

InitiativeName	Template	Bureau	Class	Exhibit 53 Part	OMB Investment Type	Project Management Qualification Status
Example Investment	BY2009		IT	IT Investments by Mission Area		
CBC TEST RYAN	BY2009		IT			
Investment 02	BY2009	Department of Labor	IT	IT Investments by Mission Area	01 - Major Investment	1 - The project manager assigned for this investment has been validated as qualified in accordance with OMB PM Guidance
Investment 05	BY2009		IT			
Investment 06	BY2009	eCPIC	IT	IT Investments by Mission Area	01 - Major Investment	1 - The project manager assigned for this investment has been validated as qualified in accordance with OMB PM Guidance

**Note: A user can sort the results by clicking on the column header the user wishes to sort by. An arrow will appear. Clicking on the arrow will sort the results in ascending order. Click on the arrow or heading again and the results will be sorted in descending order.**

InitiativeName	Template	Bureau	Class	Exhibit 53 Part	OMB Investment Type	Project Management Qualification Status
Example Investment	BY2009		IT	IT Investments by Mission Area		
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Investment 02	BY2009	Department of Labor	IT	IT Investments by Mission Area	01 - Major Investment	1 - The project manager assigned for this investment has been validated as qualified in accordance with OMB PM Guidance
Investment 05	BY2009		IT			
Investment 06	BY2009	eCPIC	IT	IT Investments by Mission Area	01 - Major Investment	1 - The project manager assigned for this investment has been validated as qualified in accordance with OMB PM Guidance

InitiativeName	Template	Bureau	Class	Exhibit 53 Part	OMB Investment Type	Project Management Qualification Status
CBC TEST RYAN	BY2009		IT			
Investment 05	BY2009		IT			
Investment 196	BY2009					
Investment 390	BY2009					
Investment 403	BY2009					

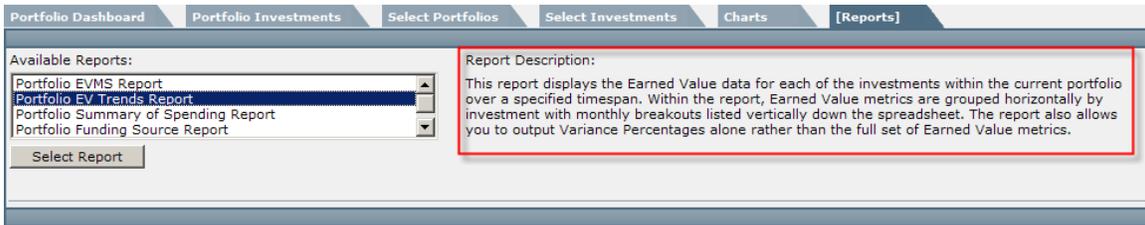
### 5.7 Portfolio Reports

The Portfolio Reports section has been added to the Portfolios Module as a means of viewing aggregated data across a portfolio. Currently, two reports exist, the Portfolio Summary of Spending Report and the Portfolio Funding Report. To access these reports:

1. Navigate to the Portfolios Module
2. Open up an existing portfolio.
3. Click on the *Reports* tab. The Reports page should be displayed.



4. Select the desired Report from the list of Available Reports. Note that when a Report is highlighted, a brief description of that report is displayed to the right.



5. Click the “Select Report” button to choose that report.



6. If the report required additional information before running, follow the directions listed in the report pane to generate the report. If the report does not require additional information, it will be generated in the report pane.
7. Once the report has been generated, you can click on the Excel Export button to export that report data to Excel.

### 5.7.1 Portfolio Summary of Spending Report

The Portfolio Summary of Spending Report displays the rolled up spending data for all investments in the current portfolio. For each of the years between PY-6 and BY+8, the Portfolio SOS report displays: Subtotal Planning and Acquisition, FTE Costs for Planning and Acquisition, the Planning and Acquisition total (Subtotal + FTE Costs), Operations & Maintenance, FTE Costs for Maintenance, the Operations and Maintenance Total (O&M + Maintenance FTE Costs), and the overall Portfolio Total. The report can be easily exported to Excel for deeper analysis of portfolio financials.

Portfolio Summary of Spending Report															
	2001	2002	2003	2004	2005	2006	2007	PY 2008	CY 2009	BY 2010	BY + 1 2011	BY + 2 2012	BY + 3 2013	BY + 4 2014	2015
Subtotal Planning and Acquisition (DME)	0.000	0.000	0.000	0.000	223.000	777.000	256.000	7758.000	5434.000	7434.000	0.000	0.000	0.000	0.000	0.0
FTE Planning & Acquisition (DME)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DME Total	0.000	0.000	0.000	0.000	223.000	777.000	256.000	7758.000	5434.000	7434.000	0.000	0.000	0.000	0.000	0.0
Operations & Maintenance (O&M)	0.000	0.000	0.000	0.000	234.000	234.000	234.000	234.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
FTE O&M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
O&M Total	0.000	0.000	0.000	0.000	234.000	234.000	234.000	234.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Portfolio Total	0.000	0.000	0.000	0.000	457.000	1011.000	490.000	7992.000	5434.000	7434.000	0.000	0.000	0.000	0.000	0.0

**Note: If the Summary of Spending Report is run on a portfolio that is NOT associated with a specific template, then the table will display the generic budget year headers (PY-6 through BY+8). For example, the BY column will represent the sum of the BY spending for each of the investments regardless of budget year for each investment.**

### 5.7.2 Portfolio Funding Source Report

The Portfolio Funding Source Report displays a list of all of the Funding Sources that are referenced by Investments in the Portfolio, as well as the sum of all of the funding sources. Additionally, the funding sources can be grouped by each investment’s response to eCPIC fields in order to view a portfolio based breakdown of funding.

1. Select the desired source from the list.
2. Click Generate Report.

3. The Funding Sources Report will be displayed. Initially, the report will display a set of options for the Funding Source Report. Choose the desired options and click “Generate Report”

OPTION	DESCRIPTION
Report Group By Field	This option allows the user to initially sort the investments by its response to the selected field. The report then displays the Funding Sources associated with each response to the selected field, as well as the subtotal for each group. If “[None]” is selected, then no grouping will occur, and the report will display the total amounts associated with each funding source.
Exhibit 53 Funding Only	If this option is checked, the report will only output Funding Sources that are marked as “Yes” to the “On Exhibit 53” in the Funding Sources table within the Investments Module.

The screenshot shows the 'Portfolio Funding Source Report' interface. At the top, there is a dropdown menu for 'Bureau' with options: Bureau, Exhibit 53 Part, Investment Stage, and Exhibit 300: Acquisition Strategy. To the right, there is a text box: 'Choose a field from the list on the left to group the Funding Sources in this investment' and a checkbox labeled 'Only include Exhibit 53 Funding'. Below this is a 'Generate Report' button. The main table has columns for years: 2001, 2002, 2003, 2004, 2005, 2006, 2007, PY 2008, CY 2009, BY 2010, BY + 1 2011, BY + 2 2012, BY + 3 2013, BY + 4 2014. The table content is as follows:

	2001	2002	2003	2004	2005	2006	2007	PY 2008	CY 2009	BY 2010	BY + 1 2011	BY + 2 2012	BY + 3 2013	BY + 4 2014	
<b>Bureau: Bureau 5</b>															
<b>Funding Source: Agency Funding Source 2 (001-01-2222-0)</b>															
DME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	500.000	1000.000	1500.000	0.000	0.000	0.000	0.000	0
SS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	500.000	1000.000	1500.000	0.000	0.000	0.000	0.000	0
<b>Funding Source: Agency Funding Source 1 (001-01-1111-0)</b>															
DME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	400.000	800.000	1200.000	0.000	0.000	0.000	0.000	0
SS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

**Note: If the Funding Sources Report is run on a portfolio that is NOT associated with a specific template, then the table will display the generic budget year headers (PY-6 through BY+8). For example, the BY column will represent the sum of the BY spending for each of the investments regardless of budget year for each investment.**

### 5.7.3 Portfolio Funding Source Type Report

The Funding Source Type report is a Portfolio level report that displays how much Funding is associated with each Funding Source Type for a given portfolio. There are several different options available to the user when executing the report. To run the Funding Source Type Report:

1. In the Portfolios Module, click on a Portfolio you wish to run the Funding Source Type Report upon

2. When in the selected portfolio, click on the “Reports” Tab



3. Select the Funding Source Type Report and click the “Select Report” button.

4. Choose the appropriate report options:



- a. *Choose the funding source type to report upon:* Select the Funding Source types you want to include on this report. (Hold down the Ctrl key while selecting to select multiple types)
- b. *Only include Exhibit 53 Funding:* Check this box to only include Funding Sources from investments that have the funding source marked as “Include On Exhibit 53”
- c. *Display DME/SS Breakouts:* If checked, each line item will display the total funding dollar value, followed by two lines displaying the DME and SS breakout values for that line item. If unchecked, DME and SS breakout rows will not be displayed.
- d. *Show:* Determines the granularity of the report. If “Funding Type Only” is checked, then only the rolled up total for each Funding Source Type is displayed. If “Funding Types and Investments” is checked, then each Funding Source Type will be broken out to display how much funding comes from each Investment. If “Funding Source Types, Investments and Funding Sources” is checked, then each type is broken out into included investments, and each investment is broken out by how much funding comes from each individual funding source.

5. Once the appropriate options are set for the report, click the “Generate Report” button to create the report

### 5.7.4 Portfolio EVMS Report

This EVMS Report displays the monthly capture data for each of the investments within the current portfolio over a specified time span. Earned Value metrics are grouped by month and then sorted by investment. The report also allows you to specify thresholds for color coding variance output within the report.

The screenshot shows the 'Portfolio EVMS Report' interface. It includes a 'Date Range (Max 1 Year)' section with 'From' and 'To' date pickers set to 11/30/2006 and 11/30/2007. The 'Report Scope' section has radio buttons for 'All Milestones' (selected), 'DME Milestones', and 'SS Milestones'. The 'Variance Color Coding' section has three color-coded boxes with corresponding percentage ranges: red for 'Variance Exceeds: -30%', yellow for 'Variance is Between -30% and -10%', and green for 'Variance is Between -10% and 10%'. A 'Generate Report' button is present. Below the filters is a month navigation bar from Dec 06 to Oct 07. The main data table is as follows:

Investment Name	Cost Variance %	Schedule Variance %	Cost Variance	Schedule Variance	Earned Value	Actual Costs	Planned Value	BAC
Example Investment	100.00%	-4.79%	10,990.000	-552.507	10,990.000	0.000	11,542.507	13,300.000
TOTALS	100.00%	-4.79%	10,990.000	-552.507	10,990.000	0.000	11,542.507	13,300.000

To run the Portfolio EVMS Report:

1. In the Portfolios Module, click on a Portfolio you wish to run the Portfolio EVMS Report on
2. When in the selected portfolio, click on the “Reports” Tab
3. Select the Portfolio EVMS Report and click the “Select Report” button.
4. Choose the appropriate report options:
  - a. Date Range: Choose the date range you want to run the report on. The default end date is the current date and the default start date is one year prior. The report is limited to a one year time span.
  - b. Report Scope: Select whether the report should aggregate All Milestones, DME Milestones only or SS Milestones only.
  - c. Variance Color Coding: The report displays Cost and Schedule Variance for each investment for each month. You can set the range for when each color should be displayed here.
5. Once you have entered the appropriate options, click the “Generate Report” button to create the report

### 5.7.5 Portfolio EV Trend Report

This Portfolio EV Trend Report displays the Earned Value data for each of the investments within the current portfolio over a specified time span. Within the report, Earned Value metrics are grouped horizontally by investment with monthly breakouts

listed vertically down the spreadsheet. The report also allows you to output Variance Percentages alone rather than the full set of Earned Value metrics.

Month	Baseline PV	PV (BCWS)	EV (BCWP)	BAC	AC (ACWP)	CV%	SV%	Comment
June 2005	6985.228	6985.228	6750.000	48000.000	6995.000	-3.630000	-3.370000	Values as of 6/30/05
July 2005	9663.366	17909.818	17400.000	48000.000	18515.000	-6.410000	-2.850000	Values as of 7/31/05 entered by Ar
August 2005	11234.123	40447.368	38400.000	56000.000	38157.000	0.630000	-5.060000	Submission for August
September 2005	22547.855	40447.368	38400.000	56000.000	38157.000	3.630000	-5.060000	Submission for September
October 2005	51099.448	2491.489						Projected Values
November 2005	46508.988	2505.995						Projected Values

To run the Portfolio EV Trends Report:

1. In the Portfolios Module, click on a Portfolio you wish to run the Portfolio EV Trends Report on
2. When in the selected portfolio, click on the “Reports” Tab
3. Select the Portfolio EVMS Report and click the “Select Report” button.
4. Choose the appropriate report options:
  - a. Date Range: Choose the date range you want to run the report on. The default end date is the current date and the default start date is one year prior.
  - b. Report Scope: Select whether the report should aggregate All Milestones, DME Milestones only or SS Milestones only.
  - c. Include: Choose whether to display all EVMS Monthly Capture fields, or just the Cost Variance Percent and Schedule Variance Percent
5. Once you have entered the appropriate options, click the “Generate Report” button to create the report

## 5.8 Portfolio Charts

eCPIC allows users to chart investment data that is contained in a Portfolio. Three charting types are offered by eCPIC: *SOS Bubble Charting*, *SOS Pie Charting*, and *Dynamic Charting*. The first two types, *SOS Bubble Chart* and *SOS Pie Chart*, can be utilized to graph the Summary of Spending table data using different visual representations. *Dynamic Charting* is also available to allow users to select from a variety of options and different chart types to represent their selected data fields.

Each variable within the Portfolio Charting must be a numeric field within the eCPIC System.

When users’ access charts from the Portfolio Charts tab, a list of all of the charts the user has created or charts that have been made public will appear in the listing, as well as the default charts that exist within the application for every user.

*The Default Charts that will appear to every user of eCPIC are:*

**BY Total Budgetary Resources by Bureau-** This chart depicts Total Budgetary Resources by Bureau.

**BY Total Budgetary Resource by Mission Area-** This chart depicts Total Budgetary Resource by Mission Area.

**Cost and Schedule Variance Bubble Chart-** This chart depicts investment Cost and Schedule Variance with bubble size showing Budget Year Total Resources and bubble color grouping investments by Mission Area.

**Portfolio Cost Curve-** This chart displays the Cost Curve of aggregated EVMS data for the portfolio

**Portfolio Variance Chart-** This chart displays the overall Schedule and Cost Variance over time.

### 5.8.1 Access Charts

1. Click on the **Portfolios** module.
2. Click on the name of portfolio that is to be charted.
3. Click on the **Portfolio Charts** tab.
4. To access a chart, click on **View Chart**.

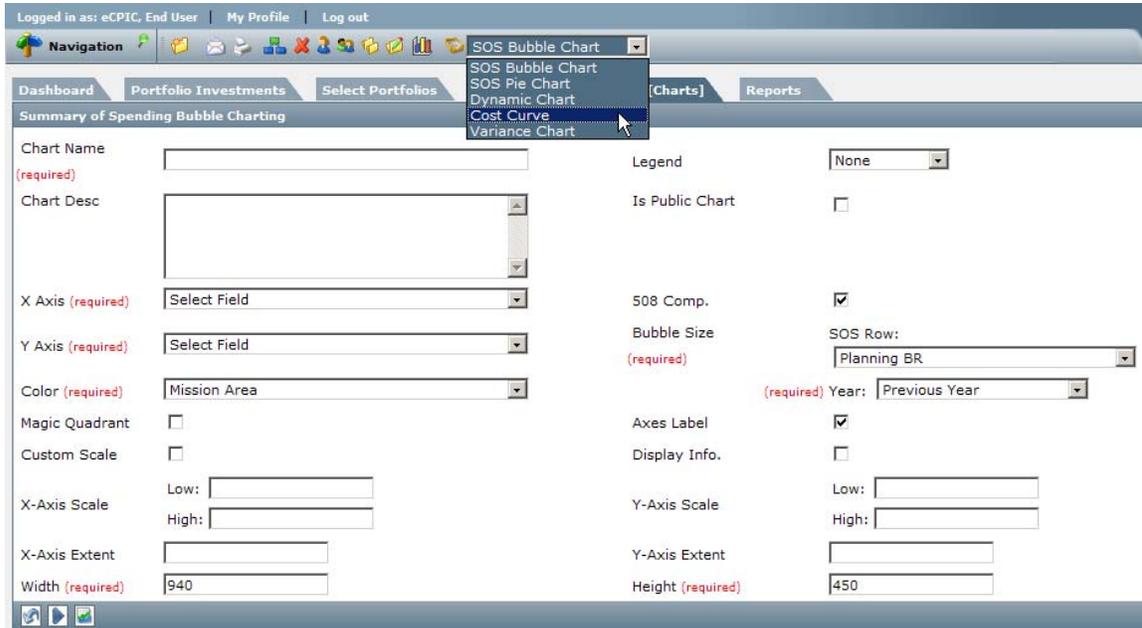
Selected	Chart Name	Chart Type	Chart Description	Is Public	View Chart	Contact
<input type="checkbox"/>	Investment Benefit	Dynamic Chart	Investment Benefit Graph		<a href="#">View Chart</a>	Bolchoz, Ryan
<input type="checkbox"/>	Investment Risk	Dynamic Chart	Investment Risk Graph		<a href="#">View Chart</a>	Bolchoz, Ryan
<input type="checkbox"/>	Scoring Line Chart	Dynamic Chart			<a href="#">View Chart</a>	Bolchoz, Ryan
<input type="checkbox"/>	Cost and Schedule Variance Bubble Chart	SOS Bubble Chart	This chart depicts investment Cost and Schedule Variance with bubble size showing Budget Year Total Budgetary Resources and bubble color grouping investments by Mission Area.	Yes	<a href="#">View Chart</a>	eCPIC, Admin
<input type="checkbox"/>	BY Total Budgetary Resources by Bureau	SOS Pie Chart	This chart depicts Budget Year Total Budgetary Resources by Bureau.	Yes	<a href="#">View Chart</a>	eCPIC, Admin

## 5.8.2 Add and Save New Chart

To create a new chart:

1. From within the Portfolio Charts tab, click on the Add New Chart icon (  ).

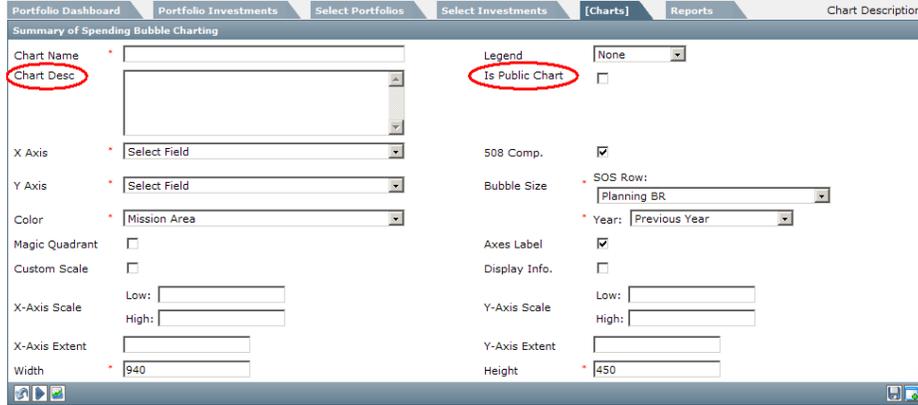
Users will then be taken to the SOS Bubble Chart page, however, in the Portfolios toolbar will be a list of charts available for selection.



From within all charting types (SOS Bubble Chart, SOS Pie Chart, Dynamic Chart), users will have the ability to add a new chart of that type by clicking on the Add New Chart icon.

2. Fill in all necessary data

When building charts, there are two new fields that have been added in version 3.5.

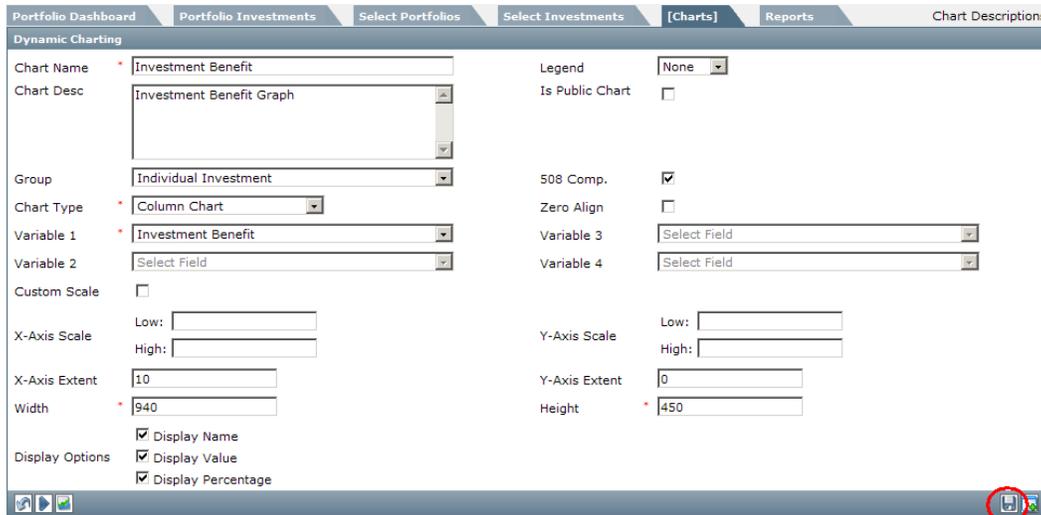


- **Chart Description:** A description of the chart.
- **Is Public:** Makes the chart available to other users.

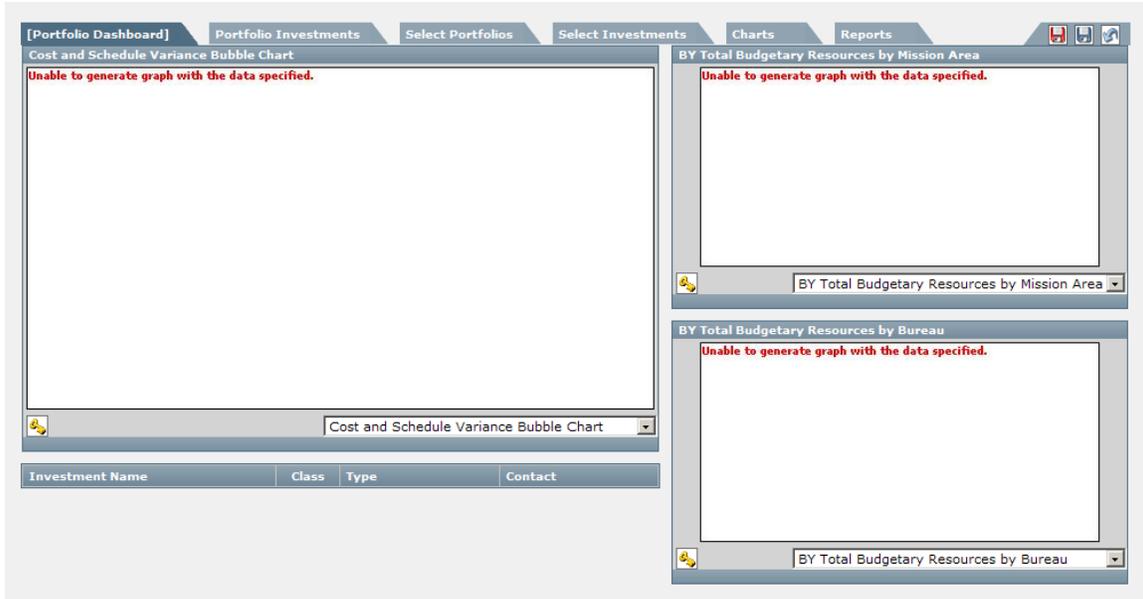
From within the Chart listing, users can see if the Chart is Public or not. If the chart is private, then there will be a 'blank' in the 'Is Public' column. If the chart is set to Public, then there will be a "Yes" in the 'Is Public' column.

Selected	Chart Name	Chart Type	Chart Description	Is Public	View Chart	Contact
<input type="checkbox"/>	Investment Benefit	Dynamic Chart	Investment Benefit Graph		View Chart	Bolchoz, Ryan
<input type="checkbox"/>	Investment Risk	Dynamic Chart	Investment Risk Graph		View Chart	Bolchoz, Ryan
<input type="checkbox"/>	Scoring Line Chart	Dynamic Chart			View Chart	Bolchoz, Ryan
<input type="checkbox"/>	Cost and Schedule Variance Bubble Chart	SOS Bubble Chart	This chart depicts investment Cost and Schedule Variance with bubble size showing Budget Year Total Budgetary Resources and bubble color grouping investments by Mission Area.	Yes	View Chart	eCPIC, Admin
<input type="checkbox"/>	BY Total Budgetary Resources by Bureau	SOS Pie Chart	This chart depicts Budget Year Total Budgetary Resources by Bureau.	Yes	View Chart	eCPIC, Admin

3. Click the Save icon to save the chart and add it to the Chart listing.



**Note: If a user does not have any data in the fields that he is requesting to chart, a warning message will be generated.**



### 5.8.3 Edit Charts

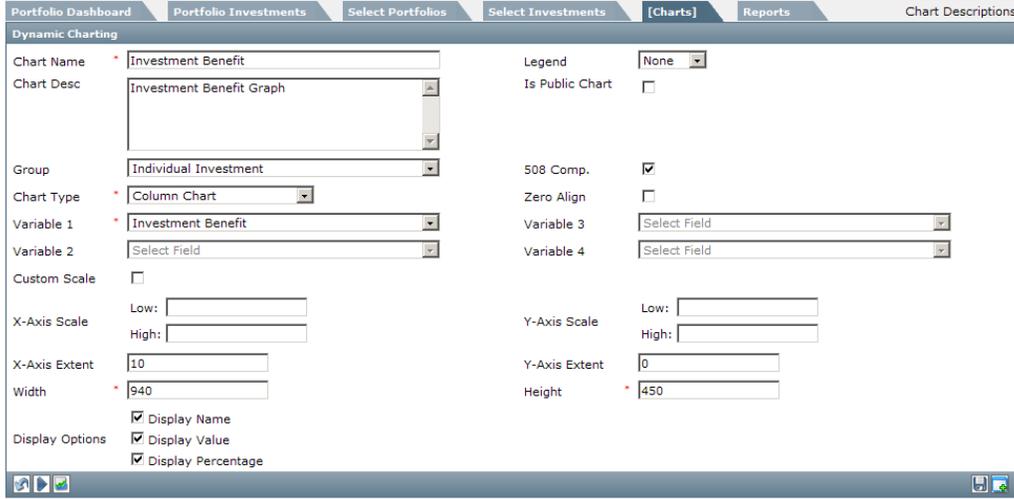
Users can only save edits to charts that they have created. Any default charts or other public charts that were made available cannot be saved. Parameters for default and public charts can be changed and a new chart generated for visualization purposes, but the user will not be able to save these changes.

To Edit a Chart:

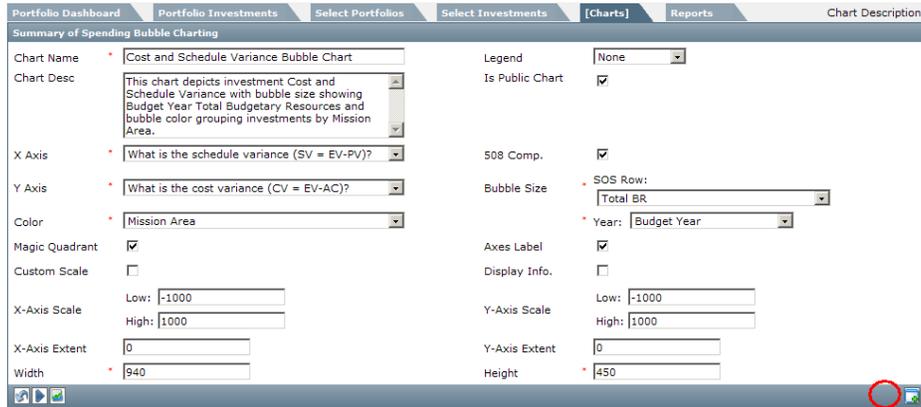
1. From within the Portfolio Charts tab, select View Chart for the chart to be modified.

Selected	Chart Name	Chart Type	Chart Description	Is Public	View Chart	Contact
<input type="checkbox"/>	Investment Benefit	Dynamic Chart	Investment Benefit Graph		<a href="#">View Chart</a>	Bolchoz, Ryan
<input type="checkbox"/>	Investment Risk	Dynamic Chart	Investment Risk Graph		<a href="#">View Chart</a>	Bolchoz, Ryan
<input type="checkbox"/>	Scoring Line Chart	Dynamic Chart			<a href="#">View Chart</a>	Bolchoz, Ryan
<input type="checkbox"/>	Cost and Schedule Variance Bubble Chart	SOS Bubble Chart	This chart depicts investment Cost and Schedule Variance with bubble size showing Budget Year Total Budgetary Resources and bubble color grouping investments by Mission Area.	Yes	<a href="#">View Chart</a>	eCPIC, Admin
<input type="checkbox"/>	BY Total Budgetary Resources by Bureau	SOS Pie Chart	This chart depicts Budget Year Total Budgetary Resources by Bureau.	Yes	<a href="#">View Chart</a>	eCPIC, Admin

Users will now be able to edit their data. By clicking on the Generate Chart icon () , they can view their changes. To save the changes click on the Save icon.



**Note:** If a user does not have access to update the chart, no Save button will be available. However, they will be able to change the parameters and generate a new chart. Also, they can click on the Export Graph icon  to save an image of the changes to their local computer. Any changes made will not be saved to the Chart listing.



### 5.8.4 Delete Charts

Default charts or other public charts that were made available cannot be deleted unless they were created by the user.

To Delete a Chart:

1. From within the Portfolio Charts tab, click on the chart to be deleted.

Selected	Chart Name	Chart Type	Chart Description	Is Public	View Chart	Contact
<input type="checkbox"/>	Investment Benefit	Dynamic Chart	Investment Benefit Graph		View Chart	Bolchoz, Ryan
<input type="checkbox"/>	Investment Risk	Dynamic Chart	Investment Risk Graph		View Chart	Bolchoz, Ryan
<input checked="" type="checkbox"/>	Scoring Line Chart	Dynamic Chart			View Chart	Bolchoz, Ryan
<input type="checkbox"/>	Cost and Schedule Variance Bubble Chart	SOS Bubble Chart	This chart depicts investment Cost and Schedule Variance with bubble size showing Budget Year Total Budgetary Resources and bubble color grouping investments by Mission Area.	Yes	View Chart	eCPIC, Admin
<input type="checkbox"/>	BY Total Budgetary Resources by Bureau	SOS Pie Chart	This chart depicts Budget Year Total Budgetary Resources by Bureau.	Yes	View Chart	eCPIC, Admin

5 results per page

**Note:** Notice that if a user does not have access to delete a chart, the checkbox for that chart will be disabled.

2. Click on the **Delete** icon (🗑️).

### 5.8.5 Sorting Charts

Users can choose to sort their charts in ascending and descending order.

1. Click on the header to sort.

Select	Chart Name	Chart Type	Chart Description	Is Public	View Chart	Contact
<input type="checkbox"/>	Column Line Chart	SOS Bubble Chart	Column Line Chart		View Chart	eCPIC, End User
<input type="checkbox"/>	Cost and Schedule Variance Bubble Chart	SOS Bubble Chart	This chart depicts investment Cost and Schedule Variance with bubble size showing Budget Year Total Budgetary Resources and bubble color grouping investments by Mission Area.	Yes	View Chart	eCPIC, Admin
<input type="checkbox"/>	Investment Benefit	SOS Bubble Chart	Investment Benefit Graph		View Chart	eCPIC, End User
<input type="checkbox"/>	BY Total Budgetary Resources by Bureau	SOS Pie Chart	This chart depicts Budget Year Total Budgetary Resources by Bureau.	Yes	View Chart	eCPIC, Admin
<input type="checkbox"/>	Investment Risk	SOS Bubble Chart	Investment Risk Graph		View Chart	eCPIC, End User

5 results per page

An arrow will appear displaying the order the view was changed to. Clicking on the arrow again will change the view back to the original display.

Select	Chart Name	Chart Type	Chart Description	Is Public	View Chart	Contact
<input type="checkbox"/>	BY Total Budgetary Resources by Bureau	SOS Pie Chart	This chart depicts Budget Year Total Budgetary Resources by Bureau.	Yes	View Chart	eCPIC, Admin
<input type="checkbox"/>	BY Total Budgetary Resources by Mission Area	SOS Pie Chart	This chart depicts Budget Year Total Budgetary Resources by Mission Area.	Yes	View Chart	eCPIC, Admin
<input type="checkbox"/>	Column Line Chart	SOS Bubble Chart	Column Line Chart		View Chart	eCPIC, End User
<input type="checkbox"/>	Cost and Schedule Variance Bubble Chart	SOS Bubble Chart	This chart depicts investment Cost and Schedule Variance with bubble size showing Budget Year Total Budgetary Resources and bubble color grouping investments by Mission Area.	Yes	View Chart	eCPIC, Admin
<input type="checkbox"/>	Investment Benefit	SOS Bubble Chart	Investment Benefit Graph		View Chart	eCPIC, End User

5 results per page

### 5.8.6 Building Charts

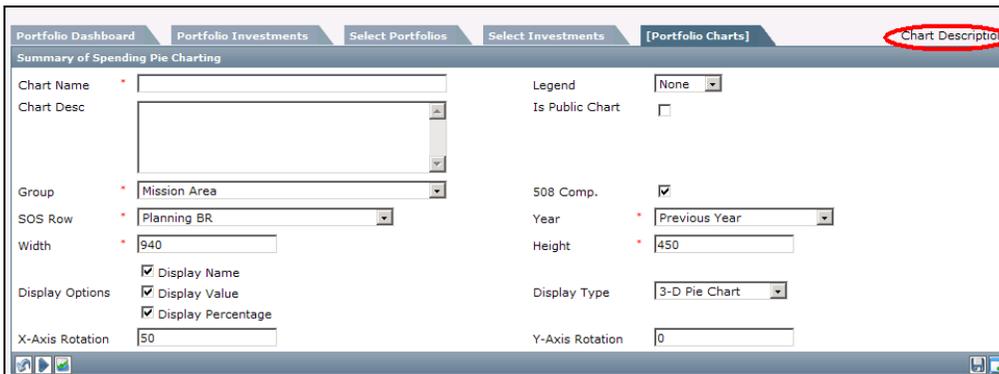
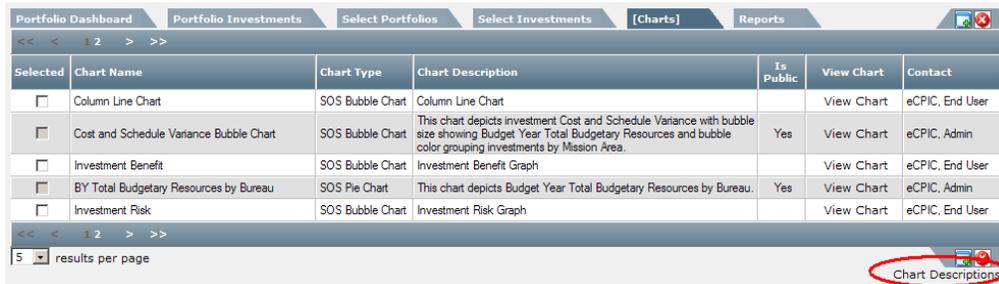
Each Chart contains the same basic terminology. Users can enter the information that they need in order to generate the type of chart they would like. If non-numeric data is entered within the entry textboxes, the Charting section will ignore the data and proceed to generate the graph with default system values. The following sections describe the three charting types in more detail.

**Note: If there is no data in the fields that a chart is being generated on, a warning message will be generated.**



If a user has values in fields that are either blank or empty, the visualization of the field values will appear as 0.00 in the charts as no values have been entered. On the other hand, when the error message is displayed, no data was returned for the given field selections from the database.

If users need a description of a Chart, click on the **Chart Description** link. This will populate the *Portfolio Visualizations Chart Types* document. The document gives users a brief description of each chart type. Users will find this link from the Portfolio Charts page or from within a chart.



If the 508 checkbox is selected and a chart is generated, a table displaying the values for whatever users decided to chart will be displayed at the bottom of each chart. This table can be exported to Excel by clicking on the  icon.

Investment Name	BY	Individual Investment	Schedule Variance Percent ((SV/BCWS) x 100%)	Cost Variance Percent (CV/BCWP) x 100%)	Field Display Name
Capital Planning Investment	2250	0	-64.2	-105.13	
Investment G	7485	0	-2.66	25.16	

### 5.8.6.1 SOS Bubble Charts

The *SOS Bubble Chart* graphs data from the *Summary of Spending* table. It compares four different sets of values, including the *SOS* data which designates the size of each bubble. These four sets of values are what users define for X-Axis, Y-Axis, Color, and Bubble Size drop-downs.

Below is the data entry form for creating a *Bubble Chart*:

**Note: Required fields are denoted by red asterisks.**

**Chart Name:** The Name/Title that users would like to appear at the top of the chart. This may be left blank if a user does not want a title displayed at the top of the chart.

**Chart Description:** A description of the chart.

**Is Public Chart:** Users make their charts available to all other system users. If a chart is set to public, the saved chart parameters will be used however, the chart will be generated using data from portfolios only to which a user has access. If the box is not checked, then only the creator of the chart and System Administrators will be able to view the chart.

**Legend:** Click on the Legend drop-down menu, select **None** if users do not want to display a legend. Select **Color** if users want to display a legend for the chart at the bottom of the resulting chart.

**X Axis:** Click on the drop-down menu for the X-Axis and choose the field that contains the data that users want plotted as the X-Coordinate for each investment. *This is a Required field.*

**Y Axis:** Click on the drop-down menu for the Y-Axis and choose the data or categories that users want plotted as the Y-Axis coordinate for each investment. *This is a Required field.*

**508 Comp:** Check this box if users want a data table to be displayed under the Chart. This data display makes the charting functionality 508 Compliant.

**Color:** This is how user's chart is grouped based upon the field selected in this drop-down menu. Investments that have the same values for the field selected in this drop-down menu will be colored the same color. For example, if Mission Area is chosen as the Color Field, all investments with the same Mission Area will be colored the same. Click on the Color drop-down menu and select the group to show in color. *(This will appear in the Legend if users have selected to display the legend on the chart). This is a Required field.*

**Bubble Size:** Click on the drop-down menu and select what data users want represented by the size of each bubble. **This data is only pulled from the rows in the SOS table.** The selection for Bubble Size is dependent on two drop-downs: *SOS Row* and *Year*. *(This will appear in Legend if users have selected to display the legend on the chart). This is a Required field.*

**SOS Row:** Click on the drop-down menu and select what SOS row users want to chart for the data for the Bubble Size. **This data is only pulled from the rows in the SOS table.** *(This will appear in Legend if users have selected to display the legend on the chart). This is a Required field.*

**Year:** Click on the drop-down menu and select the Year that users want to chart for the data in the Bubble Size field. **This data is only pulled from the rows in the SOS table.** *(This will appear in Legend if users have selected to display the legend in the chart). This is a Required field.*

**Magic Quadrant:** Centers the graph at  $(X,Y) = (0, 0)$  and displays the four quadrants of the coordinate system.

**Axes Label:** Check this box if users want to label the X and Y Axes with the selected field names on the resulting chart.

**Custom Scale:** Check this box if users want to customize X and Y Axes (Low and High scales). This is automatically selected if users choose to have the Magic Quadrant.

**Display Info:** Check this box if users want the investment data and values to be displayed at each data point in the chart. By default, the tooltip of each data point displays the data and its corresponding values.

**X Axis Scale (Low and High):** This is an optional field. If users choose to select Custom Scale (checkbox), they can enter customized low and high values for the X-Axis.

**Y Axis Scale (Low and High):** This is an optional field. If users choose to select Custom Scale (checkbox), they can enter customized low and high values for the Y-Axis.

**X Axis Extent:** This field is optional. By increasing the extent of the X-Axis, users are increasing the distance between the X-Axis and the bottom of the graph, while decreasing the height of the plotting area. For best results, increase this field as well as the Height field.

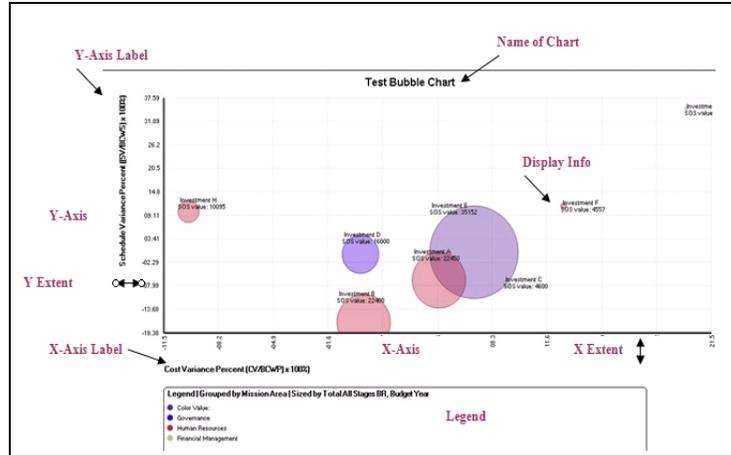
**Y Axis Extent:** This field is optional. By increasing the extent of the Y-Axis users are increasing the distance between the Y-Axis and the left side draw area of the graph, while decreasing the width of the plotting area. For best results, increase this field as well as the Width field.

**Width:** Enter the Width to specify the width of the drawing area. By increasing the width of the generated graph, the user is able to enlarge the image to better display concentrated data points. By default the width is set to 955 pixels. *This is a Required field.*

**Height:** Enter the Height to specify the height of the drawing area. By increasing the height of the generated graph, the user is able to enlarge the image to better display concentrated data points. By default the height is set to 450 pixels. *This is a Required field.*

**Note: To zoom in on a chart increase both the Width and the Height**

1. Enter in all the information to create the Bubble Chart desired.
2. Click on the **Run** icon  to generate the chart.

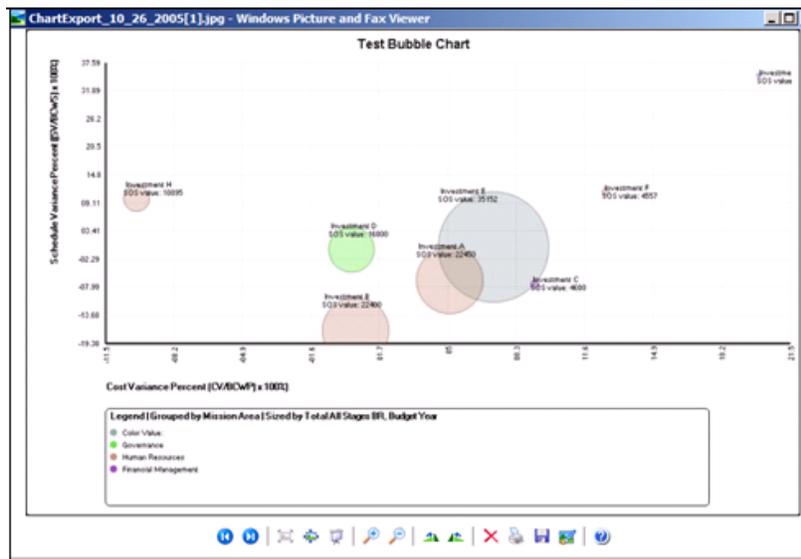


- To save the chart so that it will be added to list of Portfolios available, click the Save icon (📁).

At times, users will notice that the Legend will cut off at the bottom, to correct this they can extend the X Extent and adjust the Height of the chart accordingly.

Additionally, the bubbles and display information may appear on top of each other in some instances. This is a scaling and data issue. Please adjust the chart options as described above to correct this issue.

To Export the chart, click on the **Export Graph** icon (🖨️). Clicking on the icon will regenerate the colors in the chart. If users are happy with the current colors of the chart, they can save it by right clicking on the picture and selecting **Save Picture As...** and then saving it to their local machine.



### 5.8.6.2 SOS Pie Charts

Like the *SOS Bubble Charting*, the *SOS Pie Charting* is another tool to display data from the *Summary of Spending* table.

The *SOS Pie Chart* can be used for displaying the percentage and values that each given Group field (i.e. investment, mission area, etc.) contributes to the whole portfolio.

Below is the data entry form for creating a *Pie Chart*:

**Note: Required fields are in red asterisks.**

**Chart Name:** The Name/Title that users would like to appear at the top of the chart. This may be left blank if users do not want a title displayed at the top of the chart.

**Legend:** Click on the Legend drop-down menu, select where users want the Legend to appear. The legend will display the grouping values associated with the colors of each pie-slice.

**Chart Description:** A description of the chart.

**Is Public Chart:** Users can make their charts available to all other system users. If a chart is set to public, the saved chart parameters will be used. However, the chart will be generated using data from portfolios only to which a user has access. If the box is not checked, then only the creator of the chart and System Administrators will be able to view the chart.

**Group:** This is how the chart is grouped. Click on the Color drop-down menu and select the groups users want to show. *(This will appear in Legend).*

**508 Comp.** Check this box if users want a data table to be displayed under the Chart. This data display makes the charting functionality 508 Compliant.

**SOS Row:** Click on the drop-down menu and select what SOS row users want to chart. This is the data that will show the percentage and/or values to compare. **This data is only pulled from the rows in the SOS table.** *This is a Required field.*

**Year:** Click on the drop-down menu and select the Year that users want to chart for the data in the SOS Row. **This data is only pulled from the rows in the SOS table.** *This is a Required field.*

**Display Options:**

- **Display Name:** Check this box if users want the name of each group displayed next to each slice of the Pie on the Chart.
- **Display Value:** Check this box if users want the value displayed next to each slice of the Pie on the Chart.
- **Display Percentages:** Check this box if users want the percentages displayed next to each slice of the Pie on the Chart.

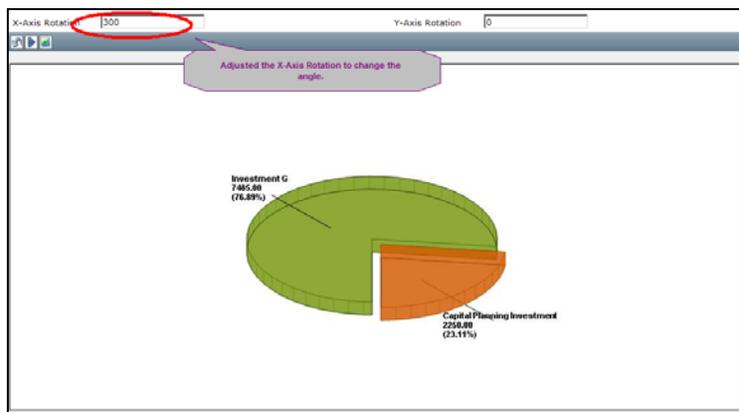
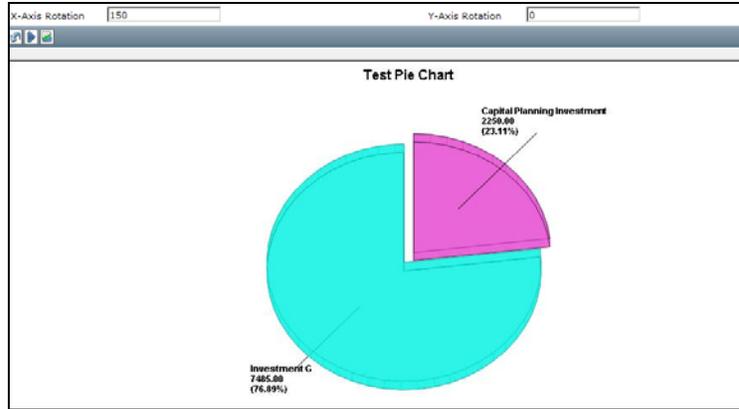
**Display Type:**

- **3-D Pie Chart:** Display the pie chart in a three-dimensional view. This is the default selection.
- **2-D Pie Chart:** Display the pie chart in a two-dimensional view.

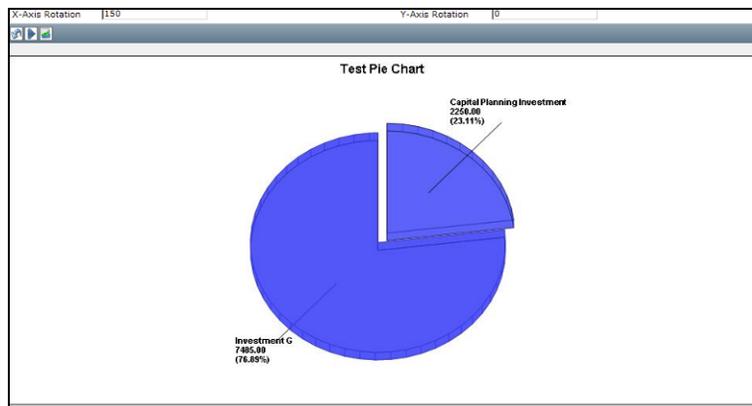
**Width:** Enter the Width to specify the width of the drawing area. By increasing the width of the generated graph, the user is able to enlarge the image to better display concentrated data points. By default the width is set to 955 pixels. *This is a Required field.*

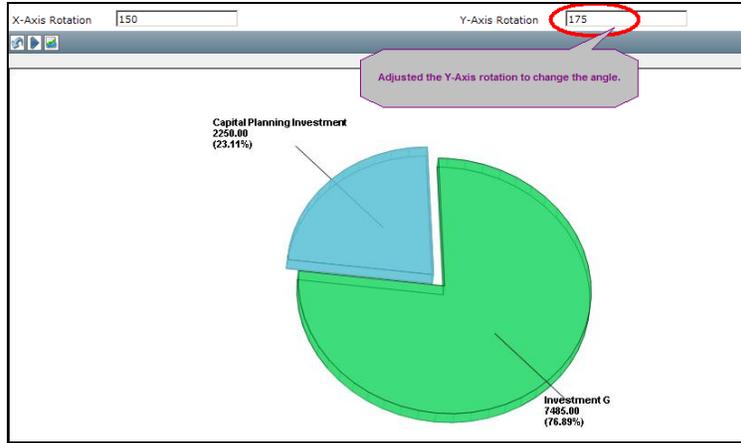
**Height:** Enter the Height to specify the height of the drawing area. By increasing the height of the generated graph, the user is able to enlarge the image to better display concentrated data points. By default the height is set to 450 pixels. *This is a Required field.*

**X-Axis Rotation:** Will rotate the Pie image on the X-Axis angle. By default it is set to a rotation of 150 degrees.



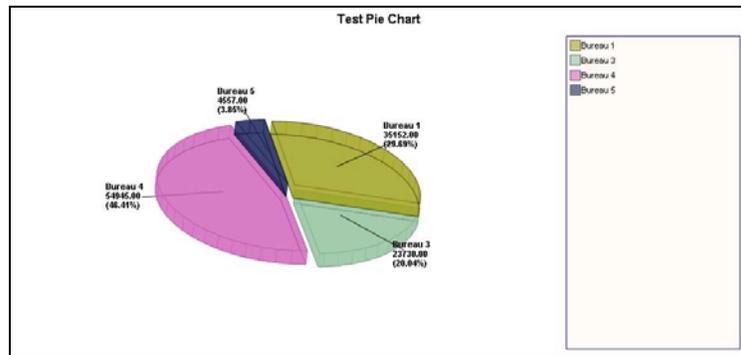
**Y-Axis Rotation:** Will rotate the Pie image on the Y-Axis angle. By default it is set to a rotation of 0 degrees.





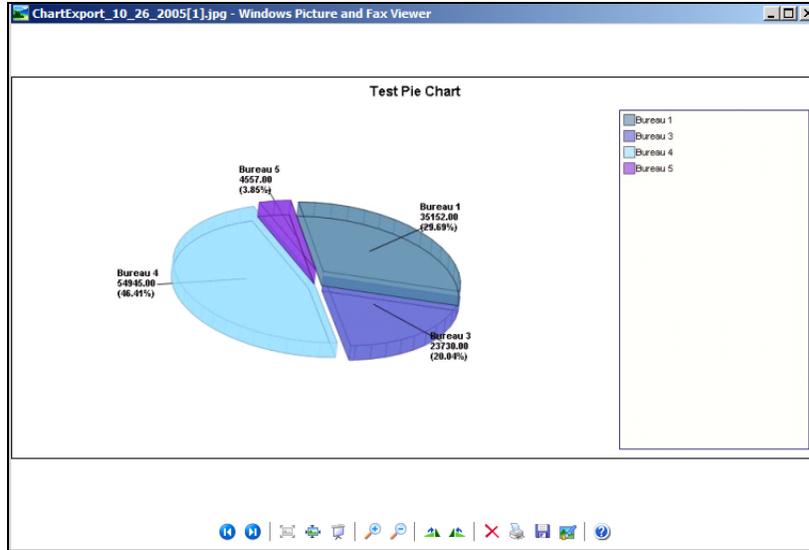
**Note: To zoom in on a chart increase both the Width and the Height**

1. Enter in all the information to create the desired Pie Chart.
2. Click on the **Run** icon to generate the chart.



3. To save the chart so that it will be added to list of Portfolios available, click the **Save** icon ().

To Export the chart, click on the **Export Graph** icon (). Clicking on the icon will regenerate the colors in the chart. If users are happy with the current colors of the chart, they can save it by right clicking on the picture and selecting **Save Picture As...** and then saving it to their local machine.



### 5.8.6.3 Portfolio Cost Curve Chart

The Cost Curve Chart can be generated at the portfolio level through the Portfolio Charts page. Once a chart has been saved, it is available for use in the Portfolio Dashboard. To create a new Portfolio Cost Curve Chart:

1. In the Portfolios Module, select a portfolio to create a Cost Curve Chart for
2. Click on the Charts tab to go to the Portfolio Charts section
3. Click the Add New Chart Button (  )
4. In the Chart Type Drop Down, choose Cost Curve



5. Enter the appropriate attributes for your chart (only Chart Name is required)

**Cost Curve Charting**

Chart Name:

Chart Desc:

Date Range:  All Available Dates  Last 12 Months. Lag Time: 0 Month(s)  From  To

Y-Axis Range:  High  Low

Legend:  None

Is Public Chart:

508 Comp.:

Width: 940

Height: 450

Phase:  All Selected Milestones  DME Milestones  Steady State Milestones

- a. Chart Name: The common name to represent this chart

- b. Chart Desc: A short text description of what the chart represents
  - c. Date Range: Users have 3 choices for date range. They can either display a chart with all available dates, a range of the last x number of months (with the lag being how many months to skip before starting the first month) or a set date range.
  - d. Y-Axis Range: The Low and High dollar amounts to display on the Y-Axis. Leave these values blank to auto determine.
  - e. Legend: Where on the chart to display the legend
  - f. Is Public Chart: Once this chart is saved, other users can view the chart (and use in the dashboard) if it is marked as public
  - g. 508 Comp: If this box is checked, a table will be displayed along with the chart listing each of the data points and the value at that point.
  - h. Width/Height: The size of the chart, listed in pixels
  - i. Phase: Determines whether to chart should be based on DME Monthly Capture information, SS Monthly Capture or All Milestone Monthly Capture
6. Once all the parameters have been entered, click the “Generate Graph” button (  ) to view the chart.
  7. Click the Save button (  ) to save the chart parameters. Once the chart has been saved, it can be used in the Portfolio Dashboard.

#### **5.8.6.4 Portfolio Variance Chart**

The Cost Curve Chart can be generated at the portfolio level to display overall variances for a given portfolio through the Portfolio Charts page. Once a chart has been saved, it is available for use in the Portfolio Dashboard.

To create a new Portfolio Variance Chart:

1. In the Portfolios Module, select a portfolio
2. Click on the Charts tab to go to the Portfolio Charts section
3. Click the Add New Chart Button (  )
4. In the Chart Type Drop Down, choose Variance Chart



5. Enter the appropriate attributes for your chart (only Chart Name is required)

- a. Chart Name: The common name to represent this chart
  - b. Chart Desc: A short text description of what the chart represents
  - c. Date Range: Users have 3 choices for date range. They can either display a chart with all available dates, a range of the last x number of months (with the lag being how many months to skip before starting the first month) or a set date range.
  - d. Y-Axis Range: The Low and High percentage values to display on the Y-Axis. Leave these values blank to auto determine.
  - e. Legend: Where on the chart to display the legend
  - f. Is Public Chart: Once this chart is saved, other users can view the chart (and use in the dashboard) if it is marked as public
  - g. 508 Comp: If this box is checked, a table will be displayed along with the chart listing each of the data points and the value at that point.
  - h. Width/Height: The size of the chart, listed in pixels
  - i. Phase: Determines whether to chart should be based on DME Monthly Capture information, SS Monthly Capture or All Milestone Monthly Capture
6. Once all the parameters have been entered, click the “Generate Graph” button (  ) to view the chart.
7. Click the Save button (  ) to save the chart parameters. Once the chart has been

saved, it can be used in the Portfolio Dashboard.

### 5.8.6.5 Dynamic Chart

*Dynamic Charting* allows users to generate charts on any type of information that they want depending on the Chart Type that is selected. Please note that the *Dynamic Chart* does not display data from the *Summary of Spending* table.

Below is the data entry form for creating a *Dynamic Chart*:

**Chart Name:** The Name/Title that users would like to appear at the top of the chart. This may be left blank if users do not want a title displayed at the top of the chart.

**Legend:** Click on the Legend drop-down menu, select where users want the Legend to appear. Users can also choose 'None', which will not display a Legend.

**Chart Description:** A description of the chart.

**Is Public Chart:** Users can make their charts available to all other system users. If a chart is set to public, the saved chart parameters will be used however, the chart will be generated using data from portfolios only to which a user has access. If the box is not checked, then only the creator of the chart and System Administrators will be able to view the chart.

**Group:** This is how the chart is grouped. Click on the Group drop-down menu and select the groups users want to show. (*This will appear in Legend*)

**508 Comp:** Check this box if users want a data table to be displayed under the Chart. This data display makes the charting functionality 508 Compliant.

**Chart Type:** Click on the drop-down menu and select the type of chart users want to create. After a chart type is selected, the Variable selection drop-down menus will either enable or disable depending on the necessary input needed for the type of chart selected. Enabled drop-down menus can be used to display more information on the generated graph.

**Zero Align:** This command centers the graph on the origin  $[(X,Y) = (0,0)]$ . It is not applicable for some graph types.

**Variable 1, 2, 3, 4:** Click on the drop-down menu to select the data users want to plot in the chart. The selected chart type will determine how many variables they can enter. *Variable 1 is a Required Field for all charts. (This will appear in Legend).*

The following table lists each chart type that is offered with their corresponding number of input variables.

Chart Type	# Input Variables
Area Chart	4
Area Chart 3D	4
Bar Chart	1
Bar Chart 3D	1
Bubble Chart	4
Column Chart	1
Column Chart 3D	1
Column Line Chart	4
Doughnut Chart	1
Heat Map Chart	4
Heat Map Chart 3D	4
Line Chart	4
Line Chart 3D	4
Pie Chart	1
Pie Chart 3D	1
Scatter Chart	3
Spline Chart	4
Spline Area Chart	4
Stack Bar Chart	4
Stack Bar Chart 3D	4
Stack Column Chart	4
Stack Column Chart 3D	4
Radar Chart	4

**Custom Scale:** Check this box if users want to customize X and Y Axes (Low and High scales).

**X Axis Scale (Low and High):** This is an optional field. If users choose to select Custom Scale (checkbox), they can enter customized low and high values for the X-Axis.

**Y Axis Scale (Low and High):** This is an optional field. If users choose to select Custom Scale (checkbox), they can enter customized low and high values for the Y-Axis.

**X Axis Extent:** This field is optional. By increasing the extent of the X-Axis users are increasing the distance between the X-Axis and the bottom of the graph, while decreasing the height of the plotting area. For best results, increase this field as well as the Height field.

**Y Axis Extent:** This field is optional. By increasing the extent of the Y-Axis users are increasing the distance between the Y-Axis and the left side draw area of the graph, while decreasing the width of the plotting area. For best results, increase this field as well as the Width field.

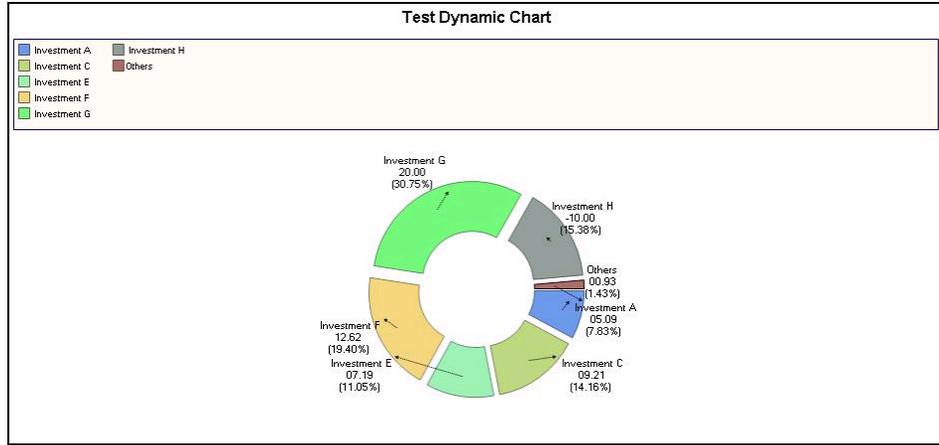
**Width:** Enter the Width to specify the width of the drawing area. By increasing the width of the generated graph, the user is able to enlarge the image to better display concentrated data points. By default the width is set to 955 pixels. *This is a Required field.*

**Height:** Enter the Height to specify the height of the drawing area. By increasing the height of the generated graph, the user is able to enlarge the image to better display concentrated data points. By default the height is set to 450 pixels. *This is a Required field.*

**Note: To zoom in on a chart increase both the Width and the Height**

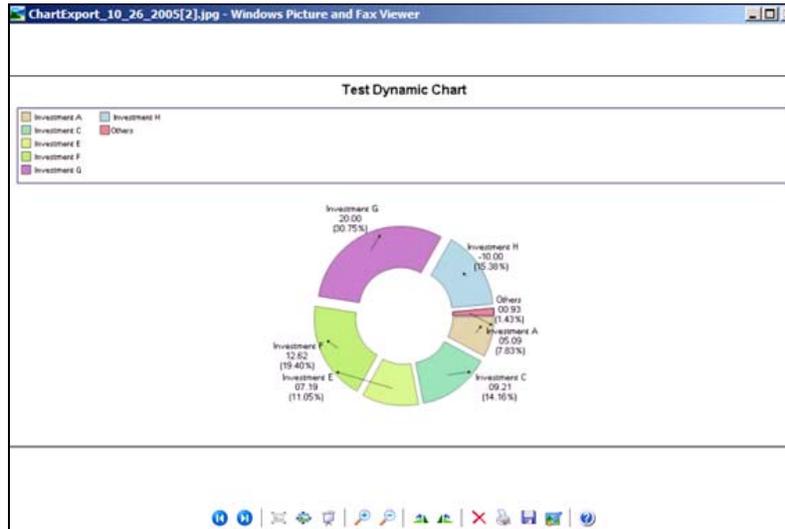
**Display Options:**

- **Display Name:** Check this box if users want the name of each group displayed next to each associated part of the chart.
  - **Display Value:** Check this box if users want the values displayed next to each associated part of the chart.
  - **Display Percentages:** Check this box if users want the percentages displayed next to each associated part of the chart.
1. Enter in all the information to create the Dynamic Chart desired.
  2. Click on the **Run** icon  to generate the chart.



3. To save the chart so that it will be added to list of Portfolios available, click the Save icon (📁).

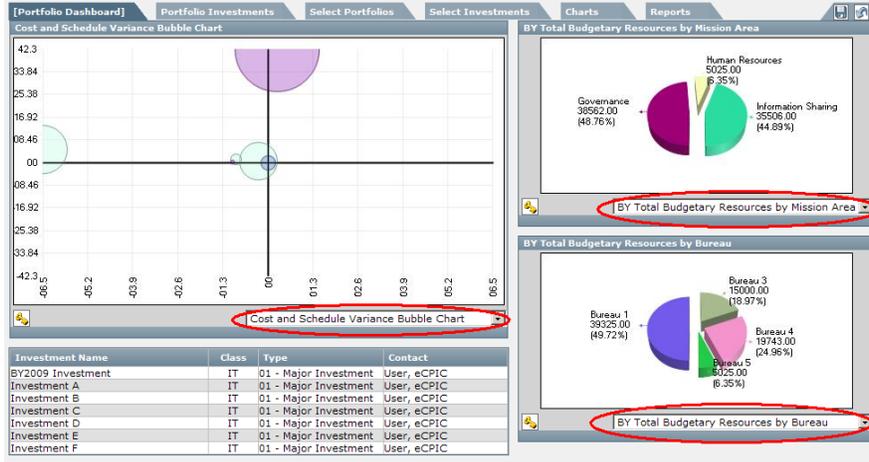
To Export the chart, click on the **Export Graph** icon (🖨️). Clicking on the icon will regenerate the colors in the chart. If the user is happy with the current colors of the chart, she can save it by right clicking on the picture and selecting **Save Picture As...** and then saving it to their local machine.



*\*\*For more information on the types of charts that are available, please see the **Portfolio Visualization Chart Types** document.*

### 5.9 Portfolio Dashboard

The Portfolio Dashboard user interface enhancement will allow users to view a visualization dashboard of their portfolios. The dashboard will come with three default charts that will populate once a user enters a portfolio.

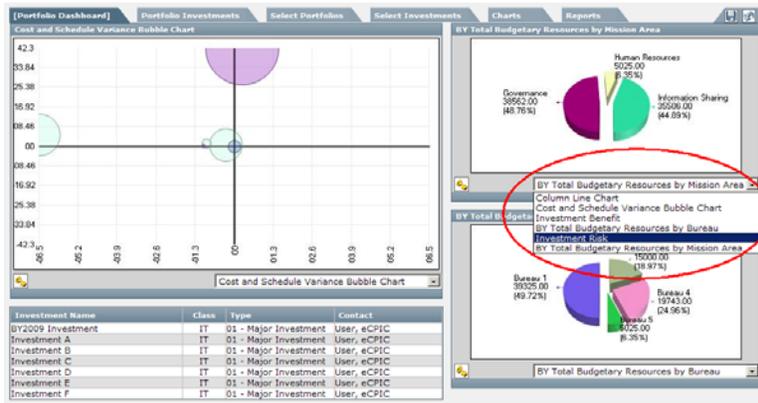


A user can choose to have their custom defined charts appear in the dashboard. The default charts and dashboard within eCPIC is a view that displays default visualizations for all users. While the default dashboard is global to all portfolios and users, each individual eCPIC user has the ability to define a customized view of charts in each portfolio’s dashboard that will be unique to that user.

### 5.9.1 Changing Dashboard View

Users can choose to have their own, user defined charts appear in the dashboard.

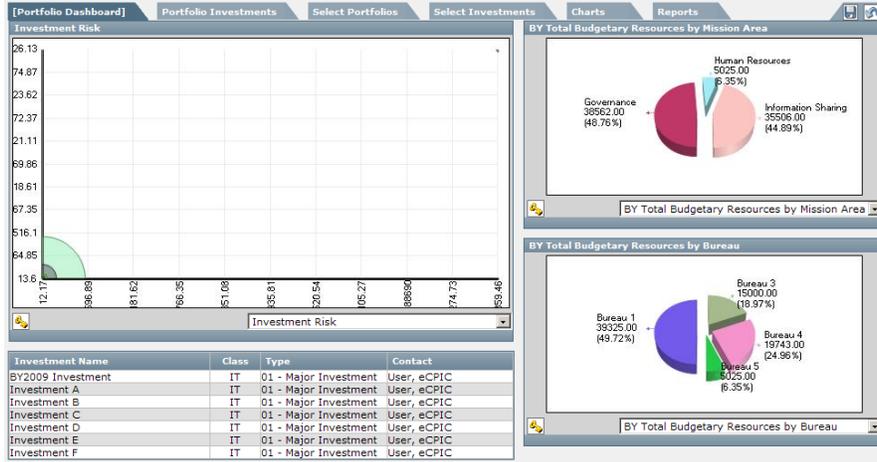
1. From the Portfolio Dashboard, click on the drop-down list for the chart to change.



The list that will appear will be all the charts that are available to the user.

2. Click on the chart that will appear as the default chart.

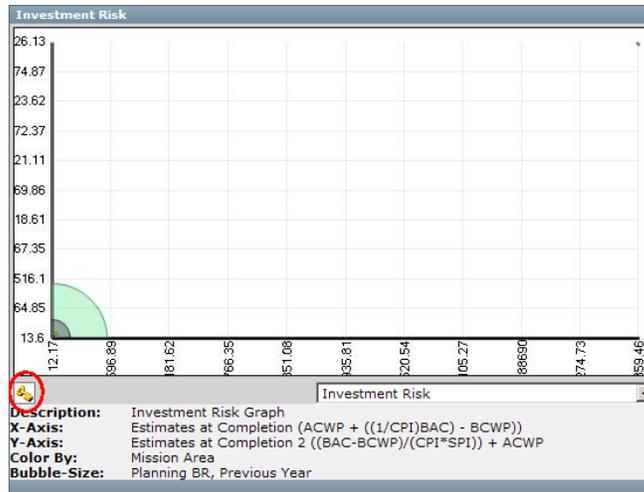
The page will refresh to show the new chart. Portfolio Dashboard will now show the users selected default charts



- To save the dashboard so that the view created will always appear, click on the Save icon (📁).

### 5.9.2 View Chart Key

The user will also have to option to view the chart key of a chart within in the Portfolio Dashboard. Below each chart is a View Chart Key icon (🔑). Clicking on this icon will allow for the Chart Key to appear.



**Note:** At this time, users cannot save the View Chart Key view by saving the dashboard. Each time, they will have to click on the View Chart Key icon.

### 5.9.3 Create Graphs

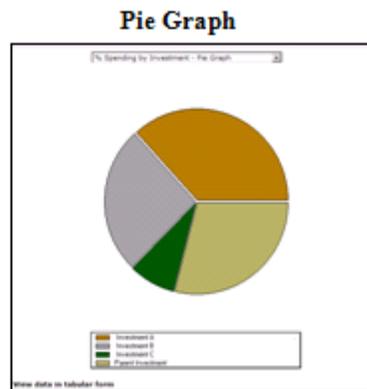
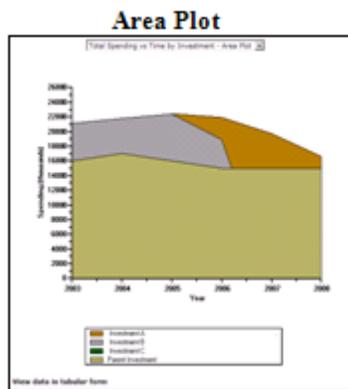
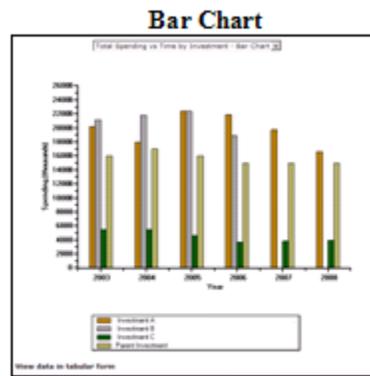
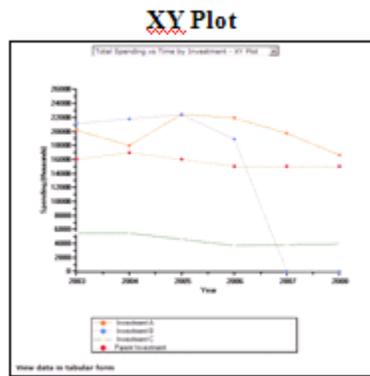
Within the Portfolio module, users can elect to create graphs. The graphs consist of the *Total Spending vs. Time by Investment* (XY Plot, Bar Chart and Area Plot) and *% Spending by Investment* (Pie Graph). Unlike Charts, the Graphs stand hard-coded and

show an entire visual, taking from all the years in the SOS table. Charts, however, are dynamic and allow users to be more specific with selections.

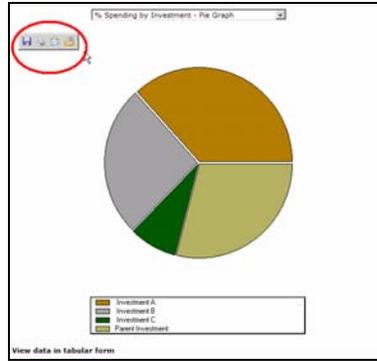
1. Click on the **Portfolios** module.
2. Click the **Portfolio Name** that users wish to graph.
3. Click on the **Graphs** icon  in the Portfolio toolbar.

A pop-up window will appear displaying the graphs along with a legend containing the names of the investments in the portfolio represented in the graph.

To display a different kind of graph, select it from the Graph drop-down menu on the new pop-up window.



4. Move the mouse over the white background to reveal a menu of quick tools, enabling users to print, save, or e-mail the image.



### 5.9.4 View Data in Tabular Format

1. Click on the **View Data in Tabular Form** link at the bottom of the pop-up window to view the data in a tabular format. This is provided for 508 Compliance.

Users can select graphs in a different format using the drop-down.

Initiative	Year Spending in thousands
Investment A	2002 20482
Investment A	2004 18200
Investment A	2005 22480
Investment A	2006 21437
Investment A	2007 22742
Investment A	2008 18818
Investment B	2002 21139
Investment B	2004 21800
Investment B	2005 22400
Investment B	2006 19800
Investment B	2007 0
Investment B	2008 0
Investment C	2002 5487
Investment C	2004 6487
Investment C	2005 4500
Investment C	2006 5100
Investment C	2007 3818
Investment C	2008 3824
Parent Investment	2002 16000
Parent Investment	2004 17000
Parent Investment	2005 16000
Parent Investment	2006 15000
Parent Investment	2007 15000
Parent Investment	2008 15000

Initiative	Percent of total Spending
Investment A	36.68 %
Investment B	25.98 %
Investment C	8.34 %
Parent Investment	28.99 %

## 5.10 Portfolio Data Export

The following sections provide details on export capabilities within the portfolios module. This functionality allows for the quick export of portfolio level data to XML as well as CSV.

### 5.10.1 Export to XML for Portfolios

The XML icon  is located in the Portfolios module and will allow users to export general information about the listing of Portfolios.