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GSA Office of Governmentwide Policy

Performance Measurement Division
Office of Real Property Management

Real Property Performance Results

Special Edition

Benchmarking Operating Costs of
"Monumental" Federal Buildings

April 2005

U.S. General Services Administration

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Foreword

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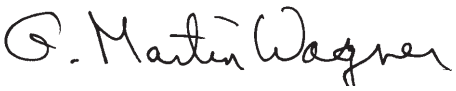
The Office of Governmentwide Policy is pleased to issue *Real Property Performance Results, Special Edition*, our pilot study to benchmark operating costs of "monumental" Federal buildings. I believe you will find that this study provides valuable information and data that can be of use across the Federal government.

In these pages you will find an analysis of benchmark data of operating costs of several atypical, Federal buildings. Our goal is to clearly summarize the relevant data and to provide our customers with a concise reference document. This publication is a spin-off to our sister publication, *Real Property Performance Results 2004*, which provides annual update on key measures of Federal real property performance, an update on the number of Federal teleworkers, the most current private-sector benchmarks, and a metric on sustainability.

I would like to acknowledge the support of Stan Kaczmarczyk, whose innovative Office of Real Property Management, undertook this valuable research effort. With the guidance and leadership of Shirley Morris, Performance Measurement Team Leader, Ray Wynter was able to lead the development of this exceptional study. Kristie Bissell and Robert Crosslin of the government-consulting firm LMI provided invaluable assistance and data analysis. Additionally, I would like to recognize the contributions from our Federal agency customers, and our associates at GSA's National Capital Region. Without your dedication and participation, this publication would not have been possible.

The Office of Governmentwide Policy presents this information to the Federal real property community to facilitate more informed decision-making leading to improved asset management. This pilot study provides baseline data for "non-typical" office facilities. Future participation in this effort is essential for creating truly Governmentwide performance measures. I sincerely hope your agency can contribute data to support our next annual real property performance measurement initiative.



G. Martin Wagner
Associate Administrator
Office of Governmentwide Policy
U.S. General Services Administration

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Executive Summary

The General Services Administration's Office of Real Property Management and our Federal customer agencies wish to benchmark the operating costs of atypical or, "monumental" Federal buildings. Although such buildings may have needs and characteristics that are different from typical office buildings, it was unknown how their operating costs (for cleaning, maintenance, utilities, and security) compared with those of more typical office buildings.

Approach

To answer this question, we performed a pilot study to compare cleaning, cleaning plus roads and grounds, maintenance, utilities, and security costs of six Federal buildings in the Washington, DC metropolitan area with published industry benchmarks for typical office buildings and for special-use buildings.

Findings

Overall, we found that in all categories except utilities, the surveyed buildings were within the benchmark ranges for special-use buildings. Specifically, we found the following:

- The cleaning costs for all surveyed buildings were within the benchmark range for office buildings and considerably below the 75th percentile for special-use buildings.
- The four buildings reporting costs of cleaning plus roads and grounds were within the benchmark ranges for special-use buildings, and three were within the benchmark ranges for office buildings.
- Two of the six surveyed buildings reported maintenance costs within the benchmark range for office buildings, and all reported maintenance costs within the benchmark range for special-use buildings.
- Of the five buildings reporting utility costs, three had costs higher than the office building range, and two had utility costs higher than the special-use building range.
- Two of the five buildings reporting security costs were within the benchmark range for office buildings, and all five had security costs within the benchmark range for special-use buildings.

Conclusion

It is important to note that while the results of the study are useful for benchmarking these six facilities, the sample size does not allow broader inferences about how other "monumental" or special-use Federal buildings will compare to the published ranges. As a result, with additional input from our customer agencies, in 2006 we will increase the span of this study to obtain a larger and more representative sample from which to draw conclusions with a higher degree of confidence. In our next series, we will include additional Federal buildings and expand the study to Federal buildings outside the Washington, DC, metropolitan area.

Acknowledgments

Acknowledgments

This publication is the result of the cooperation and effort of many individuals and organizations in the public and private sectors. It could not have been produced without the collaborative effort of this diverse group. I appreciate everyone's valuable assistance in support of this pilot study to benchmark special-use Federal buildings. I would like to specifically acknowledge the following organizations that made this study possible:

Building Owners and Managers Association International

Department of Defense

Department of the Treasury

GSA Public Buildings Service

Institute of Real Estate Management

International Facilities Management Association

LMI

Smithsonian Institution

The following GSA associates provided invaluable assistance in conceptual development, research, or other support of this initiative:

Ernest Hall

Jonathan Herz

Stan Kaczmarczyk

Jason Mack

Shirley Morris

Frank Thomas

James Trainor

I hope this pilot study is a valuable addition to the real property performance measurement field and a catalyst for further research efforts in this important subject. This study represents an outstanding example of cooperation and good will among professional colleagues in the public and private sectors.

Ray Wynter
Project Leader
Performance Measurement Division
GSA Office of Real Property Management
Washington, DC

April 2005

Introduction

Introduction

The General Services Administration's Office of Real Property Management conducted a pilot study of the operating costs of several atypical, "monumental" Federal buildings. These buildings are known to have needs and characteristics different from typical office buildings, but it was unknown how their operating costs (cleaning, maintenance, utility, and security costs) compared with those of more typical office buildings.

For this pilot study, we researched alternative published data sources to determine the availability of industry data for "non-typical" office facilities to use for the benchmark data. Next, we identified more than a dozen Federal buildings in the Washington, DC metropolitan area that would be appropriate for the pilot study. Then, we worked with several facility managers to collect cost information.

These facility managers readily provided cost information for four of these buildings. Additionally, we surveyed the facility managers to collect data for the remaining identified buildings. We asked for information such as the size, age, and unique characteristics of the building, as well as operating cost data. Although many of the facility managers indicated interest in participating in future studies of this nature, several were unavailable to participate due to time constraints and competing priorities. As a result, our study encompasses the six buildings for which we were able to collect cost information.

Next, we compared the data about the Federal buildings with the data from the published data sources. Specifically, we analyzed the cost per rentable square foot for five operating cost categories — cleaning, cleaning plus roads and grounds, maintenance, utilities, and security. All cost data have been inflated to 2004 constant dollars to allow for an accurate comparison.

The remaining sections of this report explain in more detail the approach to our analysis, our findings, and our conclusions.

Approach

Approach

Our approach to this pilot study began with identifying published data sources for general office buildings and for special-use buildings. Next, we identified Federal buildings in the Washington, DC metropolitan area that were potential subjects for this study. We contacted the facility managers of the selected buildings to collect building data for this analysis.

After collecting the appropriate data from both the published sources and the facility managers, we benchmarked the cleaning, maintenance, utility, and security cost data we collected for the Federal buildings against the data in published sources. Costs are expressed in terms of 2004 dollars per rentable square foot.

Operating Cost Categories

We benchmarked the cost per rentable square foot for cleaning, maintenance, utilities, and security. Since several of the Federal buildings included roads and grounds in their cleaning costs, we also collected information regarding costs for roads and grounds. (See Appendix A for expended definition of our operating costs.)

- Cleaning costs include expenses for all routine and periodic cleaning services in the facility
- Roads and grounds costs include landscaping, snow removal, exterior lighting and signage, and other related items.
- Repair and maintenance costs consist of expenses for all routine and periodic maintenance services in the facility.
- Utility costs represent the combined amount spent on power and water for the facility.
- Security includes all costs of protecting the facility, its contents, and the employees.

Published Data Sources

Our research identified some sources of information pertaining to typical office buildings and others to special-use buildings. Special-use buildings include museums, health care facilities, and research facilities. To calculate the benchmark costs for office and special-use buildings, we used the following published sources:

- Typical office building benchmarks:
  - Building Owners and Managers Association (BOMA), 2004 Experience and Exchange Report
  - Institute of Real Estate Management (IREM), 2004 Income and Expense Analysis: Office Buildings
- Special-use building benchmarks:
  - International Facility Management Association (IFMA), Benchmarks IV: Research Report 25, 2004
  - International Association of Museum Facilities Administrators (IAMFA), Museum Benchmarks: Survey of Facility Management Practices 2002

Unless otherwise stated, the high values indicated in the published data represent the 75th percentile (25 percent of the samples are above the high value) and the low values represent the 25th percentile (25 percent of the samples are below the low value).

Data Sources for General Office Buildings

BOMA Income and Expense Data

BOMA is an international real estate industry professional association whose members consist of building owners, managers, developers, leasing professionals, medical office building managers, corporate facility managers, asset managers, and the providers of the products and services needed to operate commercial properties. BOMA represents and promotes the interests of the commercial real estate industry through effective leadership and advocacy; through the collection, analysis and dissemination of information; and through professional development.

Each year, BOMA publishes its Experience and Exchange Report (EER), the most detailed and most reputable source of benchmarking data for the U.S. office building industry. The 2004 EER provides the results of an income and expense survey for more than 130 cities in North America, representing over 5,000 buildings and more than 1 billion square feet of office space.

For purposes of this pilot study, we used the U.S. private and government sector data from the market analyses for Washington, DC, Washington, DC/Northern Virginia, and Washington, DC/Maryland. Table 1 shows the number of buildings and the square footage for each of these markets used for this study.

To develop the benchmarks, we used the high (75th percentile), low (25th percentile), median, and average cost per square foot for total building rentable area. We used the cleaning, repair and maintenance, utility, and security expense data in the 2004 EER for each of the markets indicated above.

Since the BOMA data represent 2003 data, we applied an inflation factor to escalate these costs to 2004 constant dollars. (We discuss the inflation factors later in this chapter.)

Table 1. Market Scope — 2004 EER

Market		Number of buildings	Total building rentable area (square feet)
U.S. Private Sector	Washington, DC	62	17,676,187
	Washington, DC/ Northern Virginia	115	21,689,527
	Washington, DC/ Maryland markets	37	5,310,624
U.S. Government Sector	Washington, DC	22	10,524,466
	Washington, DC/ Northern Virginia	None reported	None reported
	Washington, DC/ Maryland markets	8	2,540,961

IREM Income and Expense Analysis

IREM is a professional real estate management association serving both the multi-family and commercial markets. It publishes annually a detailed analysis of operating revenues and expenses for over 3,000 private-sector office buildings in major metropolitan areas and regions throughout the United States and Canada.

We consulted the expense data in the 2004 IREM Income and Expense Analysis for the Washington, DC downtown and suburban metropolitan areas. We used the high, low, and median values for cleaning, maintenance, utility, and security costs. We included trash removal and window washing in the cleaning costs, to be consistent with the costs reported in the BOMA EER report. To obtain 2004 constant dollars, we applied the 2003 inflation factors to the IREM benchmark costs.

Data Sources for Special-use Buildings

IFMA Benchmarks Report

IFMA is a widely recognized professional association that provides guidance and development opportunities for facility management professionals. It has published several benchmarking reports pertaining to facility operations, space standards, and practices. Its Benchmarks IV: Research Report 25 contains comparative data from a survey of 440 North American IFMA members conducted late in 2003. Respondents were asked to provide information on their facilities for a 12-month period.

This report provides the mean cost per rentable square foot for cleaning, cleaning plus roads and grounds, maintenance, utilities, and security, in four data views: for all survey responders; by type of facility use (headquarters, research facility, museum, hospital, warehouse, and so on); by geographic region; and by industry (banking, health care, manufacturing, state government, city government, and so on). For all survey respondents, IFMA provides the cost per rentable square foot in terms of percentiles, indicating where a sample value lies in relation to the others. However, this level of detail is not available for the breakout of costs by facility use, region, or industry.

Since the 25th and 75th percentiles were not reported for the special building classifications, we imputed these costs as follows, using the relationship between the average, high, and low values given in the percentile chart for all responders for each of the five cost categories:

- First, we identified the 25th percentile, average, and 75th percentile for all survey responders and the average cost per rentable square foot for the special building classifications. Specifically, we included data provided for headquarters, other offices, research, and museum facility uses, and the health care, state government, and city government industries.
- Next, we calculated the ratios between the average and the 25th and 75th percentiles for all survey responders. We applied these factors to the average cost per rentable square foot for the special building classifications to impute the low and high estimates used for this analysis.

To obtain 2004 constant dollars, we applied the 2003 inflation factors to the IFMA low and high benchmark estimates.

IAMFA Museum Benchmarks

IAMFA is an international educational organization for museum facility administrators that promote standards for the design, construction, operation, and maintenance of world-class cultural facilities. Since 2001, it has published the results of an annual museum facility management benchmark survey. The report contains best practices and key performance measure results (including costs per square foot)

pertaining to museums and art institutions.

The 2002 survey yielded data from 15 U.S. museums totaling over 7 million gross square feet. For this study, we included the costs reported for museums in the Washington, DC metropolitan area. Using that information, we calculated the low (25th percentile) and high (75th percentile) costs per square foot for cleaning, cleaning plus roads and ground, maintenance, utilities, and security.

To allow for comparison with the other data sources, we converted the costs per gross square foot to costs per rentable square foot, using the factor of 0.91 for rentable to gross square feet found in the BOMA 2004 EER report. To obtain 2004 constant dollars, we applied inflation factors to the 2002 IAMFA benchmark costs.

Surveyed Facilities

In addition to data from published sources, we collected cost data from six facilities in the Washington, DC, and metropolitan area. These buildings are known to have needs and characteristics different from typical office buildings. This sample includes specialty office buildings and museum facilities whose sizes range from approximately 116,000 to over 2 million rentable square feet.

The facility managers reported the costs for these buildings. Some facilities are only partially operated by GSA. For these, we collected only the building square footage and operating costs for the GSA portion of the facility. When the data recorded only gross square footage, we converted that measure to rentable space using the 0.91 factor reported in BOMA's 2004 EER. All costs are adjusted to reflect real dollars for 2004 and expressed in cost per rentable square foot.

Inflation Factors

To make costs comparable across all sources, we adjusted them as necessary to 2004 constant dollars based on data from the Bureau of Labor Statistics. We used inflation factors appropriate for the operating cost categories, as follows:

- Cleaning, cleaning plus roads and grounds, and security costs were inflated using the Employment Cost Index for "service producing; service" occupations.
- Maintenance costs were inflated using the Employment Cost Index for "service producing; blue collar" occupations.
- Utility costs were inflated using the Consumer Price Index component for the price change in electricity per kilowatt-hour.

Table 2 shows the inflation factors used for this pilot study.

Table 2. Annual Inflation Factors

Year	Cleaning, roads and grounds, and security costs	Maintenance costs	Utility costs
2003	1.025	1.026	1.017
2002	1.058	1.063	1.036
2001	1.099	1.104	1.022

Findings

Findings

We compared the operating and maintenance costs for the surveyed buildings to the published data for each of the five operational cost categories: cleaning, cleaning plus roads and grounds, maintenance, utilities, and security.

In the charts that follow, the benchmark ranges for the published data sources indicate the 25th and 75th percentiles. However, because our survey of six buildings for this study is a small sample, calculating percentiles for them would not produce a statistically meaningful result. Instead, for the six surveyed buildings, the charts show the lowest data point, median value, and the highest data point.

Cleaning Costs

We compared the cleaning cost ranges for typical office buildings and special-use buildings with the costs reported for the surveyed buildings. The data sources indicate the following cleaning cost ranges (25th to 75th percentiles):

- Office buildings: $0.86 to $2.14 per rentable square foot (RSF)
- Special-use buildings: $2.04 to $3.92 per RSF.

By comparison, the six surveyed buildings reported cleaning costs ranging from $0.88 to $2.75 per RSF, with a median of $1.68. For three of the surveyed facilities, we could not separate the costs for cleaning from roads and grounds, as the accounting system does not report them separately. As a result, we have included the costs of cleaning and roads and grounds for these facilities both in this section as well as in the cleaning plus roads and grounds section.

Figure 1 on the next page shows the cost ranges for office and special-use buildings, with the low, median, and high data points for the surveyed buildings.

Comparing the cleaning costs in the published data sources with those of the surveyed buildings shows the following:

- Four of the six surveyed buildings have cleaning costs within the published range for office buildings. The remaining two, although higher than that range, are within the published range for special-use buildings.
- The lowest cost reported for the surveyed buildings is slightly lower than the 25th percentile for the special-use building benchmark range.
- The surveyed median ($1.68) is within the published ranges for both office and special-use buildings.
- The highest cost for the surveyed buildings is considerably higher than the 75th percentile for office buildings but considerably lower than the 75th percentile for special-use buildings.

These results indicate that the cleaning costs for all six of the surveyed buildings fall within what might be considered an acceptable range, compared with benchmark costs from published data sources.

Cleaning Plus Roads and Grounds

The cleaning costs for three of the six surveyed buildings include roads and grounds costs, and we are unable to separate these costs. One other facility provided roads and grounds costs separately. Two of the six surveyed buildings did not provide roads and grounds data, either separately or combined into the cleaning costs. For these reasons, we compared the cleaning plus roads and grounds costs for four surveyed buildings with the cleaning plus roads and grounds costs in the published data sources.

The published sources indicate the following cost ranges for cleaning plus roads and grounds (25th to 75th percentiles):

- Office buildings: $0.98 to $2.63 per RSF
- Special-use buildings: $1.10 to $4.74 per RSF.

By comparison, the six surveyed buildings reported cleaning costs ranging from $1.17 to $3.57 per RSF, with a median of $1.68. Figure 2 compares the cleaning plus roads and

Figure 1. Cleaning Costs per Rentable Square Foot

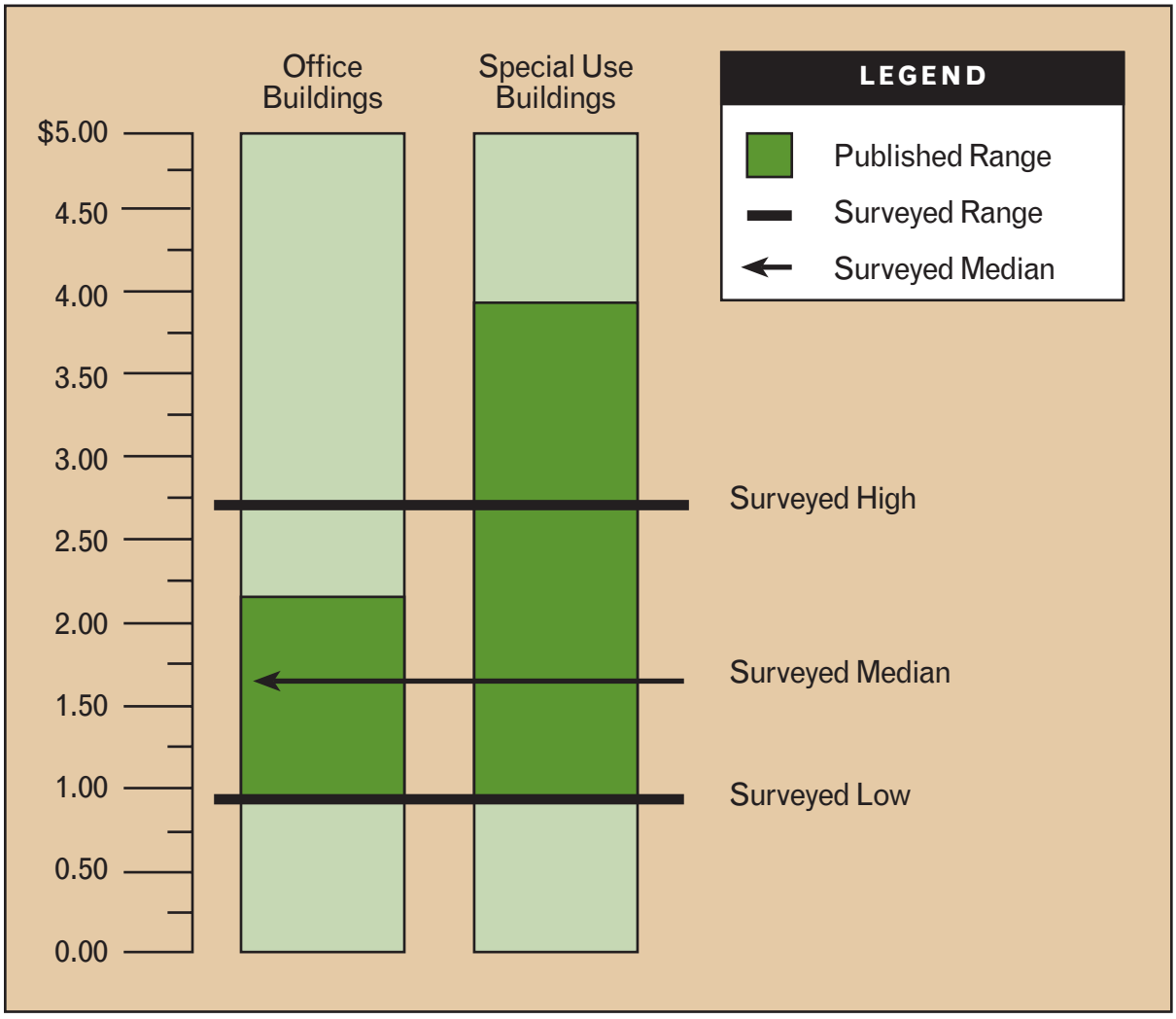
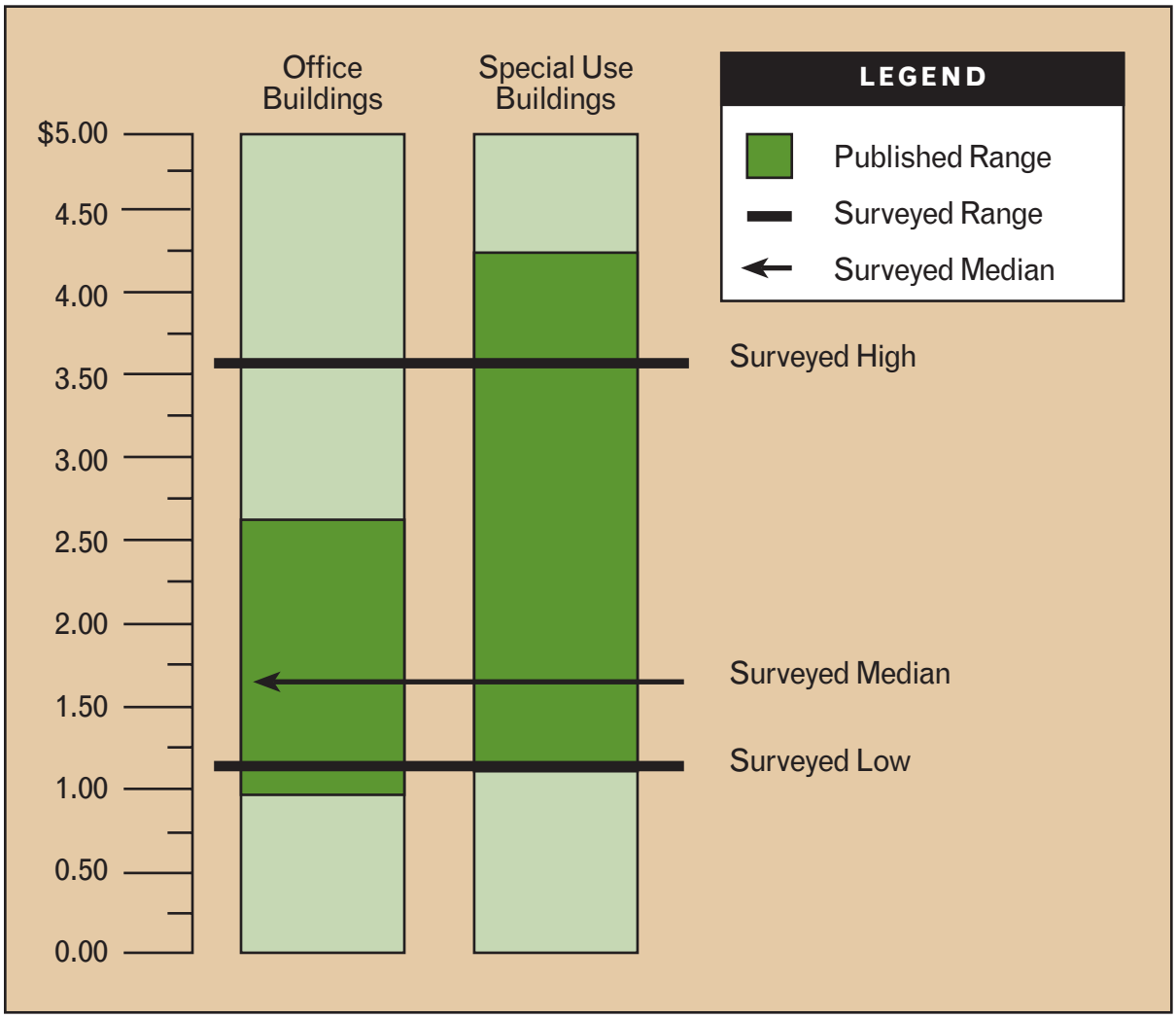


Figure 2. Cleaning Plus Roads and Grounds Costs per Rentable Square Foot



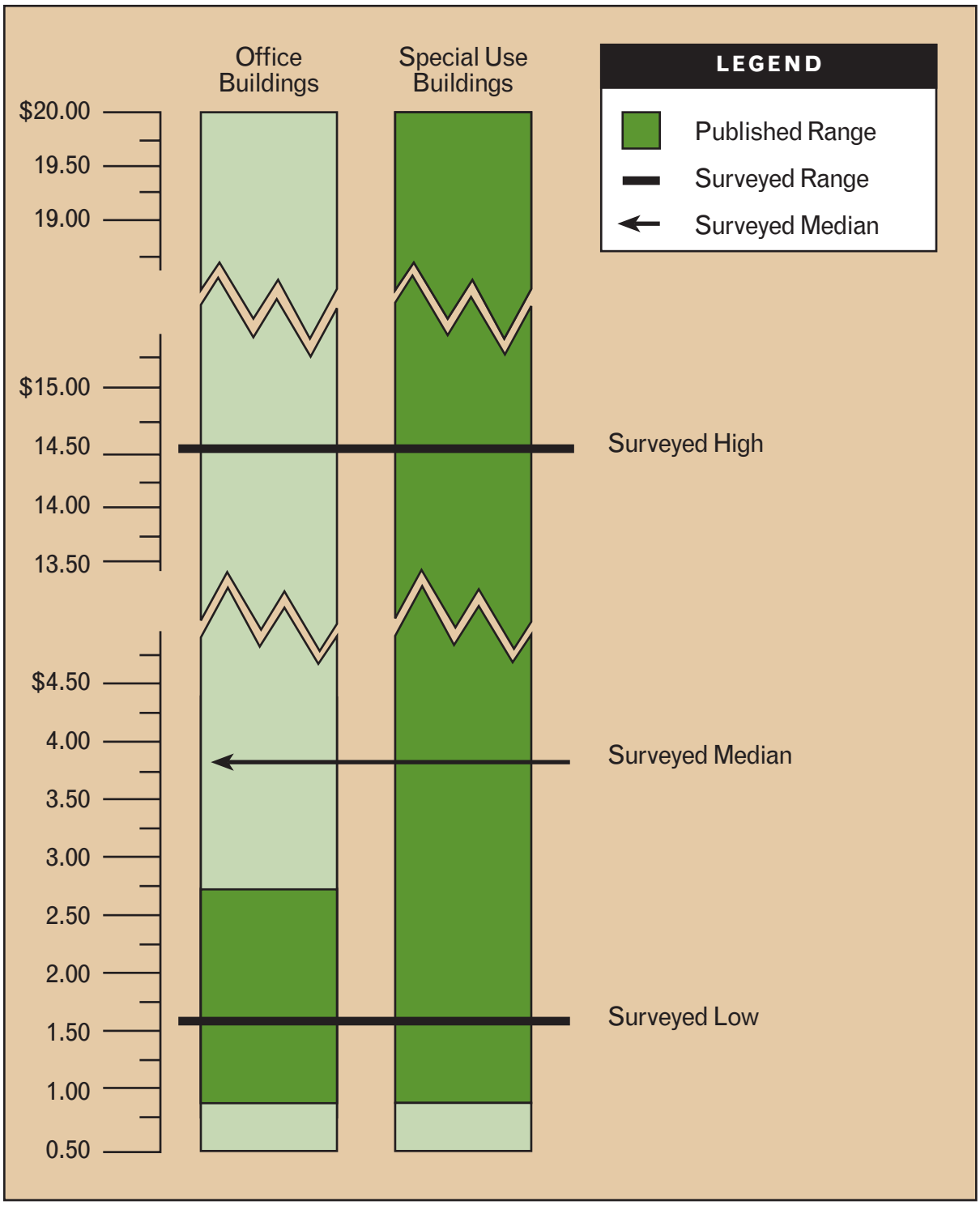
grounds costs for office buildings, special-use buildings, and the four surveyed facilities.

Comparing the cleaning plus roads and grounds costs from the published sources with the surveyed buildings shows the following:

- Of the four buildings reporting costs for cleaning and roads and grounds, three have costs within the published range for office buildings, and all four have costs within the published range for special-use buildings.
- The lowest cost for the surveyed buildings is slightly higher than the 25th percentile for both the office and special-use benchmark range.
- The surveyed median ($1.68) is within the published ranges for both office and special-use buildings.
- The highest cost for the surveyed buildings is considerably higher than the 75th percentile for office buildings but considerably lower than the 75th percentile for special-use buildings.

These results indicate that the cleaning plus roads and grounds costs for the four surveyed buildings in this comparison fall within what might be considered an acceptable range, compared with benchmark costs from published data sources.

Figure 3. Maintenance Costs per Rentable Square Foot



Maintenance Costs

We also compared the maintenance cost ranges for typical office and special-use buildings with the costs reported for all six of the surveyed buildings.

The benchmark cost ranges (25th to 75th percentile) from the published data sources were as follows:

- Office buildings: $0.85 to $2.75 per RSF
- Special-use buildings: $0.82 to $19.90 per RSF

By comparison, costs for the surveyed buildings ranged from $1.59 to $14.54 per RSF, with a median of $3.85. Figure 3 shows the cost ranges for office and special-use buildings, with the low, median, and high data points for the surveyed buildings.

Comparing the maintenance costs from the published data sources with the cleaning costs of the surveyed buildings shows the following:

- The maintenance costs reported for all six of the surveyed buildings fall within the published range for special-use buildings.
- The lowest cost for the surveyed buildings is within the published ranges for office and special-use buildings but considerably higher than the 25th percentile for both benchmark categories.
- Similarly, the highest cost for the surveyed buildings is considerably higher than the 75th percentile for office buildings, but considerably lower than the 75th percentile for special-use buildings.

These results indicate that the maintenance costs for the six surveyed buildings fall within what might be considered an acceptable range, compared with benchmark costs from published data sources.

Utility Costs

Next, we compared the utility cost ranges for office and special-use buildings with the costs reported by five of the six surveyed buildings. (One surveyed building did not provide utility cost data.)

The utility cost ranges (25th to 75th percentile) derived from the published data sources were as follows:

- Office buildings: $1.06 to $2.87 per RSF
- Special-use buildings: $1.18 to $3.76 per RSF

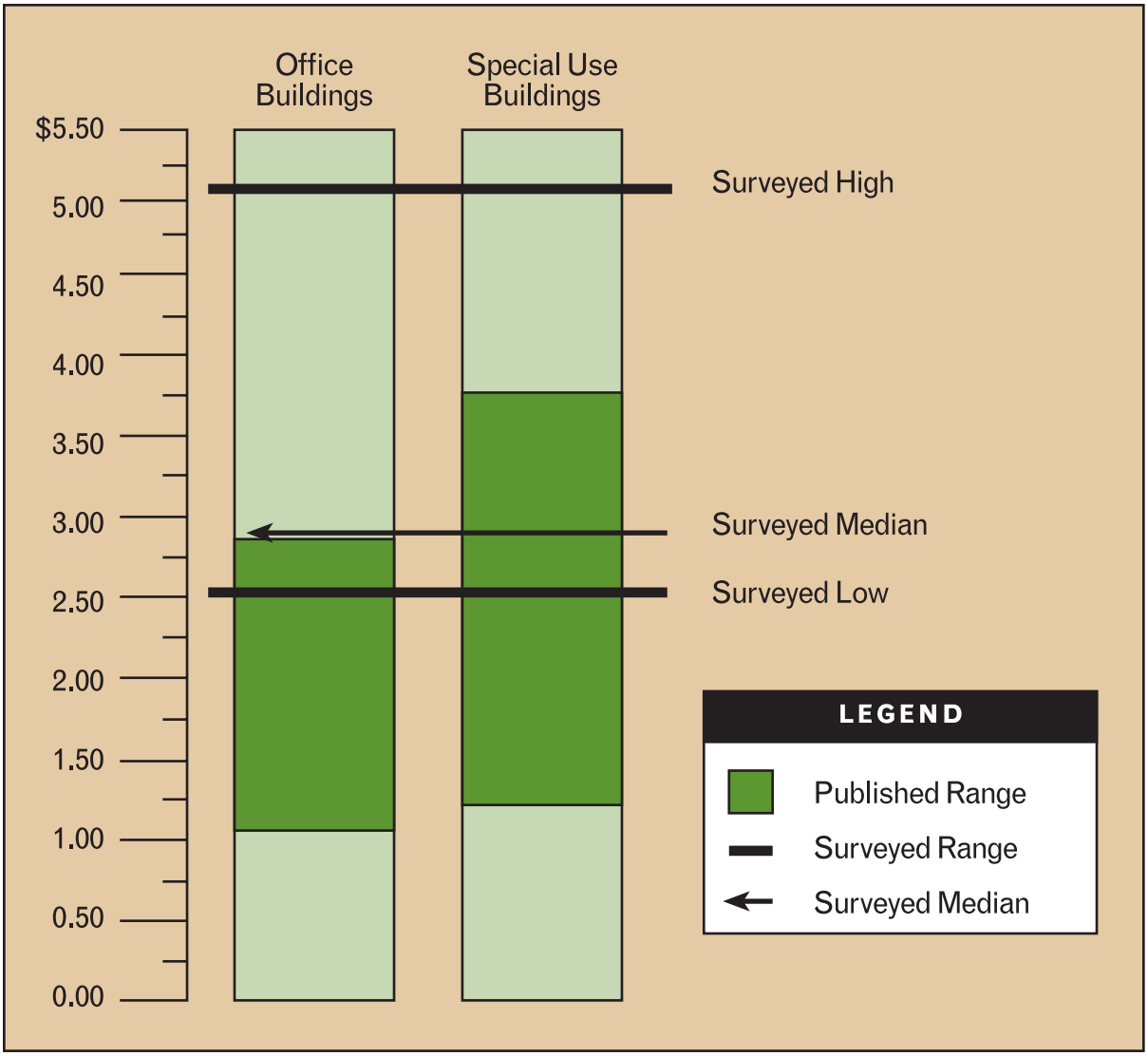
By comparison, costs from the surveyed buildings ranged from $2.50 to $5.10 per RSF, with a median of $2.90. Figure 4 shows the cost ranges for office and special-use buildings, with the low and high data points for the survey buildings.

Comparing the utility costs from published data sources with the utility costs of the surveyed buildings shows the following:

- Only two of the five surveyed buildings have utility costs within the published range for office buildings. One other building has utility costs within the published range for special-use buildings. The utility costs of the remaining two are above these published ranges.
- The lowest utility cost for the surveyed buildings is considerably higher than the 25th percentiles for office and special-use buildings.
- Similarly, the highest cost for the surveyed buildings is considerably higher than the 75th percentiles for both office and special-use buildings.

Unlike cleaning and maintenance costs, utility costs for two of the surveyed buildings are significantly higher than benchmark ranges. This difference may be attributable to many factors not assessed for this pilot study — for example, unique facility characteristics such as volume of visitor traffic, daily hours of facility use, or the age of their heating,

Figure 4. Utility Costs per Rentable Square Foot



ventilation, and air condition systems. Additional research would be required to determine the specific causes for higher utility costs.

Security Costs

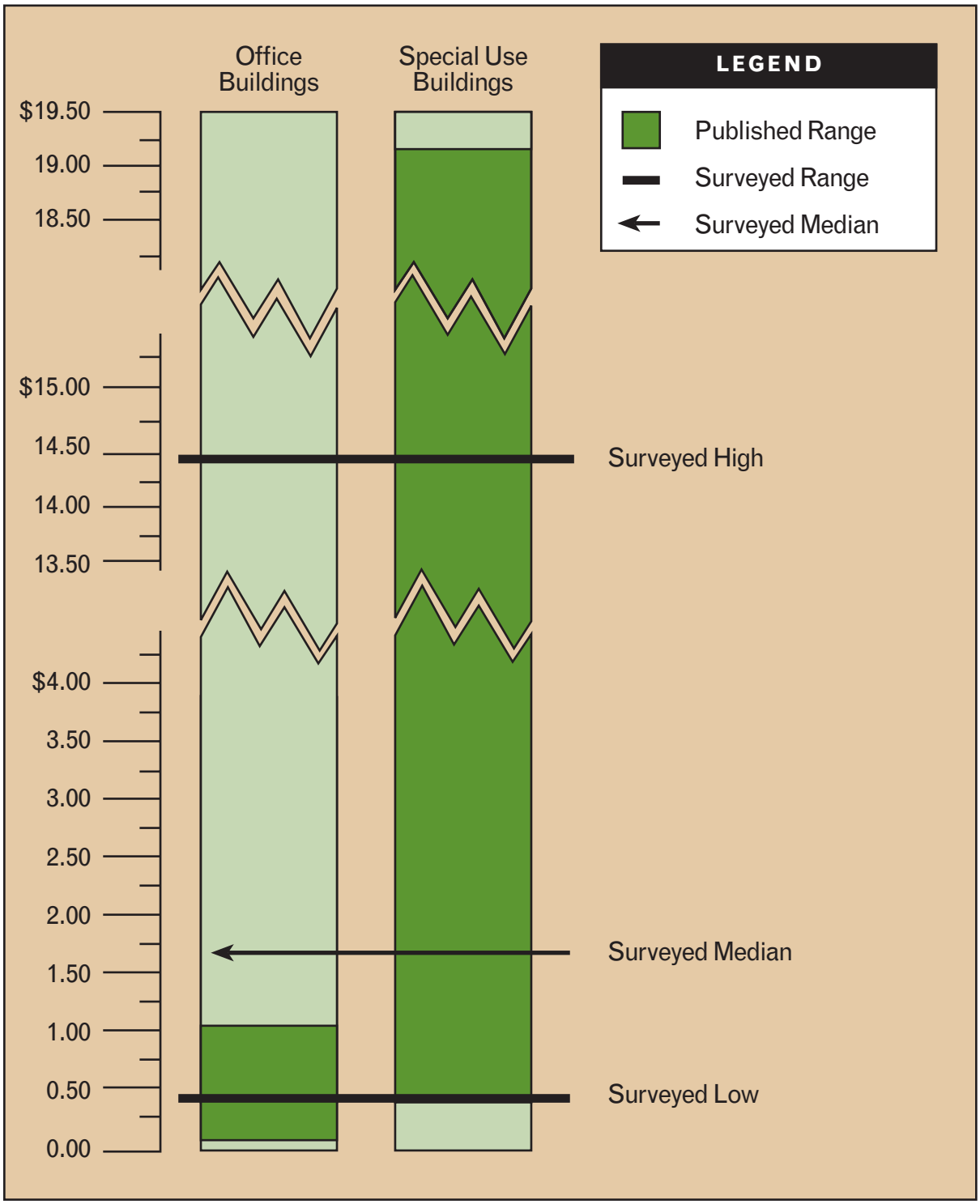
Lastly, we compared the security costs for office and special-use buildings with the costs for five of the six surveyed buildings. (One surveyed building did not provide security cost data.)

The security cost ranges (25th to 75th percentile) derived from the published data sources were as follows:

- Office buildings: $0.06 to $1.00 per RSF
- Special-use buildings: $0.25 to $18.60 per RSF

By comparison, security costs from the surveyed buildings ranged from $0.38 to $14.42 per RSF, with a median of $1.69. Figure 5 shows the cost ranges for office and special-use buildings, with the low and high data points for the five surveyed buildings.

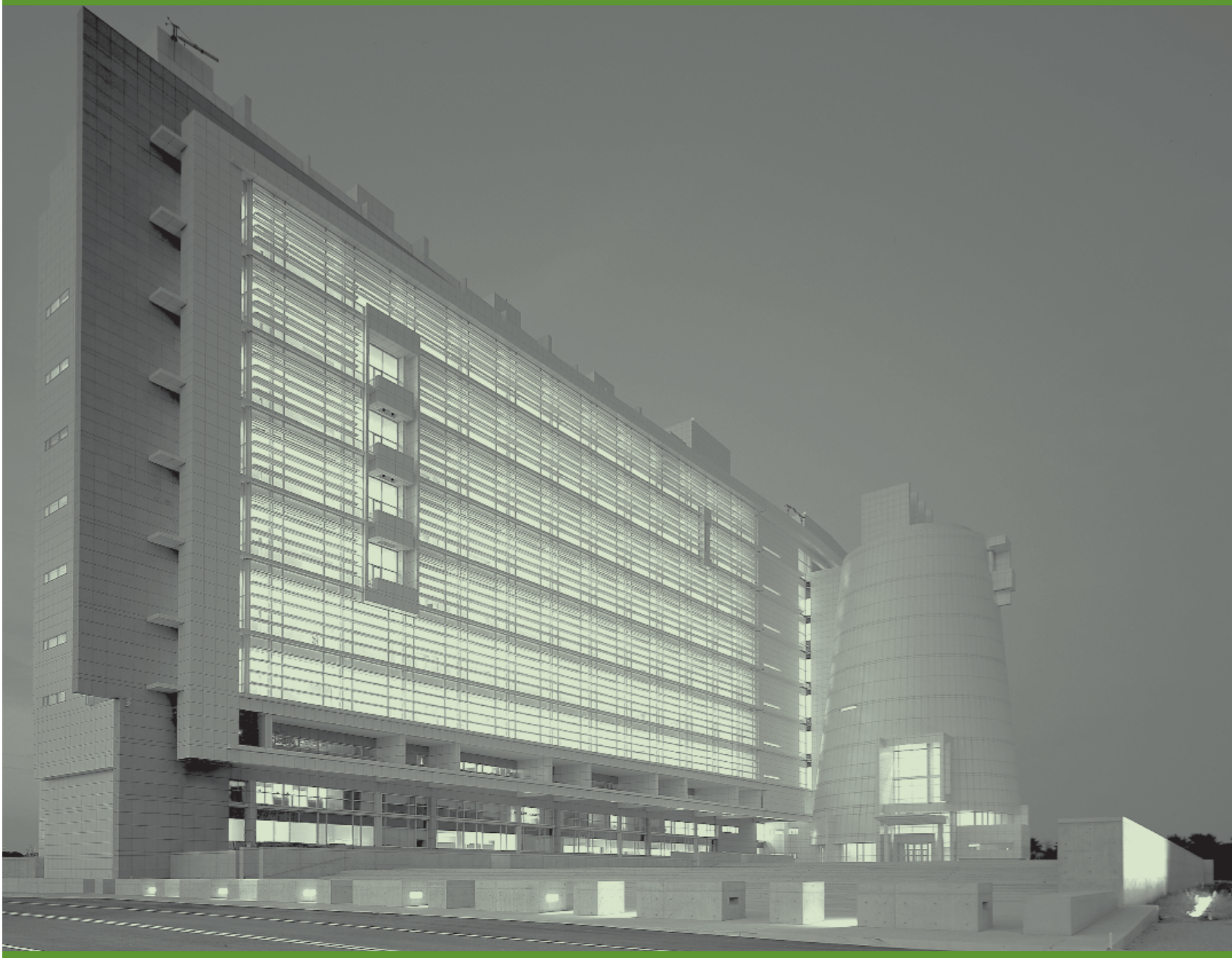
Figure 5. Security Costs per Rentable Square Foot



Comparing the maintenance costs from published data sources with the cleaning costs of the surveyed buildings shows the following:

- Although all five of the buildings reporting security costs fall within the benchmark range for special-use facilities, only two report security costs within the office building range.
- The lowest cost for the five surveyed buildings is higher than the 25th percentiles for both office buildings and special-use buildings.
- The median security costs for the surveyed buildings are considerably higher than the benchmark range for office buildings but well within the range for special-use facilities.
- Similarly, the highest cost for the surveyed buildings is considerably higher than the 75th percentile for office buildings, but also significantly lower than the 75th percentile for special-use buildings.

These results indicate that, although the surveyed buildings spend more in security than a typical office building, they are well within what might be considered an acceptable range compared with the benchmark cost range for special-use buildings.



Conclusions

Conclusions

This pilot study was limited to the Washington, DC metropolitan area and surveyed six atypical, "monumental" Federal buildings. While the results are useful for benchmarking these six facilities, the sample size does not allow broader inferences about how other "monumental" or special-use Federal facilities — either generally or specifically — will compare to the published data ranges.

However, our cost comparison did yield interesting observations. Overall, we found that in all categories except utilities, the surveyed buildings were within the benchmark ranges for special-use buildings. Specifically, we found the following:

- The cleaning costs for all surveyed buildings were within the benchmark range for office buildings and considerably below the 75th percentile for special-use buildings.
- The four buildings reporting costs of cleaning plus roads and grounds were within the benchmark ranges for special-use buildings, and three were within the benchmark ranges for office buildings.
- Two of the six surveyed buildings reported maintenance costs within the benchmark range for office buildings, and all reported maintenance costs within the benchmark range for special-use buildings.
- Of the five buildings reporting utility costs, three had costs higher than the office building range, and two had utility costs higher than the special-use building range.
- Two of the five buildings reporting security costs were within the benchmark range for office buildings, and all five had security costs within the benchmark range for special-use buildings.

We will continue this study to include a larger and more representative sample of "monumental" Federal buildings, and expand the geographic sample area to include buildings outside the Washington locale but within the continental United States.

Next Steps

Next Steps

1. Since the inception of our real property and workplace performance measurement initiative in 1997, the most popular and useful products and services have been our space use guidance, the Cost per Person Model, and the voluntary benchmarking exercise that generates the annual Performance Results report.

   We updated our 1997 space use guidance in 2002, and received exceptional response from the Federal community. This fall we will again update our space use guidance; update and re-launch the Cost per Person Model; and produce the Performance Results report for the eighth consecutive year.

2. *Real Property Performance Results, Special Edition* provides valuable insight into operating costs of unique Government buildings. In the future, however, we will increase the span of this study to obtain a much larger and more representative sample, including additional Federal buildings and expanding the study to Federal buildings outside the Washington, DC metropolitan area.

3. The annual benchmarking exercise focuses on a category generally referred to as "generic" or "vanilla" office space. We have ventured outside the box to produce this special edition of operating benchmarks for atypical and unique Government buildings. The Office of Real Property Management, Performance Measurement Team will again work "off line" from the Performance Results exercise to benchmark the operating costs of laboratory space. This review will include cost-savings and flexibility decisions regarding space planning and lab support space. In the fall, we will feature the results of this study in Performance Results 2005.

4. Federal customers occasionally contact us seeking detailed cost information, collected in benchmarking exercises. If you do not participate in the benchmarking process, we cannot supply you with any information other than what you read in this publication. If you do participate in the benchmarking process, we can provide you with a specific comparison of your results versus the group's, and some further guidance. We remind our participants to take advantage of this important benefit of participating in the voluntary benchmarking process.

5. The new performance measures under discussion at the Federal Real Property Council cover the broader Federal space portfolio. Therefore, we are continuing our voluntary benchmarking of performance indicators for the office space sub-component for an eighth year in 2005.

6. In 2006, we will investigate whether some of the Performance Results measures can be fully integrated into the Governmentwide inventory system currently being developed in response to Executive Order 13327.

Federal Government Viewpoint

Federal Government Viewpoint:

Benchmarking Helps Get you to Green

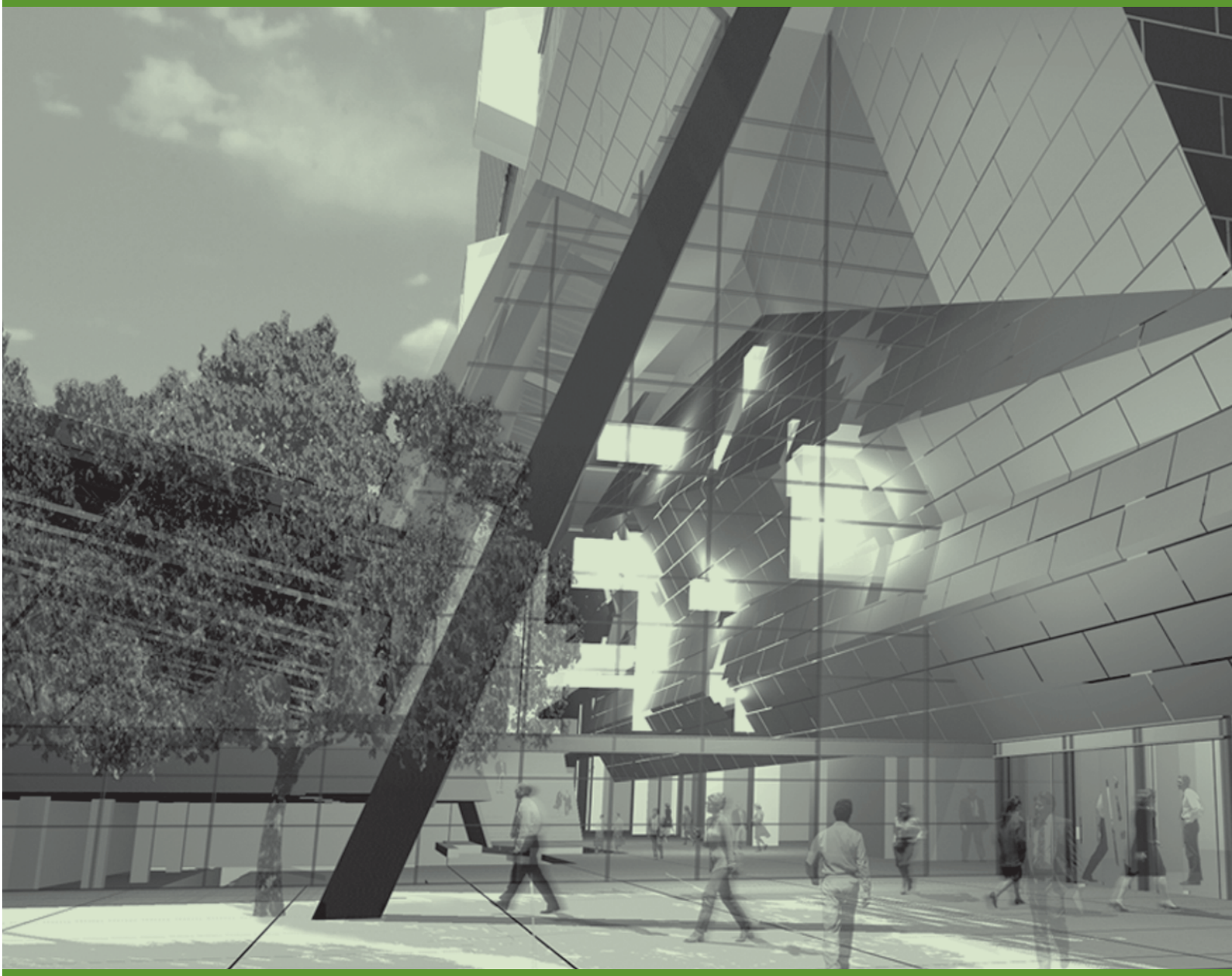
Jonathan A. Herz, Architect
Office of Governmentwide Policy
U.S. General Services Administration

Understanding the environmental implications of your business functions, such that environmental issues are considered essential components of business processes, rather than consequences of those processes will make it easy to integrate the decision-making process across your organization, so that every decision is made with an eye to the greatest long-term benefits. As we write in the "GSA Real Property Sustainable Development Guide," today's successful businesses know that environmental management and environmental functions are integral parts of an organization's everyday operations and its strategic plan.

Benchmarking is a vital factor in implementing a sustainable development strategy. But, it must be applied as part of an overall strategy – not just a stand-alone tool. Executive leadership must understand sustainability, and commit to its principles, translating vision and mission statements into specific long-term improvement objectives. When the environmental aspects and impacts of an organization's operations, products and services are understood and training provided at all levels, transformation of the organization into a sustainable development culture can take place.

This is the context in which meaningful performance measurements, such as audits, management systems and metrics that track day-to-day operations can become useful decision-making tools. As Matthew D. Tendler, AIA writes in the following Case Study, "there is a growing list of companies that are consciously using a sustainable approach to business in which environmental and economic concerns mutually reinforce each other." But benchmarking must be considered as part of an integrated approach to facilities operations. Operating costs, such as energy, can be reduced in a variety of ways. But, if they result in lowered productivity because ventilation rates are cut, then the result is a net loss to all.

Other no cost or low cost approaches to benchmarking could also be considered, such as documenting and reducing the number of toxics-containing building and cleaning products, tracking and reducing churn costs, enhancing productivity, and so on. We will be looking at the economics of sustainability in a future policy study to measure the impact of sustainable design on operating costs, especially energy.



Green Building Saves Money by Reducing Operating Costs

Case Study:

Green Building Saves Money by Reducing Operating Costs

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The last ten years have seen significant growth in a new approach to the design, construction, and operation of buildings that seek to enhance the overall environmental performance of buildings while simultaneously improving the bottom line. This approach, called "Green Building" also is known as Sustainable Design, Environmentally Conscious Design, Green Architecture or Healthy Design. The recent growth of green building can be partly attributed to greater public awareness and concern for environmental issues. However, it would be a mistake to view this trend as being driven primarily by a philosophical commitment to the environment. The business community is gradually accepting green building because it makes good business and economic sense.

The idea that building green can actually improve the financial performance of a building may seem new to some people. However, there is a growing list of successful companies that are consciously using a sustainable approach to business in which environmental and economic concerns mutually reinforce each other. Many of these companies have built green buildings and have received sizable returns on their capital investments. These companies include Patagonia, The Gap, Herman Miller, Interface, Sony, Wal-Mart, Duracell, HBO and S.C. Johnson. The Defense Department, the National Park Service and many local city governments also have adopted green building standards for the long-term economic value these standards add to public buildings.

In order to understand the economic benefits of building green, it is necessary to have a clear idea of exactly what "green building" entails. First, green building is not a particular aesthetic or architectural style. A green building does not have to look organic or "natural" to be green. It can be designed in almost any style, because the focus of a green building is environmental and economic performance. A green building is simply a building that is designed, constructed and operated utilizing an integrated design approach in order to enhance the overall environmental performance of a building and its site. A company does not have to build a wildly expensive, state-of-the-art green building to realize the economic benefits of this approach. Modest green building upgrades often will yield significant environmental and economic benefits.

The key to realizing the economic benefits of green building is to work with design and construction professionals who have experience with this approach to construction. Since no two building projects are alike, these professionals can work with clients to develop focused green building strategies that are cost effective and respond to the unique needs of a client's business. The need for knowledgeable professionals is particularly acute given the explosive growth of new materials, technologies and services that have come about in the last few years.

Although the array of possible green building strategies is almost limitless, most of these strategies fall into one of two broad categories: resource-conscious design strategies and healthy design strategies. Resource-conscious design strategies involve

reducing a building's consumption of the earth's resources over the entire life of a building. These strategies include efficient land use, energy efficiency, storm water filtration, minimal habitat disruption, native landscaping, water efficiency, waste reduction and selection of building materials with minimal environmental impact. Healthy design strategies, on the other hand, include enhancing all aspects of the interior environment that contribute to making building occupants more healthy and comfortable. These include enhanced indoor air quality, daylight access and quality, thermal comfort, acoustics and a greater connection to the outdoors.

Many building owners are surprised to learn that the cost to design and build a building is insignificant compared to the cost of owning and operating a building over its useful life. According to the Building Owners and Managers Association, only 2 percent of the total cost of building, owning and operating a typical office building over a 30 year period is for design fees and construction costs. Operations, maintenance, finance and employee costs account for the remaining 98% of the total costs.

Although some green building strategies can reduce the initial cost of a building, most of these strategies will cost slightly more than a conventional building. However, if these strategies are designed synergistically, the initial building cost can be minimized and significant savings can be realized over the life of a building.

The following economic benefits can be expected from a green building:

1. Reduced Operating Costs: It is possible to reduce building energy consumption by 20 to 30 percent within the constraints of most building budgets. This increased energy efficiency can reduce energy costs over the life of a building. Native landscaping can reduce landscape maintenance costs by $3,000 to $4,500 per acre per year as compared with conventional turf grass.
2. Reduced Waste Costs: Green buildings that are designed with raised computer floors and flexible open space can significantly reduce construction waste in facilities that undergo frequent remodeling. This can significantly reduce remodeling costs. Reusing an existing building can also significantly reduce new material usage and cost compared to building a brand new building.
3. Reduced Liability: Enhanced indoor air quality can reduce the risk of "sick building syndrome" and the associated legal costs that may be incurred if the problem cannot be easily remedied.
4. Enhanced Employee Productivity: Several case studies of completed green buildings have shown significant improvements in productivity because workers were breathing better quality air, had a connection to the outdoors and worked in spaces with natural daylight.
5. Public Relations: Since green building is relatively new, we have found that many green building projects have received local and national media coverage even before ground breaking.
6. Streamlined Regulatory Approvals: Sustainable site design strategies often can build public trust and streamline regulatory approvals.
7. Niche Marketing Opportunities: Several retailers who sell green products have built green stores and corporate headquarters in order to enhance the marketing of their green product lines. Some hospitality companies have used selected green building strategies to differentiate their services in the marketplace and to obtain a higher price for these services.

Successful and economically rewarding green building projects are the result of working with an experienced design and construction team. If you would like more information about green building educational resources or local green building design and construction professionals, please contact connielindholm@wgba.org

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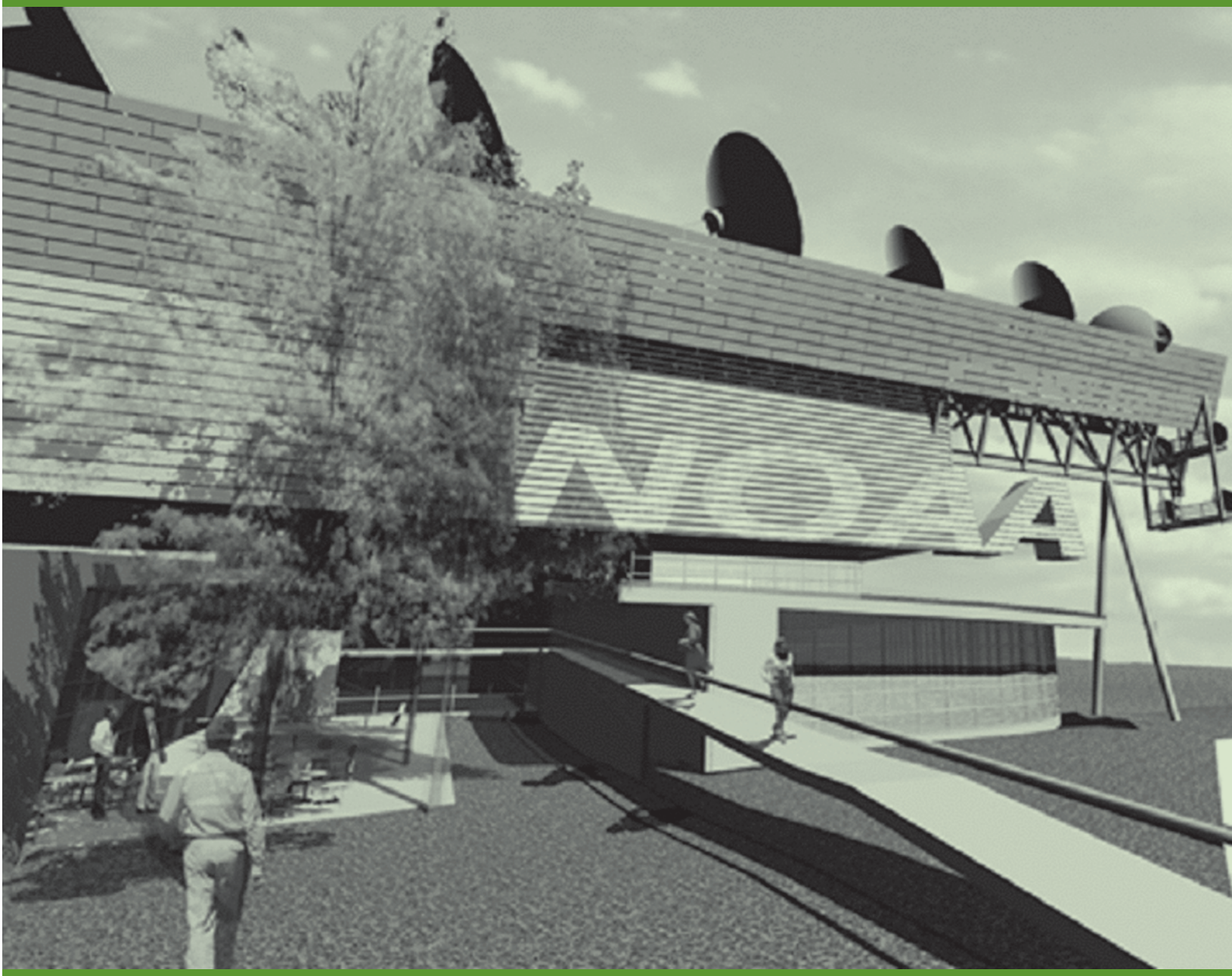

Appendix A:
Research Methodology

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Research Methodology

- Several Federal agencies agree to undertake this study to assess the operating costs of buildings that are beyond "vanilla office" space.
  - Agencies select potential atypical Federal buildings to benchmark operating costs
  - Agencies agree on benchmark cost areas, cleaning, cleaning plus roads and grounds, maintenance and utilities (see definition later in this appendix)
- Facility managers of several buildings in the Washington, DC area identify building characteristics, costs, and potential cost drivers.
  - Building usage, age, size and location
  - Costs for cleaning (roads and grounds), maintenance and utilities
  - Level of security and foot traffic
  - Potential cost drivers – historic registry, deferred maintenance, type of heating/cooling, date of last major renovation, data of next major renovation, amount of roads and grounds
- Gather and analyze other available benchmark data for the Washington, DC, area, for both private and public sector facilities.
  - International Association of Museum Facilities Administrators
  - Building Owners and Managers Association
  - International Facilities Management Association
  - Institute of Real Estate Management
  - GSA office and office-like costs
- Conduct a comparison of surveyed buildings with published benchmark ranges

Definitions

Definitions

Cleaning:

Includes labor costs for in-house and contract service, payroll, taxes, and fringe benefits, plus salaried supervisors and managers, as well as expenses related to routine equipment and supplies required for daytime and nighttime cleaning of offices, elevators, public areas, rest rooms, and windows. Also includes the costs of specialized cleaning services such as trash removal, recycling, window washing, and carpet cleaning, plus the costs of roads and grounds keeping services.

Maintenance:

Includes all expenses required for general repairs, maintenance, and upkeep of the facility. Labor costs include payroll, taxes, and fringe benefits for employees and contracted workers. Personnel include operating engineers, general maintenance personnel, and chief building engineers. Repairs and maintenance items include elevators; heating, ventilation and air conditioning; electrical; structural/roof; plumbing; fire and life safety systems; maintenance supplies; and other specialty items that may be included in the contract.

Utilities:

Includes the cost of all utilities (electricity, gas, oil, purchased steam and hot water, or chill water consumption) used by the facility and its occupants.

Security:

Includes all costs, both for in-house and contracted security services, of protecting the facility, its contents, and the employees.

Roads and grounds:

Includes landscaping, snow removal, exterior lighting and signage, and other related items.

Appendix B:
Office of Real Property Management

Appendix B: Office of Real Property Management

The GSA Office of Real Property Management provides policy guidance, best practices, inventory and performance measurement data, and leadership in real property asset management, alternative workplaces, and sustainability. We take a lead role in benchmarking with other governments and private sector corporate real estate organizations. The Office's primary customers are the GSA Public Buildings Service, all Federal landholding agencies, and the Federal Real Property Council formed by Executive Order 13327.

The Office of Real Property wants to ensure that Governmentwide policies allow and encourage agencies to develop and utilize the best, most effective real property asset management in an ever-changing capital and program environment.

For specific information about initiatives and programs of the Division, please visit our web site at www.gsa.gov.

In 2005, we plan to publish:

- Space Use Study
- Benchmarking Lab Space
- Real Property Performance Results 2005
- Cost per Person Model 2005 version
- Real Property Policysite TWN 2005 Special Edition
- Policysite Best Practices Special Edition
- Sustainable Development and GSA
- Several GSA Bulletins and FMR revisions

Please contact one of our staff professionals for information on specific programs or to find out how asset management supports your mission, your customers, and your associates.

Appendix C:
Office of Real Property Management Contacts

Appendix C: Office of Real Property Management Contacts

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