The GSA star mark is always presented clearly and powerfully, it should never be smaller than 1/2 inch. The primary color for the GSA star mark is PANTONE 541 C (or PANTONE 2945 U). The GSA star mark is never printed with the interior anything but white in color. In 2-color applications where the GSA star mark is not printed "GSA Blue" the GSA star mark may be printed as a 70% tint of black. For materials printed in a single color the GSA star mark should be either 100% blue or black.
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I. INTRODUCTION

The Cost Per Person Model 2.0 (CPPM) is an Excel-based tool designed to compute and benchmark the cost per person for real estate (workspace), individual information technology (IT), and telecommunications. The CPPM also calculates potential cost savings resulting from the use of alternative work environments, such as hoteling or desk sharing.

The CPPM features tabs on the bottom of each screen. Clicking on a tab takes you to the corresponding section of the CPPM. Tabs are as follows:

- **INTRODUCTION**: Provides an overview of CPPM functionalities.
- **CPPM**: Allows users to input data and generate results.
- **CPPM GRAPHS**: Illustrates cost per person results graphically.
- **CPPM CALCULATIONS**: Provides explanation of total workplace cost for organization, as well as cost per person.
- **SCENARIO TOOL**: Calculates potential net savings resulting from the use of alternative work environments and adjustments in office workspace scenarios.
- **SCENARIO GRAPHS**: Graphically illustrates costs savings calculated by the Scenario Tool.
- **DEFINITIONS**: Defines data inputs for CPPM.

**CONTACT US**

If you have questions or comments about the Cost Per Person Model 2.0, please contact:

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202-501-3802 or ray.wynter@gsa.gov.
**GETTING STARTED: ENABLING MACROS**

Depending on your current computer setting, you may see a security warning about macros similar to that shown in (Figure 1). You will need to enable the spreadsheet macros by changing the macro security setting in the Trust Center.

Click the Microsoft Office Button , then click **Excel Options**. In the Trust Center category, click Trust Center Settings, and then click Macro Settings. Under Macro Settings, select “Enable all macros.” Close the Excel file and reopen the Cost Per Person Model 2.0 (Figure 2).
Completing the CPPM Worksheets

Follow the steps below to input data into the CPPM.

• Input data in only the un-shaded spreadsheet cells.
• Complete the CPPM worksheet from top to bottom. This is important because some calculations depend on prior inputs.
• Work through each component and use the suggested values if data specific to your organization are not available. Refer to the DEFINITIONS tab for more information.
• Click “Reset Form” to clear the worksheet.
• The CPPM displays a Cumulative Cost Per Person at the top of each spreadsheet. This number allows the user to see the impact of adding each component to the previous entries.
• A user may refer to the CPPM CALCULATIONS tab at any time to see details for each calculation.
• To save your results, select “Save As” on the Excel toolbar. A dialog box will ask for a new file name. Once the new name is entered, click “Close” to save the model containing your input data.

Subsequent sections in this manual provide instructions for each section of the CPPM.
The CPPM tab enables users to input specific information to estimate the organization’s cost per person for the following components:

- **People**
- **Real Estate**
- **Telecommunications**
- **Individual Information Technology (IT) and Additional Devices**

Correct completion of the CPPM tab is essential for accurate cost results.

### CPPM Components

The function and use of each CPPM data component are described below.

#### People

The first component for data entry in the CPPM is the number of People (employees) working for your organization (Figure 3). “Number of employees” is a mandatory data field.

The CPPM defines the number of employees as the “total number of employees including full-time, part-time, interns, and contractors, in terms of full-time equivalents.” The number of employees is the basis for the cost per person calculation. In the example used in this manual, we assume 1,000 employees work for the organization.

The next component for data entry in the CPPM is the “Number of teleworkers.” Input the total number of home-based teleworker, which is the number of employees working from home, telework center, etc. These employees are full time teleworkers who are not assigned a workspace or workstation by the organization. In the example used in this manual, we assume 50 employees are full time teleworkers.
A. Real Estate

The Real Estate component (Figure 4) quantifies the cost per person from a space usage standpoint.

Step 1: Enter the organization’s “Total square footage of office space (rentable).” Total rentable office space includes restrooms, electrical and mechanical rooms, janitorial rooms, elevator lobbies and public corridors. Data should be available in the leasing agreement. In the example used in this manual, we assume 100,000 total square footage of office space for the organization.

Figure 4. Real Estate Section

Step 2: Enter the number of workspace. The number of workspaces or workstations an organization maintains for its employees has a significant impact on costs. Include all on-site workstations, regardless of the use or occupancy rate, in the workspace total. This is a key input in establishing the employee-to-workstation ratio and the various adjustments available in the SCENARIO TOOL. In the example, we assume 1,000 workspaces.

Step 3: The CPPM calculates the organization “Square feet per person,” total square footage divided by the number of employees. The CPPM also calculates the number of shared workspaces unassigned to individual employees (50) and “Ratio of teleworkers to shared workspace” (1:1).

Step 4: Input the fully serviced lease rate in units of rentable square foot. Common costs typically include utilities, trash removal, furniture and fixtures (in this case, $40).

Step 5: The CPPM provides the organization, “Estimated fully serviced workspace cost.” This cost is a product of the organization’s lease rate multiply by the total square footage of office workspace ($4,000).

The Real Estate Subtotal (A) is the product of the number of total square footage of office space (in this case 100,000 sq. ft.) multiplied by the lease rate ($40); yield $4,000,000 in real estate cost.
B. Telecommunications

The telecommunications section (Figure 5) provides a total cost estimate for an employee telecommunication user profile. The profile cost includes the hardware, software, accounts and licensing for telephone services for an individual user. For digital systems this cost may include a desktop phone and a number with a voice mailbox. For IP Phone (Voice over Internet Protocol or VoIP) systems this would include the account (number and mailbox) and the desktop hardware, virtual phone software, and an allocated cost for the central appliances.

**Step 1:** Under Select Telecommunications Service, indicate the type of telecommunications system offered by your organization by clicking either “Digital” or “IP Phone.” In Figure 5, the user has selected the IP Phone.

**Step 2:** Once you select a telecommunication service, the CPPM will automatically provide the user with the annual telecommunication cost per user profile.

**Step 3:** The CPPM assumes that each employee in the organization is appointed with telecommunication service or a user profile. The Telecommunications Subtotal (B) (in this case, $497,000) is the product of the number of employees (in this case, 1,000) multiplied by the annual cost per user profile (in this case, $497) which was generated by your telecommunications service.
C. Individual Information Technology (IT) and Additional Devices

This section contains two subsections: one for estimating Individual Information Technology (IT) and Additional Devices (Figure 6).

The IT provides a total estimate for the annual operation and maintenance of individual information profiles based on the total number of employees entered in the People section (1,000).

Additional Devices

Several organizations may equip their employees with additional devices to support a robust mobile workforce, such as laptops for travel, telework, etc., tablet computers and Smartphones. The Additional Devices subsection (Figure 7) assesses the impact of such additional devices on the cost per person component.

Step 1: Settle on which devices (laptop, Smartphone and/or other) to include in the cost per person analysis. If you determine other, you may describe the device in the space provided.

Step 2: For each device, input both a quantity and an annual cost for each unit. The CPPM provides suggested cost ranges for the additional devices.

![Figure 6. Individual IT Subtotal](image)

![Figure 7. Additional Devices Subtotal](image)
For the example, we have chosen to provide laptops ($500 each) and Smartphones ($600 each) to 15 employees and tablet computers ($600 each) to five employees. (Note: The annual cost assumes a three-year life cycle for laptops.)

The Individual IT and Additional Devices Subtotal (C) (Figure 8) are added together to provide the Individual IT and Additional Devices Subtotal ($5,019,500) and will be used in calculating the total cost for your organization and total cost per person.

**Totals**

The CPPM computes two annual totals: Total cost for organization and total cost per person (Figure 9). It calculates these totals by using the subtotals from sections A, B, and C.

**Figure 8. Personal IT and Additional Devices Subtotal**

| Individual IT and Mobility Devices Subtotal (C) | $5,019,500 |

**Figure 9. Totals (A+B+C)**

| TOTAL COST FOR ORGANIZATION | $9,516,500 |
| TOTAL COST PER PERSON        | $6,317 |
III. CPPM GRAPHS

To view the cost per person results graphically, click on the CPPM GRAPHS button at the top right of the CPPM tab, or click the CPPM GRAPHS tab.

The CPPM GRAPHS tab illustrates the cost per person by component (Figure 10) and the total cost for the organization by component (Figure 11).

These graphs can be printed out for your organization’s reference.

(Replicated Example)
IV. Scenario Tool

The “what-if” SCENARIO TOOL estimates potential net cost savings resulting from revised CPPM inputs. To use the Scenario Tool, you must first complete the CPPM tab, as the input data from the CPPM is used in the scenario calculations. The data you entered into the CPPM will remain unchanged (Figure 12).

**Getting Started: Scenario Tool**

Click the SCENARIO TOOL tab, and the Current Baseline displays cost entry from the CPPM input. Users can formulate “what-if” workspace alterations in the Adjusted Outcomes Section. The “what-if” results will be displayed (both increases and decreases) in the Adjusted Outcomes and the Potential Savings Sections.
In the Adjusted Outcomes section, choose a workplace variable to adjust, such as Total number of teleworkers, Total square footage of office space, and Total number of workspace. Users may use the sliding scale or input the desired number only in the un-shaded cells.

To view the SCENARIO TOOL results graphically, Click the SCENARIO GRAPHS tab to view an illustration of the cost per person and total cost for the organization by components.

The following alternative work scenarios have been created to demonstrate the analytical power of the SCENARIO TOOL’s capabilities.

**Scenario 1**

**Adjustments**

In the “Total square footage of office space” section, the user is contemplating reducing the organizations office space by 25% or 75,000 sq. ft. As a result of the CPPM calculations, the user will realize an annual real estate cost savings of $1,000,000 and an annual cost per person savings of $1,000 (Figure 13).

For additional cost savings, the user can also decrease the organization’s number of workspaces to 975; which will reduce the organization cost per workspace. A reduction in the number of workspaces will impact the employees-to-shared workspace ratio. In the Telework sub-section of Adjusted Outcomes, the Scenario Tool provides users with a product of the ratio change in the number of employees to shared workspace.

Reducing the total number of workspaces from 1,000 to 975 will increase the ratio of teleworkers to shared workspace from 2:1. A high ratio indicates a low number of workstations, implying that many employees’ are hoteling or desk sharing. A lower ratio means that more employees require full-time workstations.

Figures 14 and 15 illustrate potential cost savings graphically.
**Scenario 1: Graphs**

**Figure 14. Scenario 1: Potential Total Organization Cost Savings**

**Figure 15. Scenario 1: Potential Per Person Cost Savings**
**Scenario 2**

**Adjustments**

The example illustrated in Scenario 2 demonstrates the potential cost savings of an alternative work environment using an extreme (and highly unlikely) example. In Scenario 2, the user significantly reduces the office space by 50% or 50,000 sq. ft., and also reduces the number of office workspace to 970.

Furthermore the user has increased the number of employees-to-workstation ratio 2.5:1 (Figure 16). The workstation ratio drives potential real estate cost savings. If you increase the employees-to-workstation ratio, your organization requires fewer workstations and thus theoretically can reduce required office space, which can translate into potential cost savings. This increased employees-to-share workstation ratio sharply reduces the number of available workstations.

These results are presented graphically in Figures 17 and 18. This $2,000,000 organizational cost savings highlight the magnitude of savings possibilities with the effective use of a hoteling or desk sharing program which embraces the use of mobile work tools and technologies.
Scenario 2: Graphs

Figure 17. Scenario 2: Potential Total Cost Savings

Figure 18. Scenario 2: Potential Cost Savings Per Person
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h. If any part of this Agreement is held invalid or unenforceable, that part will be construed to reflect the parties' original intent, and the remaining portion will remain in full force and effect.

i. A waiver by either party to any term or condition of this Agreement or any breach thereof, in any one instance, will not waive such term or condition or any subsequent breach thereof.

j. You may assign your rights under this Agreement to any party that consents to and agrees to its terms.

k. This Agreement will be binding upon, and inure to the benefit of, the parties, their successors, and permitted assigns.
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