Cost Allocation Methodologies

Helping States Determine Equitable Distribution of Software Development Costs to Benefiting Programs Over the System Development Lifecycle

CAM-TOOL User Guide

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Guide to the Microsoft Excel tool to assist States in the creation of Cost Allocation Plans for shared system development
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CAM-TOOL INTRODUCTION

The CAM-TOOLKIT includes the Cost Allocation Methodologies Handbook and the companion CAM-TOOL software. The CAM-TOOL was designed for use by States in creating cost allocation plans for software development costs; the CAM-TOOL implements the systematic cost allocation process outlined in the CAM Handbook. Use of the CAM-TOOL is most appropriate when there is a need to provide cost allocation justification that quantifies detailed benefit for multiple programs (e.g., during planning for the Implementation Advance Planning Document, or IAPD, submission for a system used by multiple operating divisions). In contrast, the Preliminary Advance Planning Document, or PAPD, submission allows for any reasonable cost allocation methodology (i.e., usually equal shares) among the benefiting programs.

The CAM-TOOL is a Microsoft Excel application that incorporates Excel functions, macros, and Visual Basic for Applications functionality to automate tasks associated with cost allocation.

System Requirements

- The CAM-TOOL has been updated for use with Microsoft Excel 2010 or later versions.
- The CAM-TOOL uses macros in its normal operation, so macros must be enabled on your computer. Contact your technical support staff for assistance in enabling macros on your system.

User Requirements:

- Knowledge of the process of system cost allocation. Please refer to the CAM Handbook for complete details.
- Basic proficiency in Microsoft Excel.

Downloading the CAM-TOOL

Download the CAM-TOOL guidance and software documents from the website of the Administration for Children and Families, Office of Child Support Enforcement (ACF/OCSE) or the website for Food and Nutrition Services (FNS).


FNS website: http://www.fns.usda.gov/apd/cam-toolkit

Download all of the CAM files to a single directory on your hard drive:

- CAM TOOL (MS Excel workbook)
- CAM TOOL Examples (Simple Data Example, Complex Data Example, Data Example with Weighting)
- CAM TOOL Help Files (compressed folder)*
- CAM User Guide (PDF)
- CAM Handbook (PDF)
NOTE: Unzip the CAM TOOL Help Files into the same directory as the CAM TOOL and the CAM TOOL Examples. Do not open the CAM-TOOL directly from the website; it will not be able to access help files or save data properly.

Preparing Data for Use in the CAM-TOOL software
The CAM-TOOL does not include functionality for initial cost estimation. You must use cost estimation tools such as Constructive Cost Model (CoCoMo) to estimate the total work effort and the cost to be allocated.

The CAM-TOOL is designed to allocate the development costs that will be shared by multiple state and Federal programs. Costs that will be charged directly to one federal or state program will be excepted from the cost allocation plan calculations and will not be included in the results displayed on the Cost Allocation Plan worksheet. Direct charges must be accounted for separately in the project budget and added to the allocated costs determined by the CAM-TOOL in order to arrive at each program’s share of the total project cost.

With the work effort and cost to be allocated in hand, you will be ready to use the CAM-TOOL. Below is a simplified view of using the CAM-TOOL.

• You will need to account for and map all of the work effort in your cost estimation process in establishing an Allocation Structure of three levels (Functional Modules, Sub_Modules, and Detail).
• You will also need to map a scale for level of effort, i.e., create a scale of values for the efforts from your cost estimation process to use as the Allocation Base in the CAM-TOOL. If costs are estimated in hours of programming, use development hours as the allocation base. If other estimates are used, such as lines of code, you will need to document a weighting scale to factor in the level of effort.
• Then, working within the CAM-TOOL, you will identify each program that will benefit from the proposed system, and identify the system elements that each program expects to use.
• Finally, you will enter the total cost to be allocated from your cost estimation process.
• The CAM-TOOL will use the identified work efforts and the program sizes to arrive at a usage share for each benefiting program. The CAM-TOOL will then use the development values you entered as the allocation base and your previously-determined allocation cost estimate to determine the “fair share” of costs for each of the benefiting programs.

To create multiple Cost Allocation Models for your project, it is best to create a fresh copy of the CAM-TOOL for each new scenario, giving each workbook a scenario-specific name.

Starting the CAM-TOOL software

Double-click on the CAM-TOOL filename or icon in your working directory. This application uses macros in its normal operation. Therefore, you may either enable macros for the current Excel session (recommended), or you may reset the default Security level for all sessions (generally not recommended).
CAM-TOOL Main Menu and Navigation

Main menu. The Main Menu panel appears at the upper left of each worksheet in the CAM-TOOL, as shown in Figure 1. Main Menu buttons present the workflow of the CAM-TOOL, and are the easiest means to navigate between worksheets. The Main Menu contains three sections: System, Usage and CAP, and Optional, described at a high level below. Later sections provide detail on each Menu button and the dataflow between worksheets.

Section 1: System. The top group of menu buttons link to the worksheets that capture data about the system being cost allocated. These worksheets provide for guided entry of information on the system, the benefiting programs, the system components to be developed, and the applicable weighting system.

- **System Information**: The System Information worksheet captures information about the system undergoing cost allocation.
- **Benefiting Programs**: The Benefiting Programs worksheet identifies the programs that will benefit from the system development and program related information. The CAM-TOOL uses program abbreviations to identify the benefiting programs on usage data worksheets, the cost allocation worksheet, and optional worksheets.
- **Allocation Structure**: The Allocation Structure worksheet documents up to three levels of allocation (i.e., functional module, sub_module, and detail) and the basis for development calculations, such as development hours, lines of code, user screens, etc.
- **Functional Modules**: The Functional Modules worksheet is used to document the highest-level system components, or functional modules.
• **Sub Modules:** The Sub Modules worksheet is used to document how the functional modules break out to the second level of system components to be developed, the sub_modules.

• **Details:** The Details worksheet is used to document how the sub_modules break out further to the third level of system development components, the detail level.

• **Weighting System:** The Weighting System supplemental worksheet documents your system of measuring or ranking the relative ease or difficulty of each development effort. You must implement a weighting system if you are estimating costs in a unit other than development hours.

Section 2: Usage and CAP. The middle group of menu buttons link to the worksheets that document the breakdown of system functionality used by each benefiting program. These sheets help calculate the “fair share” of cost allocation for each benefiting program.

• **All System Usage:** opens All System Usage worksheet to document the planned usage of the system by each benefiting program.

• **Recipient Counts:** opens System Recipient Counts worksheet to assign duplicated recipient counts for each benefiting program to support the usage identified in All System Usage worksheet.

• **Shared Usage LOE:** opens Shared Usage LOE worksheet to calculate the level of effort values for shared system usage and then to calculate the cost allocation plan.

• **Cost Allocation Plan:** opens Cost Allocation Plan worksheet to document the final cost allocation percentages based on the results in the Shared Usage LOE worksheet.

• **Child Welfare CAP:** opens Child Welfare CAP worksheet to document any further breakdown of costs within Child Welfare, and calculation of the overall single figure to be used by the CAM-TOOL for the federal financial participation by Child Welfare.

Section 3: Optional. The final group of menu buttons link to optional CAM-TOOL worksheets for ad hoc data analysis, and direct access to Help Files. These worksheets do not feed data to any other worksheets; they are available for end-user reference and analysis.

• **Program Summary:** The Program Summary worksheet provides a summary of the system functionality usage by benefiting program.

• **Format All System Usage:** The Format All System Usage worksheet allows custom formatting of data for reporting, presentation, or additional calculations.

• **Format Shared Usage:** The Format Shared Usage worksheet allows custom formatting of data for reporting or presentation, or additional calculations.

• **Help:** The Help worksheet contains links to the CAM-TOOL help files related to specific worksheets. Help files must reside in the same directory as the CAM-TOOL software in order for them to work correctly.
CAM-TOOL Data Operations.

The CAM-TOOL uses data entered to worksheets in three ways.

(1) Data on the original worksheet remains visible as a reference.
(2) Command buttons on selected worksheets allow the user to make progressive calculations of usage, and to copy some or all of the data onto other worksheets.
(3) The CAM-TOOL copies some data automatically for use in background calculations.

Therefore, it is CRITICAL that you observe and follow notes in this Guide for how and where you may add rows or columns of data.
The CAM-TOOL Worksheet Format

All worksheets in the CAM-TOOL follow the format shown in Figure 2.

In Figure 2 above, format areas common to all worksheets are called out:

1. Each worksheet displays the main menu for navigation.
2. “?” (i.e., question mark) appears in cell B1 on each worksheet. Click on the “?” to access the help file for the worksheet.
3. Row 1 on each worksheet contains worksheet header information and command buttons to initiate specific CAM-TOOL automated functions. Figure 2 includes one command button, Copy to the Details Worksheet.
4. Row 2 is reserved for column header information, such as Functional Module, etc.
5. Worksheet data input and display begins in cell “C3”. In Figure 2, worksheet data includes Alerts, Assessment, Case Management, etc.

CAM-TOOL Worksheet Conventions and Constraints.

Conventions used throughout the CAM-TOOL include the following:

1. **Data copied to other worksheets.** The CAM-TOOL frequently copies data from one completed worksheet into one or more other worksheets for further use. Each worksheet chapter in this Guide identifies data that has been "copied from" another worksheet and data that will be "copied to" other worksheets or calculations.

   **Important constraint:** BE CAUTIOUS when it is necessary to correct or update data. In the CAM-TOOL, data you enter on one worksheet is copied and expanded to more detail on other worksheets. When you make a change to a prior worksheet, be sure to re-run each succeeding automated CAM-TOOL operation in order to preserve the integrity of your data.
2. **Adding data rows.** In the System group of worksheets, the CAM-TOOL provides specific areas for adding rows of information as needed to expand functional modules to submodules to detail modules. In these areas, you may add as many rows as your cost allocation data requires.

3. **Deleting or changing columns:** Do NOT change any column names, delete columns, or change the order of columns in the Benefiting Programs, Sub_Modules, or Details Worksheets, or the CAM-TOOL will not provide accurate calculations. A required field may be empty of data, but the data column itself must exist to allow CAM-TOOL calculations to run.

4. **Changing data after entry to the CAM-TOOL.** Data resulting from CAM-TOOL automated tasks or calculations is protected from manual changes. Changes must be accomplished by using CAM-TOOL buttons and userforms.

5. **Data Length and Wrapping.** You may enter numeric, alphanumerical, or text data as you would in any Excel spreadsheet. Existing fields for alphanumerical data are set to wrap the display of text data. If you enter a number that is too long for the current display setting, “###” displays instead of numbers. To correct this, you may widen the column by dragging the column separator at the top of the spreadsheet.

6. **Optional Summary worksheets.** Worksheets on the "Optional" portion of the navigation menu provide results of calculations. These sheets are 'stand-alone' in the sense that data is not copied from these sheets or used in further CAM-TOOL processes. You may change the names and ordering of columns on these sheets to provide custom views for printing, or to conduct your own further calculations on the data.

7. **Data validation errors and alerts.** The CAM-TOOL offers numerous command buttons that copy data from one sheet to another, or make calculations to data on a worksheet. Before doing so, the CAM-TOOL performs basic data validation checks, for example, to check that there is data on the worksheet, or that all of the data fields required in the calculation are filled in. If there is insufficient or incorrect data, the CAM-TOOL cancels the button action and offers a message box with information on corrective actions (see examples below).
Figure 3 Common CAM-TOOL Alert Messages

The most critical error messages are covered in the User Guide sections to which they apply.
The System Information Worksheet

Click on the System Information menu option to open the System Information worksheet, as shown in Figure 4.

![System Information Worksheet](image)

**Figure 4 System Information Worksheet**

**Overview:** The System Information worksheet documents information about the project/system. This information is for reference, and is not used in any automated calculations. The Project/System Name entered on this worksheet appears in the header of other worksheets.

Before entering data to the CAM-TOOL, please 'save as' and provide a project-specific or scenario-specific filename to the CAM-TOOL instance.

1. **Worksheet Data.** The worksheet provides an area to document key system information and comments, and a separate area to document contact information for state, region, and federal staff.

**System Information.** The upper area of the worksheet documents entry of the system name, a description of the project/system, the system type (e.g., new development, system upgrade, web front-end, other), the target date of completion, estimated budget in dollars, current phase (e.g., requirements, design, development, etc.), and project leads. Comments may be entered to the right of each System Information entry. Fields and entry areas include:

- Project/System Name -- enter name for the system to be cost allocated. This name will appear in the header area of other worksheets. Comments for reference may be entered in the Comments area.
- Description -- enter brief description of the system or the scenario to be documented. Comments for reference may be entered in the Comments area.
• Project/System Types (select from list) -- select the type of system from the dropdown list shown in Figure 5, Project/System Type. Comments for reference may be entered in the Comments area.

<table>
<thead>
<tr>
<th>Project/System Type</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Development</td>
<td></td>
</tr>
<tr>
<td>Upgrade</td>
<td></td>
</tr>
<tr>
<td>Web Front-End</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5 Project/System Type Dropdown List

List choices include: New Development, Upgrade, Web Front-End, Other. If the choice is "Other," provide a description in adjacent Comments space.

• Target Date of Completion -- enter estimated completion date in format "mm/dd/yyyy." Comments for reference may be entered in the Comments area.

• Allocation Budget in Dollars ($) -- enter estimated allocation budget for the project. This total should include all development costs that are to be allocated to more than one program. This total should not include the portion of the budget that is direct charged to programs at the module or sub_module level. Comments for reference may be entered in the Comments area.

• Total Project Budget in Dollars ($) -- enter the estimated total budget for the project. This total should include the Allocation Budget and any additional costs for modules or submodules that will be charged directly to one program.

• Current Phase (select from list) -- select from dropdown list, as shown in Figure 6. If "Other," provide a description in adjacent Comments space.

Figure 6 Current Phase Dropdown List

• Project Leads - Provide name and contact information for project lead personnel. Comments for reference may be entered in the Comments area.

Project Contact Information. The lower area of the worksheet documents information on the project, state, region, and federal contacts involved with the project. You may enter any necessary contact information that would be helpful in the cost allocation process. This data is used for reference only and can be tailored for your specific needs.

• Project / State / Region / Federal Contacts - provide name and contact information for state / region / federal key staff involved with the project.
- Program -- identify the project / state / region / federal program office associated with the contacts.
- Role -- identify project role for listed project / state / region / federal staff.
- Title -- identify position title for listed project / state / region / federal staff.
- Phone Number -- identify the phone number for listed project / state / region / federal staff.
- Email -- identify the email address for listed project / state / region / federal staff.

2. **Command Buttons.** None.

   Required Fields needed for the CAM-TOOL automated calculations.

   - Project/System Name -- used in the header of CAM-TOOL worksheets.

3. **Data Copied To This Worksheet.** None.

4. **Data Copied From This Worksheet.**
   System/Project Name is used in the header of CAM-TOOL worksheets.

5. **Worksheet Calculations.** None.

6. **Constraints and Notes.** None
The Benefiting Programs Worksheet

Click on the Benefiting Programs menu option to open the Benefiting Programs worksheet, as shown in Figure 7.

![Figure 7 Benefiting Programs Worksheet](image)

**Overview.** The Benefiting Programs worksheet documents high-level information on all programs that will benefit from the project.

1. **Worksheet Data.** This worksheet documents entry of the program abbreviation, full program name, program size (e.g., Large or Small), recipient counts (i.e., the number of duplicated recipients for a benefiting program), the associated Federal program (if any), an indicator for federal funding (e.g., “yes” or “no-state only”), and the applicable Federal match rate for each program. Most data entered to this sheet is copied to other sheets for further definition, and is also used in CAM-TOOL calculations. Data fields include:

   - **Program Abbrev** -- enter an abbreviation for each program that will benefit from the project. Abbreviations are used by the CAM-TOOL in a number of other worksheets.
   - **Program** -- enter the full program name for each program abbreviation.
   - **Program Size** -- select size of each program from dropdown list:

![Figure 8 Program Size Dropdown List](image)

Program Size is used by the CAM-TOOL as the basis for calculations on the Shared Usage LOE worksheet.

For purposes of cost allocation, a program is considered small if it has less than 5% of the total duplicated recipient count for all benefiting programs. Refer to Chapter 4, Activity 1, of the CAM Handbook for more information on how to make this determination.
The Program Size is a critical factor in the cost allocation process. Please ensure that all benefiting programs have the correct program size designation.

- **Recipient Count** -- enter recipient count for each benefiting program. The recipient count is used to calculate an "adjusted" cost allocation share (e.g., percentage of allocation) for each small program. Refer to Chapter 4 of the CAM Handbook for more information on how to make this determination.

- **Federal Program** -- enter name of any Federal program associated with each benefiting program.

- **Federally Funded?** -- from dropdown list, select whether each program is a Federal or a State-only program:

  ![Figure 9 Federally Funded Dropdown List](image)

- **Match Rate** -- enter the applicable match rate for each Federal program as a decimal number, i.e., enter ".50" for a match rate of 50%. If there is no Federal match, you must enter a zero (0) in this field. Verify applicable match rates with the Federal programs involved in the project.

  **Note:** The CAM-TOOL calculations are designed to use one single figure for the federal match rate for each benefiting program. Child Welfare costs frequently must be cost-allocated further to identify attributions to the several cost centers within Child Welfare. Use the Child Welfare CAP worksheet to document any further breakdown by cost center, and the overall resulting single figure to be used by the CAM-TOOL. When an overall rate has been determined on the Child Welfare CAP worksheet, enter it to the Benefiting Programs worksheet.

2. **Command Buttons.** None

3. **Required Fields needed for the CAM-TOOL automated calculations.** For each program, you MUST enter data for program abbreviation, name, size, recipient counts, and match rate. See important constraint below for correcting errors in data entry.
   - Program_Abbrev
   - Program_Size (Small vs Large)
   - Recipient Counts
   - Match Rate

4. **Data Copied To Worksheet.** None.

5. **Data Copied From Worksheet.** Data is copied from this worksheet to multiple other worksheets, and is also used by the CAM-TOOL in a number of automated calculations.
   - Program Abbrev -- copied to All System Usage, Shared Usage LOE, Cost Allocation Plan, as well as automated calculations. This is the data item most frequently used by the CAM-TOOL.
   - Program Size -- used in automated calculations in Recipient Counts, All System Usage, and Shared Usage LOE worksheets.
- Recipient Counts -- copied to Recipient Counts worksheet and also used in automated calculations.
- Match Rate -- copied to Cost Allocation Plan and used in automated calculations.

6. **Worksheet Calculations.** None.

7. **Constraints and Notes.**
   - Columns must NOT be inserted between the defined columns for Program_Abbrev, Program, Program Size, Recipient Counts, Federal Program, Federally Funded, and Match. These columns MUST remain as Columns C through I respectively. In particular, the CAM-TOOL uses Program Size data (column “E”) to calculate the benefiting program shares for the Shared Usage LOE Worksheet.

There is no limit to the number of rows that may be used to document benefiting programs, starting with Row 3.

- If you leave this worksheet without filling in one or more Program names, Program Sizes, Recipient Counts, or Match Rates, the system displays the error message below and returns you to the Benefiting Programs worksheet to fill in the missing information.

![Figure 10 Error Message - Missing Data](image)

- The same error can occur if you enter data to a new line and then try to backspace to 'erase' the data you entered. To delete data, highlight the error cell(s), right-click, and choose to Delete Contents of the cells.
The Allocation Structure Worksheet

Click on the Allocation Structure menu option to open the Allocation Structure worksheet, as shown in Figure 11.

![Figure 11 Allocation Structure Worksheet](image)

**Overview.** The Allocation Structure worksheet documents a high-level description of the allocation methodology and the allocation base to be used for this Cost Allocation Plan. The CAM-TOOL supports three levels of allocation (functional modules, sub_modules, and details) that may be expanded and documented in subsequent worksheets. The worksheet also identifies the allocation base (e.g., development hours, lines of code, etc.) that you have selected for this Cost Allocation Plan.

1. **Worksheet Data.** The Allocation Structure worksheet documents descriptions of how the three available levels of detail will be used in this specific cost allocation process, the allocation base for this Cost Allocation Plan, and relevant comments.

**Allocation Structure.** The CAM-TOOL provides three allocation levels similar to a work-breakdown structure for the system development. These should represent the distinct levels and units of work planned for system development. In order to use the CAM-TOOL for cost allocation, you must first assess your project plan and cost estimation process to identify the three-level structure of effort that you will document in the CAM-TOOL. The following examples refer to the system described in Figure 11, above.
• **Level 1 – Functional Module:** The system shown in Figure 11 above will be designed to have 10 areas of program development, or 10 Functional Modules. These will be identified and described in the Functional Modules Worksheet. These may include an Alerts module (e.g., programming, testing, etc.) to generate system notifications to users about due dates or past due work, or Data Collection, Eligibility Determination, Benefit Issuance, etc.

• **Level 2 – Sub Module:** Each Functional Module breaks out to a second level of cost category or defined development effort. Figure 11 documents that the 10 Functional Modules will break out to a total of 30 Sub_Modules. These will be identified and described in the Sub_Modules Worksheet.

• **Level 3 – Detail:** Each Sub_Module breaks out to a further level of detailed effort. Figure 11 documents that the 30 Sub_Modules will break out to the distinct items to be developed. These will be identified and described in the Details Worksheet.

**Allocation Base.** Allocation base is the measurement used to track and calculate the development effort for benefiting programs. The allocation base you document in the CAM-TOOL must encompass the entire work effort for the system functionality in the allocation hierarchy to allow for proper cost allocation. As shown in Figure 11 at the beginning of the chapter, the Allocation Structure Worksheet documents your selected Allocation Base. You may insert additional rows if needed.

Figure 12 lists examples of different allocation bases.

**Note:** you must select one allocation base to characterize the entire development effort in the Cost Allocation Plan.

<table>
<thead>
<tr>
<th>Allocation Base</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOFTWARE DEVELOPMENT HOURS</td>
<td>Estimated or actual development hours expended on specific system functionality</td>
</tr>
<tr>
<td>STORAGE/DATABASE SIZE</td>
<td>Estimated or actual storage size or database size related to specific system functionality</td>
</tr>
<tr>
<td>LINES OF CODE (LOC)</td>
<td>Estimated or actual lines of code related to specific system functionality</td>
</tr>
<tr>
<td>FUNCTION POINTS</td>
<td>Estimated or actual function points related to specific system functionality</td>
</tr>
<tr>
<td>SCREENS</td>
<td>Estimated or actual screens related to specific system functionality</td>
</tr>
</tbody>
</table>

**Figure 12 Examples of Allocation Bases**

The optimal allocation base is the number of development hours, as estimated by your cost estimation process. Development hours can function as an indication of both work breakdown and level of effort required for system development. Where the allocation base is development hours, no other weighting is needed.

Other allocation bases may not inherently include the level of effort in the base measurement. As shown in Figure 12, lines of code can be used as an allocation base. However, lines of code are a measure of size and do not necessarily indicate level of effort. A very complex system function may have taken a lot of time to
develop and test, but may have resulted in only 30 lines of code, whereas another very simple function may require 100 lines of code.

Where the allocation base measure does not include the level of effort, a weight factor must be applied to indicate the level of effort. You must develop a scale, (i.e., 1 to 5 for low-to-high) and apply the weighting scale to all of the allocation base values. (The weighting system must be described in detail on the Weighting System worksheet.)

The CAM-TOOL uses Allocation Base data in several worksheets:
- First, you will select and identify your allocation base in the Allocation Structure worksheet.
- Next, you must describe and define the base values and any weighting system you have developed to encompass them, in the Weighting System worksheet.
- Finally, you will enter the actual base values and any weighting (type and value) for each unit of system functionality on the All System Usage worksheet.
- The CAM-TOOL will then use your evaluation of effort in calculating the fair share for each benefiting program.

**Comments.** This worksheet provides a comment section below the area for Allocation Base. It may be used for any comments or additional descriptions that would be helpful to the cost allocation process. You may add as many comment rows as you wish.

2. **Command Buttons.** None

3. **Required Fields needed for the CAM-TOOL automated calculations.** None required for CAM-TOOL calculations.

4. **Data Copied To Worksheet.** None.

5. **Data Copied From Worksheet.** None.

6. **Worksheet Calculations.** None.
The Functional Modules Worksheet

Click on the Functional Modules menu option to open the Functional Modules worksheet, as shown in Figure 13.

Overview. The Functional Modules worksheet documents Level 1 of the Allocation Structure, including the name and description of each functional module, and optional fields for the budgeted and actual costs for the functional module. Functional Module names will be copied from this worksheet to the Sub_Modules worksheet for further breakdown.

The Functional Modules worksheet has one command button, Copy to the Sub_Modules Worksheet, as shown in Figure 13 above. This button copies the functional module names to the Sub_Modules worksheet so you may document the relationship of the sub-modules to the functional modules in the system allocation hierarchy.

NOTE: If you are using the CAM-TOOL to document an Interim Cost Allocation Plan, you may need to update the original budgeted costs before submitting a final Cost Allocation Plan. Use the Actual Costs column to document updates to the original budgeted costs.

1. Worksheet Data. The worksheet documents Level 1 of the Allocation Structure. Entry fields include:
   - Functional Module -- Enter the name for each functional module.
• Description -- Enter a detailed description for each functional module.
• Budgeted Costs -- Document the estimated cost for each functional module.
• Actual Cost – Enter updates to original budget for an Interim Cost Allocation Plan update or to finalize a Cost Allocation Plan.

2. **Command Button.**

**Copy to the Sub_Modules Worksheet** command button. This button copies the functional module names to the Sub_Modules worksheet. Clicking this button opens a message box asking if you wish to preserve or delete existing data on the Sub_Modules worksheet.

![Figure 14 Save Sub Module Data](image)

**Figure 14 Save Sub Module Data**

Clicking **Yes** will save existing data on the Sub_Modules worksheet. Functional Modules names will be transferred to the Sub_Modules worksheet, making any necessary additions, changes, and deletions to Functional Module names already on the Sub_Modules worksheet.

Clicking **No** will replace all data on the Sub_Modules Worksheet with the new Functional Module names.

Clicking **Cancel** closes the message box; you will remain in the Functional Modules Worksheet.

3. **Required Fields needed for the CAM-TOOL automated calculations.**
   - Functional Module.

4. **Data Copied To Worksheet.** None.

5. **Data Copied From Worksheet.** Functional Module names will be copied to the Sub_Modules worksheet for further breakdown.

6. **Worksheet Calculations.** None.

7. **Constraints and Notes.** None.
The Sub_Modules Worksheet

Click on the Sub_Modules menu option to open the Sub_Modules worksheet, as shown in Figure 15.

**Figure 15 Sub_Modules Worksheet after Copying Names from Functional Modules**

**Overview.** When you complete entry of the Functional Modules, and click the command button to **Copy to the Sub_Modules Worksheet**, this worksheet will display the functional module names copied from the Functional Modules worksheet, as shown in Figure 15 above.

Use the worksheet to expand functional modules to identify component sub_modules, if any. For each sub_module, provide a description and an allocation type. In Figure 16, below, the functional modules have been expanded to identify the sub_modules in each. Note that the single Functional Module of Alerts has been expanded into two sub_modules for Management and Staff.

After you complete entering Sub_Modules, clicking the **Copy to the Details Worksheet** command button will copy the Functional Module and Sub_Module names to the Detail worksheet for further breakdown.
1. **Worksheet Data.** The worksheet provides the second level of detail in the allocation structure. You can expand the Functional Modules copied from the Functional Modules Worksheet to add one or more Sub_Modules, inserting rows as necessary. The worksheet documents each sub-module name, description, and the allocation type (Direct or Shared) from the dropdown list. The worksheet provides optional fields for entering budgeted or actual costs for each sub-module. Data fields include:

- **Functional Module** -- copied from Functional Modules spreadsheet. Insert additional rows to break out the Functional Module into multiple Sub_Modules. Copy or enter the Functional Module name to each new Sub_Module row.
- **Sub Module** -- enter descriptive name for each sub-module.
- **Description** -- enter description for each sub-module.
- **Allocation Type** -- dropdown list. Select Direct or Shared allocation type from the dropdown list for each Sub_Module. Allocation type is used in CAM-TOOL automated calculations on the Shared Usage LOE worksheet to distinguish sub-modules that are direct charges to one benefiting program, from those allocated to two or more benefiting programs.

- **Budgeted Costs** -- document the estimated cost for each sub-module (optional).
- **Actual Cost** -- for future updates to your Cost Allocation Plan, you may add the actual costs for each sub-module (optional).
2. **Command Button.**

   **Copy to the Details Worksheet** command button. This button copies the Functional Module and Sub_Module names to the Details worksheet. Clicking this button opens a message box asking if you wish to preserve or delete existing data on the Details worksheet.

![Figure 18 Save Details Data](image)

   Clicking **Yes** will save existing data on the Details worksheet. Sub_Module names will be transferred to the Details worksheet, making any necessary additions, changes, and deletions to Sub_Module names already on the Details worksheet.

   Clicking **No** will replace all data on the Details Worksheet with the new Functional Module names.

   Clicking **Cancel** closes the message box; you will remain in the Sub_Modules Worksheet.

3. **Required Fields needed for the CAM-TOOL automated calculations.**
   - Functional Module names
   - Sub_Module names
   - Allocation Type

4. **Data Copied To Worksheet.** Functional Module names.

5. **Data Copied From Worksheet.**
   - Functional Module names -- copied to Detail Worksheet.
   - Sub_Module names -- copied to Detail Worksheet.
   - Allocation Type -- "Direct" allocations copied to All System Usage.

6. **Worksheet Calculations.** None.

7. **Constraints and Notes.**
   - You must NOT insert Columns between the defined columns for Functional Module, Sub_Module, Description, and Allocation Type. The CAM-TOOL looks for Allocation Type data in column "F" to use in later automated calculations and in developing the final Cost Allocation Plan.

   You may insert as many rows as necessary, starting with Row 3, to document sub-modules.
The Details Worksheet

Click on the Details menu option to open the Details worksheet, as shown in Figure 19.

Figure 19 Details Worksheet after Copying Names from Sub_Modules Worksheet

Overview. When you complete entry of the Sub_Modules, and click the command button to Copy to the Details Worksheet, this worksheet will display the functional module and sub-module names.

The worksheet documents the third level of the allocation structure. You will expand the Sub_Modules copied into the worksheet to add one or more Detail objects, inserting rows as necessary. The worksheet documents the name and description for each detail object or program. In Figure 20, below, the sub-module rows have been expanded to identify the detail objects in each. Note that the single Sub_Module for Management Alerts has been expanded into three detail-level alerts, Mgt Alert 1, Mgt Alert 2, and Mgt Alert 3.

After you complete entering data for the Detail level of allocation, clicking the Copy to the All System Usage Worksheet command button will copy the Functional Module names, Sub-Module names, and Detail names to the All System Usage worksheet.
1. **Worksheet Data.** Data fields include:

   - Functional Module -- copied automatically from the Functional Modules spreadsheet. As you create each new Detail row, enter or copy the Functional Module name to the row.
   - Sub_Module -- copied by the CAM-TOOL from Functional Modules spreadsheet. As you create each new Detail row, enter or copy the Sub_Module name to the row.
   - Detail -- enter the name of each Detail level object or program. If there is no Detail level object for a Sub_Module, enter "none" for the Detail name.
   - Description -- Enter a description for each Detail object or program.

2. **Command Button.**

   **Copy to the All System Usage Worksheet** command button. This button copies the functional module, sub-module, and details names to the All System Usage worksheet for weight, base value, and program usage assignment. Clicking this button opens a message asking if you wish to preserve or delete existing data on the All Systems Usage worksheet.
Figure 21 Save All System Usage Data

Clicking **Yes** will save existing data on the All Systems Usage worksheet. Detail module names will be transferred to the All Systems Usage worksheet, making any necessary additions, changes, and deletions to Details data already on the All Systems Usage worksheet.

Clicking **No** will replace all data on the All Systems Usage Worksheet with the new Details module names.

Clicking **Cancel** closes the message box; you will remain in the Details worksheet.

After data is copied to the All System Usage worksheet, a message box will appear asking if you need to complete Weighting System data.

Figure 22 Add Weighting System Information

Clicking **Yes** your screen redirects to the Weighting System Worksheet so you can add weighting system narrative.

Clicking **No** displays the All System Usage worksheet.

3. **Required Fields needed for the CAM-TOOL automated calculations.**
   - Functional Module names
   - Sub_Module names (optional)
   - Detail names (optional)

4. **Data Copied To Worksheet.**
   - Functional Module
   - Sub_Module

5. **Data Copied From Worksheet.**
   - Functional Module names -- copied to All System Usage Worksheet, Recipient Counts Worksheet, and Shared Usage Worksheet
- Sub_Module names -- copied to All System Usage Worksheet, Recipient Counts Worksheet, and Shared Usage Worksheet.
- Detail names -- copied to All System Usage Worksheet, Recipient Counts Worksheet, and Shared Usage Worksheet.

6. **Worksheet Calculations.**  None.

7. **Constraints and Notes.**  None.
**The Weighting System Worksheet**

Click on the Weighting System menu option to open the Weighting System worksheet, as shown in Figure 23.

<table>
<thead>
<tr>
<th>CAM-TOOL MENU SYSTEM</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Information</td>
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<tr>
<td>Benefit Programs</td>
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<td>Allocation Structure</td>
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<td>Functional Modules</td>
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<td>Sub_Modules</td>
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<td>Details</td>
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<tr>
<td>Weighting System</td>
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<td>USAGE AND CAP</td>
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<td>Recipient Counts</td>
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</tr>
</tbody>
</table>

**Figure 23 Weighting System Worksheet**

**Overview.** This worksheet provides a place for you to describe a weighting system and provide further detail to the allocation structure identified on the Allocation Structure worksheet. If you are using development hours as your allocation methodology, simply say so on this worksheet, as shown in Figure 23 above. You will enter the specific hour estimates on the All System Usage worksheet.

Another allocation base, such as Lines of Code or user screens, that does not measure level of effort, requires use of a weighting system that captures the relative ease or difficulty of developing each system component. Use this worksheet to describe the design and intent of the weighting system and to identify the different types of weights in your weighting system.

You also need to specify and describe the range of weight values that the CAM-TOOL will use in calculating usage and fair share for each benefiting program. As noted earlier in the Allocation Structure section, you must develop a scale, such as 1-5, where 1 is low complexity/effort and 5 is high complexity/effort.

Document your weighting system in three steps:
- Use this worksheet to describe the design and intent of weighting system.
- List and describe the different types of weights in your weighting system.
- List and describe the range of specific weight values that you are going to use in calculating usage and a fair share for each benefiting program.

When your narrative is complete, you will enter the actual base value and the weight values from your weighting system to each unit of system functionality on the All System Usage Worksheet.

If you are using user screens for the allocation base, your weighting system may include a scale for effort/complexity such as the one shown in Figure 24, Weighting System Example.
1. **Worksheet Data.** You must use this worksheet to describe the design and intent of your weighting system, including the weight type and the specific weights you will assign to each system component for automatic calculation of the usage and fair share for each benefiting program.

2. **Command Buttons.** None.

3. **Required Fields needed for the CAM-TOOL automated calculations.** None.

4. **Data Copied To Worksheet.** None.

5. **Data Copied From Worksheet.** None.

6. **Worksheet Calculations.** None.

7. **Constraints and Notes.** The actual weights associated with the system functionality will be assigned on the All System Usage worksheet.

---

**Figure 24 Weighting System Example**

- **Worksheet Data:** You must use this worksheet to describe the design and intent of your weighting system, including the weight type and the specific weights you will assign to each system component for automatic calculation of the usage and fair share for each benefiting program.

- **Command Buttons:** None.

- **Required Fields needed for the CAM-TOOL automated calculations:** None.

- **Data Copied To Worksheet:** None.

- **Data Copied From Worksheet:** None.

- **Worksheet Calculations:** None.

- **Constraints and Notes:** The actual weights associated with the system functionality will be assigned on the All System Usage worksheet.
The All System Usage Worksheet

Click on the All System Usage menu option to open the All System Usage worksheet, as shown in Figure 25.

![Figure 25 All System Usage Worksheet.](image)

**Overview.** When completed, this worksheet displays the usage data for all system components. Worksheet data indicates small and large program system usage, shared usage, and the usage of sub-module modules or detail functionality that only benefit one program. The worksheet provides a complete view of system functionality usage.

Some of the information on this screen was copied from the Detail worksheet and from the Benefiting Programs worksheet. You add more data by selecting command buttons, and the CAM-TOOL displays the results of additional automated calculations. Finally, selecting command buttons allows you to copy data from this sheet to other sheets.

This chapter will provide an overview of the general actions and process, then discuss each of the actions in more detail.

1. **Worksheet Data.**
   - **Functional Module** -- copied from the DETAILS worksheet.
   - **Sub_Module** -- copied from the DETAILS worksheet.
   - **Detail** -- copied from the DETAILS worksheet.
   - **Usage Type** – automatic calculation by Tally Usage by Program Size command button.
   - **Weight Type and Weight** – data entered through the command button Enter Weights or Base Values. When you are using a Weighting System, you enter the weight value and the type of weight you have assigned to each specific system component. The weight type is the descriptive label of the weight (Source Lines of CAM-TOOL User Guide 31
Code, Function Points, user screens, etc.; the weight is the scale value assigned to this specific system component (1 for low effort, 5 for high effort).

- **Base Value** – data entered through the command button **Enter Weights or Base Values**. When your allocation base is a measurable level of effort, such as development hours, you enter a measurable value for each specific system component.

- **Num Small and Num Large** -- automated calculation by the command button **Tally Usage by Program Size**. Tally of the number of small programs and the number of large programs using specific system components.

- **Program Abbreviation columns** – data entered through the command button **Enter Usage=X**. (Column headers, i.e., FS, TANF, copied from the Benefiting Programs worksheet.

2. **Data Copied To Worksheet.**
   - Functional Module’
   - Sub Module
   - Detail
   - Program Abbreviations
   - Usage Type – of “Direct.”

3. **Worksheet Calculations.**
   Three command buttons allow you to add or modify usage information about each system component copied from the Detail worksheet. (Refer to Figure 25.)
   - **Enter Weights or Base Values** command button. Assign or modify a base value and a weighting value to each system component in accordance with your allocation base and your weighting system.
   - **Enter Usage =X** command button. Identify the programs that use each component.
   - **Tally Usage by Program Size** command button automatically assesses the Xs you entered for program usage, and provides results in three columns:
     - NUM_SMALL (total of small programs using the component),
     - NUM_LARGE (total of large programs using the component) and
     - USAGE_TYPE (whether the component is Shared by more than one program, or has Direct use by only one program).

**Note:** See Section 5 of this chapter, **Command Buttons for on-worksheet calculation**, for more detailed information on these command buttons, including specific data fields and actions.

Figure 26 below shows the All System Usage worksheet after the worksheet calculations have been completed. Please note that the “Weight Type” and “Weight” columns are empty because this example uses development hours as the Base Value to identify the level of effort, and therefore, no additional weighting is necessary.
4. Data Copied From Worksheet.

After usage calculations are complete, three command buttons allow you to copy data to other worksheets. (Refer to Figure 26.)

- **Copy for System Recipient Counts** command button copies data to create the Recipient Counts Worksheet.

- **Create Program Base Summary (All)** command button copies data to create the Base Summary worksheet for your reference and analysis.

- **Format All System Usage (Copy)** command button copies all worksheet data to the Format All System Usage worksheet where you can format or manipulate the data further.

**Note:** See Section 6 of this chapter, Command Buttons to Copy Data From Worksheet, for more detailed information on these command buttons, including specific data fields and actions.

5. **Command Buttons for on-worksheet calculation.** There are three command buttons for on-worksheet calculations (Enter Weights or Base Values, Enter Usage = “X”, and Tally System Usage). Their operations are detailed below.

- **Enter Weights or Base Values** command button.

Use this command button to enter or modify a base value or a weight type and weight for specific system components. The button opens the “Enter Weights or Base Values” userform listing the system components shown on the All System Usage worksheet.
In Figure 27 above, Base values have been highlighted for action. Two Management Alerts have been selected and a base value of 8 has been entered. If the allocation base is hours, then “8” represents eight hours of development effort.

- **Select Weights or Base Value dropdown** – Open this dropdown list to choose whether you are adding/changing Base Values, or Weight Types and Weights, for all system components. You must use the same kinds of measures for all system components, i.e., all Base Values, or all Weight Types and Weights.

![Figure 28 Weights or Base Values Dropdown.](image)

Select Base Values to activate the Enter Value box for entry of a base value for each system component.

Select Weights and Types to activate both entry boxes at the bottom of the userform for entry of the Weight Type and the weighted scale Value for each component.

- **Total Selected Items display** -- displays the number of system components currently highlighted.
- **Click to highlight component(s)** -- Select each of the system components to add or change by clicking anywhere on a component row. Click to highlight and select, click again to de-select and remove the highlight. Continue selecting all of the components for this action.

- **Select All button** -- use to highlight all system components on the list.

- **Clear Selections button** -- use to remove all selection highlights from the system components list.

- **Weight Type entry box** -- activated only when "Weights and Types" is selected in the dropdown box for Select Weights or Base Values. Enter the type of weight to be assigned to the components you have highlighted.

- **Enter Value entry box** -- enter the specific value to be assigned to the components you have highlighted. If you selected Base Values in the **Select Weights or Base Value** dropdown, the number you enter will be copied to the Base Value column on the worksheet. If you selected Weights and Types from the dropdown, the number you enter will be copied to the Weight column and used as a weighted scale value.

- **Insert Data button** – This button will assign to each highlighted system component the data you entered for Value and/or Weight Type, and copy the results to the All System Usage worksheet. A message box will request confirmation.

  Clicking **Yes** copies selected value data to the All System Usage worksheet.

  Clicking **No** closes the message box; you will remain in the Enter Weights and Base Values userform.

- **Delete Value(s) for Selected Items button** – Deletes data from the All System Usage worksheet. This button will delete value data for each highlighted system component from the All System Usage worksheet. When you click this button, a message box will request confirmation:

  Clicking **Yes** deletes selected value data from the All System Usage worksheet.

  Clicking **No** closes the message box; you will remain in the Enter Weights and Base Values userform.

- **Enter Usage =”X” command button.**

  Use this command button to assign or update the usage indicator (X) that identifies which benefiting programs use a system component. The button opens the “Enter Usage By Program” userform listing all of the system components shown on the All System Usage worksheet.
Figure 29 Enter Usage by Program Userform

- **Benefiting Program dropdown.** This dropdown at upper left of the userform lists each Benefiting Program abbreviation on the All System Usage worksheet. Select the Benefiting Program to assign or update usage of specific system components.

- **Total Selected Items display.** Total of system components currently highlighted for action.

- **Highlight Items Where Selected Program Usage = X button.** Clicking this button opens a confirmation box asking whether you wish to display current program usage Xs.

  Clicking Yes highlights all system components currently identified as intended for use by this benefiting program.

  Clicking No is not recommended. "No" clears any previously-designated usage highlights for the benefiting program. Use this function only when you wish to re-enter all usage for the selected benefiting program. (Note: you may also clear usage highlights by using the Clear Selections button.)

- **Select Items area--** Click anywhere on a system component line to toggle the highlight on or off for that component. Add or remove the highlights for components that the selected Benefiting Program will use.

- **Select All button.** This button highlights all of the system components listed.
Clear Selections button. This button removes all selection highlights from the system components list.

Update Usage = X button. This button will update data on the All Systems Usage worksheet to display an X for each system component you have highlighted for the selected benefiting program.

When you click this button, a message box will request confirmation: "Only the selected items will have usage = "X" assigned for this program. Are you sure that you want to update usage for this program?"

Clicking Yes updates the usage "X" indicator for each highlighted component on the All System Usage worksheet.

Clicking No closes the message box without updating data on the All System Usage worksheet.

Tally Usage by Program Size command button.
This command button causes the CAM-TOOL to take three actions:

(1) Calculate the number of small programs and the number of large programs indicated to use each system component. Results display in the Num Small and Num Large columns for each system component.

(2) Calculate the total number of programs indicated to use each system component. Results display in the Totals column to the right of benefiting program columns.

(3) Label each system component as "Direct" (used by only one benefiting program) or "Shared" (used by two or more benefiting programs). Results display in the Usage Type column for each system component.

These CAM-TOOL calculations are based on the number of usage="X" assignments in the benefiting program columns and the Program Size indicator (e.g., Large or Small) on the Benefiting Program worksheet (see Figure 25, Program Size Calculations).

Command Buttons to Copy Data From Worksheet. There are three command buttons to copy data from the worksheet (Copy for Recipient Counts, Create Program Base Summary - All, and Format All System Usage - Copy). Their operations are detailed below.

Copy for System Recipient Counts command button.
This button copies information from this worksheet to the Recipient Counts worksheet. Clicking the button displays a confirming message box, asking "Have you entered all base usage assignments, indicated by an "X", for all Benefiting Programs?"

Clicking Yes starts the copy action, and opens the Recipient Counts Worksheet.

Clicking No closes the message box; you will remain in the All System Usage Worksheet.
Copied data includes Functional Module, Sub_Module, Detail, Usage Type, Weight Type, Weight, Base Value, Num Small, Num Large, and Benefiting Program columns.

- **Create Program Base Summary (All).**
  This button is optional to the basic computations of the CAM-TOOL. The button creates a summary of usage by benefiting program on the Program Summary worksheet. The optional summary is provided for your reference and analysis.

As an example, one benefiting program may use 45 of 100 system functions, and a second benefiting program may use 30 of 100 system functions. This button will create a separate list of the functions used by each program (whether usage is direct or shared), and calculate the total number of functions used. See the later chapter on Program Summary Worksheet for additional information on the worksheet.

Clicking this button opens a message box warning "All information in the Program Base Summary worksheet will be DELETED. Are you sure that you want to create a program base summary for all usage?"

  Clicking Yes starts the copy action, and opens the Program Summary Worksheet.

  Clicking No closes the message box; you will remain in the All System Usage Worksheet.

Copied data: Functional Module, Sub-Module, Detail, Usage Type, and Base Value data.

Please note: This button differs from the Create Program Summary (Shared) button on the Shared System Usage LOE worksheet in the amount of data copied. See the later chapter on Program Summary Worksheet for additional information.

- **Format All System Usage (Copy).**
  This button is optional to the basic computations of the CAM-TOOL. Clicking this button copies all data on this worksheet to the Format All System Usage worksheet where you may perform further data calculations and analysis. Copied data includes all of the data visible on the worksheet.

7. **Required Fields.** For each benefiting program, you must enter data for base values and usage.
   - Functional Module
   - Sub_Module
   - Detail
   - Program Abbrev
   - Enter Usage = Xs
   - Usage Type (calculation based on number of Usage Xs)
   - Weight Type (if used in this scenario)
   - Weight (if used in this scenario)
   - Base Value
   - Num Small (calculated total of small programs)
• Num Large (calculated total of large programs)

8. **Constraints and Notes.**
The CAM-TOOL uses all of the information on this worksheet to complete calculations on the System Recipient Counts worksheet and the Shared Usage LOE worksheets. Therefore, all columns must remain in their current positions. Do NOT add columns or rows to the All System Usage Worksheet.
The Recipient Counts Worksheet

Click on the Recipient Counts menu option to open the Recipient Counts worksheet, as shown in Figure 30.

1. Data Copied To Worksheet.
   Functional Module, Sub_Module, Detail, Usage Type, Weight Type, Weight, Base Value, Num Small, Num Large, and Benefiting Programs are copied onto this worksheet from the All System Usage Worksheet, by use of the command button Copy for Recipient Counts.

2. Command Buttons
   - Assign the Benefiting Programs Worksheet Recipient Counts command button. Clicking this command button replaces the usage="X" markers in the benefiting program columns with the recipient counts you identified on the Benefiting Programs Worksheet. For example, where the Medicaid (MED) program has 500,000 recipients on the Benefiting Programs worksheet, all of the usage="X" markers under the MED column will be replaced with the value of 500,000.

   Clicking on the button displays a confirming message box, asking "Are you sure that you want to assign recipient counts from the Benefiting Programs worksheet?"
Clicking **Yes** starts the action to copy recipient counts from the Benefiting Programs worksheet, replacing each "X" with the actual recipient count for that program.

Clicking **No** closes the message box; you will remain in the System Recipient Counts Worksheet.

In Figure 31 below, each cell with usage="X" has been assigned the recipient counts that you entered on the Benefiting Programs worksheet.

![Figure 31 Recipient Counts Worksheet – Assign Recipient Counts](image)

- **Modify Recipient Counts by Program** command button.

This command button modifies recipient counts for selected system components.

**NOTE:** In most cases, modifying recipient counts at this level of detail will have only a small impact on the cost allocation “fair share” for small and large programs. The function is included for the rare instances in which it would be cost effective to capture costs in such detail.

Click this button to modify selected recipient counts when you need to capture the specific number of program recipients that would actually benefit from a particular system component. For example, MED (e.g., Medicare) may have a total recipient count of 500,000 but you wish to show that only 225,000 of the program recipients would get beneficial use of certain system components. The benefiting programs involved in the cost allocation would need to determine and justify modified recipient counts by system component.

Clicking this button opens the “Modify Recipient Counts” userform shown in Figure 32.
Figure 32 Modify Recipient Counts

- **Benefiting Program dropdown.** This dropdown lists Benefiting Program abbreviations. Select a Benefiting Program to manually assign recipient counts for one or more system components.

- **Total Selected Items** display field. Total of system components currently highlighted.

- **Highlight Items to Modify Counts** button. Clicking this button opens a confirmation box asking whether you wish to highlight the system components currently indicated for usage by the selected benefiting program.

  Clicking **Yes** will highlight all system components currently indicated for usage by the selected benefiting program.

  Clicking **No** is not recommended. "No" closes the message box without highlighting current usage. Use this function only when you wish to reassign all recipient counts for the benefiting program manually.

- **Please Select Items.** Highlight the system components to be assigned a specific recipient count. Click anywhere on a program component row to toggle a highlight on or off.

- **Select All** button. Click to highlight all of the listed system components.

- **Clear Selections** button. Click to remove all highlights from system components.

- **Recipient Count entry.** Enter the specific recipient count to be assigned to the highlighted components.
- **Add Recipient Counts.** Click to update the recipient counts on the Shared Usage LOE worksheet and to recalculate the total number of recipients displayed in the Total column.

- **Calculate Shared Usage Level of Effort (LOE) command button.**

  When recipient counts are complete, this command button will perform automated calculations to determine the final cost allocation “fair share” (i.e. percentages) for the benefiting programs, and display results on the Shared Usage LOE Worksheet.

  Copied data: Functional Module, Sub_Module, Detail, Usage Type, Weight Type, Weight, Base Value, Num Small, Num Large, and Benefiting Program columns.

  Clicking this button opens an Alert message box warning "All information in the Shared Usage LOE worksheet will be deleted! Any costs designated on SubModules Worksheet as Direct Cost will be removed from shared cost calculations. These will be referenced separately on the Cost Allocation Plan worksheet for your reference. Are you sure that you want to calculate shared usage LOE?"

![Microsoft Excel](image)

**Figure 33 Direct Cost Submodule Alert**

Clicking **Yes** starts the automated calculations detailed below, then displays the results on the Shared Usage LOE Worksheet.

Clicking **No** closes the message box; you will remain in the System Recipient Counts Worksheet.

3. **Worksheet Calculations -- Shared Usage LOE**

   - **Overview.**
     - **Shared Usage.** Where a system component will be used only by large programs, the usage share for that system component will be divided equally among the large programs using that component.

       Where a system component will be used only by small programs, recipient counts will be used to calculate the specific usage share for each benefiting small program.
Where a system component will be used by both small and large programs, the CAM-TOOL first calculates the share for each small program. After all small programs are processed, the remaining percent of usage is divided into equal shares for the large programs.

Components Identified for Direct Use. For any system component with a usage designation of Direct, the CAM-TOOL makes a further assessment. The CAM-TOOL determines whether the assignment as Direct was made at the Detail module level, or at the Sub_Module level. If the Direct assignment was made at the Detail module level, the module is included in shared usage calculations. (This would be the case where one specific Report of several is used only by one program.)

If you designated the component as Direct at the SubModule level, on the Sub_Module Worksheet, you must handle and track the cost for development as a separate budget item outside the scope of the cost allocation plan. In order to account for all development effort, the CAM-TOOL will carry a direct-cost SubModule through all of the usage calculations. Then, at this point, as noted in the Warning message, the SubModule system component will be removed from shared cost allocation calculations and listed separately on the Cost Allocation Plan as “Excluded from Cost Allocation”.

NOTE: A function may have been incorrectly designated as Direct on the Sub_Module Worksheet. If so, you will need to correct the status on the SubModule Worksheet, and step through CAM-TOOL functions on the All System Usage worksheet and Recipient Counts worksheet. Once corrections have been made, re-run the Calculated Shared Usage Level of Effort (LOE) command button.

• Shared Usage Data Operations.

The steps below illustrate the origins of the data used in this calculation, and the operations that provide results on the Shared Usage LOE worksheet. This calculation example has been set up with the following assumptions:

- There are 5 benefiting programs: 3 are large programs (FS, MED, TANF) and 2 are small programs (Program 4 and Program 5).
- There are no programs with a “direct” benefit.
- The Allocation Base is development hours.

(1) CAM-TOOL Set-Up Steps and Dataflow

- Preparation Step 1: The CAM-TOOL data for this calculation originated on the Benefiting Programs Worksheet, which documented the benefiting programs (2 Small programs and 3 Large programs), and recipient counts for each program (see Figure 34).
Preparation Step 2: CAM-TOOL data for this calculation includes the program usage assigned on the All System Usage worksheet, as shown below. (The base values and weights assigned on the All System Usage worksheet are addressed in Calculation Step 3 below.)

Note: Program 4 will benefit from Alert AL1, AL2, and AL4, as shown by the usage=Xs. The Total column shows that a total of 4 programs will benefit from Alert AL1, 4 programs will benefit from Alert AL2, and 4 programs will benefit from Alert AL4.

Preparation Step 3: The CAM-TOOL dataflow continued to the Recipient Counts worksheet. Recipient counts from the Benefiting Programs worksheet were inserted to system functions used by each program, replacing each usage=X. Note in Figure 36 below that Program 4 now shows a recipient count of 750 for Alerts AL1, AL 2, and AL4.

Note: the Total column has recalculated to total the recipient counts: a total of 1,465,570 recipients will benefit from Alert AL1; 1,001,650 recipients will benefit from Alert AL2; and 966,650 recipients will benefit from Alert AL4.

(2) Calculate Shared Usage Level of Effort (LOE) command button calculations.

Calculation Step 1: It is at this point that calculations begin for the command button Calculate Shared Usage Level of Effort (LOE). Calculations are repeated for each row of system components.
The first step calculates recipient count percentages for each small program that uses a program component. This is determined by dividing the small program recipient counts by the total recipients that will benefit from the system component. For Alerts, the recipient count percentages are calculated as follows:

Preparation Step 3 above showed Program 4 has 750 of the total 1,465,570 recipients who will benefit from Alert AL1. Program 4 also has 750 of the total 1,001,650 recipients of Alert AL2; and has 750 of the 966,650 recipients of Alert AL4.

Preparation Step 3 also showed Program 5 has 900 of the total 1,001,650 recipients who will benefit from Alert AL2; has 900 of the total 500,900 recipients of Alert AL3; and has 900 of the 966,650 recipients of Alert AL4.

Recipients count percentages shown in Figure 37 were calculated as follows:

Program 4, Alert AL1: percent of recipients calculates as 750/1,465,750 = 0.0005.
Program 4, Alert AL2: percent of recipients calculates as 750/1,001,650 = 0.0007.
Program 4, Alert AL4: percent of recipients calculates as 750/966,650 = .0008.

Program 5, Alert AL2: percent of recipients calculates as 900/1,001,650 = 0.0009.
Program 5, Alert AL3: percent of recipients calculates as 900/500,900 = 0.0018.
Program 5, Alert AL4: percent of recipients calculates as 900/966,650 = .0009.

### Figure 37 Calculation Step 1

<table>
<thead>
<tr>
<th>Functional Module</th>
<th>Sub_Module</th>
<th>Detail</th>
<th>Num Small</th>
<th>Num Large</th>
<th>FS</th>
<th>TANF</th>
<th>MED</th>
<th>Program4</th>
<th>Program5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL1</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>0.0005</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>0.0007</td>
<td>0.0009</td>
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<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL3</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td>0.0018</td>
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<tr>
<td>Alerts</td>
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<td>AL4</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>0.0008</td>
<td>0.0009</td>
<td>1</td>
</tr>
<tr>
<td>Alerts</td>
<td>Staff</td>
<td>AL5</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

- **Calculation Step 2**: Second, the CAM-TOOL calculates the recipient count percentage for large programs.

The usage for small programs is subtracted from the maximum decimal total of 1.

For Alert AL2, there are 2 small programs under Num Small (Program 4 and Program 5).

Program 4’s recipient count percentage is .0007, and Program 5’s recipient count percentage is .0009. The calculation subtracts these shares from 1: 1 (i.e., 100% of the Total) - [.0007+.0009] = .9984.

After subtracting small programs, the remaining usage percentage is .9984.

The remaining usage percentage is divided equally among the number of large programs, as shown in Figure 38.
For Alert AL2, there are 2 large programs under Num Large (FS and MED).

The 2 large programs divide the usage percentage of .9984 (i.e., .9984/2) or .4992.

<table>
<thead>
<tr>
<th>Functional Module</th>
<th>Sub_Module</th>
<th>Detail</th>
<th>Num Small</th>
<th>Num Large</th>
<th>FS</th>
<th>TANF</th>
<th>MED</th>
<th>Program4</th>
<th>Program5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alerts Management</td>
<td>AL1</td>
<td>1</td>
<td>3</td>
<td></td>
<td>.3332</td>
<td>.3332</td>
<td>.3332</td>
<td>0.0005</td>
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<td></td>
</tr>
<tr>
<td>Alerts Management</td>
<td>AL2</td>
<td>2</td>
<td>2</td>
<td></td>
<td>.4992</td>
<td>.4992</td>
<td>.4992</td>
<td>0.0007</td>
<td>0.0009</td>
<td>1</td>
</tr>
<tr>
<td>Alerts Management</td>
<td>AL3</td>
<td>1</td>
<td>1</td>
<td></td>
<td>.9982</td>
<td></td>
<td></td>
<td>0.0018</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Alerts Staff</td>
<td>AL4</td>
<td>2</td>
<td>2</td>
<td></td>
<td>.49915</td>
<td>.49915</td>
<td></td>
<td>0.0008</td>
<td>0.0009</td>
<td>1</td>
</tr>
<tr>
<td>Alerts Staff</td>
<td>AL5</td>
<td>0</td>
<td>3</td>
<td></td>
<td>.33333</td>
<td>.33333</td>
<td>.33333</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Figure 38 Calculation Step 2

- **Calculation Step 3:** The third calculation determines the overall share of usage for each benefiting program. This calculation factors in Base Value and Weight data, and transforms the recipient count percentages into a program-level share of the development effort for each system component.

In our example, the allocation base for cost allocation is software development hours. The Base Values are the estimated development hours; there is no additional weighting system.

To illustrate the calculation, in Figure 39 we have added the Base Value and Weight columns next to the recipient count percentages they will act on.

<table>
<thead>
<tr>
<th>Functional Module</th>
<th>Sub_Module</th>
<th>Detail</th>
<th>Base Value</th>
<th>Weight</th>
<th>FS</th>
<th>TANF</th>
<th>MED</th>
<th>Program4</th>
<th>Program5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alerts Management</td>
<td>AL1</td>
<td>20</td>
<td>.3332</td>
<td>.3332</td>
<td>.3332</td>
<td></td>
<td></td>
<td>0.0005</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Alerts Management</td>
<td>AL2</td>
<td>25</td>
<td>.4992</td>
<td>.4992</td>
<td>.4992</td>
<td>0.0007</td>
<td>0.0009</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alerts Management</td>
<td>AL3</td>
<td>10</td>
<td>.9982</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.0018</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Alerts Staff</td>
<td>AL4</td>
<td>5</td>
<td>.49915</td>
<td>.49915</td>
<td></td>
<td></td>
<td></td>
<td>0.0008</td>
<td>0.0009</td>
<td>1</td>
</tr>
<tr>
<td>Alerts Staff</td>
<td>AL5</td>
<td>5</td>
<td>.33333</td>
<td></td>
<td>.33333</td>
<td>.33333</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 39 Calculation Step 3

The CAM-TOOL calculates “base value” and “weighting system” allocations differently.

**Calculation for Base Values:** The CAM-TOOL multiplies the base value for each system function by the benefiting program’s percentage of usage (base value ‘times’ recipient count percentage). We will step through the calculation for Alert AL2. In Figure 40 below, Alert AL2 has a base value of 25 (development hours).

As a large program, the FS usage percentage is .4992. Of the 25 development hours needed by AL2, the FS share should be: 25 multiplied by .4992 = 12.48, highlighted in Figure 40 below.

As a large program, the MED usage percentage is .4992. Of the 25 development hours needed by AL2, the MED share should be: 25 multiplied by .4992 = 12.48.
A small program, Program 4 recipient percentage is .0007. Of the 25 development hours needed by AL2, the Program 4 share should be: 25 multiplied by .0007 = 0.0175.

A small program, Program 5 recipient percentage is .0009. Of the 25 development hours needed by AL2, the Program 5 share should be: 25 multiplied by .0009 = 0.0225.

<table>
<thead>
<tr>
<th>Functional Module</th>
<th>Sub_Module</th>
<th>Detail</th>
<th>Base Value</th>
<th>Weight</th>
<th>FS</th>
<th>TANF</th>
<th>MED</th>
<th>Program 4</th>
<th>Program 5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL1</td>
<td>20</td>
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<td>6.664</td>
<td>0.01</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL2</td>
<td>25</td>
<td></td>
<td>12.48</td>
<td>12.48</td>
<td></td>
<td>0.0175</td>
<td>0.0225</td>
<td>25</td>
</tr>
<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL3</td>
<td>10</td>
<td></td>
<td>9.982</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Alerts</td>
<td>Staff</td>
<td>AL4</td>
<td>5</td>
<td></td>
<td>2.4955</td>
<td>2.4955</td>
<td>0.004</td>
<td>0.0045</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Alerts</td>
<td>Staff</td>
<td>AL5</td>
<td>5</td>
<td></td>
<td>1.6665</td>
<td>1.6665</td>
<td>1.6665</td>
<td>0.008</td>
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<td>5</td>
</tr>
</tbody>
</table>

**Figure 40 Calculation Step 3 Base Values**

*NOTE: Calculation for Weight Values.* Where a weighting system is used, the CAM-TOOL also factors the weight value into the calculation: multiplying base value 'times' weight 'times' recipient count percentage to calculate each program's usage share of every system component.

- **Calculation Step 4:** Finally, the command button inserts the new calculated data results into the Shared Usage LOE worksheet.

4. **Required Fields needed for the CAM-TOOL automated calculations.**
   - Functional Module
   - Sub_Module
   - Detail
   - Program Abbrev
   - Usage Type (calculated from All System Usage worksheet)
   - Weight Type (if used in this scenario)
   - Weight (if used in this scenario)
   - Base Value
   - Num_Small (calculated from All System Usage worksheet)
   - Num Large (calculated from All System Usage worksheet)
   - Usage (copied from All System Usage; replaced with Recipient Counts)
Click on the Shared Usage LOE menu option to open the Shared System Usage worksheet, as shown in Figure 41.

**Figure 41 Shared Usage LOE Worksheet.**

**Overview.** At this point in the cost allocation process, the final shared usage level of effort values have been calculated, and the results have been copied onto this worksheet.

Four command buttons on the worksheet allow you to populate additional worksheets: Cost Allocation Plan, Cost Allocation Plan Section, Program Base Plan Summary (Shared) and Format Shared Usage LOE (Copy).

**Note:** data copied from the worksheet is identified under each command button. Constraints are also identified as they apply to each command button.

1. **Data Copied To Worksheet.**
   - Functional Module, Sub_Module, Detail, Usage Type, Weight Type, Weight, Base Value, Num Small, Num Large, Benefiting Programs abbreviations and calculated share of development effort are copied onto this worksheet from the Recipient Count Worksheet, by use of the command button **Calculate Shared Usage Level of Effort (LOE).**

2. **Worksheet Command Buttons.**
   - **Create Cost Allocation Plan Summary** command button.
   
   This button generates a cost allocation summary for all benefiting programs and displays the result on the Cost Allocation Plan worksheet. The Cost Allocation Summary lists the benefiting programs and the calculated share of usage for each program. Clicking the button initiates the calculations, and then opens the Cost Allocation Plan Worksheet to display results.

**Calculation 1:** In creating the Summary, the CAM-TOOL first adds up all of the shared usage level of effort values for each of the benefiting programs, as shown on the shaded Program Totals row in Figure 42 below. In the example, the total of FS...
program usage is 33.288, the total for TANF is 10.826, for MED the total is 20.8105, for Program 4 the total is .0315, and for Program 5, the total is .045.

**Calculation 2:** The CAM-TOOL then determines a grand total for the shared usage elements. The grand total for the program totals is 65.

**Calculation 3:** Finally, the CAM-TOOL calculates the ratio of the grand total for each program.

FS program usage total of 33.288 represents 51 percent of the grand total, or .5121.
TANF program usage total of 10.826 represents 16 percent of the grand total, or .1616.
MED program usage total of 20.8105 represents 32 percent of the grand total, or .3202.
Program 4 usage total of .0315 represents .05 percent of the grand total, or .0005.
Program 5 usage total of .045 represents .07 percent of the grand total, or .0007.

The percent shares in decimal format are summed in the Total column to show that the final percentages add up to the "1," accounting accurately for the full grand total of 65.

<table>
<thead>
<tr>
<th>Functional Module</th>
<th>Sub_Module</th>
<th>Detail</th>
<th>Base Value</th>
<th>Weight</th>
<th>FS</th>
<th>TANF</th>
<th>MED</th>
<th>Program4</th>
<th>Program5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL1</td>
<td>20</td>
<td>6.664</td>
<td>6.664</td>
<td>6.664</td>
<td>0.01</td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL2</td>
<td>25</td>
<td>12.48</td>
<td>12.48</td>
<td>0.0175</td>
<td>0.0225</td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Alerts</td>
<td>Management</td>
<td>AL3</td>
<td>10</td>
<td>9.982</td>
<td></td>
<td>0.018</td>
<td>10</td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Alerts</td>
<td>Staff</td>
<td>AL4</td>
<td>5</td>
<td>2.4955</td>
<td>2.4955</td>
<td>0.004</td>
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<td>Alerts</td>
<td>Staff</td>
<td>AL5</td>
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<td>1.6665</td>
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<td>1.6665</td>
<td>1.6665</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTALS:</strong></td>
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<td></td>
<td>33.288</td>
<td>10.826</td>
<td>20.8105</td>
<td>0.0315</td>
<td>0.045</td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>Percent Share in decimal format:</td>
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<td></td>
<td></td>
<td>0.5121</td>
<td>0.1666</td>
<td>0.3202</td>
<td>0.0005</td>
<td>0.0007</td>
<td></td>
<td>1.0000</td>
</tr>
</tbody>
</table>

**Figure 42 Usage Totals for Cost Allocation**

**Calculation 4:** The resulting percent share in decimal format is displayed on the Cost Allocation Plan Summary as each program’s “fair share” of the allocation budget.

- **Create Cost Allocation Plan Section** command button.
  Clicking this button generates subset or section of cost-allocation for selected system components. This button performs the same calculations as the Create Cost Allocation Plan Summary button, but does so for a selected set of system components.

  Clicking on this button opens the Create Cost Allocation Section userform listing all system components, as shown in Figure 43.
Please select system items. Highlight one or more system functions to compose the "section" you wish to summarize.

Select All button. Click to select all system components for summarization.

Clear Selections button. Click to remove all highlights.

Create Cost Allocation Section button. Click to open a confirming message box asking "Are you sure that you want to create a cost allocation section?"

Clicking Yes will open a naming message box (Enter Name of Cost Allocation Section).

Clicking No closes the message box; you will remain in the "Create Cost Allocation Section screen."

Enter Name of Cost Allocation Section message box is shown in Figure 44 below. Enter a descriptive name for the cost allocation section / subset.

(Note: The Cost Allocation Plan worksheet will display any number of cost allocation plan sections that you wish to create. Use a naming convention that will allow you to distinguish the basis for each scenario.)
Clicking **OK** will summarize the program shares for the highlighted items and copy the results to the Cost Allocation Plan worksheet.

Clicking **Cancel** closes the message box without naming the new Section.

**NOTE:** Creating a Cost Allocation Plan Section does not delete existing data on the Cost Allocation Plan Worksheet. Each time a Cost Allocation Plan Section is created, the new Section is appended below existing summaries on the Cost Allocation Plan worksheet. This allows you to create an overall summary, and to separately generate and display summaries of any subset combination of system functions. See the Cost Allocation Plan Worksheet for examples.

- **Create Program Base Summary (Shared) command button**

This button is optional to the basic computations of the CAM-TOOL. The button creates a summary of shared usage by benefiting program, and displays results on the Program Summary worksheet. The optional summary worksheet is provided for reference and for your use for further calculations, analysis, or formatting.

How it works: one benefiting program may share in the use of 45 of 100 system components, and a second benefiting program may share in the use of 30 of 100 system components. This button will create two separate lists of shared system components on the Program Summary worksheet, one for each benefiting program.

Clicking this button opens a message box warning "All information in the Program Base Summary worksheet will be DELETED! Are you sure that you want to create a program base summary for shared usage?"

- **Click Yes** to copy information to the Program Base Summary worksheet and open the worksheet.

- **Click No** to close the message box; you will remain in the Shared System Usage worksheet.

Copied data includes, for each benefiting program, the total number of shared system components used; a list of each component’s name, base value, and calculated final value.

Note: This button differs from the Create Program Summary (All) button on the All System Usage worksheet in the amount of data copied.

- **Format Shared Usage LOE (Copy) command button.**

This button creates an optional copy of all worksheet information onto the Format Shared Usage LOE worksheet. The optional worksheet is provided for reference and your use for further calculations, analysis, or formatting.

Clicking this button opens a message box warning "All information in the Format Shared Usage LOE worksheet will be DELETED! Are you sure that you want to create new summary for shared usage?"
Click **Yes** to copy information to the Format Shared Usage LOE worksheet and open the worksheet.

Click **No** to close the message box; you will remain in the Shared System Usage worksheet.

Copied data includes all data visible on the worksheet.

3. **Data Copied From Worksheet.** Data copied to Cost Allocation Plan Worksheet for includes Program Abbrev, and calculated values for program share of cost.

4. **Required Fields needed for the CAM-TOOL automated calculations.**
   - Functional Module
   - Sub_Module
   - Detail
   - Program Abbrev
   - Usage Type (calculated from Recipient Counts Worksheet)
   - Weight Type (if used in this scenario)
   - Weight (if used in this scenario)
   - Base Value
   - Num_Small (calculated from Recipient Counts Worksheet)
   - Num_Large (calculated from Recipient Counts Worksheet)
   - Usage (calculated from Recipient Counts Worksheet)
The Cost Allocation Plan Worksheet

Click on the Cost Allocation Plan menu option to open the Cost Allocation Plan worksheet, as shown in Figure 45.

**Overview.** The Cost Allocation Plan Worksheet displays the overall Cost Allocation Plan for the project, and, optionally, the cost allocations for selected sections of system components. The worksheet calculates the usage share into budget allocation dollars whenever you enter or update a Budget Amount for the CAP Summary or any CAP Section.

Also optionally, if your SubModules worksheet identified one or more entire submodules as Direct, these will be listed in a section titled Summary of Direct Modules Excluded, for separate handling outside the scope of the allocated costs. Please note that this exclusion applies only to those Modules or SubModules that are to be charged directly in their entirety to one program (see note below). Figure 45 above identifies four submodules that were excluded by action of the **Calculate Shared Usage LOE** command button on the Recipient Counts worksheet.

**NOTE:** When a SubModule is identified as Direct, the cost and effort for its Detail-level components will be attributed to that same single program, and will not be allocated across programs.

When a SubModule is identified as Shared, the cost and effort for each of its Detail-level components will be assessed further, and each will be allocated to the specific program or programs that will utilize it.
For the remaining system components that were included in cost allocation calculations, Figure 45 displays the Summary of All Allocated Functions. The Summary identifies each benefiting program’s share of the cost-allocated system components. The Summary is generated by the Create Cost Allocation Plan Summary command button on Shared Usage LOE worksheet. In Figure 45, the budget total of $15,000,000 was hand-entered directly onto the worksheet, and may be updated at any time throughout the project.

You may also refresh the Summary of All Allocated Functions as many times as needed.

*It is important to keep in mind: the Allocated Budget Amount may not represent the total project budget.* The System Information Worksheet documents the amount of the Allocation Budget, and the Total Project Budget. When one or more SubModules have been identified as Direct cost charges on the SubModules Worksheet, their costs will be excluded from the Allocation Budget and must be represented separately in your overall project budget.

In the worksheet above, the SNAP share of the allocated cost is $1,794,975. However, SNAP may have additional costs in the overall project budget. If, for example, SNAP is direct charged $850,000 for development of the SubModule INT1, then the SNAP share of the total project costs would be $1,794,975 + $850,000 = $2,644,975.

After the CAM-TOOL has identified each program’s share of the Allocation Budget, you must manually calculate the direct charges for development identified on the SubModules Worksheet. Your project budget should account for the aggregated total of the Allocation Budget and the Direct costs.

The Alerts Components Section Summary in Figure 45 provides the usage share for components selected through the Create Cost Allocation Plan Section command button on the Shared Usage LOE worksheet. You may generate any number of Section summaries.

You may also delete any or all of the summaries on this worksheet through the Delete CAP Section(s) command button.

1. **Worksheet data**
   Each CAP Summary or Section provides a data entry field for the budget total (dollars) to be allocated to the project or scenario, a list of all benefiting programs, the program share of cost expressed as a percentage of usage, and columns for share of cost expressed in dollars, the match rate for each program, the Federal Share for each program (dollars), and the State Share for each program (dollars).

2. **Data Copied To Worksheet.**
   - Federal / State Program. A list of each benefiting program for the project. It was copied to this worksheet from the Shared Usage LOE.
   - Program Share of Cost. Benefiting Program share of cost expressed as a percentage of usage. Calculated by action of the command button Create Cost Allocation Plan Summary or Create Cost Allocation Plan Section.
   - Match Rate. The rate of federal financial participation (FFP) for each program. It was copied to this worksheet by action of the command button Create Cost Allocation Plan Summary or Create Cost Allocation Plan Section.

3. **Data Entered To Worksheet.**
   - Allocated Budget. Enter the total budget amount for the CAP Summary or a CAP Section. The total project budget should match the figure you entered on the System
Information worksheet. Totals for sections, or function subsets, must be calculated outside the CAM-TOOL and entered for each section or subset.

4. **Worksheet Calculations.**
   When you enter an Allocated Budget Amount total in Column H, the CAM-TOOL calculates and inserts the following:
   
   - **Share Amount ($).** Share of program cost expressed in dollars (Budget Amount X Program Share of Cost)
   - **Federal Share ($) (FFP).** Federal Share for each program (Share Amount X Federal Match Rate).
   - **State Share ($).** State Share for each program (Share Amount -- Federal Share).

   As shown in Figure 46 below, when an Allocated Budget Amount of $15,000,000 is entered, the CAM-TOOL calculates the share amount in dollars. Using SNAP as an example, the SNAP program share percent of .23933 calculates to a dollar value of $3,589,950 (i.e., $15,000,000 X .23933 = $3,589,950).

   Using the match rates copied from Benefiting Programs worksheet, the CAM-TOOL calculates the Federal Share of Federal Financial Participation (FFP), and the State Share. In Figure 46, the SNAP match rate of 0.5 translates to a Federal Share of ($3,589,950 X .5) or $1,794,975 and a State Share of ($3,589,950 - $1,794,975) or $1,794,975.

   ![](Figure46.png)

   **Figure 46 Cost Allocation Budget**

   This summary information may be useful as an exhibit table in a Cost Allocation Plan for submission to federal partners.

5. **Command Buttons.**
   - **Go To Child Welfare CAP Worksheet** command button.
     This command button opens the optional Child Welfare CAP Worksheet.
   - **Delete CAP Section(s)** command button.
     Clicking this button allows you to delete named sections from the Cost Allocation Plan worksheet.
Clicking on this button opens a “Delete CAP Section(s)” userform listing the sections named on the Cost Allocation Plan worksheet, as shown in Figure 47.

![Delete CAP Section Userform](image)

**Figure 47 Delete CAP Section Userform**

- **Please select CAP Sections to Delete.** Highlight one or more CAP Section names to flag for deletion.
- **Select All** button. Click to select all CAP Sections for deletion.
- **Clear Selections** button. Click to remove all highlights.
- **Delete Cost Allocation Section(s)** button. Click to open a confirming message box asking "Are you sure you want to delete a cost allocation section?"

Clicking **Yes** deletes the highlighted CAP sections from the Cost Allocation Plan worksheet.

Clicking **No** closes the message box; you will remain in the "Delete CAP Section screen."

6. **Data Copied From Worksheet.** None.

7. **Required Fields needed for the CAM-TOOL automated calculations.**
   - Program Abbrev
   - Program Share of Cost (%)
   - Share Amount (calculated by the CAM-TOOL)
   - Match Rate
   - Allocated Budget / Section Amount
   - Federal Share ($) FFP (calculated by the CAM-TOOL)
   - State Share ($) (calculated by the CAM-TOOL)
The Child Welfare Cap Worksheet

Click on the Child Welfare CAP menu option to open the Cost Allocation Plan Child Welfare – Itemized Allocation worksheet, as shown in Figure 48. This worksheet can also be opened by clicking the Go to Child Welfare CAP Worksheet command button on the Cost Allocation Plan worksheet.

Figure 48 Cost Allocation Plan (Child Welfare - Itemized Allocation) Worksheet

Overview. The CAM-TOOL calculations are designed to use one single figure for the federal match rate for each benefiting program. Most federal programs have predetermined match rates. However, Child Welfare cost components frequently must be assessed further in relation to the several cost centers within Child Welfare in order to determine the match rate to be applied to a particular system development project.

This worksheet documents any further breakdown by cost center, and the overall resulting single figure to be used by the CAM-TOOL in high level calculations at the program level.

Provide a narrative description and a breakdown of calculations to support the specific match rate to be used on the Cost Allocation Plan for this system development project. Document or reference the agency guidance used in the calculations.

When an overall rate has been determined, enter it to the Benefiting Programs worksheet, then regenerate the CAP Summary and any CAP Sections from the Shared Usage LOE worksheet. Ensure that the overall match rate used for Cost Allocation Plan summaries and Sections is correct.

1. Data Copied To Worksheet. None.

2. Data Copied From Worksheet. None.
3. **Worksheet Calculations.** None.

4. **Required Fields needed for the CAM-TOOL automated calculations.** None.
The Program Summary Worksheet

Click on the Program Summary menu option to open the Program Summary worksheet, as shown in Figure 49 and Figure 50 in this section.

Overview. This worksheet can display either of two summaries of usage for benefiting programs: the usage for all system components, or the usage of only the shared system components. The worksheet may be populated by either of two command buttons, the Program Base Summary (All) command button on the All System Usage worksheet, or the Create Program Base Summary (Shared) command button on the Shared Usage LOE worksheet.

The worksheet is optional, and is not used in further CAM-TOOL calculations. You are free to manipulate data, make further calculations, or conduct any customized analyses needed, without affecting CAM-TOOL operations.

The worksheet command button Copy Worksheet for Backup allows you to create a copy of the worksheet in order to preserve the data currently displayed on the worksheet for further use.

1. Data Copied To Worksheet. The two initiating command buttons copy different data onto the worksheet.

- Data copied by Create Program Base Summary (All) command button on the All System Usage worksheet.

![Program Base Summary (All System Usage or Shared System Usage)](image)

Figure 49 Program Base Summary (All) -- From All System Usage Worksheet

Copied data includes five data fields: Functional Module, Sub_Module, Detail, Usage Type, and Base Value. A separate summary is created for each
benefiting program. Each summary lists the names of all system components used by the program, and provides a total count next to the program name.

- In Figure 49 above, note that worksheet data is titled “Program Summary (All System Usage).”
- The SNAP benefiting program uses a total of 40 system components.
- Note also that SNAP components include Interface INT4 (on row 30). This example assumes that Interface INT4 was identified on the SubModules worksheet as a Direct cost item that would not be included in cost allocation. Therefore, it appears on this list of all system components used by SNAP, but will be excluded from any listing of shared components.

- Data copied by Create Program Base Summary (Shared) command button on Shared Usage (LOE) worksheet.

**Figure 50 Program Base Summary -- From Shared Usage (LOE)**

Copied data includes six data fields: Functional Module, Sub_Module, Detail, Usage Type, Base Value, and the Final Value for the program’s shared usage of each component. A separate summary is created for each benefiting program. Each summary lists the names of the shared system components used by the program, and provides a total count next to the program name.

- In Figure 50 above, note that worksheet data is titled “Program Summary (Shared System Usage).”
- The SNAP benefiting program uses a total of 39 shared system components.
- Note also that the shared SNAP components do not include Interface INT4. This example assumes that Interface INT4 was identified on the SubModules worksheet as a Direct cost item that would not be included in cost allocation. Therefore, it has been excluded from this listing of shared components.

2. Command button.
Copy Worksheet for Backup command button. Clicking the button copies the entire worksheet tab, creating a new tab with the title PROGRAM_BASE_SUMMARY_(2). Right-click the new worksheet tab and choose to Rename your tab with a scenario-specific name. You may further copy data from the worksheet copy out to another Excel workbook to examine or manipulate further.

NOTE: Data on this worksheet is refreshed completely whenever the Create Program Base Summary (All) command button is clicked on the All System Usage worksheet or the Create Program Base Summary (Shared) command button is clicked on the Shared Usage LOE worksheet. If you have altered worksheet data and wish to preserve a copy, use the Copy Worksheet for Backup command button to copy the worksheet.

3. Data Copied From Worksheet. The CAM-TOOL does not use data on this worksheet in automated calculations; you may copy worksheet data to a backup worksheet for further use.

4. Worksheet Calculation. None provided by the CAM-TOOL.

5. Required Fields needed for the CAM-TOOL automated calculations.
   • None
The Format All System Usage Worksheet

Click on the Format All System Usage menu option to open the Format All System Usage worksheet, as shown in Figure 51.

![Figure 51 Format All System Usage](image)

**Overview.** Data was copied from the All Systems Usage worksheet by action of the command button *Format All System Usage (Copy)*.

This worksheet is optional to the basic computations of the CAM-TOOL. You are free to manipulate data, make further calculations, or conduct any customized analyses needed, without affecting CAM-TOOL operations.

Please note that data on this worksheet is completely refreshed whenever you click the *Format All System Usage (Copy)* command button on All System Usage worksheet. You may use the command button *Copy Worksheet for Backup* to preserve any changes you make to the worksheet.

1. **Data Copied to the Worksheet.**
   - Functional Module
   - Sub-Module
   - Detail
   - Usage_Type
   - Weight_Type and Weight
   - Base Value
   - Num_Small and Num_Large
   - Program Abbreviation columns
   - Program usage indicators (“X”)

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2. **Command Buttons.**
   - **Count Usage = “X” (Program Totals)** command button. Click this button to highlight a group of system components used by one or more programs and then to tally the number of components used by each program in the group.

   1) Clicking the button opens the Usage Counts by Program userform.

   2) Click on the topmost cell of the first program column to be totaled, to anchor the starting point for your selection highlight. Hold the left mouse button and highlight the area to be totaled.

   For this calculation, you must select one contiguous area, not separate cells. In Figure 52 below, the FS, TANF, and MED benefiting programs columns are highlighted, and the selection field shows L3:N28 as the area to be totaled.

   ![Figure 52 Usage Counts Selected for Program Totals](image)

   3) Click **OK** to open the Select Output Cells to Display Program Totals userform:
Select Output Cells: “Select empty cells under the program columns as the output Cells.” For this action you need to select adjacent cells below the specific benefiting program columns to display your totals.

Click into an empty cell below the first benefiting program you highlighted to total. Hold down the left mouse button and select adjacent empty cells below all of the program columns that you highlighted to total. In Figure 53, adjacent cells L53:N53 under the FS, TANF, and MED columns have been selected to hold totals.

Clicking OK will add the totals into the cells you have selected.

Clicking Cancel will close the window with a confirming message box; you will remain in the Format All System Usage worksheet.

4) **Note:** the CAM-TOOL does not automatically label the new totals. You need to create a descriptive label for the group of totals in a nearby cell.

5) The **Count Usage = X (Program Totals)** command button can be used to create any number of totals, because the button does not automatically delete or overwrite data. You are able to select where to display and label each new total.

- **Count Usage = “X” (SubTotal)** command button.
  Click this button to calculate a single-figure total for a selected group of usage Xs, whether that group is within one column, or drawn across several program columns. Use this button to total a particular set of functions in one or more program columns, such as all Alerts.

  1) Clicking the button opens the Subtotal Selected Usage Count userform.

  2) Click into a benefiting program column, on the topmost cell to be totaled. Hold the left mouse button and highlight the area to be totaled. The cells you select must be a continuous rectangular area.

You may select all the cells in one program column, or all the cells for a particular program function, across several columns. In Figure 54 below, Security functions are selected for the FS, TANF, and MED programs. The selection field shows L25:N27 will be totaled.
3) Clicking OK opens the Select Output Cell userform. Click into the empty cell you want to display the calculated total. In Figure 55, N53 has been selected to display the total.

![Select Output Cell Userform](image1.png)

**Figure 55 Cell Selected to Display Usage Total**

Clicking **OK** will add the total into the cell you have selected.

Clicking **Cancel** will close the userform with a confirming message box; you will remain in the Format All System Usage worksheet.

4) **Note:** The CAM-TOOL does not automatically label the new total. You need to create a descriptive label for each total in a nearby cell.

5) You may use the **Count Usage=X (Sub Total)** command button to create any number of totals, because the button does not automatically delete or overwrite data, and you are able to select where to display and label each new total.

- **Copy Worksheet for Backup** command button.
Clicking the button copies the entire worksheet tab, creating a new tab with the title `FORMAT_ALL_SYSTEM_USAGE_(2)`. Right-click the new worksheet tab and choose to Rename your tab with a scenario-specific name. You may further copy data from the worksheet copy out to another Excel workbook to examine or manipulate further.

**NOTE:** Data on this worksheet is refreshed completely whenever the **Format All System Usage (Copy)** command button is pressed on the All System Usage worksheet. If you have altered or added to data and wish to preserve a copy, use the **Copy Worksheet for Backup** command button to copy the worksheet.

3. **Data Copied form Worksheet.** No data copied by the CAM-TOOL.

4. **Worksheet Calculation.** None provided by the CAM-TOOL.

5. **Required Fields needed for the CAM-TOOL automated calculations.** None.
The Format Shared Usage Worksheet
Click on the Format Shared Usage menu option to open the Format Shared Usage worksheet, as shown in Figure 56.

Figure 56 Format Shared Usage Worksheet

**Overview.** Data was copied from the Shared Systems Usage LOE worksheet by action of the command button *Format Shared System Usage LOE (Copy)*.

This worksheet is optional to the basic computations of the CAM-TOOL. You are free to manipulate data, make further calculations, or conduct any customized analyses needed, without affecting CAM-TOOL operations.

Please note that data on this worksheet is completely refreshed whenever you click the *Format Shared System Usage LOE (Copy)* command button on Shared System Usage worksheet. You may use the command button *Copy Worksheet for Backup* to preserve any changes you make to the worksheet.

1. **Data Copied to the Worksheet.**
   - Functional Module.
   - Sub-Module
   - Detail
   - Usage_Type
   - Weight_Type and Weight
   - Base Value
   - Num_Small and Num_Large
   - Program Abbreviation columns
   - Program usage (calculated level of effort attributed to each benefiting program)
2. **Command Buttons.**

- **Sum Program Values (Program Totals)** command button. Click this button to highlight a group of system components used by one or more programs and then to tally the number of components used by each program in the group.

1) Clicking the button opens the Sum Values by Program userform.

2) Click into a benefiting program column, on the topmost cell to be totaled. Hold the left mouse button and highlight the area to be totaled. The cells you select must be a continuous rectangular area.

You may select all the cells in one program column, or all the cells for a particular program function, across several columns. In Figure 57 below, the SNAP, TANF, and MED benefiting programs columns are highlighted, and the selection field shows L18:N46 as the area to be totaled.

3) Clicking OK opens the Select the Output Cells window, asking you to "Select Output Cells for Program Totals."

![Figure 57 Cells Selected for Program Totals](image)
Select the cells (one below each program column) to display totals. Click into an empty cell below the first benefiting program you selected. Holding down the left mouse button, select adjacent empty cells below the program columns to be totaled. In Figure 58, adjacent cells L50:N50 under the SNAP, TANF, and MED columns have been selected to hold totals.

Clicking **OK** will add the totals into the cells you have selected.

Clicking **Cancel** will close the window with a confirming message box; you will remain in the Format All System Usage worksheet.

**Note:** The CAM-TOOL does not label the new totals. You need to create a descriptive label for the group of totals in a nearby cell, i.e., the “Totals” shown in the example was entered manually after the totals were created.

4) You may use the **Sum Program Values (Program Totals)** command button to create any number of totals, because the button does not automatically delete or overwrite data.

- **Sum Program Values (Subtotal)** command button.
  Click this button to calculate a single total for the usage shares within a single highlighted group, whether that group is within one column, or drawn across several program columns. Use this button to total a particular set of functions in one or more program columns, such as all Alerts.

1) Clicking the button opens the Subtotal Selected Values window asking you to “Select the cells that you want to tally.”

To select the cells you want to tally, click into the topmost cell to tally. The cells you select must be a continuous rectangular area.

You may select all the cells in one program column, or all the cells for a particular program function, across several columns. In Figure 59 below, Security functions were selected for the SNAP, TANF, and MED programs. The selection field shows L44:N46 will be totaled.
2) Clicking OK opens the Select Output Cell window asking you to "Select one Output Cell to display the Subtotal." Click into one empty cell to display the calculated total. In the illustration below, L50 has been selected to display the total.

![Figure 59 Cells Selected to Tally](image)

**Figure 59 Cells Selected to Tally**

Clicking **OK** will add the total into the cell you have selected.

Clicking **Cancel** will close the window with a confirming message box; you will remain in the Format All System Usage worksheet.

**Note:** the CAM-TOOL does not label the new total. You need to create a descriptive label for each total in a nearby cell.

3) You may use the **Sum Program Values (Subtotal)** command button to create any number of totals, because the button does not automatically delete or overwrite data.

- **Copy Worksheet for Backup command button.**
  Clicking the button copies the entire worksheet tab, creating a new tab FORMAT_SHARED_USAGE_(2). Right-click the new worksheet tab and select Rename to give your tab a scenario-specific name.

3. **Required Fields needed for the CAM-TOOL automated calculations.** None
The Help Menu Worksheet

Click on the Help Menu menu option to open the HELP_MENU worksheet.

Overview. Each chapter of this User Guide is available from within the CAM-TOOL as a Help file. This worksheet provides links to locate and open Help files when they are stored in the same directory as the CAM-TOOL software.

Using Help Files. The Help files must be located in the right directory for the CAM-TOOL software links to work properly.

- Click on the worksheet link to access the related help file.
- Help Files may also be accessed from each worksheet by clicking the “?” (i.e., question mark) in cell “B1.”
- Each help file is a chapter from this User Guide.

Downloading Help Files. Download all CAM files to a single directory on your hard drive:

- CAM TOOL (MS Excel workbook)
- CAM TOOL Examples (Simple Data Example, Complex Data Example, Data Example with Weighting)
- CAM TOOL Help Files (compressed folder)*
- CAM User Guide (PDF)
- CAM Handbook (PDF)

NOTE: Unzip the CAM TOOL Help Files into the same directory as the CAM TOOL and the CAM TOOL Examples. Do not use the CAM-TOOL directly from the website; it will not be able to access help files or save data properly.
**CAM-TOOL Worksheet Data Flow and Fields**

The following table lists and describes the CAM-TOOL Worksheet Data Fields and the flow of data between worksheets.

**Note:**
- **Required Fields** are those needed for the automated calculations completed by the tool. A required field may be empty of data, but the field itself, i.e., the data column, must exist to allow CAM-TOOL calculations to run.
- **Reference Fields** are necessary to describe or characterize the cost allocation scenario, but are not used in CAM-TOOL calculations.
- **Comments** for each worksheet include identification of the worksheet from which data was copied, and the worksheet to which it will be copied.

<table>
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<tr>
<th>Worksheet</th>
<th>Field</th>
<th>Status</th>
<th>Data Type</th>
<th>Entry</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Information Worksheet</td>
<td><strong>System / Project Name</strong></td>
<td>Required</td>
<td>Alphanumeric</td>
<td>Entry</td>
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<tr>
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<td>Estimated Budget in Dollars</td>
<td>Reference</td>
<td>Numeric</td>
<td>Entry</td>
<td>Compare manually to Budget figure entered to Cost Allocation Plan Worksheet</td>
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<td>Entry</td>
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<td>Entry</td>
<td>Reference. Documents the design and intent of weighting system, including the weight type and the and the specific weights to be used in calculating usage and a program shares</td>
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<tr>
<td></td>
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</tr>
<tr>
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</tr>
<tr>
<td>Worksheet</td>
<td>Usage Type</td>
<td>Required</td>
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</tr>
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</tr>
<tr>
<td>Worksheet</td>
<td>Base Value</td>
<td>Required</td>
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<td>Entry</td>
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<tr>
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</tr>
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<td>Usage = X</td>
<td>Entry Required field. Entered in Enter Usage = X command button. Indicate the programs that use each module.</td>
</tr>
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</table>

**Recipient Counts Worksheet**

<table>
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<td>Share Amount</td>
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<td>Match Rate</td>
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<tr>
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<td></td>
<td><strong>Program Summary Worksheet</strong></td>
<td>When populated from <strong>Create Program Base Summary (ALL)</strong> command button on All System Usage worksheet:</td>
<td></td>
<td></td>
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<tr>
<td>Worksheet</td>
<td>Field</td>
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<td>Data Type</td>
<td>Entry</td>
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<td>Format All Systems Usage Worksheet</td>
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</tr>
<tr>
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When populated from **Create Program Base Summary (Shared)** command button on Shared Usage LOE worksheet:

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**CAM-TOOL User Guide**
<table>
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<th>Entry</th>
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**Format Shared Usage Worksheet**

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<tbody>
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## Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>1. <strong>All Usage:</strong></td>
<td>Type of usage for each system function, as either Direct (used by only one benefiting program) or shared (used by two or more benefiting programs)</td>
</tr>
<tr>
<td>2. <strong>Allocation Base:</strong></td>
<td>The cost allocation measurement selected to track and calculate the cost allocation for all benefiting programs. Allocation bases used for software development could include development hours, lines of code (LOC), number of screens, etc.</td>
</tr>
<tr>
<td>3. <strong>Allocation Hierarchy:</strong></td>
<td>The categorization of system functionality into levels of detail for cost allocation purposes. The CAM-TOOL provides for three levels of allocation hierarchy: Functional Module, Sub_Module, and Detail.</td>
</tr>
<tr>
<td>4. <strong>Base Value</strong></td>
<td>A numeric value representing the level of effort estimated to complete a specific system function. Base Value relates directly to the chosen Allocation Base. Where the allocation base is software development hours, a specific system function may have a base value = 100. In this case, the 100 represents the 100 software development hours required to complete that system functionality.</td>
</tr>
<tr>
<td>5. <strong>Benefiting Program:</strong></td>
<td>Any state or federal program that will use one or more system functions.</td>
</tr>
<tr>
<td>6. <strong>Direct Usage:</strong></td>
<td>System functionality used by only one benefiting program.</td>
</tr>
<tr>
<td>7. <strong>Level of Effort:</strong></td>
<td>The development work or value estimated for completion of a specific system functionality.</td>
</tr>
<tr>
<td>8. <strong>Program Usage Assignment:</strong></td>
<td>An indicator that a benefiting program uses a specific system functionality. On the All System Usage worksheet, program usage is indicated by a capital “X” for each system function used by each benefiting program.</td>
</tr>
<tr>
<td>9. <strong>Shared Usage:</strong></td>
<td>System functionality used by two or more benefiting programs</td>
</tr>
<tr>
<td>10. <strong>System Functionality:</strong></td>
<td>Specific components of the system for which development effort can be tracked. System functionality is mapped to the allocation hierarchy in the tool.</td>
</tr>
<tr>
<td>11. <strong>Recipient Counts:</strong></td>
<td>The number of duplicated recipients that represent the size of benefiting programs. This number is used to determine an adjusted cost allocation share for small programs. Basis for number should be documented as part of CAM-TOOL System Information.</td>
</tr>
<tr>
<td>12. <strong>Weight</strong></td>
<td>The specific value (from the scale of values) assigned to each system function. Weight value represents the level of effort estimated to complete a specific system function where development hours is not the measure. For example, where code complexity is the weight type, weights might be a numeric scale of 1 (low complexity) to 5 (high complexity).</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>13. Weight Type</strong></td>
<td>The numeric scale of values representing the level of effort needed to complete a specific system function where development hours is not the measure. For example, where the allocation base is lines of code, the number of lines of code does not necessarily reflect the work effort involved, but the code could be evaluated for <strong>code complexity</strong> (low to high on a scale of 1 to 5). Number of use cases might be evaluated in <strong>use case complexity</strong> (low to high on a scale of 1 to 3). The factor and weighting scale must be documented on the Weighting System worksheet.</td>
</tr>
</tbody>
</table>