GSA Office of Governmentwide Policy

Real Property Performance Results 2003

Featuring the New Cost per Person Model, Version 2 and the Cost per Person Users Manual

Innovative Workplaces Division
Office of Real Property

December 2003

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Foreword

The Office of Governmentwide Policy (OGP) is pleased to issue *Real Property Performance Results 2003*, our sixth annual analysis of real property performance in the Federal office space sector. In these pages you will find our annual update on the 7 key measures of Federal real property performance selected by an interagency working group in 1998. This edition also features an update on the number of Federal teleworkers, the most current private sector benchmarks, and an update on sustainability. A special feature included this year is a users manual for our redesigned Cost per Person Model, Version 2. Our goal is to clearly summarize the relevant data and to provide our customers with a concise reference document. We expect this to be useful to Federal real property asset management decision-makers as well as our stakeholders. The publication will also benefit interested professionals in other governments, the private sector, and academia.

I would like to recognize David Bibb, whose Office of Real Property undertook the data collection and analysis. With leadership from Stan Kaczmarczyk of the Innovative Workplaces Division, the project team of Helen Harlow, Shirley Morris, and Ray Wynter produced this sixth annual collection of performance data. Additionally, we would like to recognize the contributors from the entire real property community, especially our Federal agency customers. 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. Organizations throughout the world in both the private and public sectors have embraced strategic planning, performance measurement and benchmarking. We want to support the Federal real property community in this important transformation, which is consistent with the overall direction of the Government Performance and Results Act of 1993.

G. Martin Wagner

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

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Executive Summary

The following table summarizes Governmentwide performance for the year 2003 on the 7 original key indicators estimated by our analysis of the sample data plus the number of Federal teleworkers and the percentage of agencies with sustainable Federal buildings:

Summary of Results

Measure	*2003 Federal Government Performance*
Cost per square foot (owned)	$4.95 per rentable square foot
Cost per square foot (leased)	$20.57 per rentable square foot
Vacancy rate	3.9 percent
Cost per person	$14,200
Customer satisfaction	89 percent on GSA Survey
Employees housed	1,826,700 FTE
Total square feet	724,757,000 rentable square feet of office space
Federal teleworkers	5.0 percent of Federal work force
Sustainability	53 percent of Federal agencies

We conclude the following based on the 2003 Governmentwide results:

- 2003 Governmentwide performance is consistent with past performance as well as private sector performance on the key indicators of Cost per Square Foot Owned, Cost per Square Foot Leased, and Vacancy Rate.
- For the sixth straight year, we received outstanding cooperation from a core group of Federal agency partners. The main value of the annual Performance Results exercise continues to be the opportunity for a core group of Federal partners to benchmark performance and to benefit from the learning that has occurred around this effort. Good examples of this learning are the development and growing use of the Cost per Person Model, which we redesigned this year into a more user-friendly analytical tool.

Acknowledgements

Federal Government Benchmarking Participants

We would like to thank the following agencies for participating in the voluntary benchmarking effort for the 2003 edition of Real Property Performance Results:

- Department of Agriculture
- Department of Energy
- Department of the Interior
- Department of Justice
- Department of Labor
- Department of State
- Department of Transportation
- Department of Treasury
- Department of Veterans Affairs
- GSA Public Buildings Service
- National Science Foundation
- Social Security Administration
- Small Agency Council
- Tennessee Valley Authority
- United States Postal Service
- U.S. Army Corps of Engineers

Other Partners

We would like to acknowledge the following organizations, each of which contributed to the Office of Real Property's performance measurement initiative in 2003 with data, research and other valuable assistance:

- Advanced Learning Institute
- Architect of the Capitol
- Building Owners and Managers Association International
- CoreNet Global
- Department of Defense
- Equal Employment Opportunity Commission
- Federal Facilities Council
- Institute of Real Estate Management
- International Facilities Management Association
- International Telework Association and Council
- Logistics Management Institute
- Office of Management and Budget
- Office of Personnel Management
- OGP, Office of the Chief Information Officer
- Public Works and Government Services Canada
- Smithsonian Institution
- Society of Industrial and Office Realtors
- U.S. Green Building Council
- Worldwide Workplace Web

Executive Summary

2003 Governmentwide Results

Introduction

The Office of Real Property compiled the information in this section from more than 660 million rentable square feet of building data submitted voluntarily by Federal agencies during the latter half of calendar year 2003. The GSA data were selected using certain pre-established criteria, but the rest of the Federal data were obtained subject to the discretion of the contributing agencies.

Although the sampling method may not be rigorously scientific, we believe that the large volume of data collected provides us with a reasonably accurate picture of overall Federal real property and workplace performance. We also believe that the value added by the benchmarking process itself far exceeds the benefits of a more academic exercise that would severely limit participation due to excessive requirements.

Summary of Results

Measure	*2003 Federal Government Performance*
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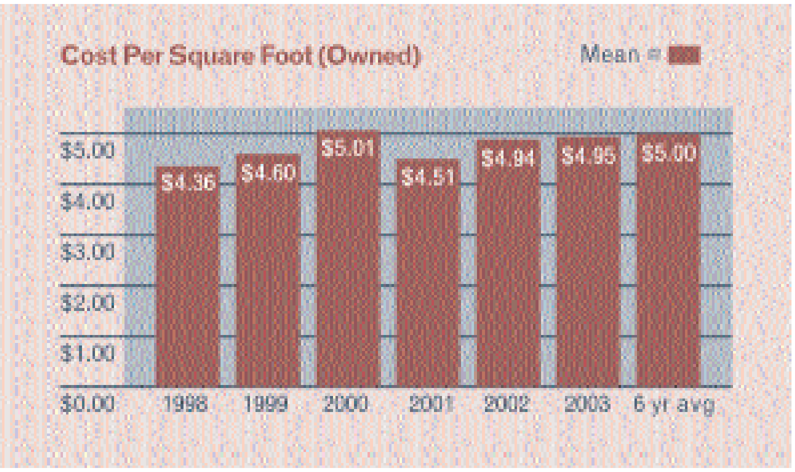
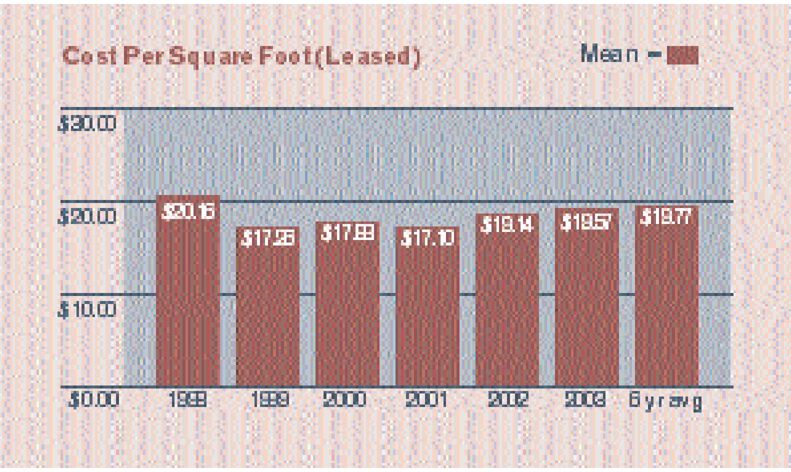


Cost per Square Foot (Owned)

- The current indicator reflects fiscal year 2003 dollars per rentable square foot.
- The current indicator is an average derived from a Federal agency sample of 143,331,583 rentable square feet of owned office space.
- The definition for this indicator is the sum of expenditures for cleaning, maintenance and utilities.
- In calculating the 6-year average, we inflated all prior year data to fiscal year 2003 values.



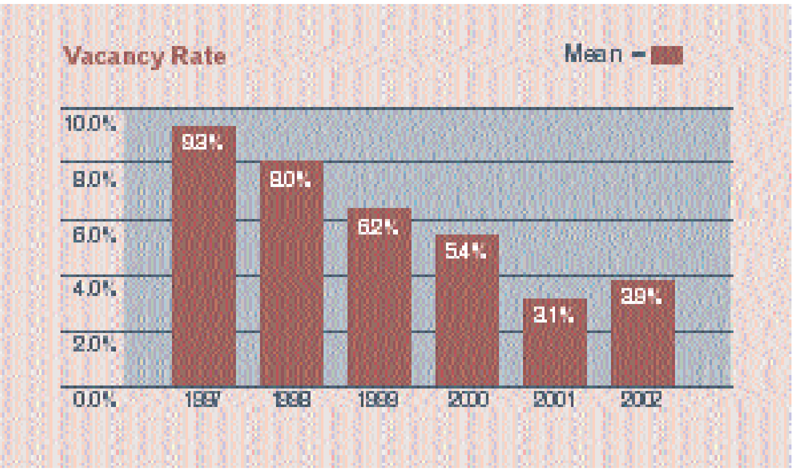
Cost per Square Foot (Leased)

- The current indicator reflects fiscal year 2003 dollars per rentable square foot.
- The current indicator is an average derived from a Federal agency sample of 150,218,623 rentable square feet of leased office space.
- The definition of this indicator is the fully serviced rental rate.
- In calculating the 6-year average, we inflated all prior year data to fiscal year 2003 values.

2003 Governmentwide Results

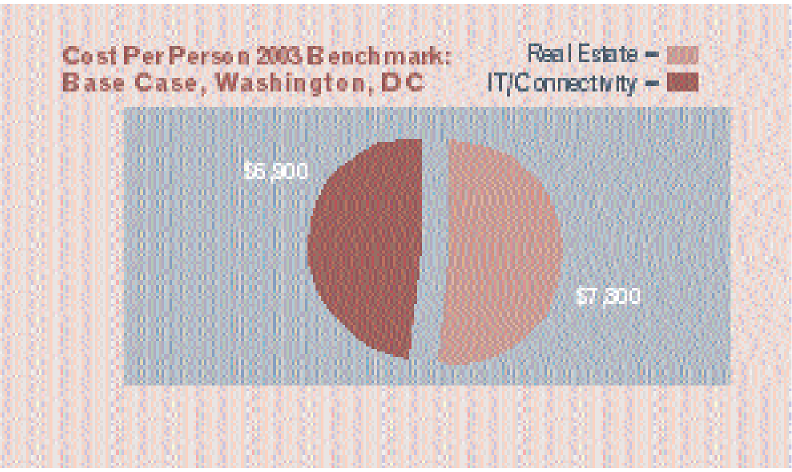
Vacancy Rate

- The current indicator is the average vacancy based on a Federal agency sample of 235,272,672 rentable square feet of owned and leased office space.
- The current estimate is based on actual 2002 data submitted by Federal agencies.

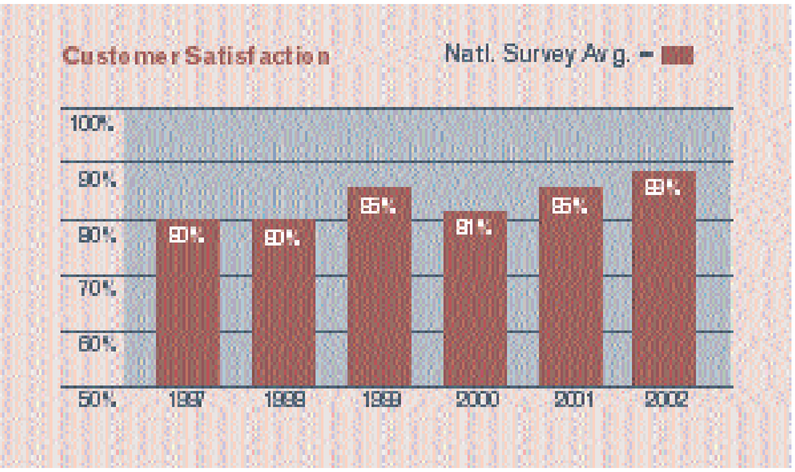


Cost per Person

- We derived the 2003 Cost per Person estimate by updating our 2002 internal study conducted for *Real Property Performance Results 2002*.

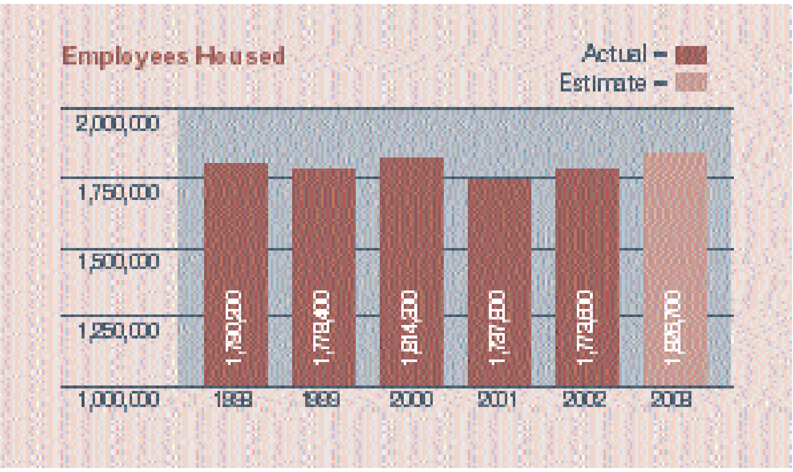


GSA Cost per Person Model, Version 2, and its accompanying users guide (electronic version) is now available by e-mail request only. There is no charge. Please e-mail your requests for the GSA Cost per Person Model, Version 2, to ray.wynter@gsa.gov. Appendix B provides the Cost per Person Users Manual, an easy reference guide for use with this model.



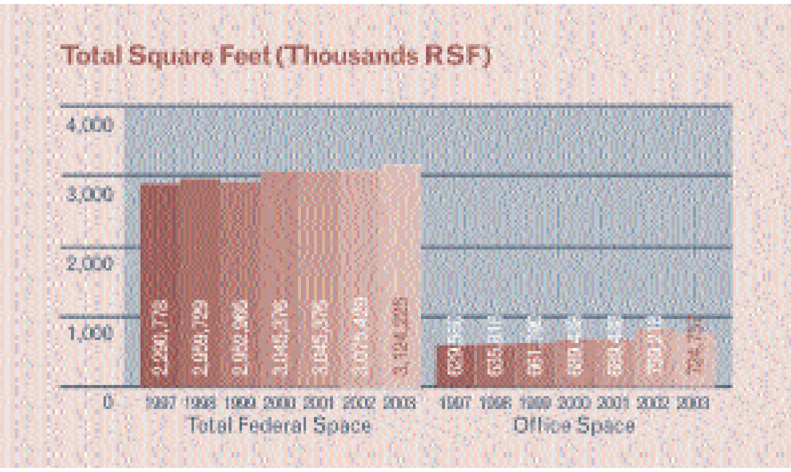
Customer Satisfaction

This chart summarizes the results of the GSA Public Buildings Service's Customer Satisfaction Survey. An independent contractor administers this survey to tenants of approximately half of GSA's eligible buildings annually, with the entire inventory being surveyed every two years. Customer Satisfaction is one of the original 7 key indicators of real property performance derived by an interagency working group in 1998. We are unaware of other formal Customer Satisfaction surveys administered consistently and comprehensively by Federal agencies, so we continue to report the results of the GSA Public Buildings Service survey in our annual assessment for *Real Property Performance Results*.



Employees Housed

- The 2003 Governmentwide estimate for Employees Housed is the 2003 FTE (Full Time Equivalent) estimate in the fiscal year 2004 President's Budget.



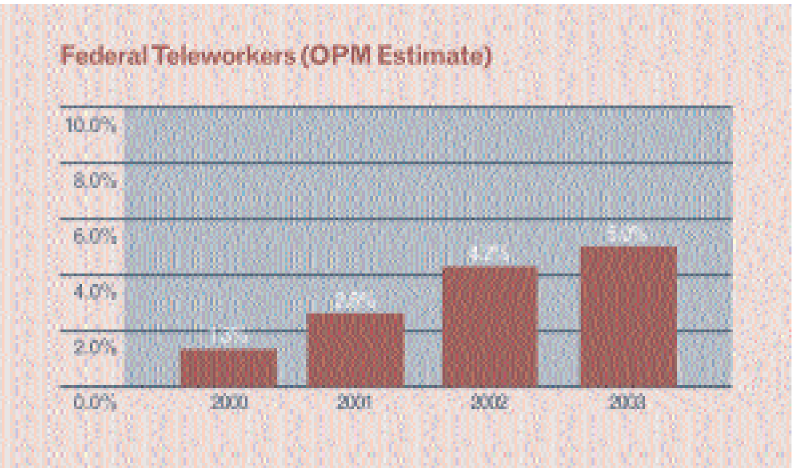
Total Square Feet

- We derived the 2003 Governmentwide totals from information in the *Federal Real Property Profile*, formerly called the *Worldwide Inventory of the United States Real Property*. This document may be downloaded from www.gsa.gov .

Federal Teleworkers

Telework (also known as telecommuting) means performing work on a regular basis in a location other than the principal office, such as the employee's home or a nearby telework center. Generally, telework arrangements are designed to reduce employee or associate commutes and are enhanced by the use of affordable technology.

- For the past several years, the Office of Personnel Management (OPM) has issued annual reports estimating the number of Federal teleworkers. This number has grown steadily and in January 2003, OPM issued a report to Congress that estimated the number of Federal teleworkers had increased to 5.0 percent of the Federal work force. GSA and OPM established a strategic partnership to lead the development of Federal telework and have leveraged that partnership to expand as well as refine Federal telework.
- Public Law 106-346 (Section 359) states that each Federal agency must establish a policy under which eligible employees of the agency may participate in telework to the maximum extent possible without diminished employee performance. The law requires that this policy be applied initially to 25 percent of the Federal workforce, and then to an additional 25 percent each year for four consecutive years, until 100 percent of the eligible work force is offered the opportunity to telework.



- Telework is a key component of high performance workplaces and is an effective way to optimize utilization of facilities, technology, and advances in human resources. GSA's role in telework is established in 40 USCS § 587 (2003): "In considering whether to acquire space, quarters, buildings, or other facilities for use by employees, the head of an executive agency shall consider whether needs can be met using alternative workplace arrangements. ....The [GSA] Administrator may provide guidance, assistance, and oversight to any person regarding the establishment and operation of alternative workplace arrangements." (The term "alternative workplace arrangements" includes telecommuting, hoteling, virtual offices, and other distributive work arrangements.)

- Proactive development of new applications of telework, communications and program promotion, policy refinements, tools and guidance, technical assistance, research findings, and productive partnerships are all needed to create the culture change needed to mainstream telework. GSA and OPM have been very active in this regard and have initiated and/or completed work such as the main Federal website (telework.gov), the telework listserv, the Federal telework coordinators network, the Spouse Telework Employment Project, the governmentwide telework policy review and follow up, the telework video on advances in telework, web-based training, research on telework and dependent care, research and follow up on technology issues, telework center enhancement initiatives, application of telework to continuation of operations, alternative officing, the application of cost per person and integrated workplace design strategies to telework situations, and professional leadership/partnership in organizations such as the International Telework Association, the Telework Consortium, the Mid-Atlantic Telework Association, and the Metropolitan Washington Council of Governments.
- The International Telework Association and Council (ITAC) estimates private sector participation in telework arrangements at 18 percent of the total work force.

While there has been welcome improvement in the number of Federal teleworkers, Governmentwide performance in this indicator lags private sector benchmarks and falls short of legislative goals. Telework is an important alternative workplace strategy that needs to be part of your Federal workplace planning and human capital development. For more information about telework, contact the Innovative Workplaces Division or visit the joint OPM-GSA web site:

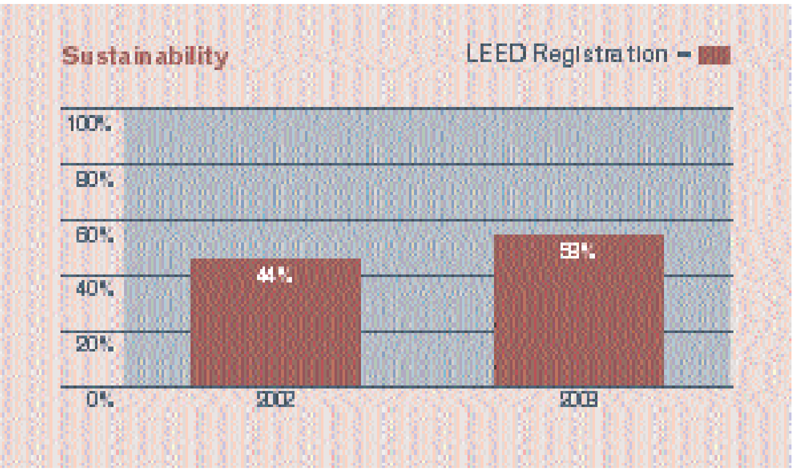
www.telework.gov

Sustainability

The U.S. Green Building Council's *Leadership in Energy and Environmental System* (LEED™) provides guidance in the areas of building development and design, resulting in a more sustainable project. Agencies such as the Army Corps of Engineers have adapted LEED™ in developing their own measurement programs (SpiRiT). GSA's Public Buildings Service is requiring a LEED™ certification for all new construction and major renovation projects, with a goal of LEED™ Silver.

As of December 2003, a total of 65 Federal government projects were registered under the LEED™ rating system for new construction and renovated buildings. These projects include office buildings, courthouses, laboratories --even a daycare center-- and vary in size from 6,900 gross square feet (the Bushkill Postal Service facility) to 2,000,000 gross square feet (the USDA modernization of the South Building). Registered projects involve:

- Department of Agriculture
- Department of the Air Force
- Department of the Army
- Department of Commerce (National Ocieanic and Atmospheric Administration, National Weather Service)
- Department of Defense
- Department of Energy (through GSA)
- Department of Health and Human Services (Center for Disease Control, Food and Drug Administration)
- Department of Homeland Security (through GSA)
- Department of the Interior (U.S. Geological Survey, National Park Service, Bureau of Indian Affairs, Bureau of Land Management)
- Department of the Navy
- Department of Transportation (Federal Aviation Administration)
- Environmental Protection Agency
- National Aeronautics and Space Administration
- Social Security Administration
- U.S. General Services Administration
- U.S. Postal Service
- Architect of the Capitol



Using the list of landholding agencies included in the Office of Real Property's Federal Real Property Profile, this represents approximately 53 percent participating in LEED™ registered projects. To date, the Department of the Navy, Social Security Administration and GSA have LEED™ certified projects.

The Office of Governmentwide Policy, while not endorsing the LEED™ rating system, is tracking the percent of agencies participating in LEED™ registered projects as a performance measure, since we believe it serves as an indicator of agencies' level of commitment in creating sustainable workplace environments.

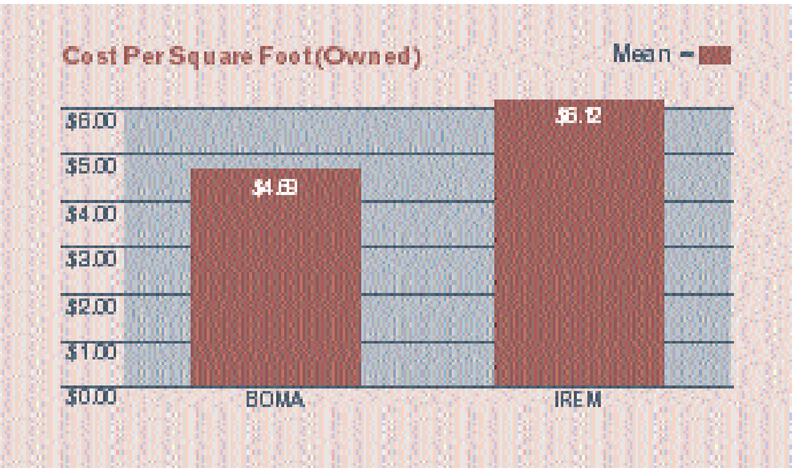
2003 Private Sector Performance

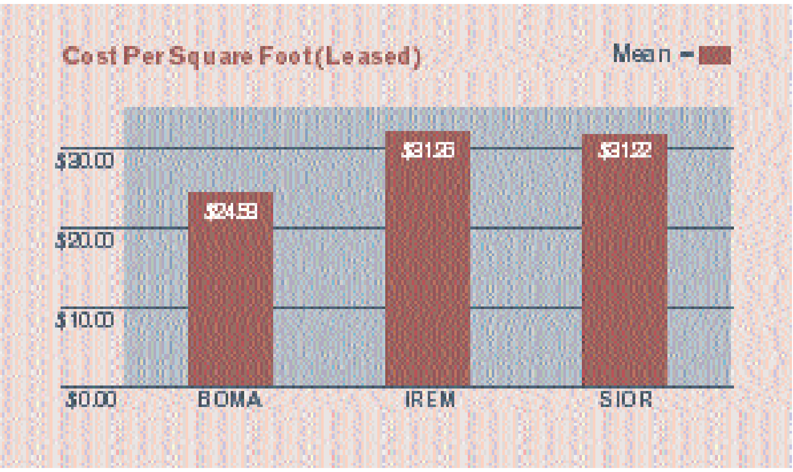
Introduction

The information summarized in this section provides a context for the Governmentwide data we presented earlier. Each data source analyzes a different building sample and the methods of data collection and analysis vary. Using the summary data presented in this report to benchmark the Federal Government against the private sector would be an inaccurate oversimplification of the benchmarking process. However, individual Federal real property asset managers can use the Governmentwide and private sector data to evaluate and improve their Federal real property portfolios.

Cost per Square Foot (Owned)

- The numbers reflect fiscal 2003 dollars per rentable square foot.
- The source for the Building Owners and Managers Association (BOMA) numbers is the 2003 BOMA Experience Exchange Report. We escalated the reported 2002 actual cost data by 1.9 percent (Consumer Price Index or CPI) to obtain 2003 dollars.
- The BOMA sample consists of 2,531 buildings covering 487,423,658 rentable square feet of office space.
- The source for the Institute of Real Estate Management (IREM) numbers is the 2003 IREM Income/Expense Analysis. We escalated the reported 2002 actual cost data by 1.9 percent (CPI) to obtain 2003 dollars.
- The IREM sample consists of 658 buildings covering 341,377,000 rentable square feet of office space.



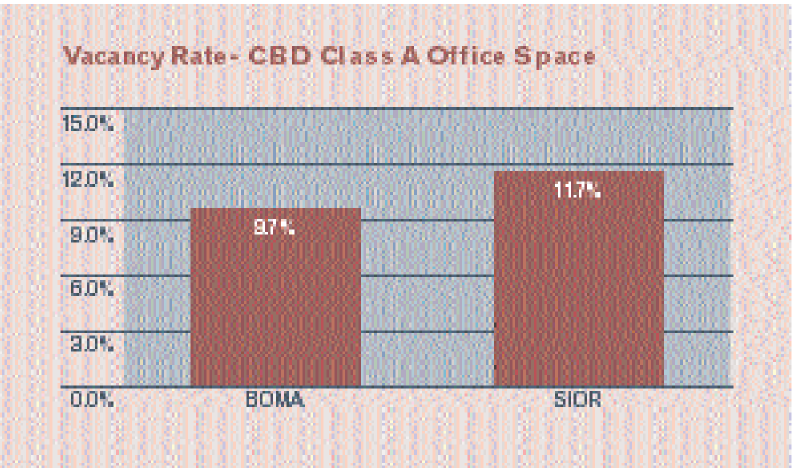


Cost per Square Foot (Leased)

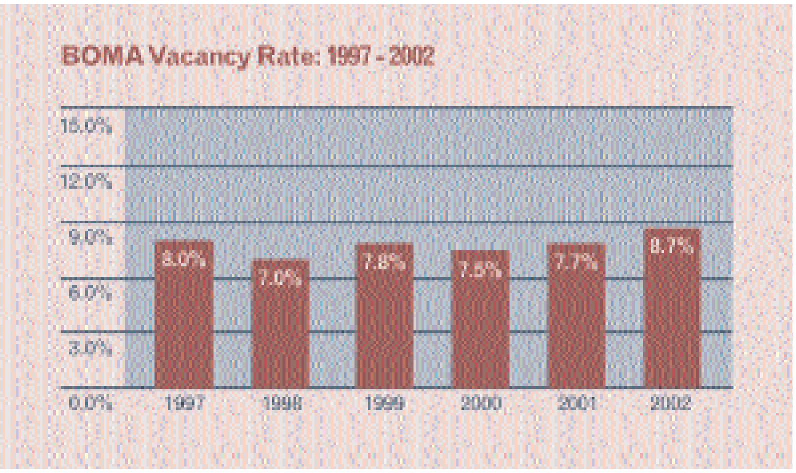
- The numbers reflect 2003 dollars per rentable square foot.
- Leasing cost per square foot is derived from office income figures.
- The source for the BOMA numbers is the 2003 BOMA Experience Exchange Report. We escalated the reported 2002 actual cost data by 1.9 percent (CPI) to obtain 2003 dollars.
- The BOMA sample consists of 2,531 buildings covering 487,423,658 rentable square feet of office space.
- The source for the IREM numbers is the 2003 IREM Income/Expense Analysis. We escalated the reported 2002 actual cost data by 1.9 percent (CPI) to obtain 2003 dollars.
- The IREM sample consists of 658 buildings covering 341,377,000 rentable square feet of office space.
- The source for the Society of Industrial and Office Realtors (SIOR) data is the 2003 Comparative Statistics of Industrial and Office Real Estate Markets. We escalated the reported 2002 actual cost data by 1.9 percent (CPI) to obtain 2003 dollars.
- The SIOR sample consists of buildings from the Washington, D.C. and Northern Virginia markets totaling 211,133,929 rentable square feet of office space.

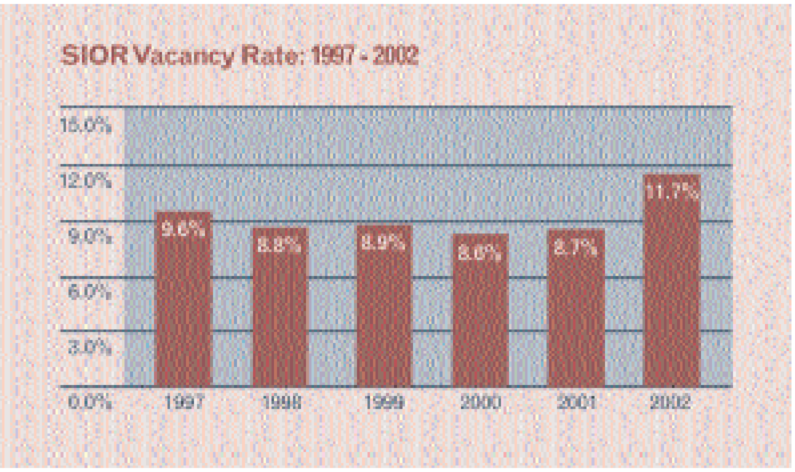
Vacancy Rate

- BOMA vacancy rate represents all office space while SIOR vacancy rate represents Central Business District (CBD) Class A Office Space.
- The sources for the data are the 2003 editions of the BOMA and the SIOR publications noted previously.
- The 2003 vacancy rate estimates are based on reported 2002 data.



- The sources for the BOMA and SIOR data are the 1998, 1999, 2000, 2001, 2002 and 2003 editions of the publications noted earlier.





2003 Private Sector Performance

Observations and Recommendations

Observations from the Data

1. Over the past six years, we have collected data and benchmarked the 7 key indicators of real property performance derived by an interagency working group in 1998. The work of the interagency group and the concept for the benchmarking were published as the *Governmentwide Real Property Performance Measurement Study* in June 1998. This 2003 edition is the sixth annual edition of *Real Property Performance Results*, which presents the annual results of the Federal benchmarking effort.

2. The purpose of this publication is to provide benchmark data in support of asset management activities of Federal real property professionals. Considering the broad scope of the indicators, the data may be useful to stakeholders interested in the relative performance of Federal real property asset management as compared to other commercial, owner/user, and government organizations. We do not represent the information in this publication to be a precise cost accounting of the chosen indicators. The correct frame of reference for the data is a benchmarking effort, not an audit.

3. Please remember that most of the data presented in this publication are in the form of national averages. When making comparisons to local portfolios or individual facilities, you should consider geographic cost differentials.

4. 2003 Governmentwide performance is consistent with past performance as well as private sector performance on the key indicators of Cost per Square Foot Owned, Cost per Square Foot Leased, and Vacancy Rate.

5. For the sixth straight year, we received outstanding cooperation from a core group of Federal agency partners. The main value of the annual Performance Results exercise continues to be the opportunity for a core group of Federal partners to benchmark performance and to benefit from the learning that has occurred around this effort. Good examples of this learning are the development and growing use of the Cost per Person Model, redesigned this year to be a more user-friendly analytical tool.

Quality of the Data

1. We used conversion factors to translate all submitted data into consistent units of rentable square feet and fiscal year 2003 dollars. These modifications to the original source data were necessary to enhance comparability of the results.
2. We continue to strive for uniformity of definitions among data from disparate sources. We occasionally reject data that appears to include other factors besides what we are attempting to measure. Generally, we err on the side on inclusion.
3. Many respondents submit data at the summary level, which occasionally involves certain assumptions or interpolations on our end.
4. Considering the variety of participating organizations with disparate information systems, the overall estimate of Governmentwide performance is reasonably accurate.
5. Information systems for real property inventory and measurement continue to be an issue. GSA focuses on office space, but many other agencies occupy a wide variety of space types. Information systems in these agencies often cannot easily break out office data from total space and cost data, because there is no business or mission reason to do so.

Observations and Recommendations

Recommendations and 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 over the years have been our space use guidance, the Cost per Person Model, and the voluntary benchmarking exercise that generates the annual Performance Results report that you are reading. Accordingly, we updated our 1997 space use guidance in 2002, completely redesigned and re-launched the 1999 Cost per Person Model in 2003, and have produced the Performance Results report for six consecutive years. This year Federal agency participation in the Performance Results exercise was at an historic high. Therefore, we believe it will be useful and appropriate to conduct our seventh annual benchmarking exercise based around "the 7 measures" in 2004.

2. Although the number of Federal teleworkers is at an historic high, it is still far short of the levels of participation envisioned by Public Law 106-346 (Section 359) and lags private sector performance. Federal agencies should strive to provide greater opportunities so that everyone whose job will allow them to telework has a fair opportunity to participate. Federal agencies should also be aware that Public Law 107-217 (Section 587) requires that, when acquiring space, agencies must consider whether part or all of their space needs can be met using alternative work arrangements such as telecommuting or hoteling. Please contact the Innovative Workplaces Division for more information on how you can meet these legislative requirements in ways that can also benefit your organization and your associates.

3. The annual benchmarking exercise focuses on a category generally referred to as "generic" or "vanilla" office space. Many Federal buildings do not fit neatly into this category. They are mixed-use, special purpose, operating longer that 8 hours per day and 5 days per week, accommodating museum space or high public access, etc. We have been working "off line" from the Performance Results exercise to benchmark operating costs of more unique Government buildings. Please contact us if you are interested in benchmarking other types of Government facilities beyond general office space.

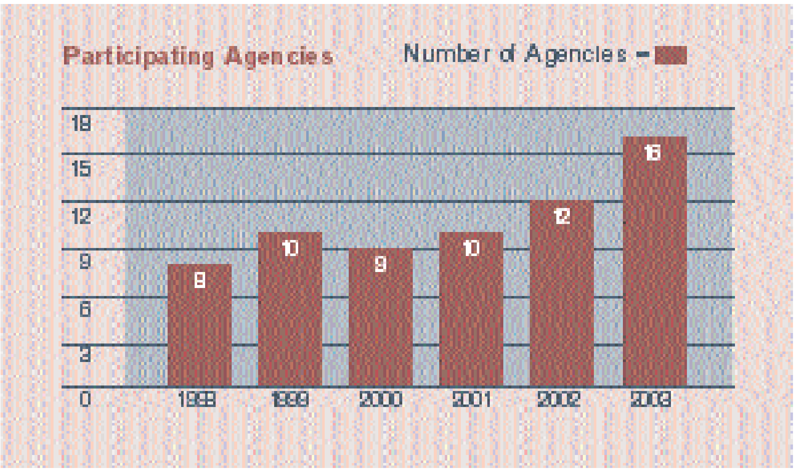
4. We occasionally are contacted by Federal customers seeking detailed cost information collected in this process. If you do not participate in the annual voluntary benchmarking process, we cannot supply you with any more information other than what you read in this publication. If you do participate in the annual voluntary 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 annual voluntary benchmarking initiative.

Observations and Recommendations

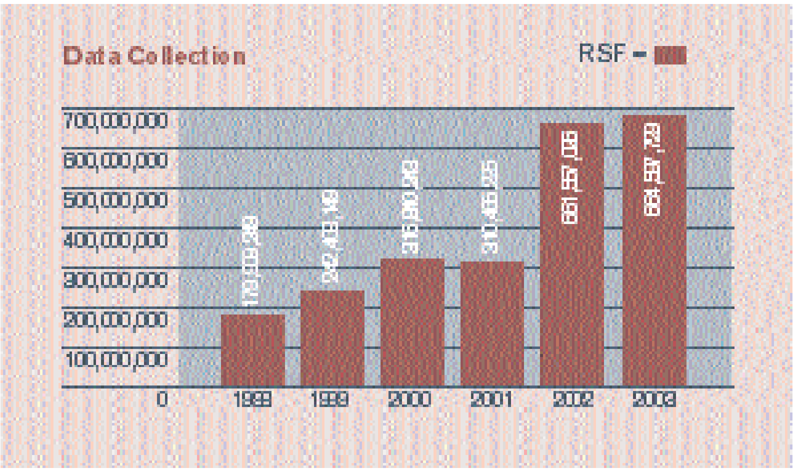
Appendix A: Data Collection

Introduction

In 2003, we had 16 Federal agency participants in the annual benchmarking effort. This is an unprecedented level of participation. There are 32 agencies that report on their independently owned or leased (non-GSA) space in the Federal Real Property Profile (formerly the Worldwide Inventory).



- In 2003, we collected voluntary data samples from Federal agencies representing more than 660 million rentable square feet of space.



Appendix A: Data Collection

Appendix B: Cost per Person Users Manual

INTRODUCTION

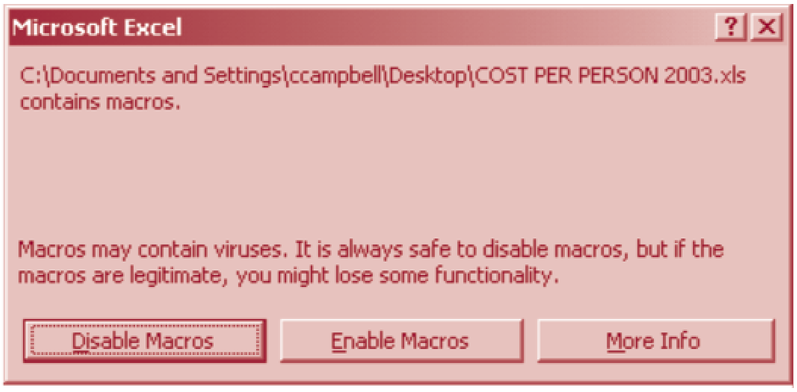
GSA's Office of Real Property publishes data supporting the Cost per Person (CPP) Model each year in its *Real Property Performance Results* publication. GSA developed the Excel-based model for calculating the cost per person of an organization to help agencies estimate their total cost per person, including other administrative cost components in addition to real estate, as a new approach to measuring the 21st Century workplace. The cost per person is one of GSA's seven original governmentwide performance indicators and continues to be a useful benchmark for Federal agencies. The model estimates the average cost per person in each of the following areas: real estate (space usage), telecommunications, information technology (IT), and alternative work environment. An additional feature is a "what-if" tool that calculates potential cost savings resulting from an alternative work environment, such as hoteling or desk sharing.

Please contact Ray Wynter at 202-501-3802 or ray.wynter@gsa.gov for an electronic copy of the model. This users manual is a quick and easy reference for use with the CPP model. It takes a comprehensive look at the model and answers common questions.

Getting Started

Double-click the Excel file Cost per Person Model, Version 2. You will likely see a message regarding macros (Figure 1). If you receive this message, choose *Enable Macros*. If you do not see this message, you may need to enable the spreadsheet macros by adjusting your security level. From the Excel menu, click *Tools*, *Macro*, *Security*, and *Security Level*. Select *Medium* (Figure 2). Close the file and reopen to begin.

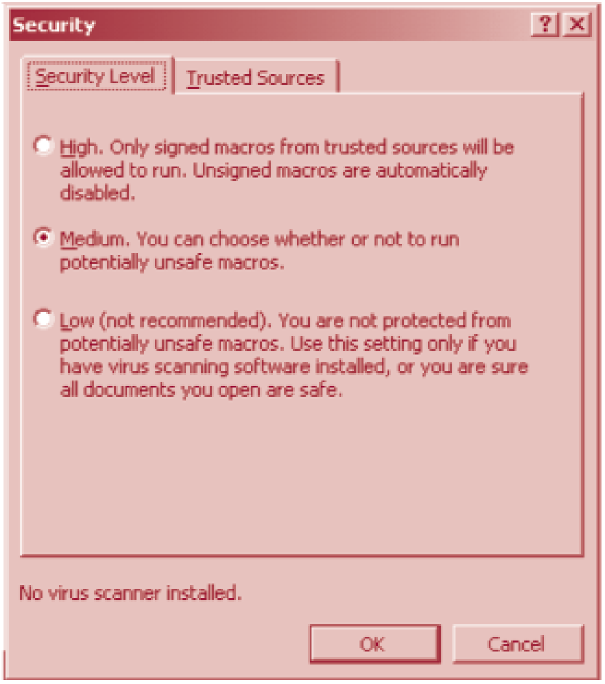
Figure 1. Message Regarding Macros



C:\Documents and Settings\ccampbell\Desktop\COST PER PERSON 2003.xls contains macros.

Macros may contain viruses. It is always safe to disable macros, but if the macros are legitimate, you might lose some functionality.

Figure 2. Security Level Selection



○ High. Only signed macros from trusted sources will be allowed to run. Unsigned macros are automatically disabled.

● Medium. You can choose whether or not to run potentially unsafe macros.

○ Low (not recommended). You are not protected from potentially unsafe macros. Use this setting only if you have virus scanning software installed, or you are sure all documents you open are safe.

No virus scanner installed.

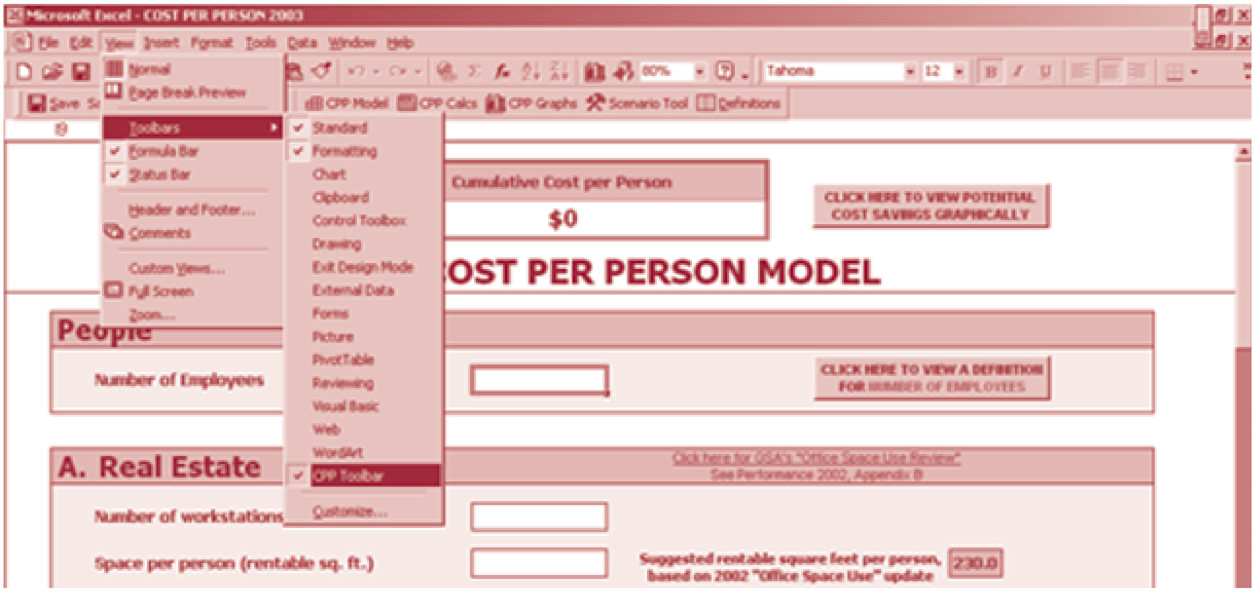


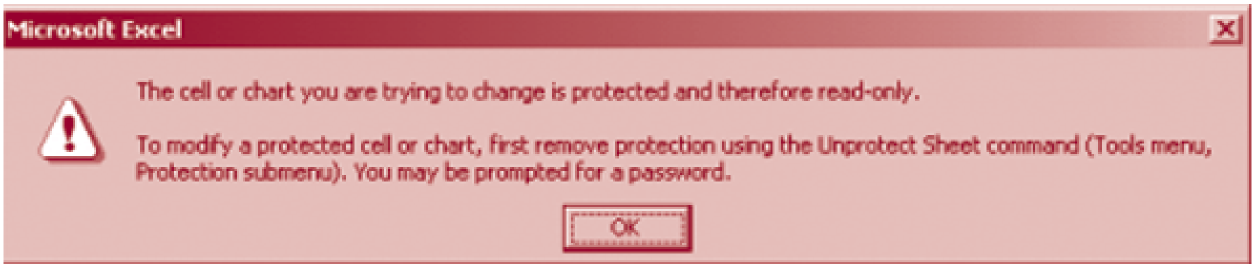
Figure 3. Selecting CPP Toolbar

The first time you use the model, you may need to activate the CPP toolbar. Click *View* and *Toolbars*, and make sure that the CPP Toolbar is selected (Figure 3). You may use the toolbar to navigate through the worksheets and perform simple functions, such as printing and saving your work.

While using the model, you may encounter a message that a cell is *protected and therefore read-only* (Figure 4). If you would like to bypass this message and change a cell's value (to update year-specific data, for example), follow these instructions:

- To unprotect the worksheet, click *Tools*, *Protection*, and *Unprotect Sheet*. No password is required. Revise the cell as needed.
- After completing your revisions, Re-Protect the worksheet.
- To protect the worksheet, click Tools, Protection, and Protect Sheet. Click OK without inputting a password.

Figure 4. Read-Only Message



The cell or chart you are trying to change is protected and therefore read-only.

To modify a protected cell or chart, first remove protection using the Unprotect Sheet command (Tools menu, Protection submenu). You may be prompted for a password.

MODEL ORGANIZATION

The CPP Model workbook is organized comprehensively, with seven tabs total. You may access any worksheet using the toolbar at the top or using the tabs at the bottom of the screen:

- *INTRODUCTION*. Provides an overview of the CPP Model.
- *CPP MODEL*. Allows users to input data and see model results.
- *CPP CALCS*. Provides detailed calculations of total cost for organization and total cost per person.
- *CPP GRAPHS*. Depicts cost-per-person results graphically.
- *SCENARIO TOOL*. A what-if tool that calculates potential net savings from alternative work environments on the basis of inputs.
- *SCENARIO GRAPHS*. Shows costs savings calculated in *Scenario Tool*.
- *DEFINITIONS*. Defines model inputs.

CPP MODEL

The *CPP MODEL* tab serves as the main worksheet within the Cost Per Person Model, where the user inputs organization-specific parameters to estimate a cost per person within the user's organization. The worksheet is divided into the following sections:

- *People*
- *Real Estate*
- *Telecommunications*
- *Information Technology and Additional Options*
- *Alternative Work Environment*
- *Totals (A+B+C+D)*

Model Basics

Input data in unshaded cells of the spreadsheet only. To navigate the worksheet, use the *Tab* key to advance to the next input cell and *<Shift> Tab* to reverse. Tab through each section and use suggested values, where applicable, or refer to the *DEFINITIONS* tab for more information. Click the *CLEAR* button to reset the worksheet.

The model displays a *Cumulative Cost per Person* at the top of the *CPP MODEL* worksheet. This allows you to visualize the impact of a single model component while inputting data. We recommend that you complete the *CPP MODEL* worksheet moving from top to bottom, given that some calculations depend on prior inputs.

At any time, you may click the *CPP CALCS* tab to see how a given calculation is performed.

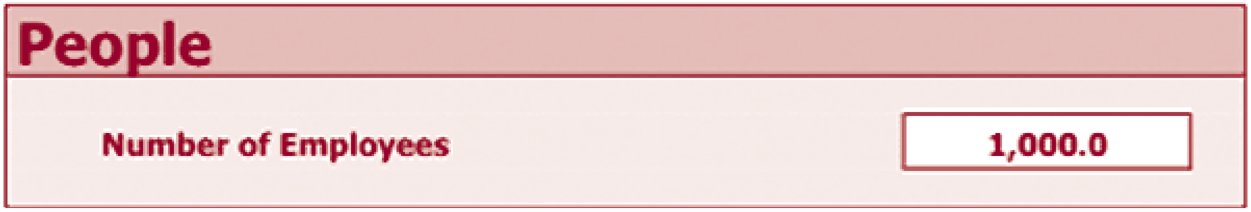
Model Flow

This section takes you through each component of the *CPP MODEL*, providing a users manual example, which we use later in the *SCENARIO TOOL*.

- ***People***

The first input in the model is the number of *People*, or employees, working for the organization under consideration. The model defines the number of employees as the "total number of employees, including full-time, part-time, interns, and contractors, in terms of FTEs." The number of people becomes the basis for the cost per person calculation.

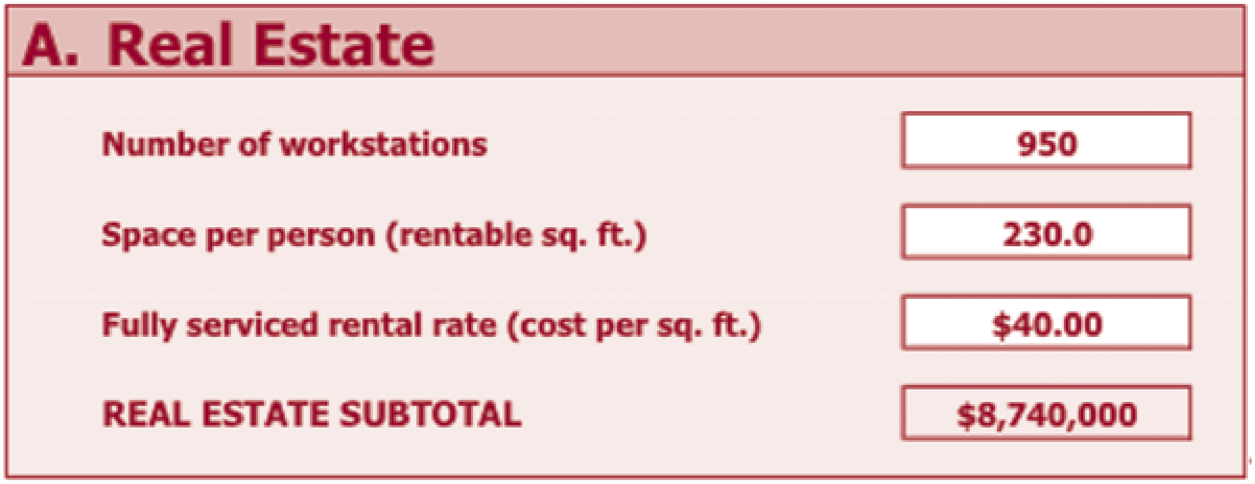
Our users manual example assumes 1,000 people, or employees, work in our organization (Figure 5).



People	
Number of Employees	1,000.0

Figure 5. People Example

Figure 6. Real Estate Example



A. Real Estate	
Number of workstations	950
Space per person (rentable sq. ft.)	230.0
Fully serviced rental rate (cost per sq. ft.)	$40.00
REAL ESTATE SUBTOTAL	$8,740,000

Appendix B: Cost per Person Users Manual

- ***Real Estate***

The *Real Estate* section quantifies the cost per person from a space usage standpoint. The number of workstations an organization maintains for its employees has a significant impact on costs. Organizations that are desk sharing or hoteling benefit in this area.

The first input, *Number of workstations*, is key to establishing the employee-to-workstation ratio used in the *SCENARIO TOOL*. Include all on-site workstations in the workstation total, regardless of the use or occupancy rate. Next, input the *Space per person* in units of rentable square feet. We have provided the governmentwide recommended average space per person to the right (from the most recent GSA *Space Use Update*). Click the web link at the top of the *Real Estate* section to view the latest update on GSA's website.

Figure 6 shows our users example for real estate. We have introduced desk sharing into our organization by providing 950 workstations for our 1,000 employees. For space per person, we have input the suggested 230 rentable square feet. Our rental rate is $40 per square foot.

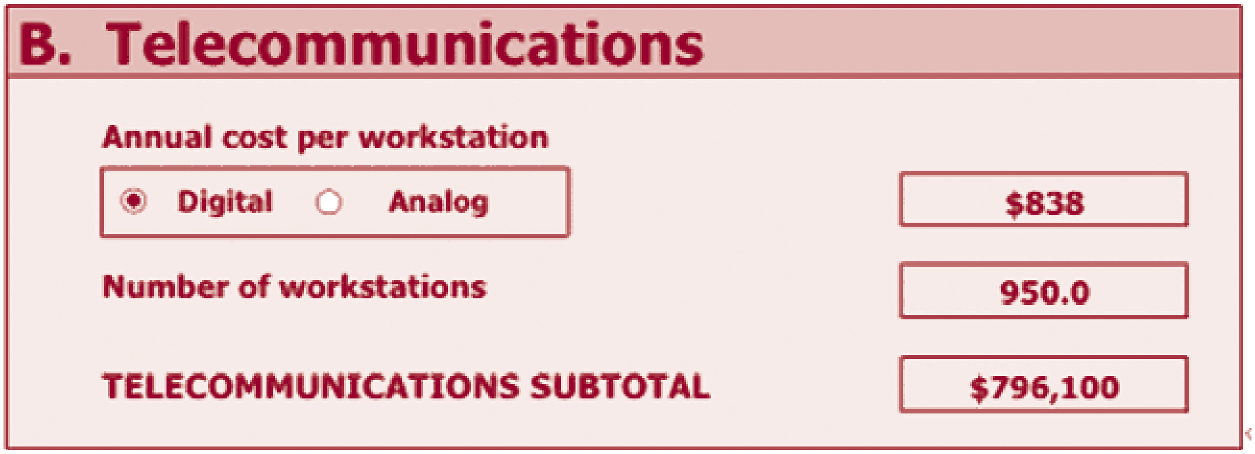
- ***Telecommunications***

The *Telecommunications* section provides a total cost estimate for a telephone handset plus the cost of local and long distance services, based on the total number of workstations entered in the *Real Estate* section. The only input required in this section is selecting digital or analog telecommunications services in your organization's workstations. Once you select digital or analog service, the estimated annual cost per workstation appears, representing cost for the current fiscal year.

For our users manual example, we have selected digital telecommunications services (Figure 7). The annual cost assumes a 3-year life cycle.

If you wish to change this input based on your known organizational Telecommunications cost, follow the previous instructions for unprotecting the worksheet.

Figure 7. Telecommunications Example



B. Telecommunications

Annual cost per workstation

● Digital ○ Analog — $838

Number of workstations — 950.0

TELECOMMUNICATIONS SUBTOTAL — $796,100

- ***Information Technology (IT) and Additional Options***

This section is composed of two subsections—one for estimating workstation-related IT costs and a second for estimating costs of additional options.

Workstation Costs

Workstation IT costs include both the cost of workstation IT systems and a LAN interface. The cost estimate is based on the number of workstations, as input in the *Real Estate* section, and the IT environment, as selected. Select the IT environment, *Baseline* or *Enhanced*, appropriate for your organization. The annual cost assumes a 3-year life cycle.

The *Baseline* IT environment cost

- reflects economies of scale for a large organization, and
- excludes the cost of in-house staff support, additional moves and changes, and training.

The *Enhanced* IT environment

- represents the estimated variance between the cost for purchasing standard level IT services (PC, software, and maintenance) and enhanced level IT services, and
- includes a more powerful (megahertz) PC with larger disk space, more options in the types of software included in the IT configuration, and shorter contractor response times to service and correct hardware and software problems.

The *WORKSTATION IT SUBTOTAL* reflects the cost of the selected IT environment multiplied by the total number of workstations. We have selected the *Baseline* IT environment for our users manual example (Figure 8).

If you wish to change this input based on your known organizational IT cost, follow the previous instructions for unprotecting the worksheet.

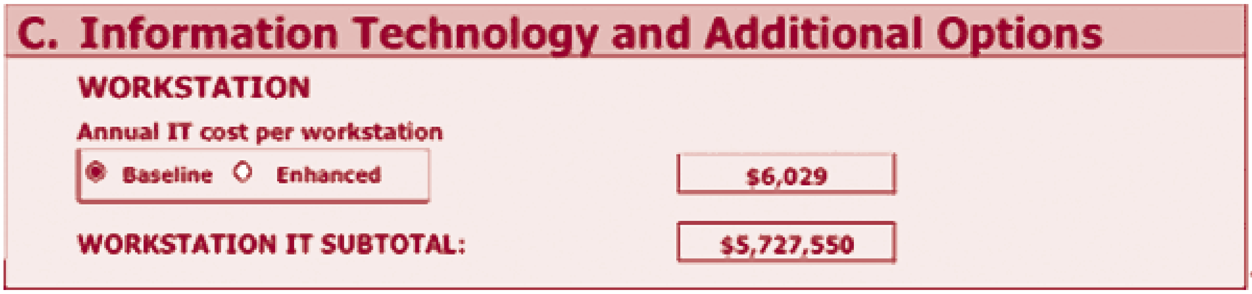
Additional Options

The CPP Model captures costs considered standard in most organizations. Some organizations, however, may equip their employees with additional options, such as laptop computers for travel, cell phones, or personal digital assistants. This subsection provides you an opportunity to assess the impact of additional options on the cost per person.

Select the option that you would like to include in the cost-per-person analysis (that is, *laptop*, *cell phone*, or *other*). If you select the *other* selection, you may enter text to describe the option in the space provided (such as personal data assistant). For each option selected, input both a quantity and an annual cost per year for each unit (the option will not be included unless both are filled in). The tool provides suggested cost ranges for the *laptop* and *cell phone* selections, and assumes a 3-year life cycle for this equipment. The subtotal reflects only those options selected.

For our users manual example (Figure 9), we have chosen to provide laptops and Blackberry devices to some of our employees. The annual costs assume a 3-year life cycle.

Figure 8. Workstation IT Example



C. Information Technology and Additional Options

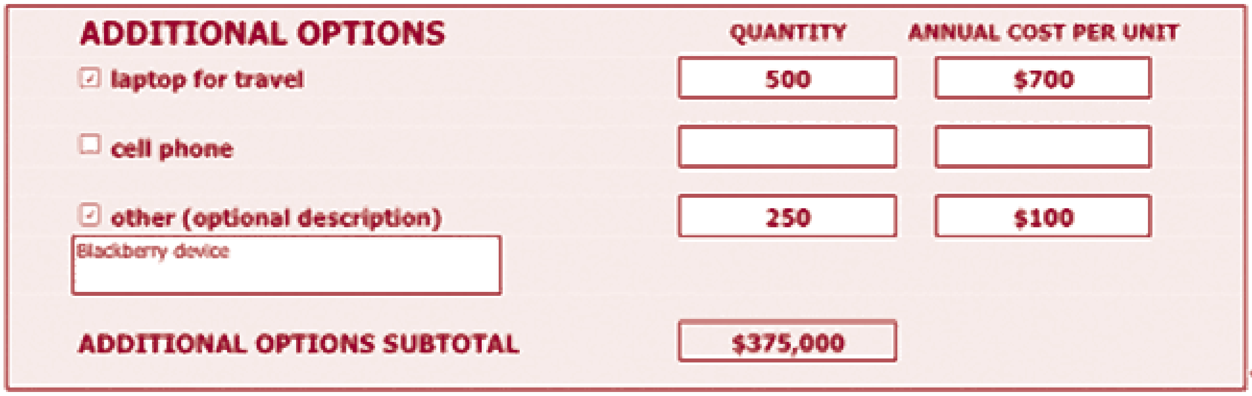
WORKSTATION

Annual IT cost per workstation

● Baseline ○ Enhanced — $6,029

WORKSTATION IT SUBTOTAL: $5,727,550

Figure 9. Additional Options Example

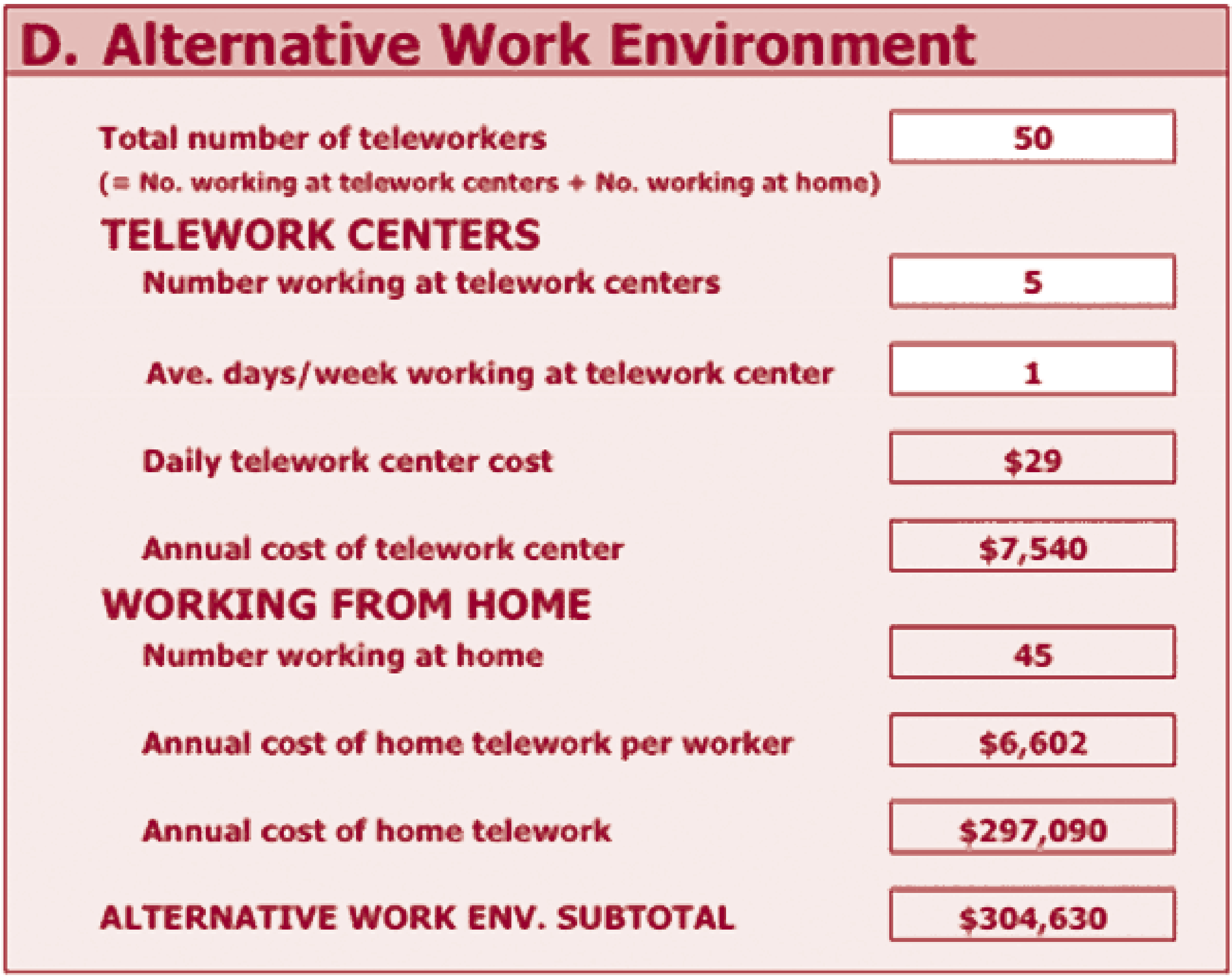


ADDITIONAL OPTIONS	QUANTITY	ANNUAL COST PER UNIT
☑ laptop for travel	500	$700
☐ cell phone		
☑ other (optional description) Blackberry device	250	$100
ADDITIONAL OPTIONS SUBTOTAL	$375,000	

- ***Alternative Work Environment***

The *Alternative Work Environment* section quantifies the costs an organization incurs when its employees work at a location other than their official duty station. For example, employees may telework (or telecommute) by working in a home office for part of the work week. In this case, the organization invests in home workstations, so that employees may work at home. Alternatively, employees may work at telework centers during the work week, and the organization incurs fees. (The *SCENARIO TOOL*, discussed, presents potential cost savings, based on an alternative work environment, relative to a baseline established in this section.)

This section is broken into two subsections: one for employees working at telework centers and one for those working at home. Initially, you must input the total number of teleworkers, defined as the number of employees working at telework centers plus the number working at home. We provide a suggested total number of teleworkers based on an estimated 5 percent of total employees input earlier.



D. Alternative Work Environment

Total number of teleworkers (= No. working at telework centers + No. working at home)	50
TELEWORK CENTERS	
Number working at telework centers	5
Ave. days/week working at telework center	1
Daily telework center cost	$29
Annual cost of telework center	$7,540
WORKING FROM HOME	
Number working at home	45
Annual cost of home telework per worker	$6,602
Annual cost of home telework	$297,090
ALTERNATIVE WORK ENV. SUBTOTAL	$304,630

Appendix B: Cost per Person Users Manual

Telework Centers

The *TELEWORK CENTER* subsection requires two inputs. First, input the number of teleworkers working at telework centers in your organization. The model provides a suggested number, based on ten percent of the total number of teleworkers. Remember that the input number, when added to the number of teleworkers working at home, should total the number of teleworkers. Next, input the average number of days per week that employees work at telework centers. We calculate an annual cost of telework centers, based on the number working at telework centers, the average days per week working at a telework center, and the daily GSA telework center cost (provided based on the current year).

Figure 10. Alternative Work Environment Example (opposite page)

Working From Home

This subsection does not require any inputs. The number of employees working at home (at least 1 day per week) is automatically calculated (the total number of teleworkers minus the number working at telework centers). The model provides the annual cost of home telework per worker based on the annual cost to provide and support laptop and dial-up service. The model then calculates an annual cost of home telework based on these values.

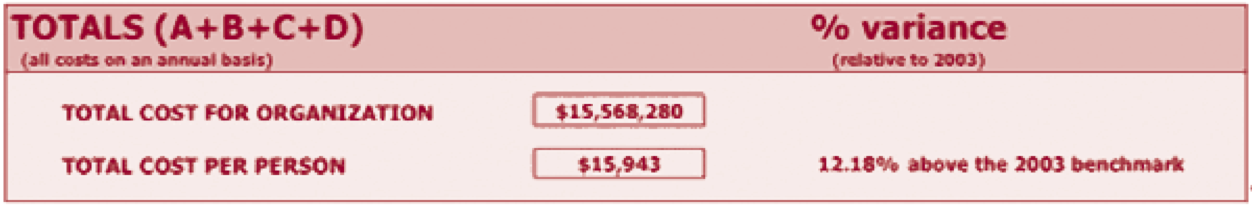
In our users manual example (Figure 10), we input the values as suggested by the model (50 teleworkers and 5 employees working at telework centers). We assume that employees work an average of 1 day per week at telework centers. The model calculates that, on the basis of our inputs, 45 employees work at home at least 1 day per week.

- ### *Totals*

The CPP Model provides two annual totals: *TOTAL COST FOR ORGANIZATION* and *TOTAL COST PER PERSON*. These totals are based on the subtotals from Sections A, B, C, and D. For the total cost per person, the model provides a percentage variance above or below the cost per person baseline published by GSA in 2003 ($14,200 per person).

Our users manual example produced the totals shown in Figure 11. Our cost per person of $15,943 is about 12 percent higher than GSA's published baseline.

Figure 11. Tools for Users Manual Example



TOTALS (A+B+C+D)
(all costs on an annual basis)

% variance
(relative to 2003)

TOTAL COST FOR ORGANIZATION	$15,568,280	
TOTAL COST PER PERSON	$15,943	12.18% above the 2003 benchmark

CPP GRAPHS

To view the cost-per-person results graphically, click the button at the top of the CPP worksheet or click the CPP GRAPHS tab. The first graph depicts the cost per person by component, and the second shows total costs for the organization, also by component. Figures 12 and 13 show the graphs for our users manual example.

Figure 12.Cost-per-Person Graph

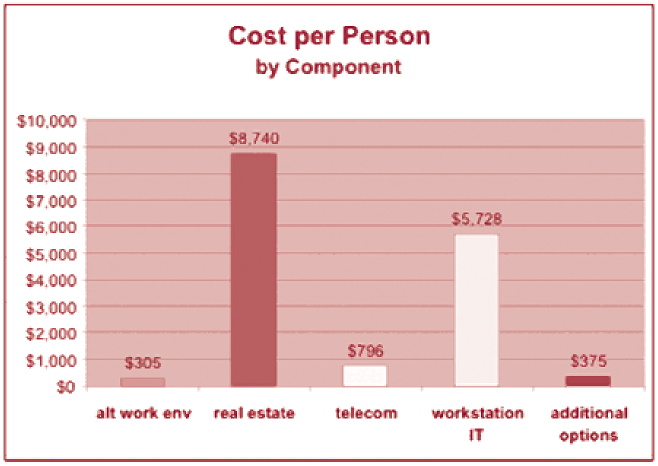
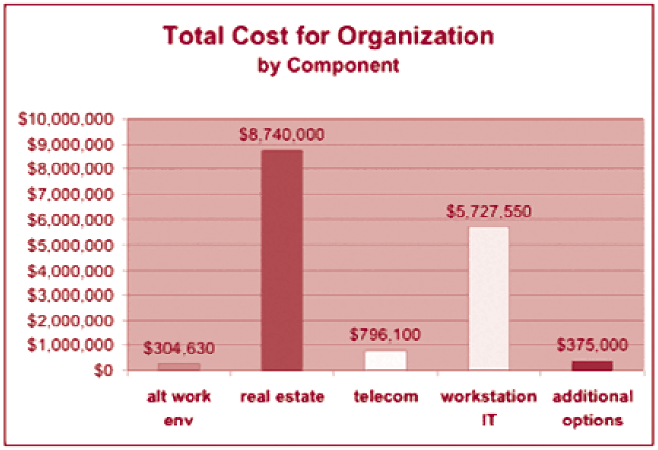


Figure 13. Total Costs for Organization



SCENARIO TOOL

Introduction

According to telework.gov, an interagency telework website, "Telework (also called telecommuting) is the ability to do your work at a location other than your official duty station." For a variety of reasons, teleworking benefits both employees and employers. Employees enjoy more flexible work schedules and shorter commutes, while employers realize a substantial cost savings. Teleworking is not without some costs, however, with investments in home workstations and telework center fees.

This what-if scenario tool is designed to estimate potential net cost savings from the employer point of view, on the basis of revised inputs from the CPP Model. While we intend to look at cost savings, increased costs are possible, too, depending on user inputs.

To begin, simply click the *SCENARIO TOOL* tab, click the *RESET* button, and complete these three steps:

1. ***Employee to Workstation Ratio***
2. ***Workstations***
3. ***Teleworkers***

When you are finished, the total cost savings or incremental cost will appear at the top of the screen and in the *SCENARIO GRAPHS* tab. We have created two alternative work scenarios to demonstrate the tool's capabilities.

SCENARIO 1

We designed Scenario 1 to provide the user with a sense of why and how to use the scenario tool. We have made relatively conservative assumptions, leading to modest cost savings. In Scenario 2, we make some extreme assumptions in order to maximize our potential cost savings.

Step 1. Employee to Workstation Ratio

In Step 1, we assess the impact of the employee to workstation ratio on our total costs, relative to the ratio calculated from our CPP model inputs. The employee to workstation ratio drives potential real estate cost savings. When we input a new ratio, a higher ratio reduces the number of workstations, implying that more employees telecommute or desk share. A lower ratio means more employees require workstations full time. In this scenario, we input a higher ratio (Figure 14) relative to the ratio from our baseline example.

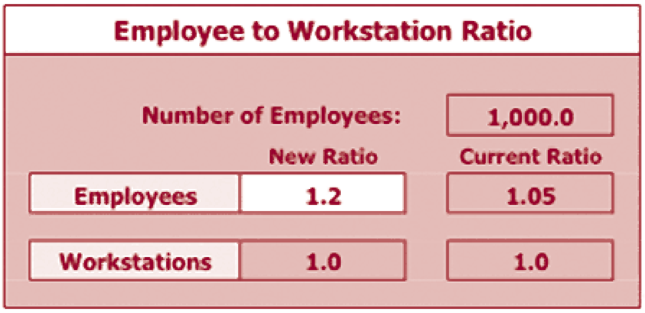
Step 2. Workstations

By increasing the employee to workstation ratio, we require fewer workstations, which translates into potential cost savings. An increased number of teleworkers, however, may offset these savings. In Step 2, we must decide how many workstations will be occupied full time and how many will be shared by teleworkers. We now have 833 workstations (Figure 15) based on our new employee to workstation ratio (as opposed to 950 workstations in our baseline example). We will allocate 808 workstations to "full-time" employees and 25 to teleworkers (the total must equal 833 workstations).

Step 3. Teleworkers

In this scenario, we have increased the number of

Figure 14. Step 1, Scenario 1

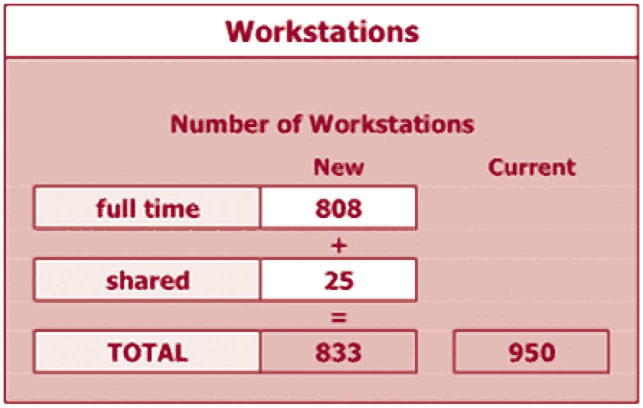


Employee to Workstation Ratio

Number of Employees: 1,000.0

	New Ratio	Current Ratio
Employees	1.2	1.05
Workstations	1.0	1.0

Figure 15. Step 2, Scenario 1

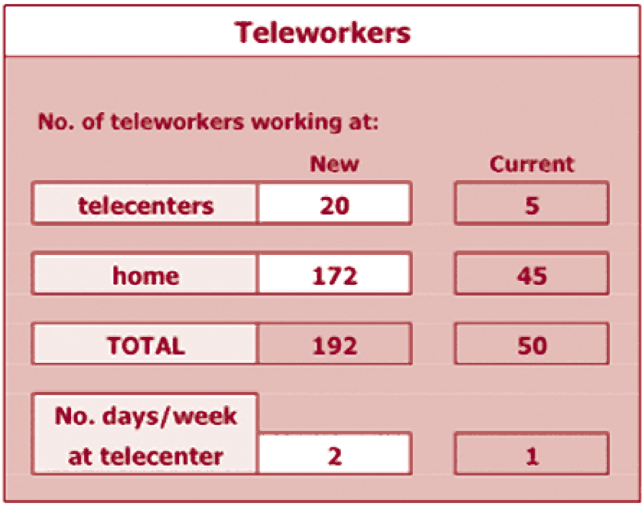


Workstations

Number of Workstations

	New	Current
full time	808	
	+	
shared	25	
	=	
TOTAL	833	950

Figure 16. Step 3, Scenario 1



Teleworkers

No. of teleworkers working at:

	New	Current
telecenters	20	5
home	172	45
TOTAL	192	50
No. days/week at telecenter	2	1

teleworkers compared with the baseline. With 1,000 employees in our organization, 808 of them will require a full time workstation, meaning that 192 employees, or teleworkers, will share the remaining 25 workstations. Step 3 requires that we allocate the total number of teleworkers between telework centers and home (Figure 3-3). This allocation affects our potential cost savings because telework center fees cost less than home workstations. We also need to input the average number of days per week that employees work at telework centers. For this scenario, we increase this value by 1 day per week relative to the baseline example (Figure 16).

From this scenario's inputs, our potential net cost savings per person is $614 annually, with a majority of the savings in real estate (Figure 17). Fewer workstations require less real estate space, as well as fewer IT and telephone systems. Figure 18 shows our organization-wide potential net cost savings of $613,605.

Figure 17.
Potential Cost Savings Per Person, Scenario 1

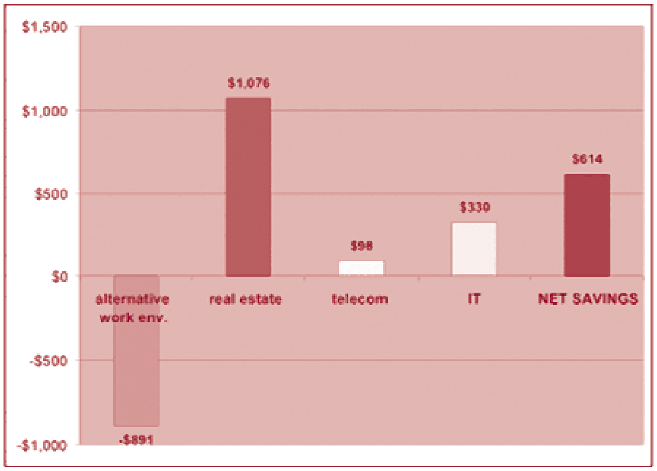
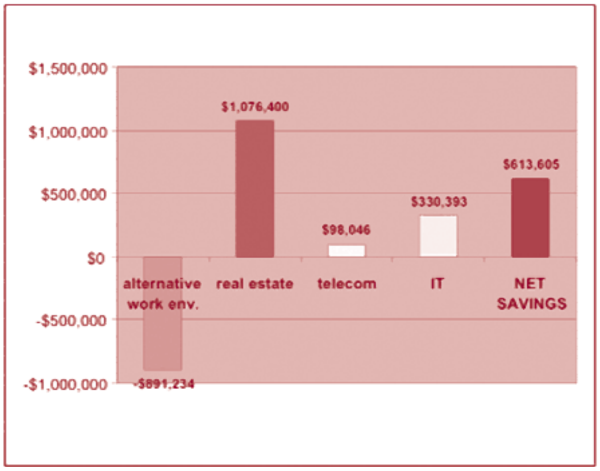


Figure 18. Potential Total Cost Savings, Scenario 1



SCENARIO 2

In Scenario 2, we present an extreme case to highlight the potential cost savings associated with an alternative work environment. We drastically reduce the number of workstations used by our employees and increase the number of teleworkers working at telework centers and at home.

To begin, simply click the *SCENARIO TOOL* tab, click the *RESET* button, and complete these three steps:

1. ***Employee to Workstation Ratio***
2. ***Workstations***
3. ***Teleworkers***

Step 1. Employee to Workstation Ratio

In this scenario, we increase the employee to workstation ratio to 100:1, sharply reducing the number of workstations in our work environment. Figure 19 shows these inputs relative to our baseline example.

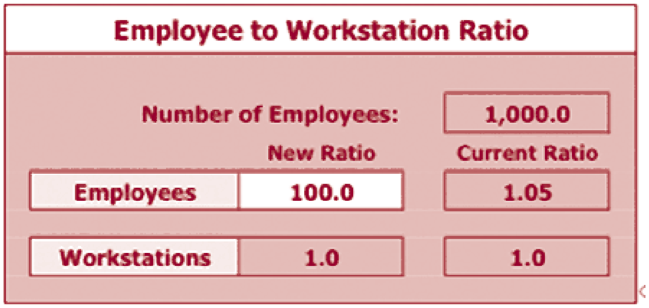
Step 2. Workstations

In Step 2, we once again must decide how many workstations will be occupied full time and how many will be shared by teleworkers. Given that we now only have 10 workstations, we will assign nine workstations to employees who work onsite full time and one workstation to teleworkers, as shown in Figure 20.

Step 3. Teleworkers

With 991 teleworkers in Scenario 2 (1,000 employees minus nine workstations occupied full time), we allocate employees between telework centers and home, as shown in Figure 21. We assume that teleworkers work an average of five days per week at telework centers.

Figure 19. Step 1, Scenario 2

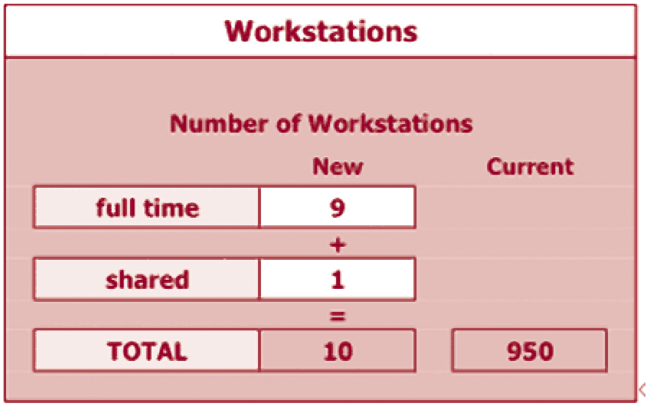


Employee to Workstation Ratio

Number of Employees: 1,000.0

	New Ratio	Current Ratio
Employees	100.0	1.05
Workstations	1.0	1.0

Figure 20. Step 2, Scenario 2

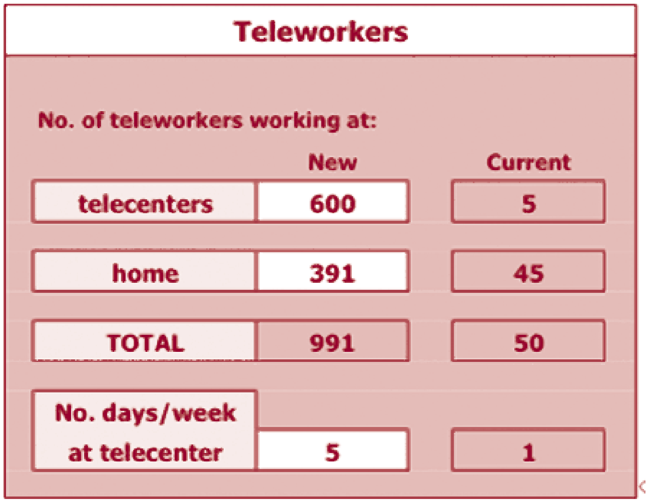


Workstations

Number of Workstations

	New	Current
full time	9	
+		
shared	1	
=		
TOTAL	10	950

Figure 21. Step 3, Scenario 2



Teleworkers

No. of teleworkers working at:

	New	Current
telecenters	600	5
home	391	45
TOTAL	991	50
No. days/week at telecenter	5	1

Based on this scenario's inputs, our potential net cost savings per person is $7,927 annually, as shown in Figure 22. Figure 23 shows our organization-wide potential net cost savings of $7,927,228 annually. While highly unlikely, these potential savings per person highlight the magnitude of savings possible with an alternative work environment.

Figure 22.
Potential Cost Savings Per Person, Scenario 2

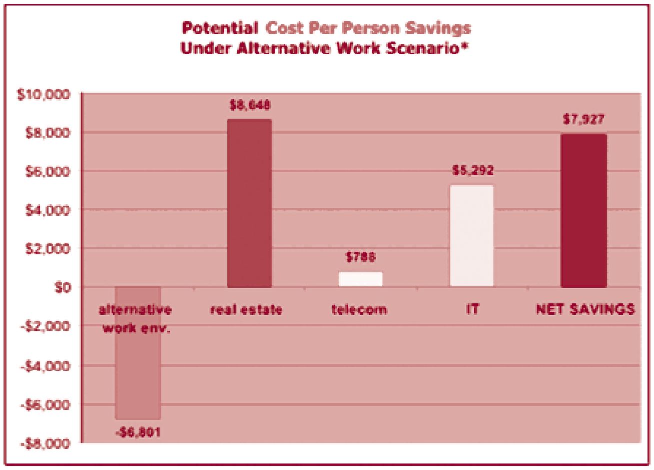
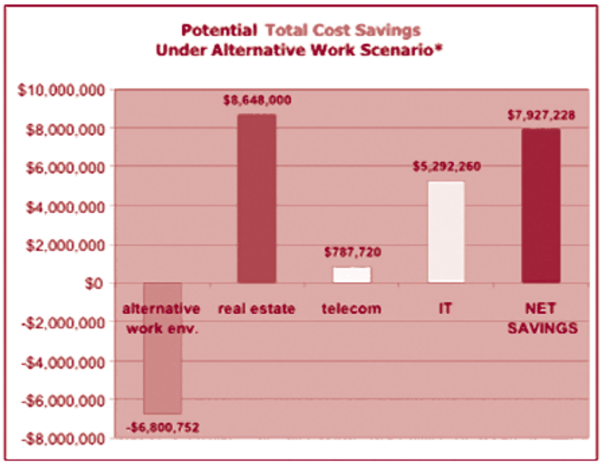


Figure 23. Potential Total Cost Savings, Scenario 2



Appendix C:
Innovative Workplaces Division

The Innovative Workplaces Division will be a leader in transforming federal workplaces that embrace innovative design, operations and management. We develop innovative strategies to mainstream integrated design, sustainability, telework, and performance measurement in the Federal workplace.

In addition to Performance Measurement, other major programs in the Division are Telework, the Integrated Workplace, and Sustainable Development. For specific information about initiatives and programs of the Division, please visit our web site at www.gsa.gov.

In 2003, we produced the following:

- Cost Per Person Model, Version 2
- *Innovative Workplace Strategies*
- *Real Property Performance Results 2003*

In 2004, we plan to produce:

- *Real Property Performance Results 2004*
- Telework video
- *Business Case for Innovative Workplaces*

Please contact one of our staff professionals for information on specific programs or to find out how innovative workplaces support your mission, your customers, and your employees or associates.

Appendix C:
Innovative Workplaces Division

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