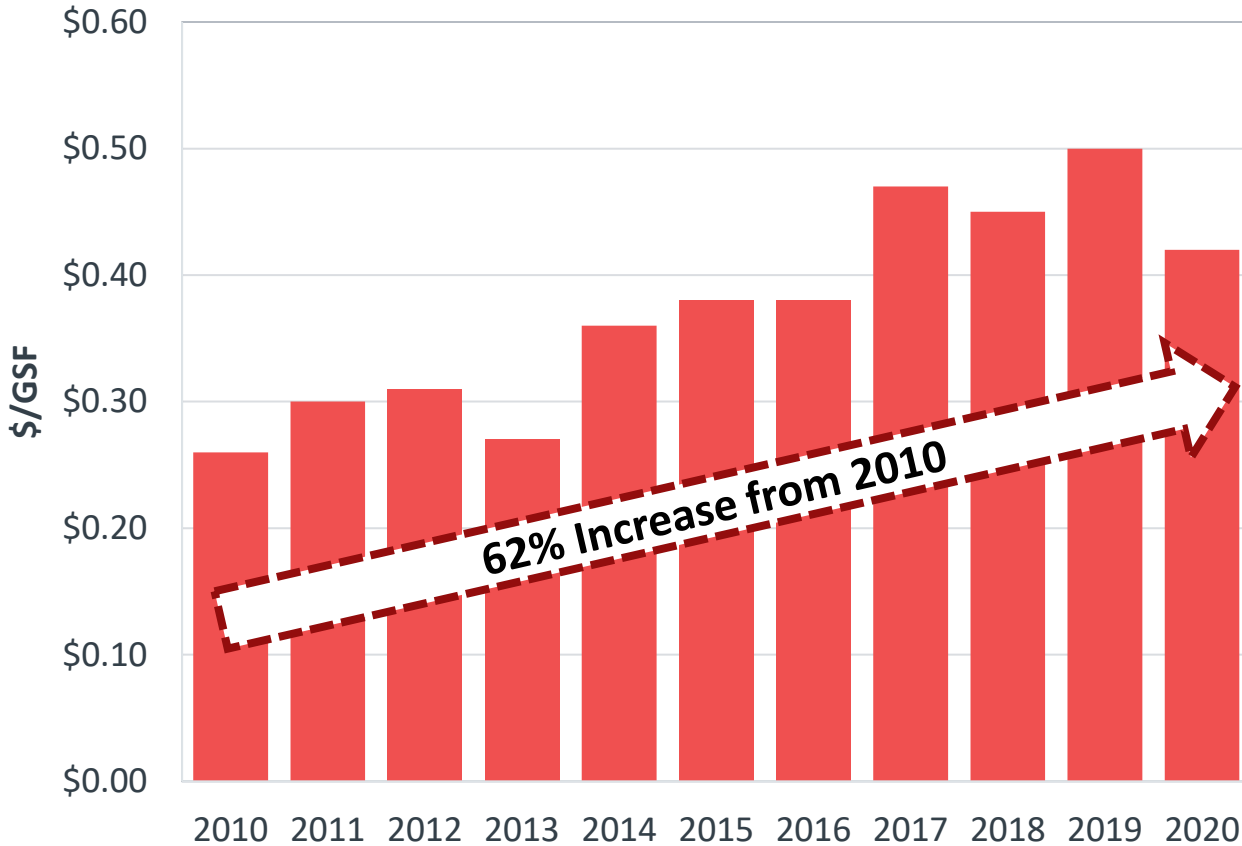


# Preventive Maintenance Investment on Incline Since FY10

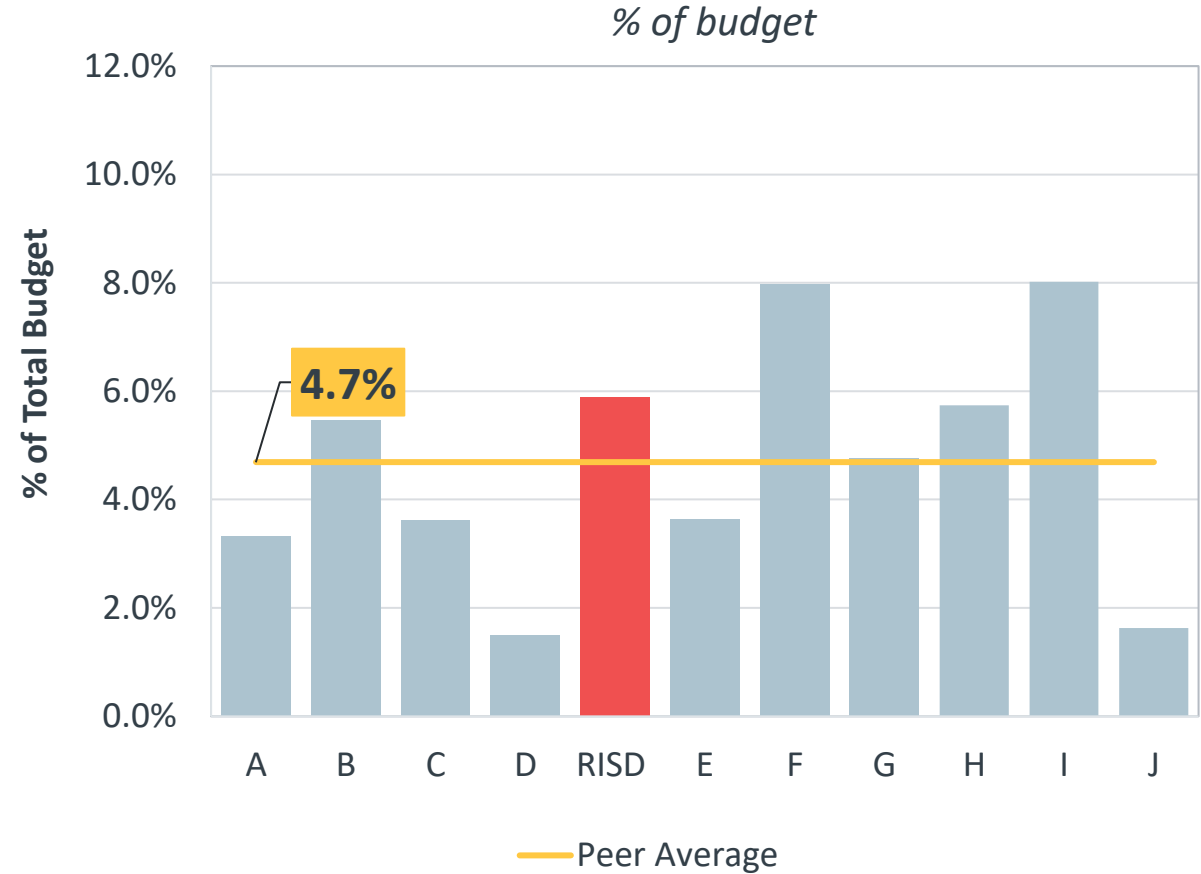


*RISD spends above peer group average on preventive maintenance*

### RISD Preventive Maintenance Spending



### Preventive Maintenance Spending



# Staffing Overview



Maintenance Metrics	RISD	Peers	Database	<u>Bottom Line</u>
Staffing (GSF/FTE)	84,140	91,816	88,391	Covering less space, with closer supervision, and less materials
Materials (\$/GSF)	\$.10/GSF	\$.19/GSF	\$.25/GSF	
Supervision (FTE/Supervisor)	8.18/ Supervisor	11.2/Supervisor	12.45/Supervisor	

Custodial Metrics	RISD	Peers	Database	<u>Bottom Line</u>
Staffing (GSF/FTE)	32,082	37,253	35,333	Covering similar space, with less supervision, and similar materials
Materials (\$/GSF)	\$.11/GSF	\$.13/GSF	\$.12/GSF	
Supervision (FTE/Supervisor)	31.51/Supervisor	22.58/Supervisor	19.34/Supervisor	

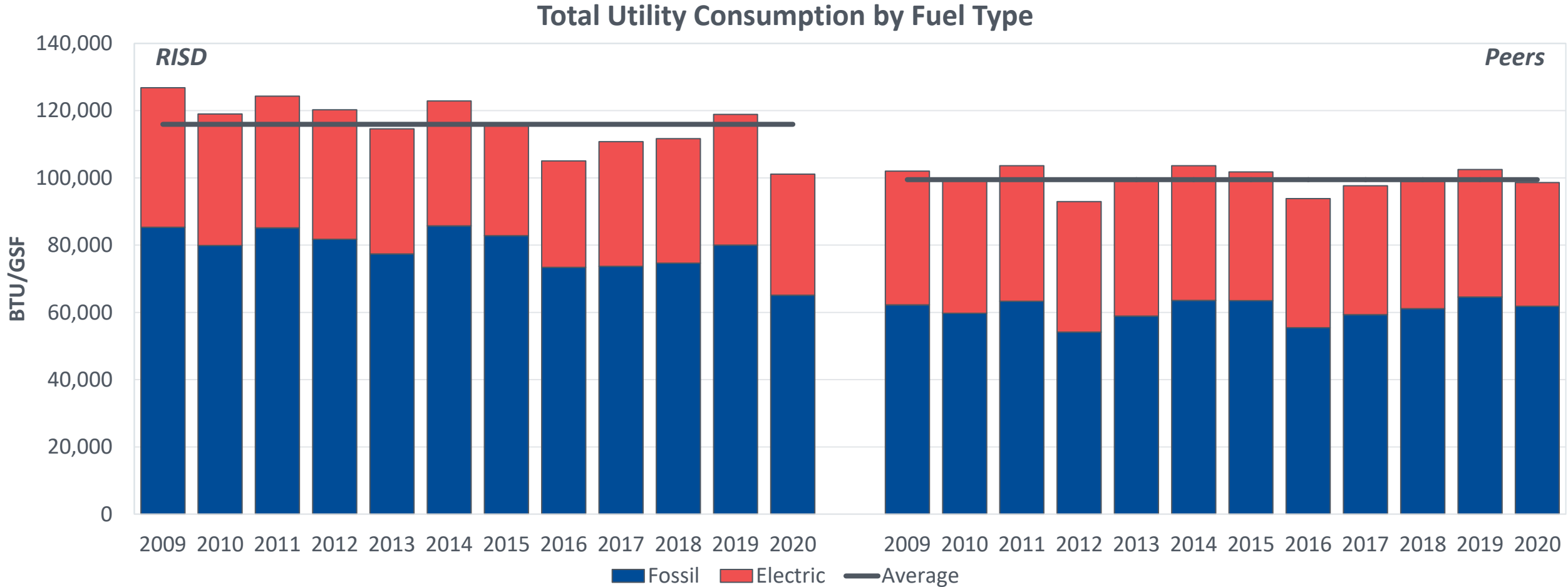
Grounds Metrics	RISD	Peers	Database	<u>Bottom Line</u>
Staffing (Acres/FTE)	9.05	27.58	23.09	Covering less space, with closer supervision, and less materials
Materials (\$/Acre)	\$219.86/ Acre	\$967.15/ Acre	\$747.28/ Acre	
Supervision (FTE/Supervisor)	4.83 / Supervisor	9.92/ Supervisor	13.08/ Supervisor	



# Longitudinal Energy Consumption vs. Peers



*Strong investments into envelope/mechanical projects and the Central Plant contributes to consumption decline*

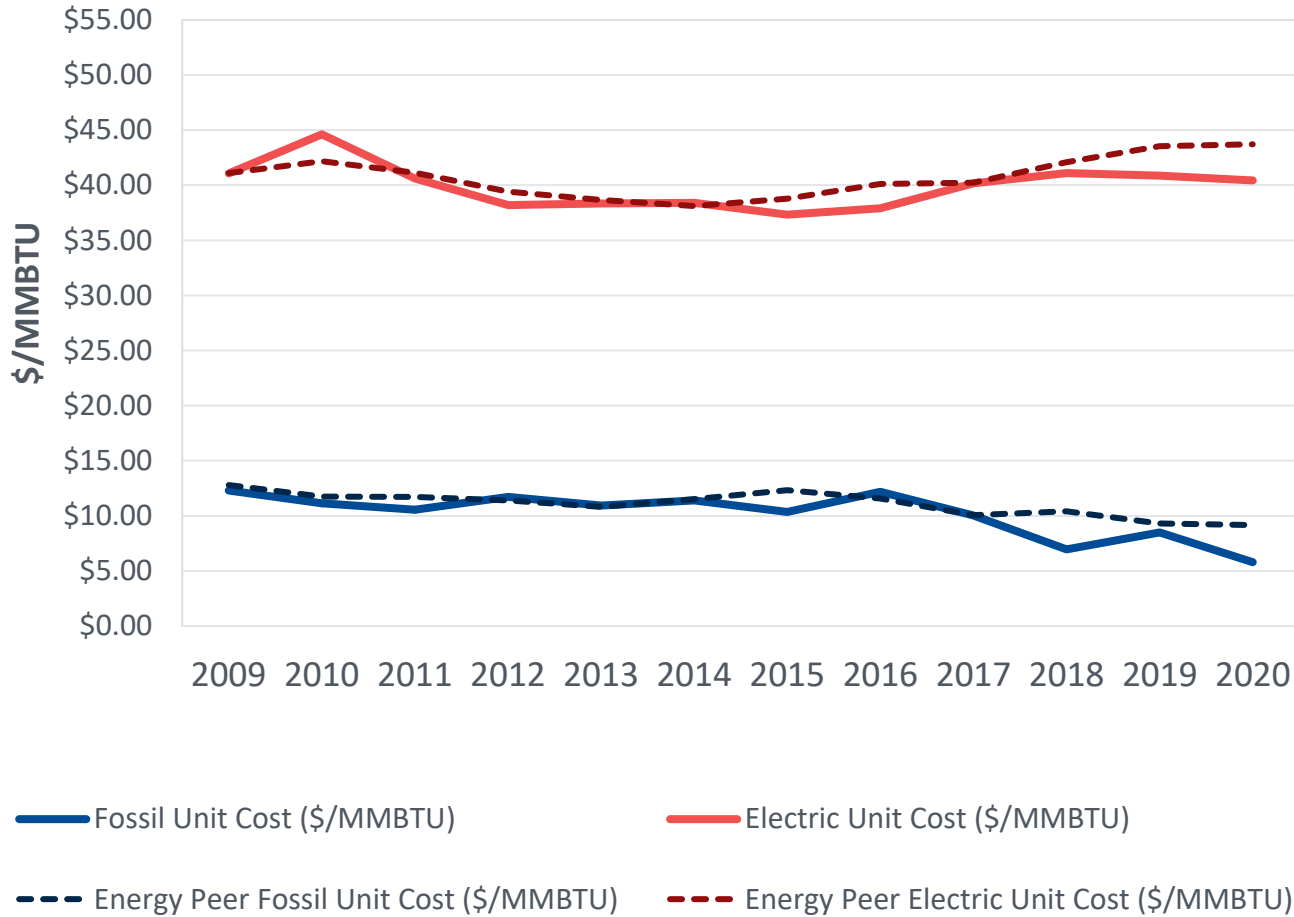




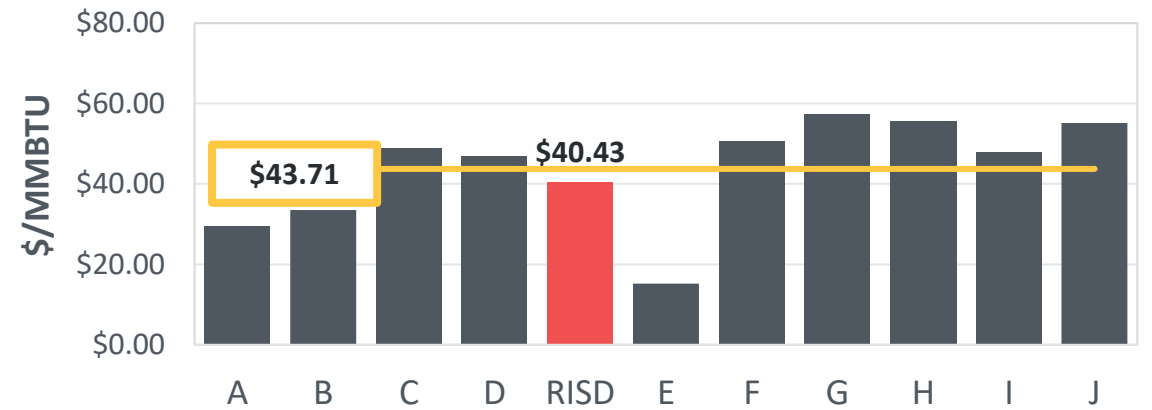
# Energy Unit Cost by Fuel Type

RISD's Energy Unit Costs closely track that of its peers for both Fossil and Electric

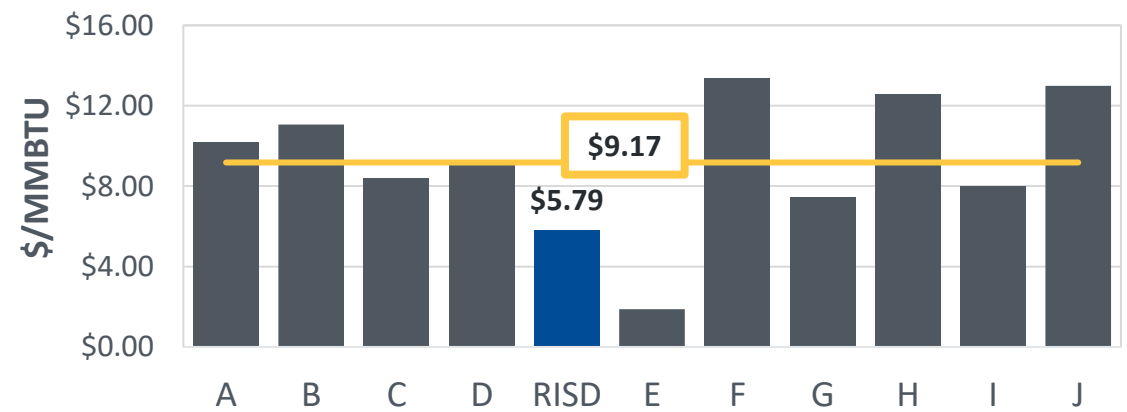
### Energy Unit Cost by Fuel Type



### FY20 Electric Unit Cost



### FY20 Fossil Unit Cost



\*Arrayed by Technical Complexity

# Sightlines: Key Takeaways



## **Continued dedication to building renovations has mitigated potential capital and operational risk.**

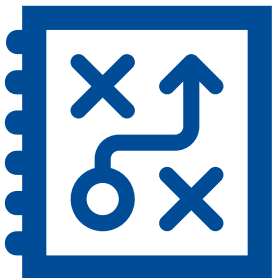
RISD has offset 50% of space profile through gut renovations within the pre-war and post-war era, mitigating risk profile and aligning RISD with peers who have younger construction. *Projected from 2029 to 2030, 16% of our space profile will cross over into the 25-50 age category, an age category associated with higher capital demand.*



## **Total investment into existing space spending for FY20 exceeds Sightlines advised annual target; concentration has been dedicated towards singular projects.**

Since FY14 existing space spending has aligned closer with target on average. Spending often concentrated in the gut renovation of specific buildings, with Nickerson Hall renovation representing 63% of total spend FY20. On a composite level, dedication to existing space spending has leveled out a rising backlog from FY15 to FY20.

Forecasting building need going forward illustrates a concentration of MEP and Envelope throughout total campus over the next 10 years. *Top 15 buildings accumulate for 79% of total estimated current and renewal need.*



## **Total operational resources fall below historical averages, driven by pandemic at the end of FY20.**

Despite total FY20 operating actuals decreasing, *PM continues to see rise over 10-year snapshot in time and represents a higher percentage of total budget compared to peers.*



# Appendix

# Space Profile Appendix

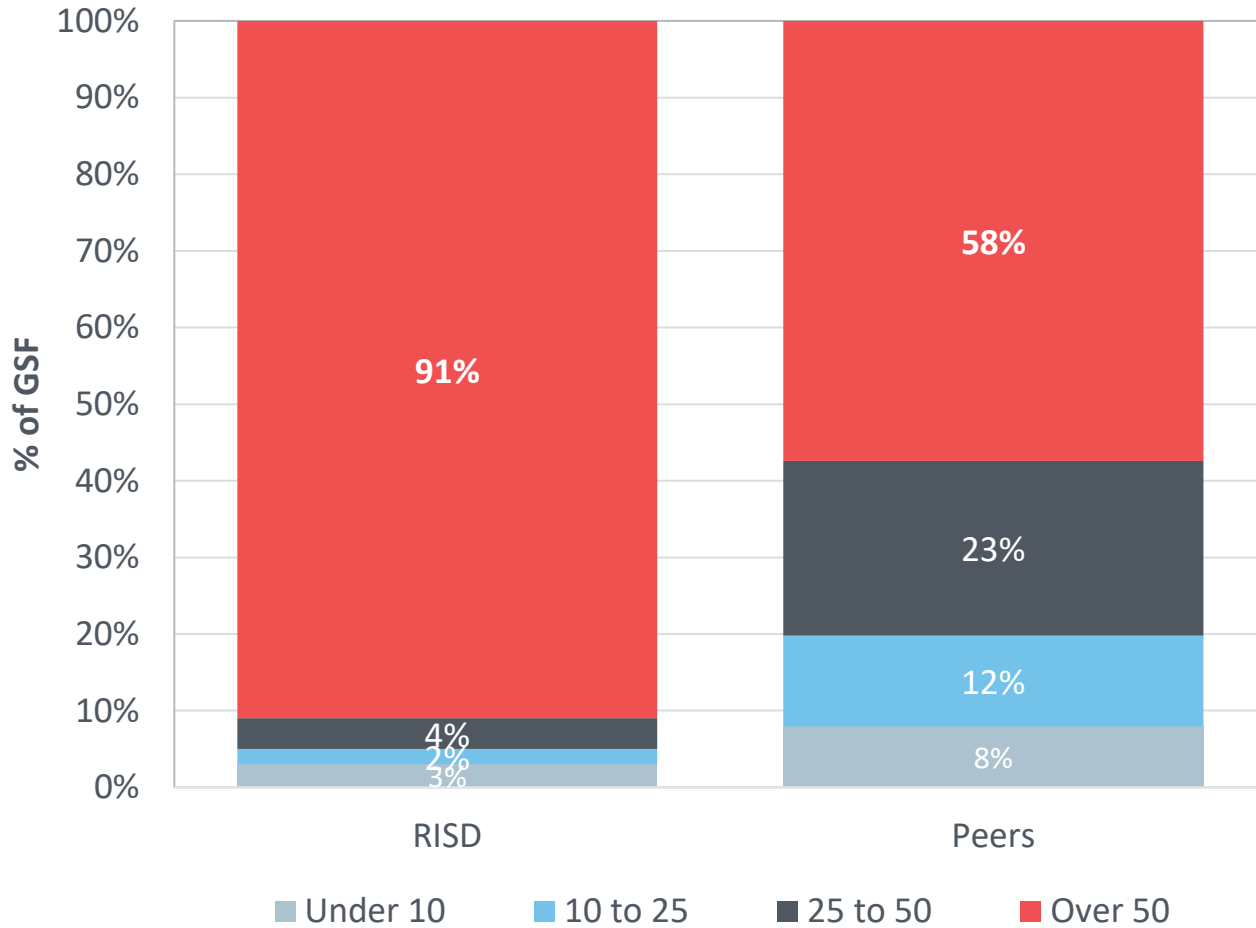




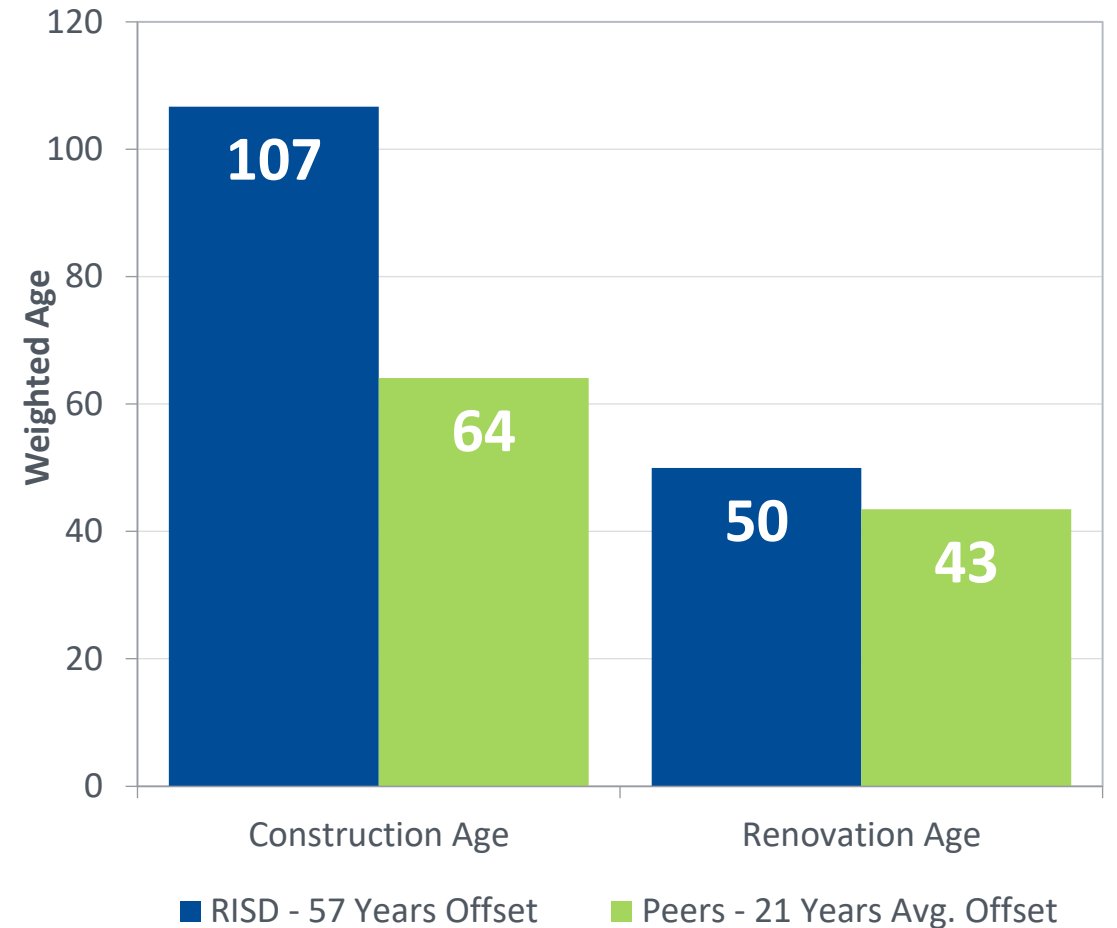
# Renovations Have Offset A Significant Amount of Age

RISD has offset 57 years of its construction age

### Construction Age Categories



### Weighted Construction vs. Renovation Age

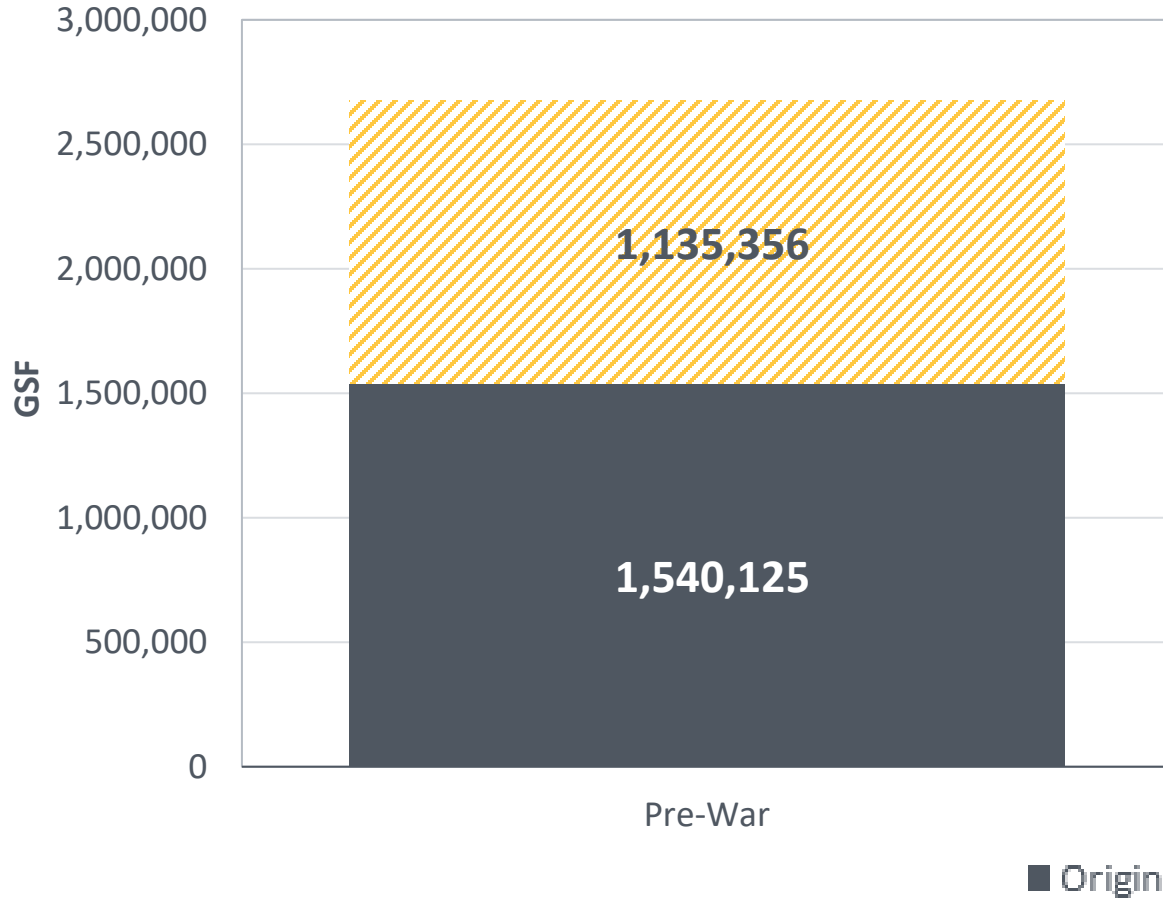




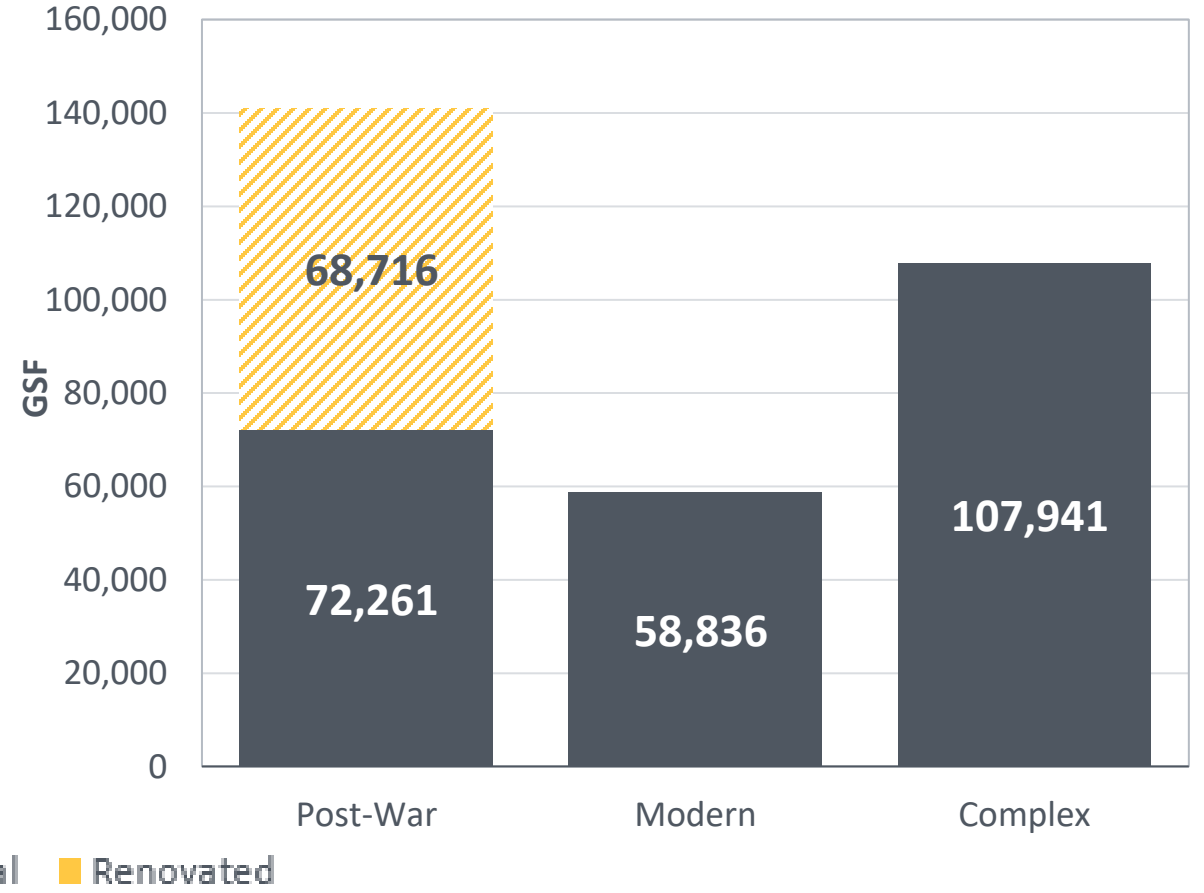
# RISD Renovates Campus' Oldest Facilities

*Renovated spaces reduce overall risk exposure and maintain high value*

### Renovations by Construction Vintage



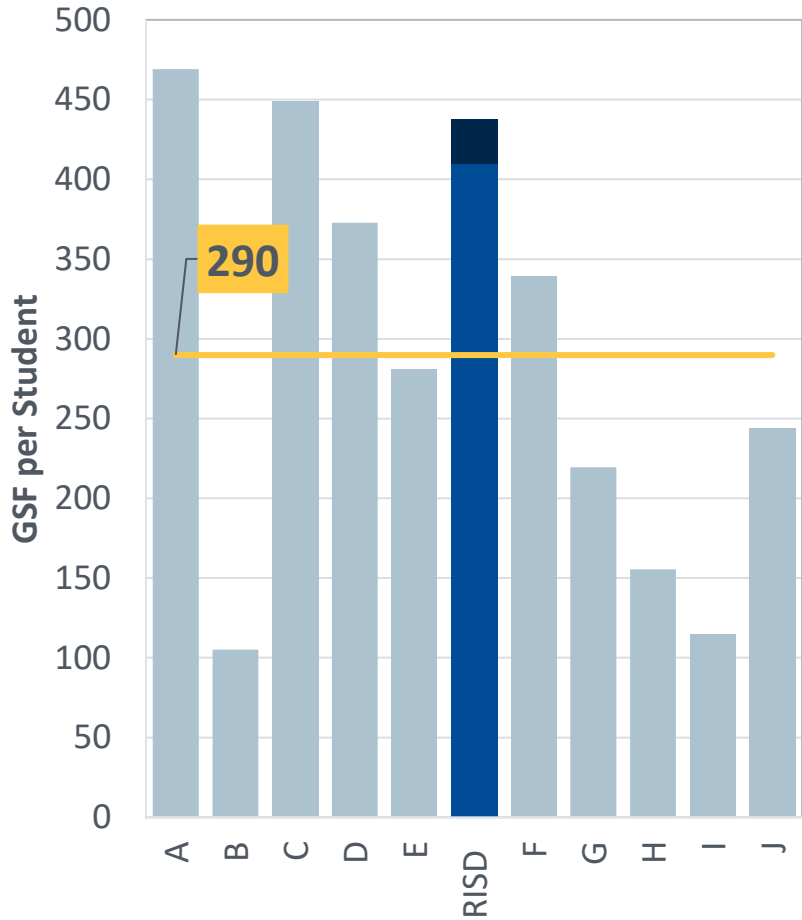
### Renovations by Construction Vintage



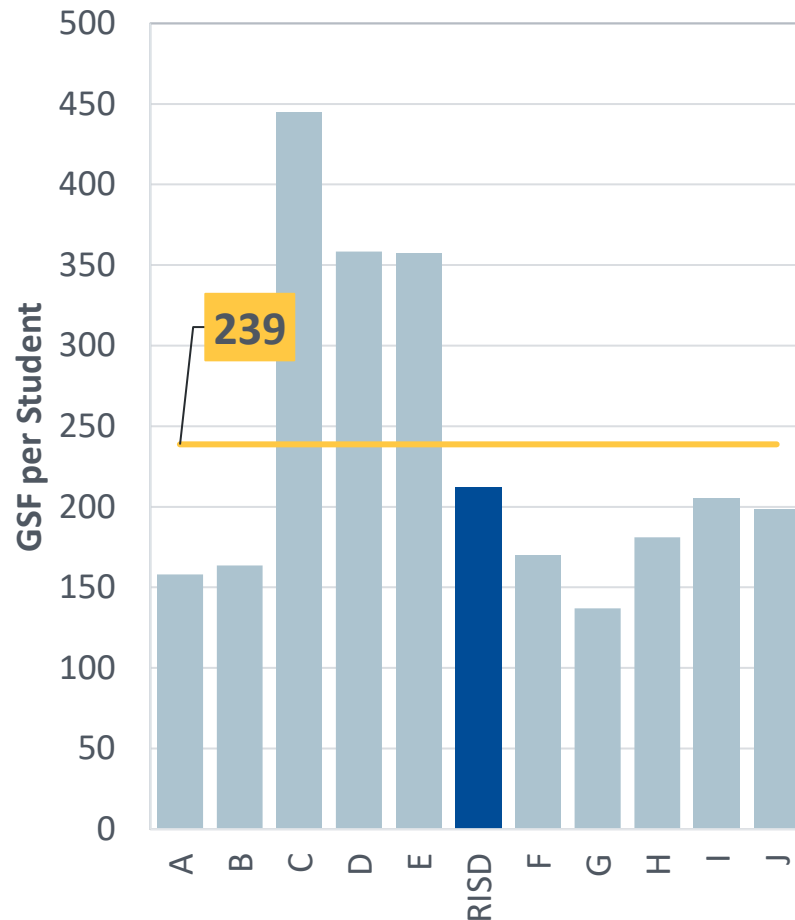
# RISD Has More Program Space per Student



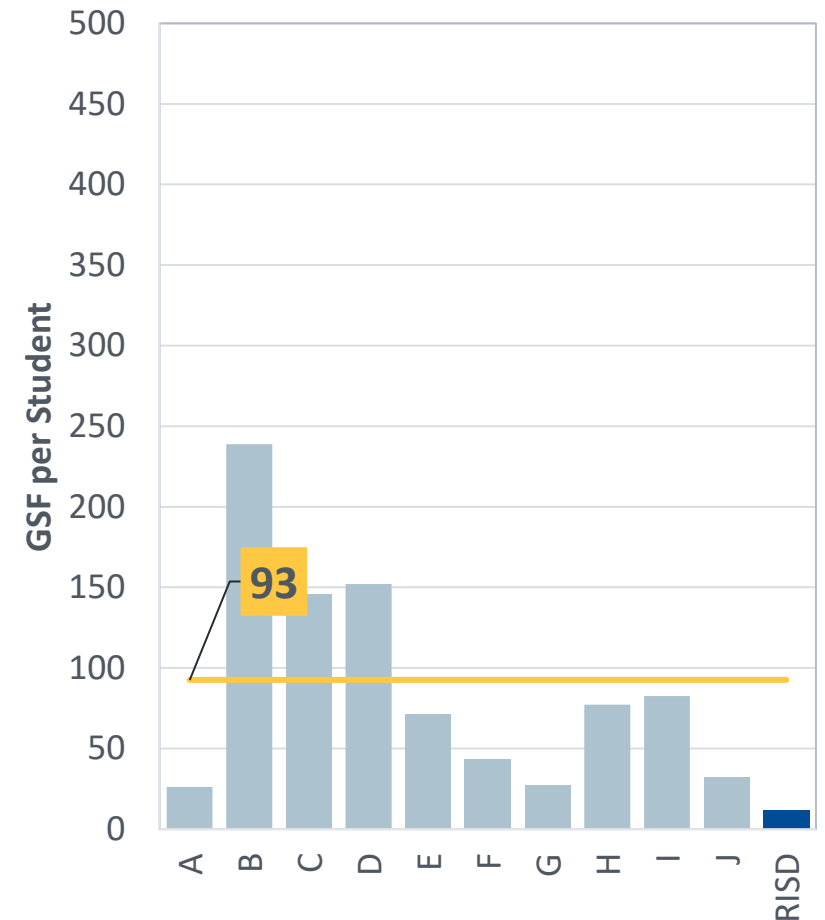
### Program Space per Student



### Residential Space per Student



### Student Life Space per Student



■ RISD Museum (Farago wing entrance) and Radeke Museum

\*Arranged by Density Factor



# Additional Prediction Slides

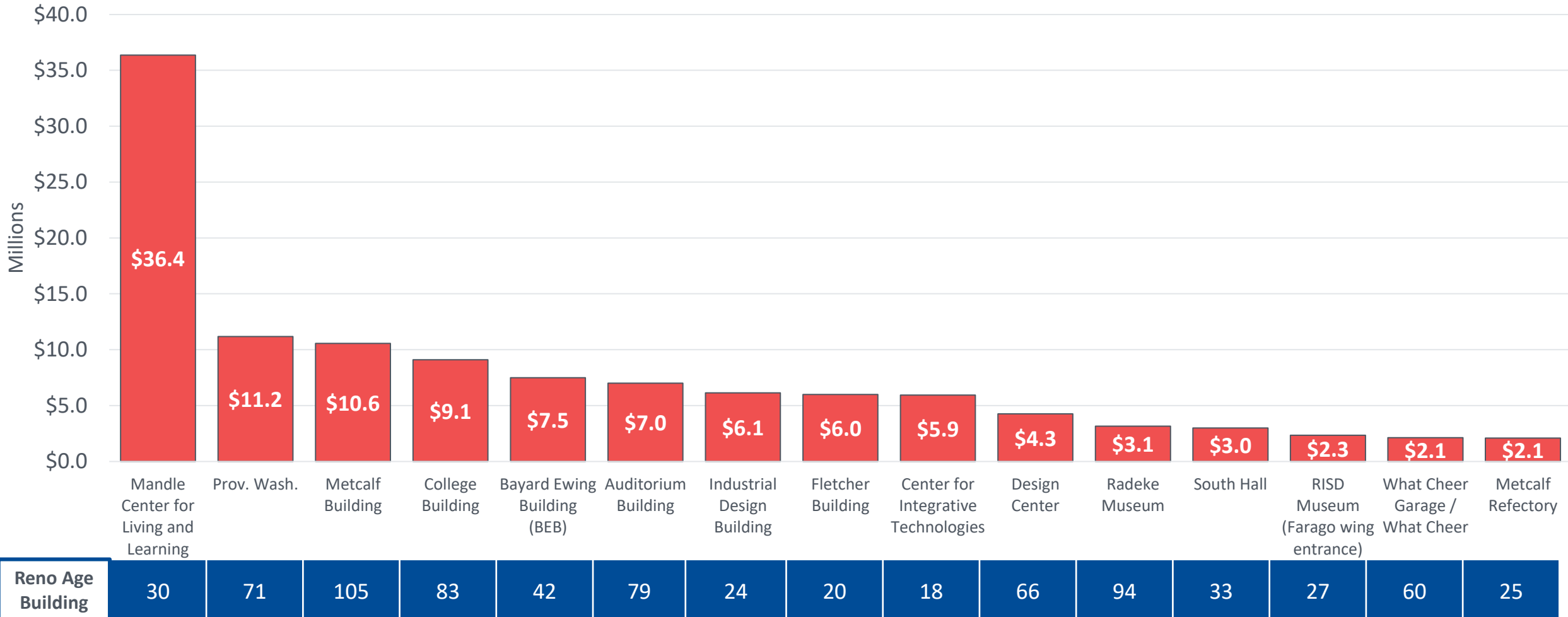




# Buildings with the Highest Need

Top 15 buildings represent 84% of total estimated current and renewal campus need

### 15 Highest Need Buildings (Observing only Current and Renewal Needs)

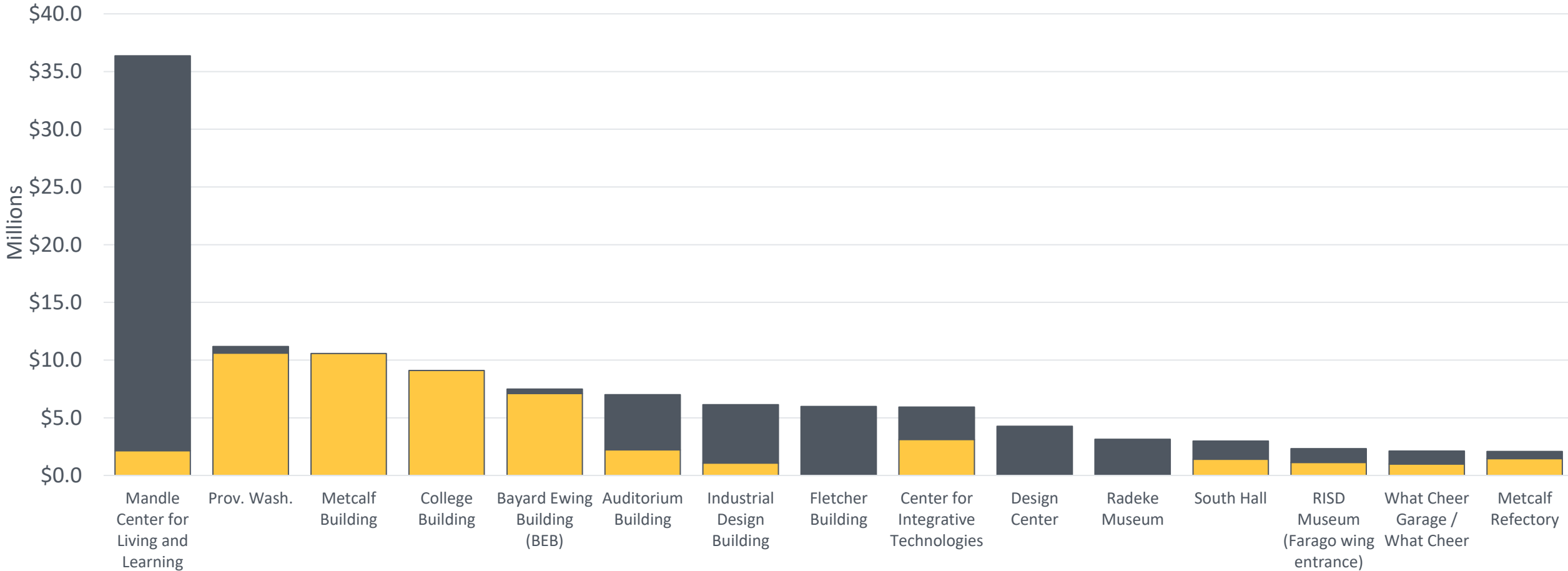




# Buildings with the Highest Need

Top 15 buildings represent 84% of total estimated current and renewal campus need

### 15 Highest Need Buildings (Observing only Current and Renewal Needs)





# Buildings with the Highest Need - \$/GSF

Top 15 buildings represent 79% of total estimated current and renewal campus need

### 15 Highest Need Buildings (Observing only Current and Renewal Needs) - \$/GSF

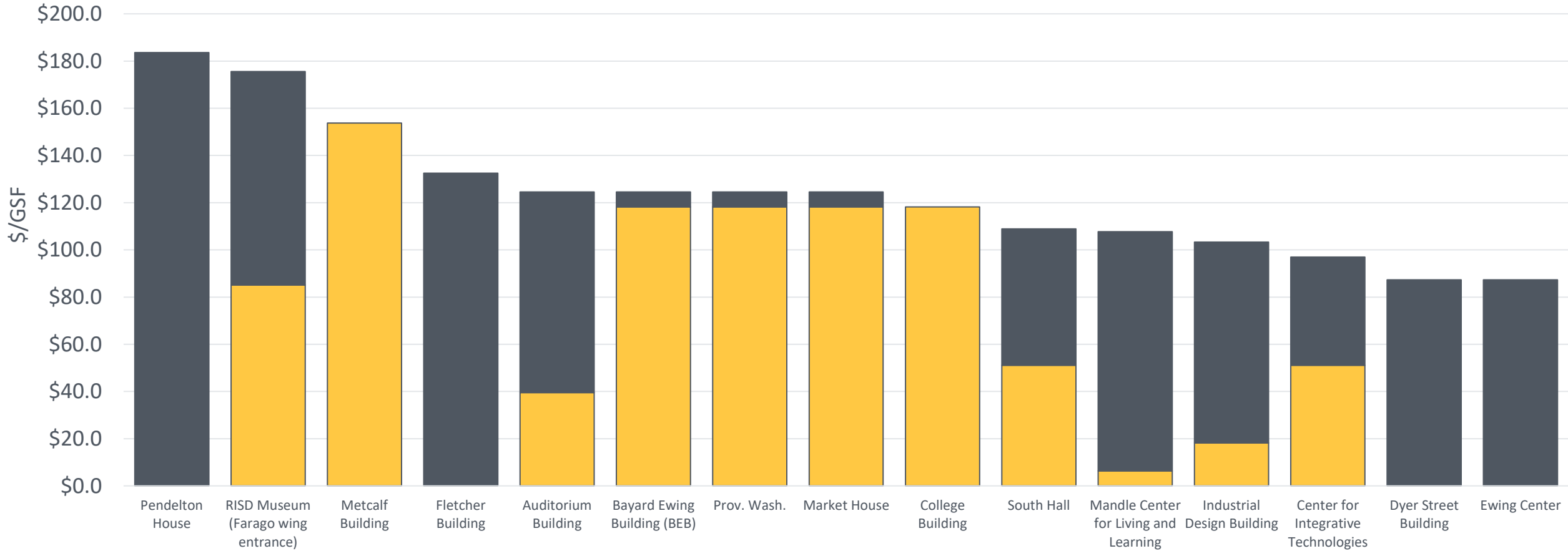




# Buildings with the Highest Need - \$/GSF

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## 15 Highest Need Buildings (Observing only Current and Renewal Needs)- \$/GSF



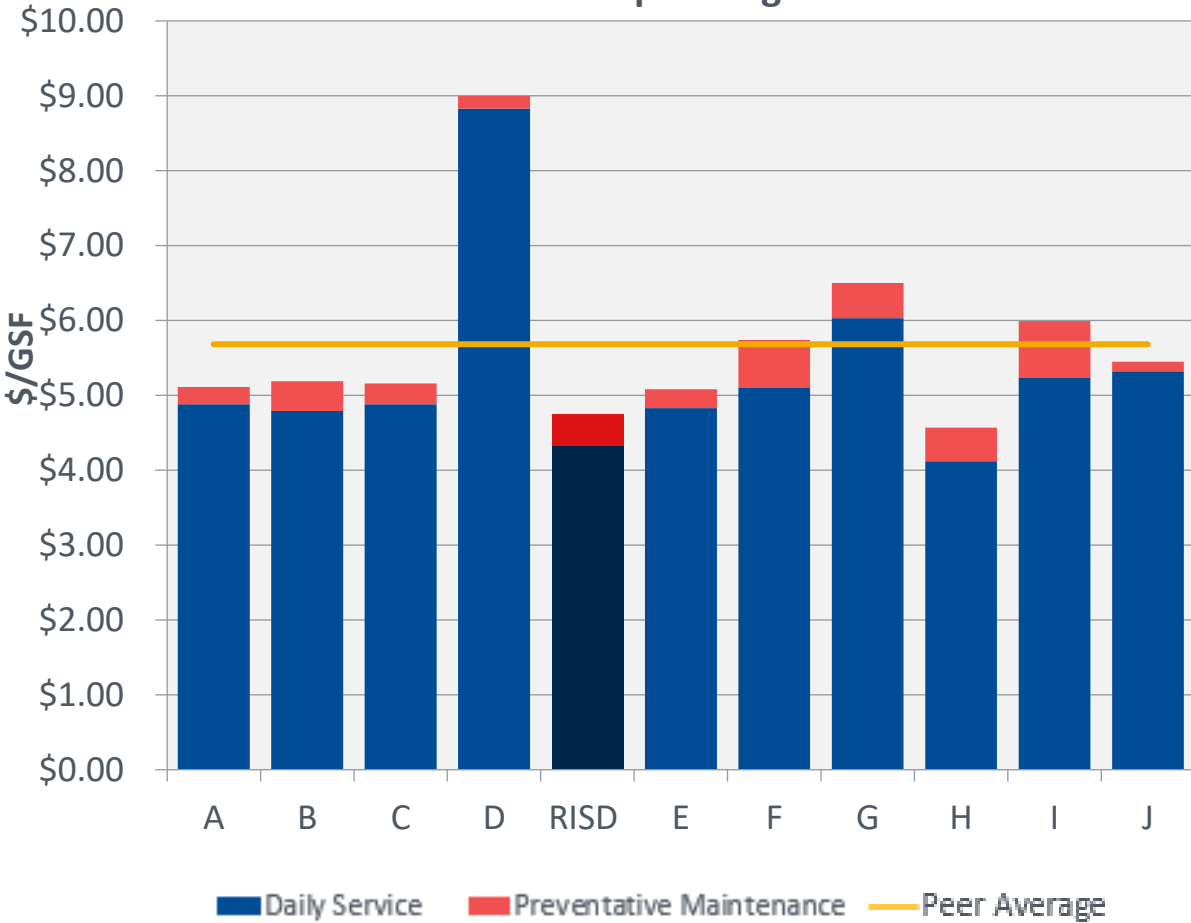
# Operational Effectiveness Appendix



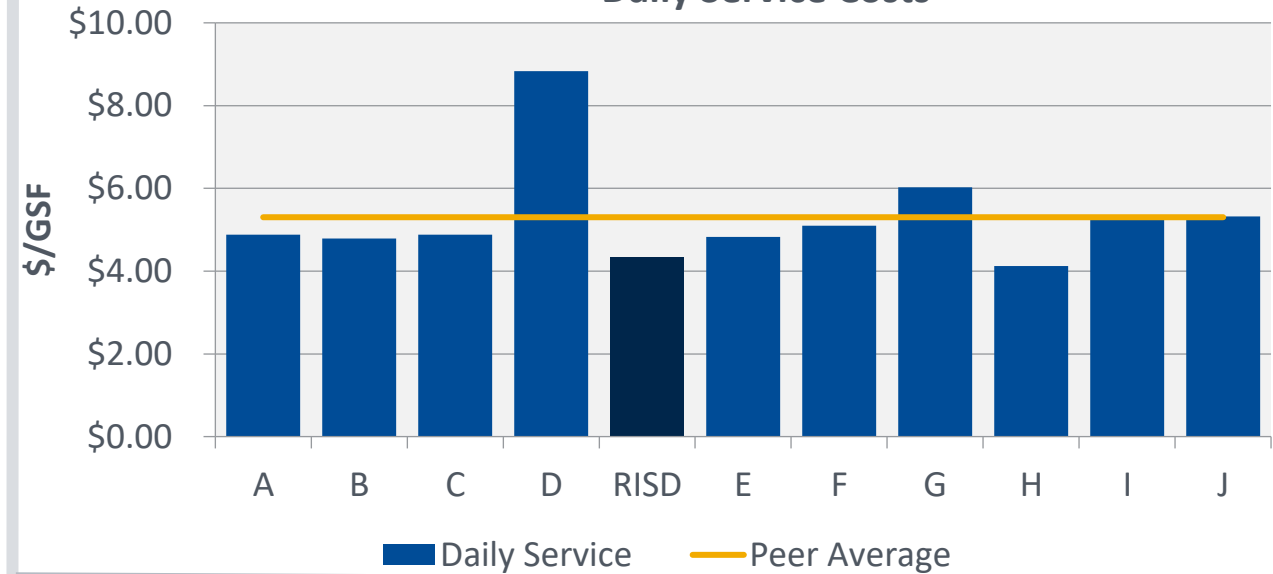
# Facilities Delivers Service to Older Campus Efficiently



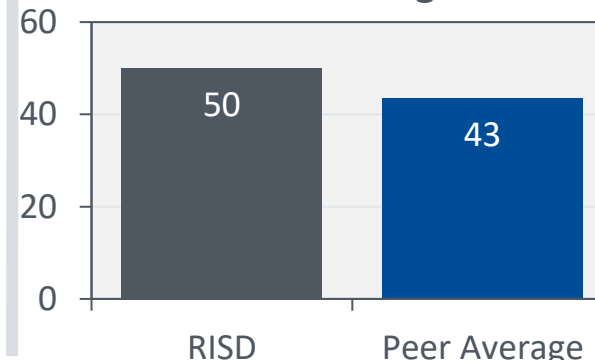
### Facilities Operating Costs



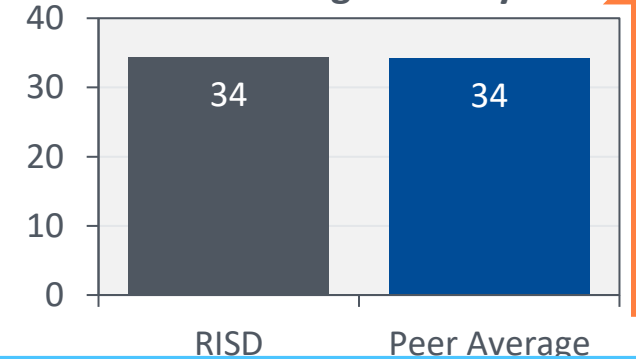
### Daily Service Costs



### Renovation Age



### Building Intensity

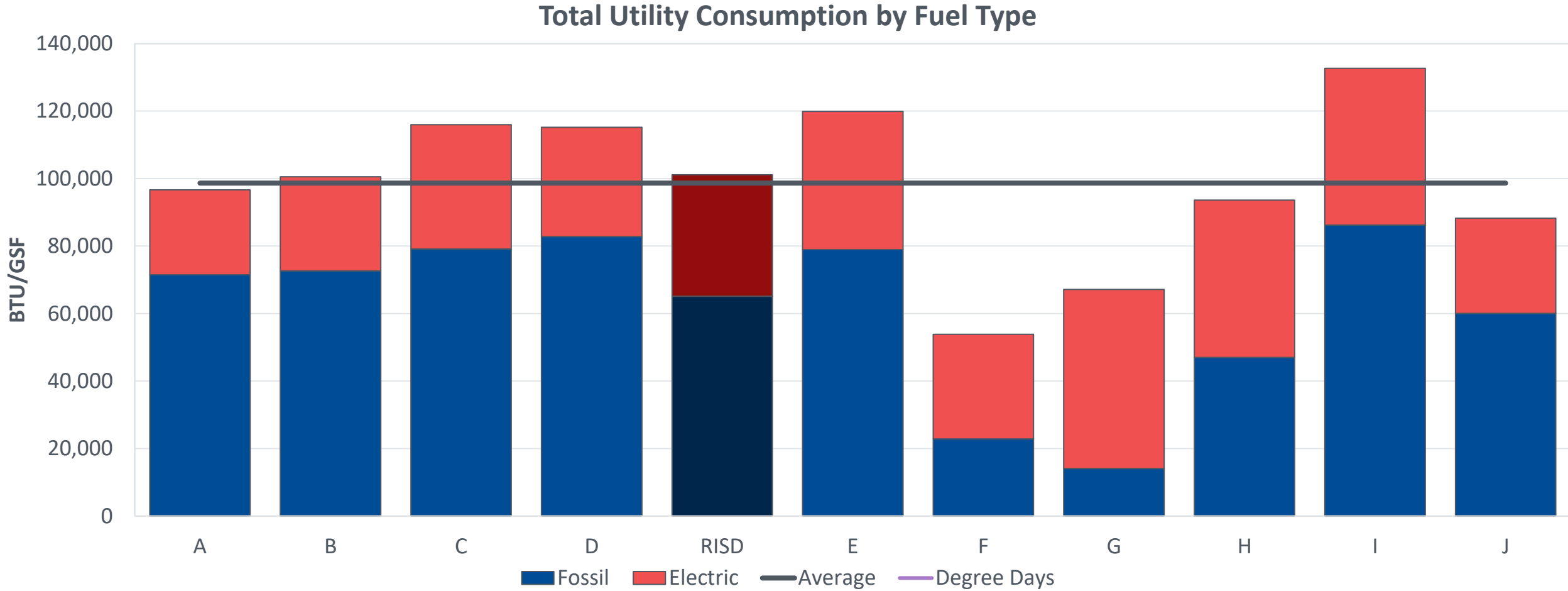


Smaller Buildings



# FY20 Energy Consumption vs. Peers

*RISD's total energy consumption decreased in FY20, aligning itself with peer's average*



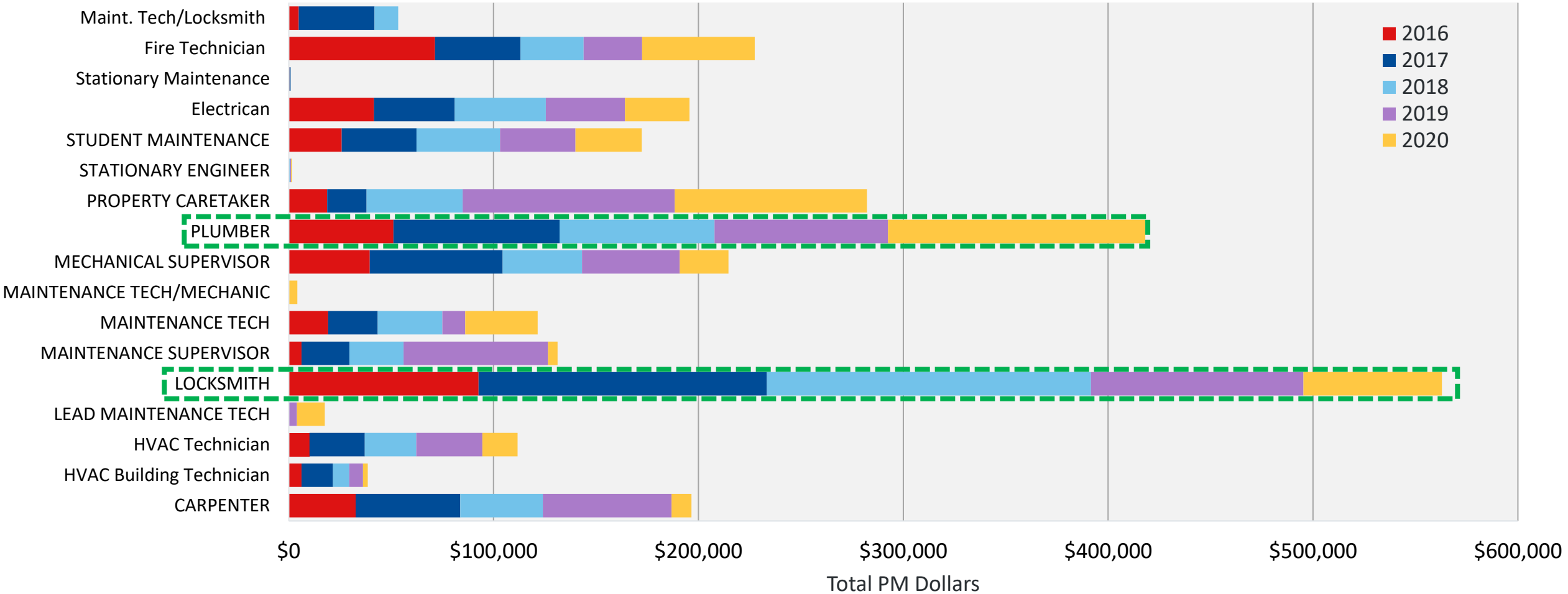




# Preventive Maintenance Work Orders by Shop

*Locksmith PM work orders account for majority of PM costs for facilities*

### PM Work Orders by Shop

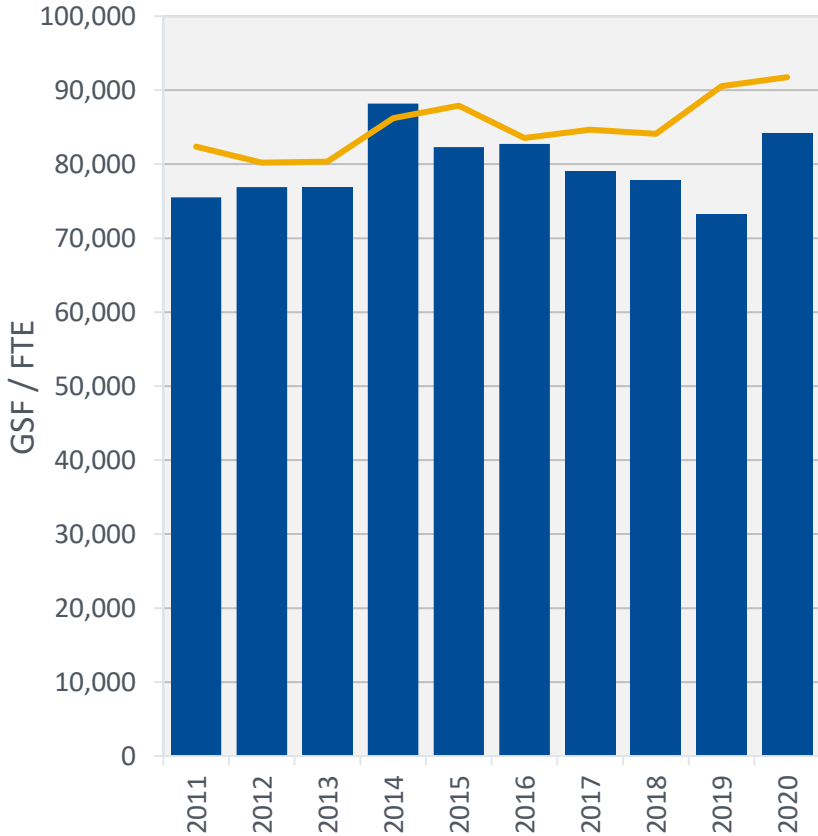




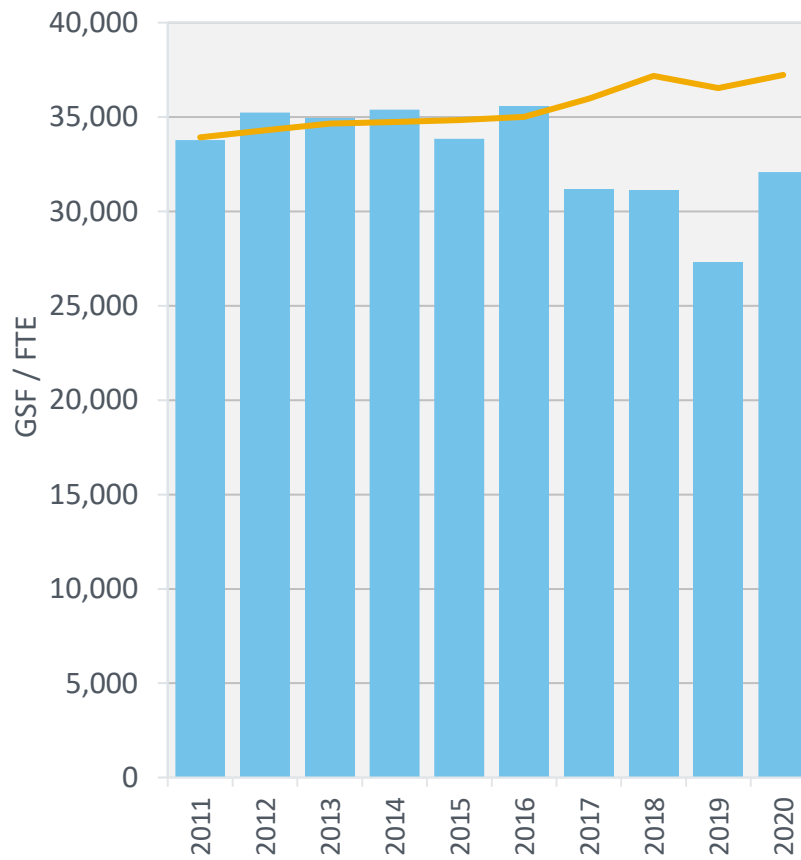
# Observing 10-Year Staffing Changes vs Peers

*RISD operating with less coverage for maintenance and custodial, grounds compared to peers*

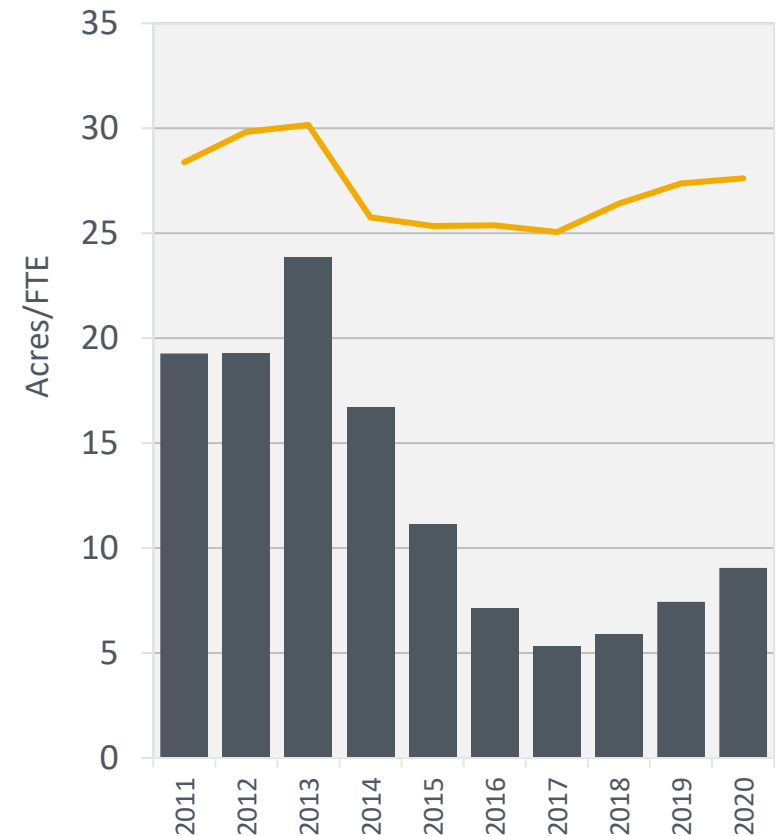
### Maintenance Staffing Coverage



### Custodial Staffing Coverage



### Grounds Staffing Coverage

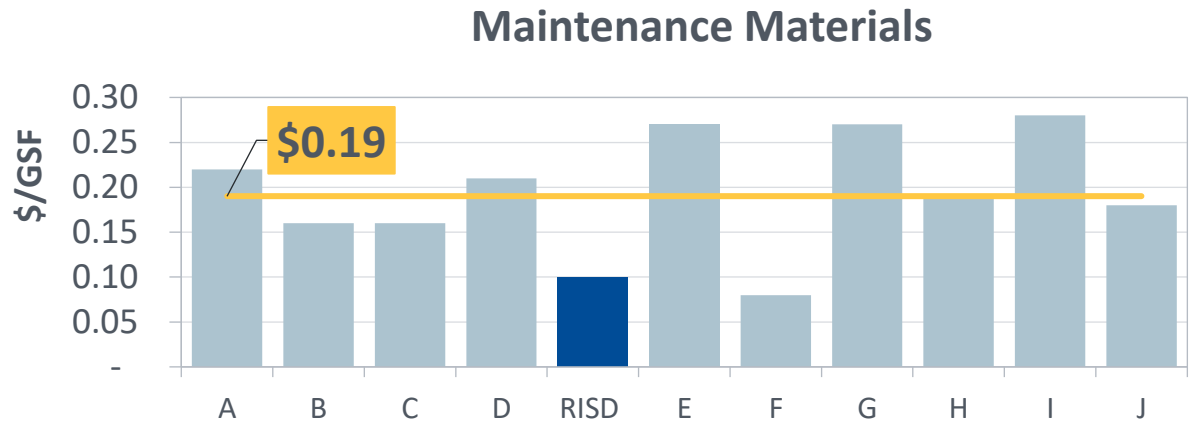
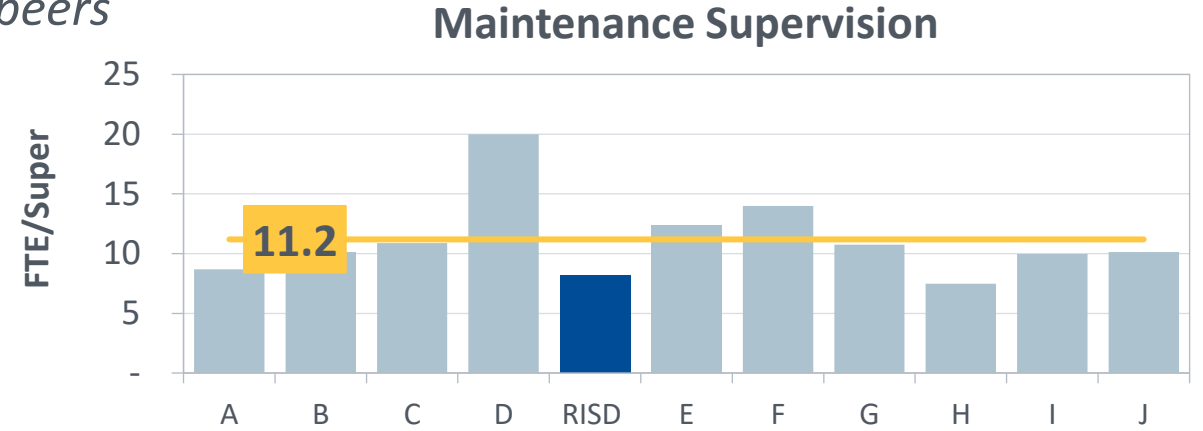
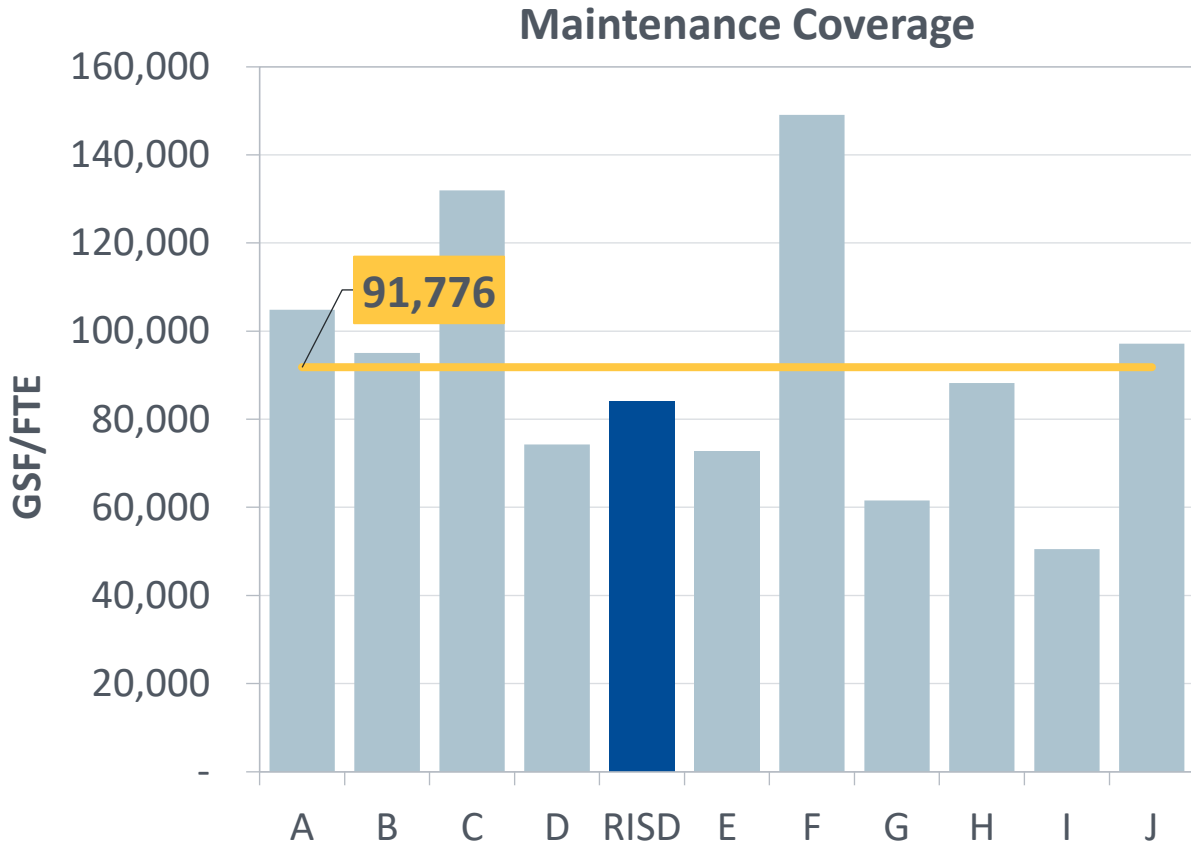


Peer Average



# Maintenance Resources Lower Than Peers

RISD covers less space with less materials compared to peers



Peer Average

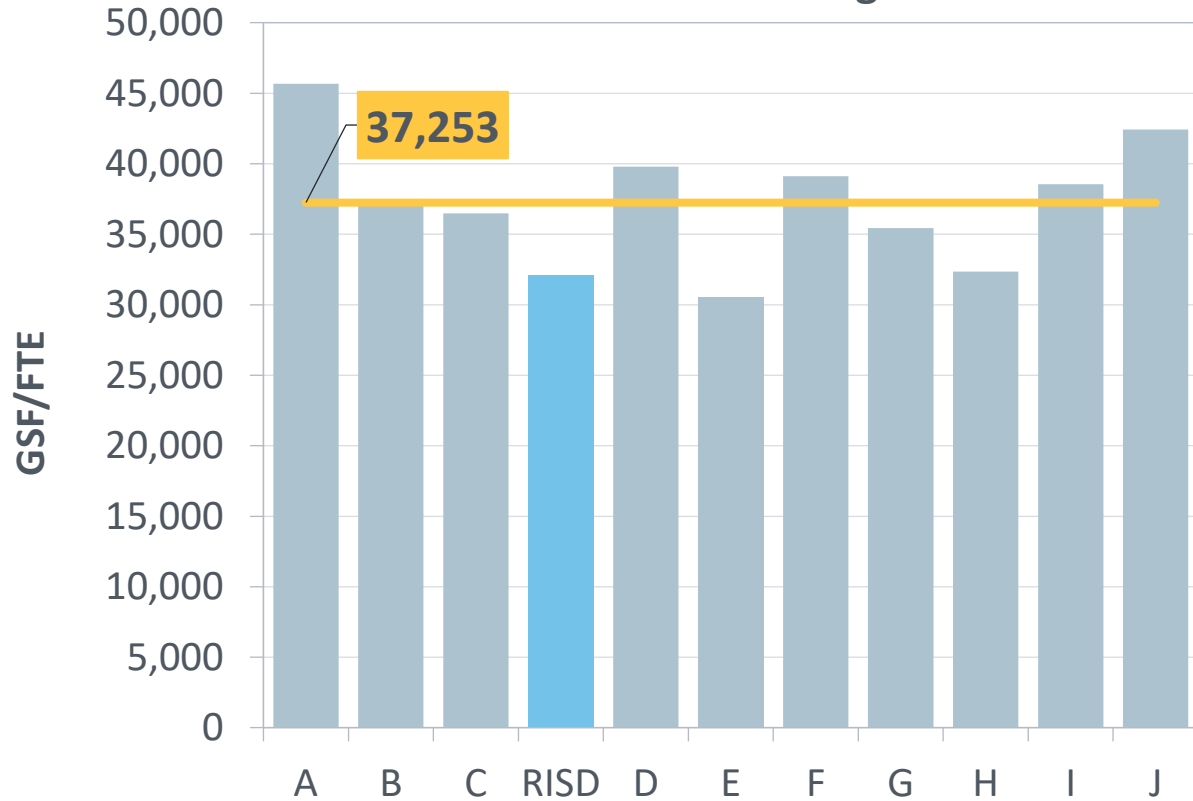
\*Peers are arranged by Tech Rating



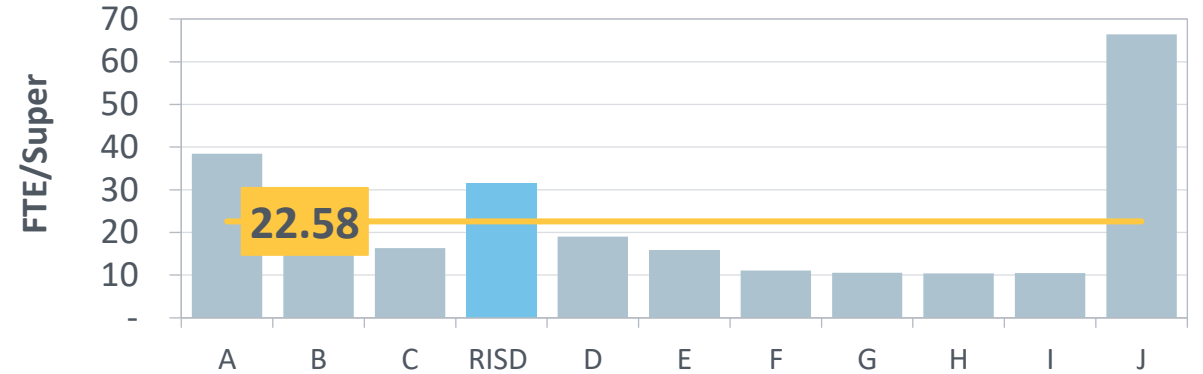
# Custodial Service Less Space with Similar Resources

Covering less GSF/FTE allows RISD custodial staff to service areas with increased standards due to COVID

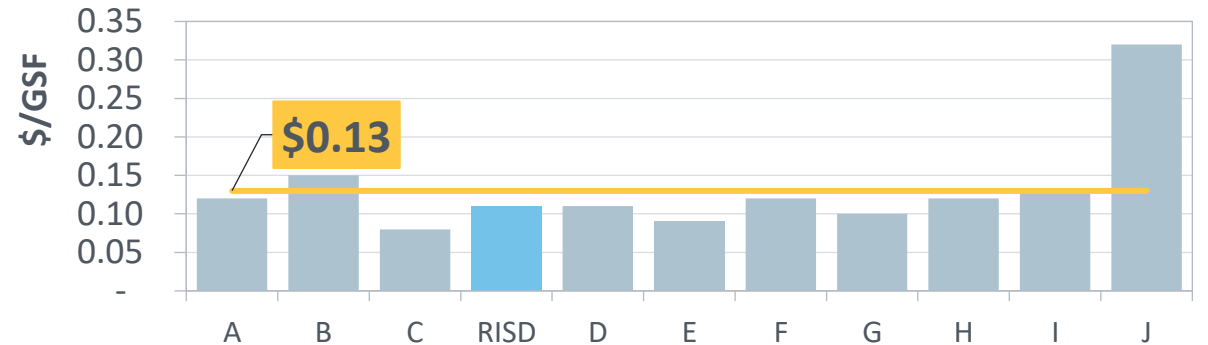
### Custodial Coverage



### Custodial Supervision



### Custodial Materials



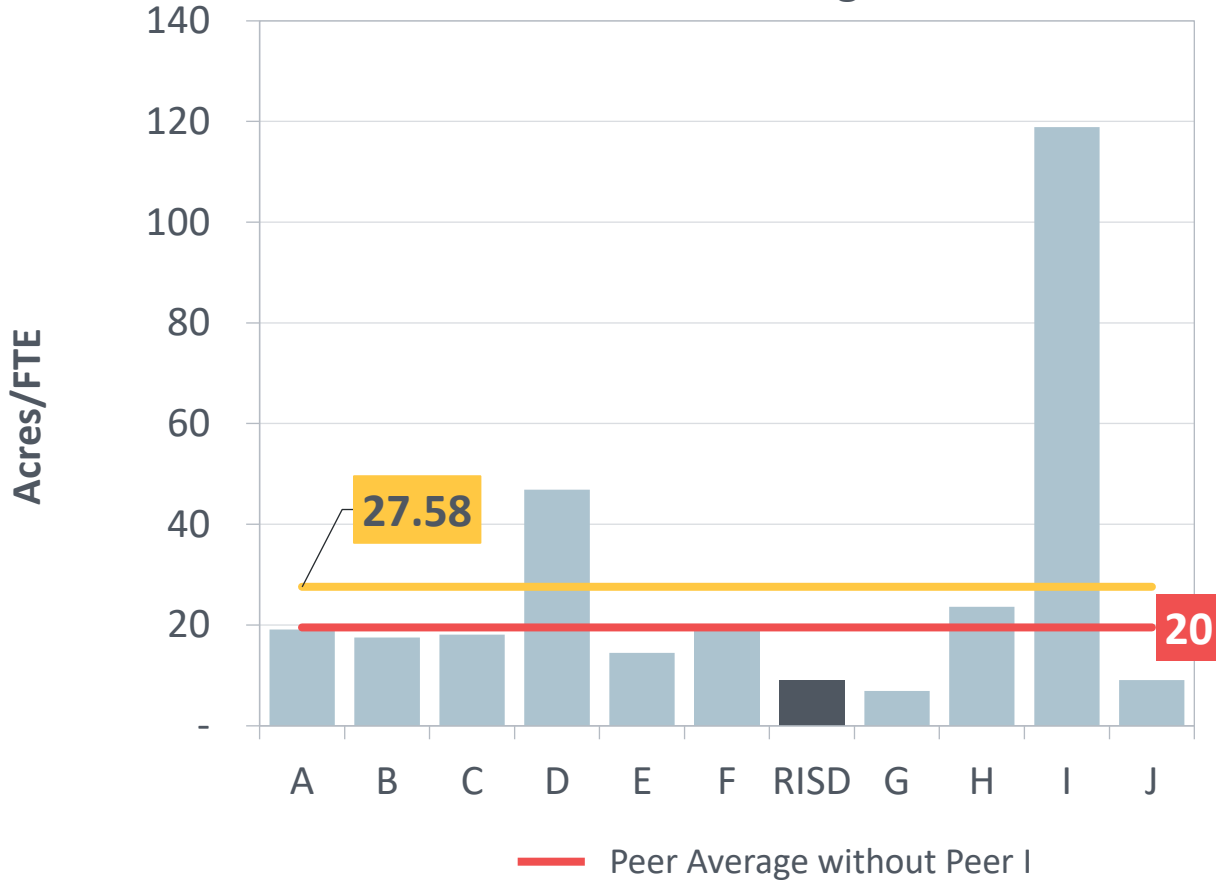
Peer Average



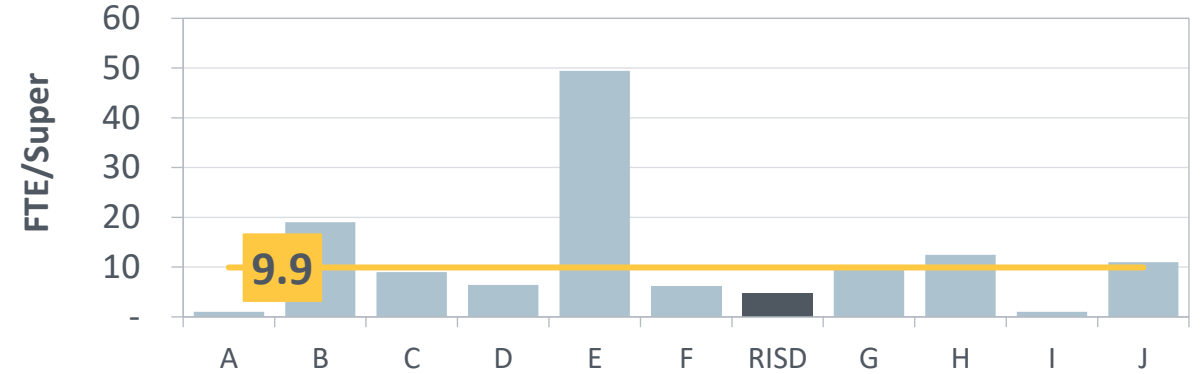
# Grounds Staff Cover Less with Closer Supervision

More urban landscape and less “open green space” provide more challenges for grounds staff

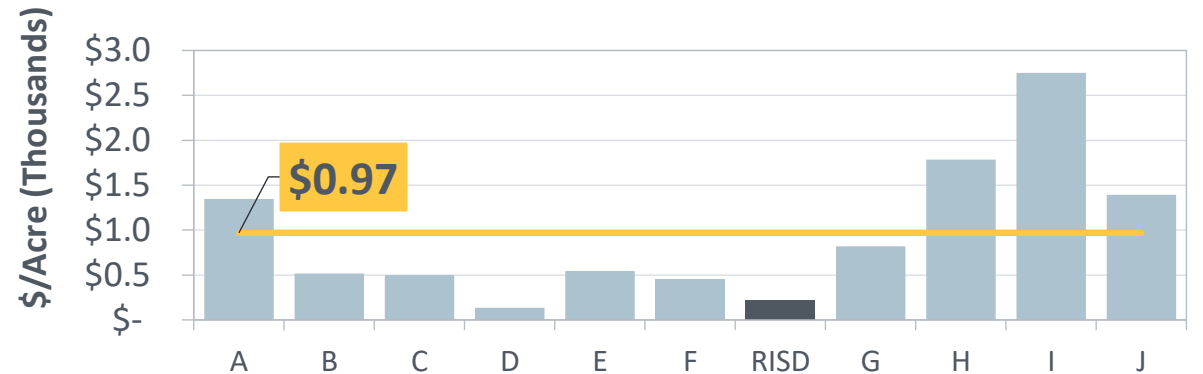
### Grounds Coverage



### Grounds Supervision



### Grounds Materials



Peer Average

\*Peers are arranged by Grounds Intensity