Version 25 | Trapeze Enterprise Asset Management

Performance Measures and Monitors

Administrator Guide

Trade Secret | February 2025

Technical Support

Trapeze provides several ways to connect with the Customer Care team. Please provide detailed information to the representative. If you are reporting an issue by e-mail, include any error messages, screen shots of your problem, and steps to replicate the issue.

Customer Care is available Monday through Friday, 8:00 a.m. to 8:00 p.m., Eastern Standard Time.

Toll-Free Telephone:	1-877-411-8727
E-mail:	cc@trapezegroup.com
FTP Site:	https://ftps.trapezegroup.com/
Web Site:	https://collaborate.trapezegroup.com

The website provides access to Trapeze Collaborate which offers resources to implement and operate the software, search knowledge, participate in communities, log/track service requests, sign-up for release alerts, view product health recommendations, and download updates or documentation. For secure access to Collaborate, contact Customer Care through the website or by calling the number above.

Product Compatibility

Refer to the latest Product Compatibility information on Trapeze Collaborate for requirements including operating system information, databases, Crystal reports, network protocol, HTTP servers and browsers that are supported.

Performance Measures and Monitors - Administrator Guide

Version 25.x

February 2025

Contents

1. Overview

Performance Measures and Monitors (PMMs) are ratios of Key Maintenance Data points which are useful in determining the performance of a maintenance organization in a graphical representation. PMMs measure maintenance factors, such as labor hours, work order types, and parts cost, over set ranges of time to develop trends. PMM points are calculated as a summary of data by combinations of data types such as location and equipment type, department and maintenance class, or other combination of data over a time period. This module is not simply for upper management or administrators, but can also provide important information to fleet customers and employees about the organization's strengths and weaknesses.

The module consists of the MAXQueue interface and the user interface. The MAXQueue interface generates the PMM data through the PMM definitions. (For PMM data to be captured through MAXQueue, you must first activate the PMM snapshot definitions. PMM definitions are activated through the screen titled PMM Definition (2382). Once a definition is activated, it is available for MAXQueue to collect the data points.) The user interface is managed and viewed through the PMM module. The PMM user interface leverages the power of the Dashboard module to define the look and feel of the PMM gauges and charts.

For existing customers that have historical data available, we have created a program that builds historical data into the PMM tables to provide a head start in analyzing your data trends. The data points that are collected into the PMM data tables are then used in PMM Key Performance Indicators (KPIs) to be displayed in PMM dashboards. Many out of the box PMM Definitions and KPIs are available for customers' immediate use. Customers can also create PMM definitions and collect the data to provide custom KPI analysis through adding records to the PMM_defs table and activating these PMM definitions.

Requirements

Application 25.x

Web Modules 25.x

MAXQueue 25.x

Assumptions

This guide assumes familiarity with workflows and configuration of the application.

- User defined required fields that do not appear in the Web Modules will return validation messages.
- Use of PMM Module also assumes familiarity with SQL Select statements.
- Special characters cannot be placed into the Web Modules fields or unanticipated results may occur. This would include any character that cannot be typed with a standard keyboard.
- Do not use the browser's **Back** button in the Web Modules as unanticipated results may occur.
- Do not open or use the same instance of the web portals in multiple browser windows or tabs. This can cause errors or unexpected performance issues.

Installation

Please refer to the *Administrator Guide* for instructions on installing and upgrading Web Modules.

- PMM Module comes with a comprehensive set of prepackaged key data definitions (KMD) and key performance indicators (KPI). In order to take advantage of the out of the box content, content needs to be properly installed per the MAXQueue– PMM Package documentation. Please see package documentation for details.
- Load the database KMD definitions. Activate the KMDs you wish to track and then run the refresh PMM command to build historical data where possible.
- Configure the MAXQueue PMM service to define the time periods for recording data and ensure the service is configured.

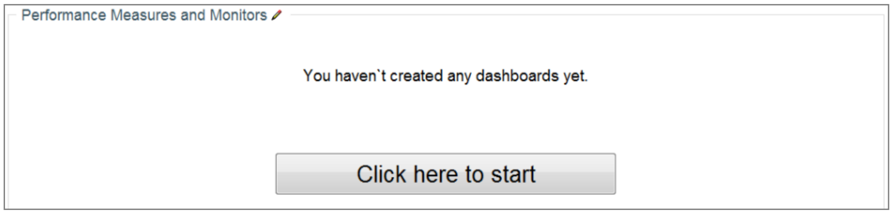
To make the functions of this module available to Web Modules users, add a tab to the Web Modules installation. Please refer to the *Administrator Guide, Web Modules Configuration - Adding Modules and Tabs* section for detailed instructions on adding new tabs and configuring security access for those tabs.

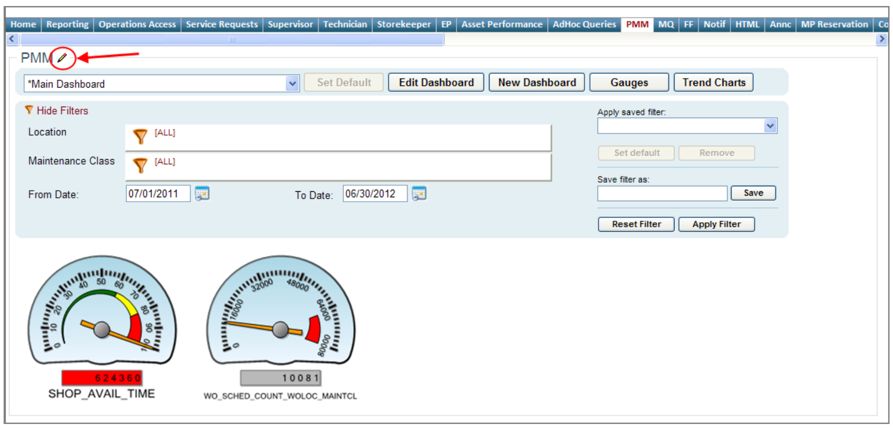
2. Managing KPIs

As an administrator, you can create and manage KPIs for use in this portal.

To open the KPI Definition page:

1. In the Performance Measures and Monitors module, click the **Edit** pencil in the upper left of the initial portal page to enter the settings mode.

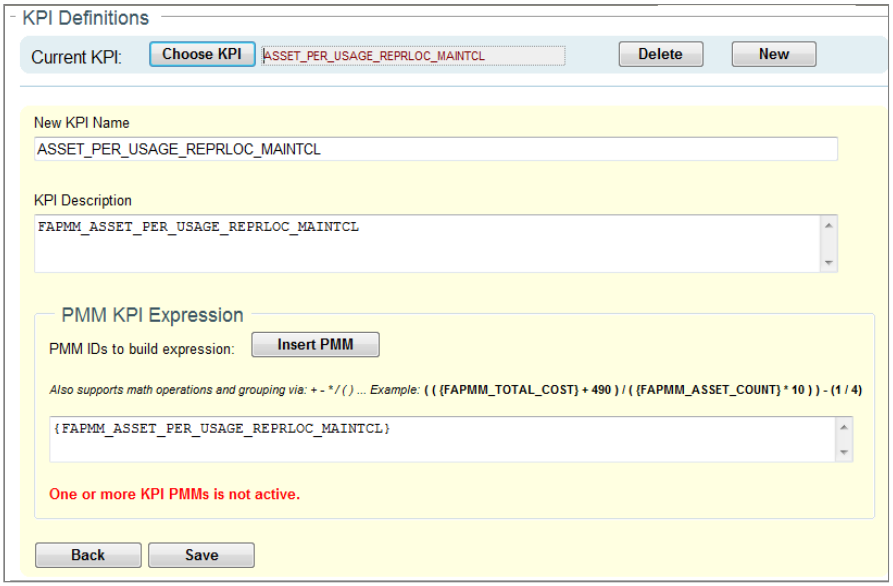




The PMM Module Management page displays.

2. Click the **KPI Definitions** link.

The KPI Definitions page displays.



Creating a New KPI

The KPI Definitions page defaults to New.

To create a new KPI:

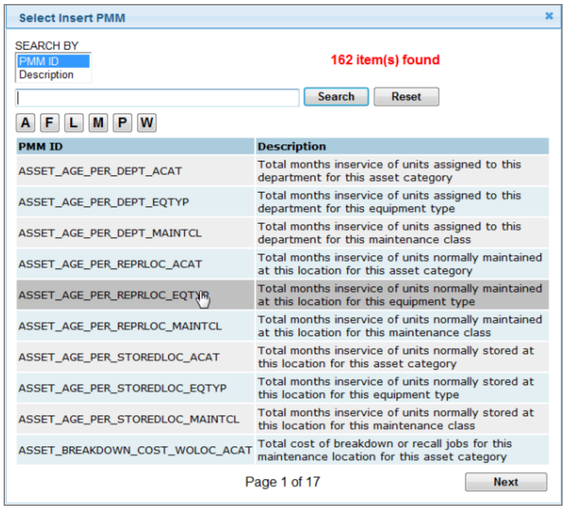
1. Leave the **Current KPI** field blank (or if you just edited an existing one to where there is already a KPI listed, click **New**).
2. Complete the following fields:

   New KPI Name: The name displayed to the user when selecting KPIs to assign to Gauges. The maximum length is 50 chars.

   KPI Description: A description of the KPI being created. The maximum length is 300 chars.

   PMM KPI Expression: This field allows the user to create a KPI expression using the PMM data in combination with math formulas. To include a PMM in the KPI, select it from the drop down list of PMM items. Then, select **Insert PMM** button.

The Select Insert PMM box displays.



3. Select a PMM ID from the list to place that PMM's formula variable into the formula field. You may now use that variable in the KPI Expression.

   For example, the following formula would be an expression to show a comparison of usage per asset:

   {FAPMM_ASSET_PER_USAGE_DEPT_EQTYP}/{FAPMM_ASSET_COUNT_DEPT_EQTYP}

   Note: You may choose to combine any PMM data, but keep in mind that many combinations may not provide any useful information.

4. Click **Save** to save the KPI.

Editing an Existing KPI

To edit an existing KPI:

1. In the KPI Definition page, you need to select an existing KPI name. Click the **Choose KPI** button.
2. Select a KPI from the resulting list.

The KPI details are loaded in the form where they can be edited.

Note: To copy the details to a new KPI name, simply change the name and click **Save.** This does not rename the old KPI, it creates a copy of it with a different name.

- If you select a KPI with one or more of the PMMs it uses that are not active, a red warning message will display. This message does not prevent a user from saving the KPI. If the user places a gauge onto a dashboard that uses a KPI with an inactive PMM, viewing that gauge on the dashboard will display **NO DATA** instead of the numeric value. This also adds an entry in the Web Modules log stating which PMMs are inactive.

3. Click **Save**.

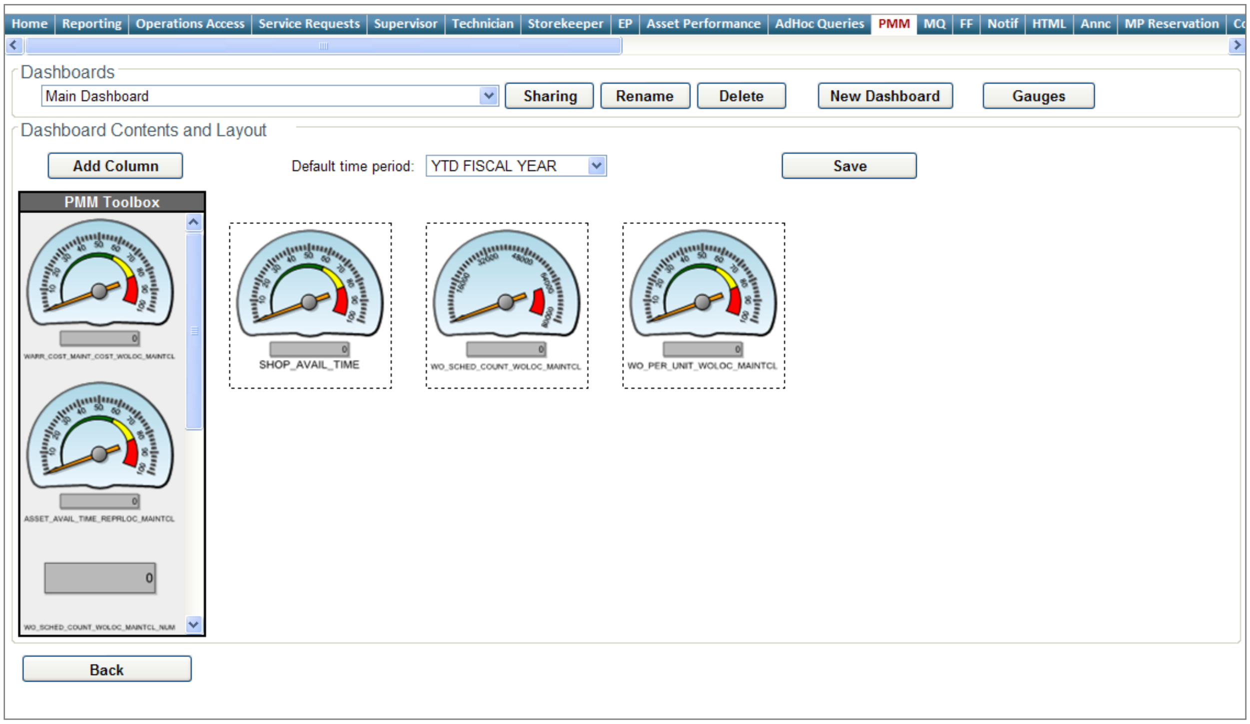
Other Functions

- Click the **Delete** button while an existing PMM KPI is selected to delete that KPI.
- The **Back** button will redirect you to the main PMM Module Management page.

3. PMM Dashboard Creation

You may have one or more dashboards available for display. These can be viewed through the dropdown list of dashboards. This list includes all your personal dashboards and any dashboards that are shared that you have access to view.

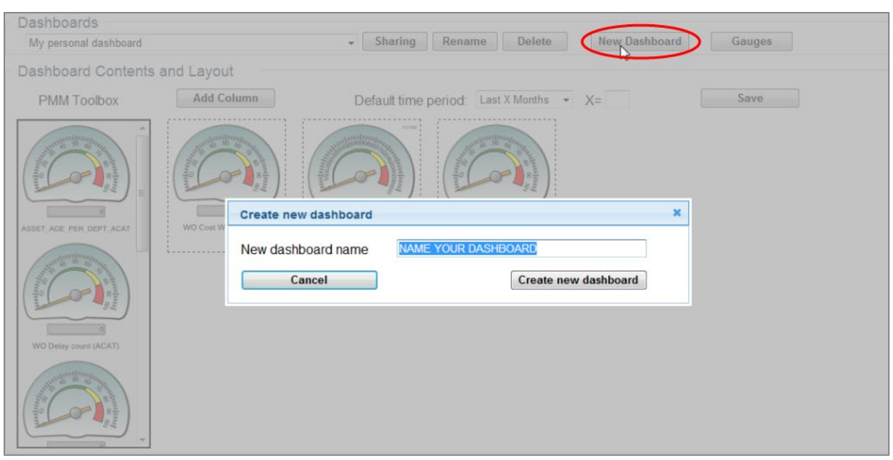
You may define what gauges display for you through the Dashboard Contents and Layout page.



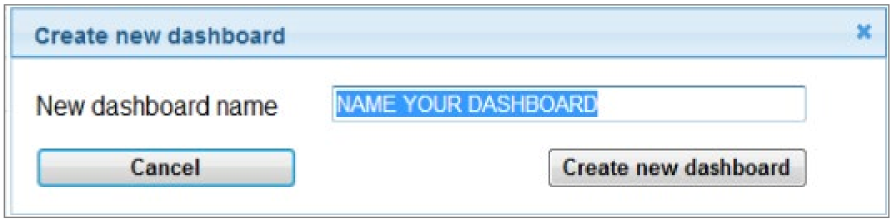
To choose which gauges display:

1. Click the **New Dashboard** button.

You are prompted for a name for the new PMM dashboard.

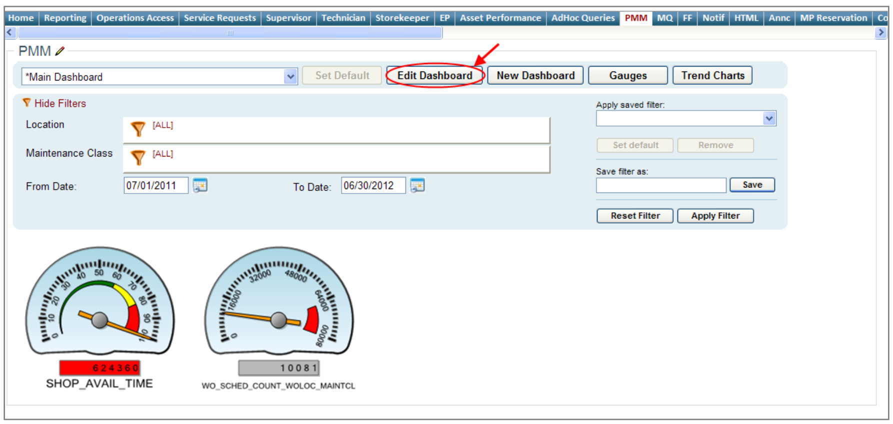


2. Enter a name and click **Create new dashboard**. You are now at a point where you can edit this new dashboard.



Notes:

- You can get to the edit page from the main page by clicking **Edit Dashboard** while the dashboard is selected in the drop down list.

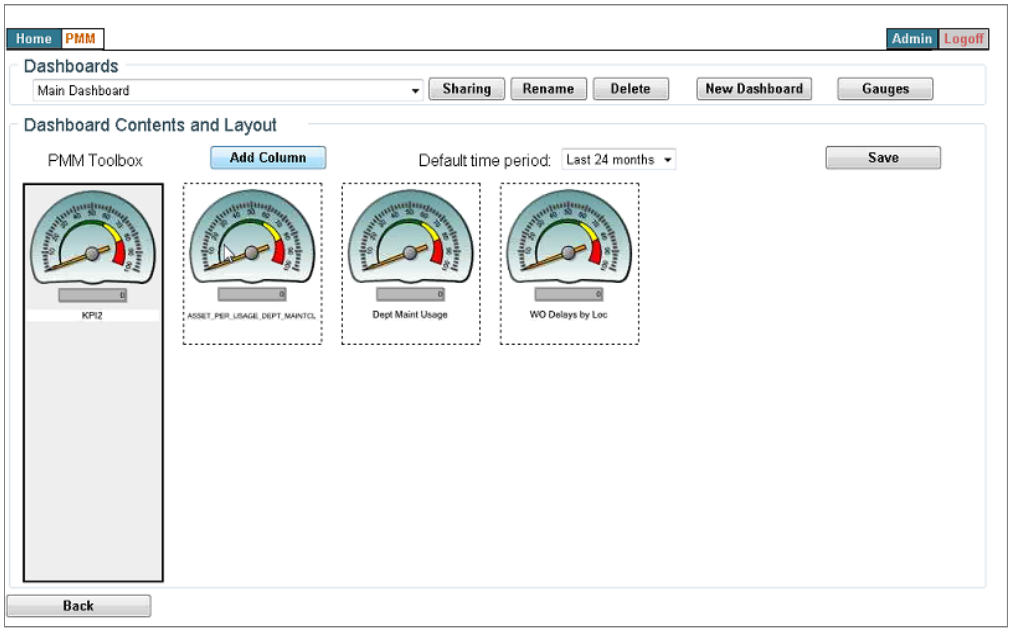


- If your dashboard has no content defined, a message will appear: This dashboard is empty. If you are the owner click EDIT to add content.

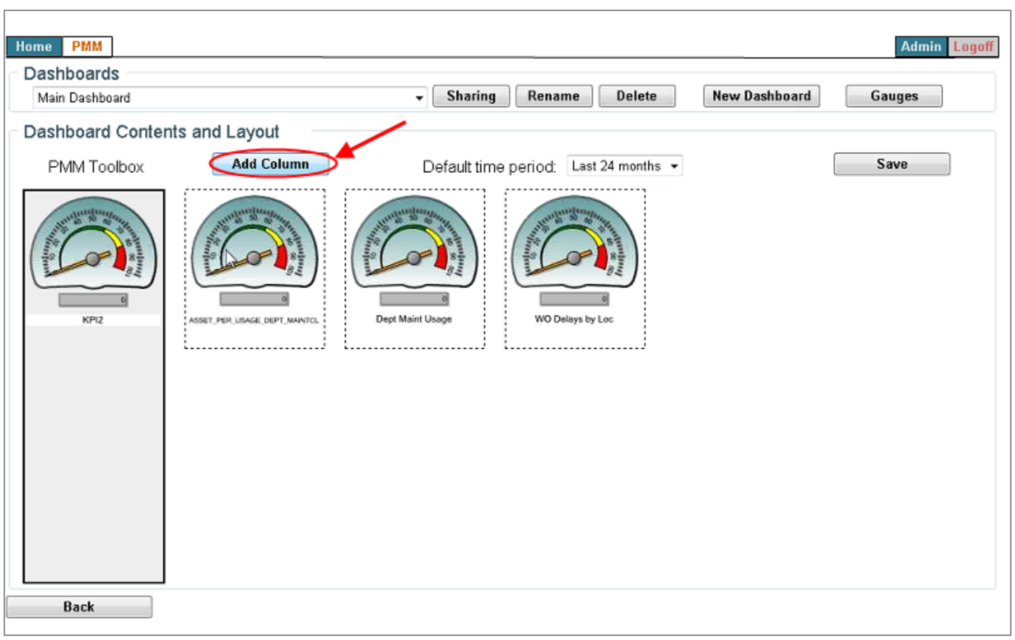
Dashboard Contents and Layout

This page allows the editor to add defined PMM gauges to their dashboard layout. You can also set the dashboard's default time period to use for the initial dashboard display.

PMM Toolbox: This area contains a list icons representing all available items that can be added to the dashboard



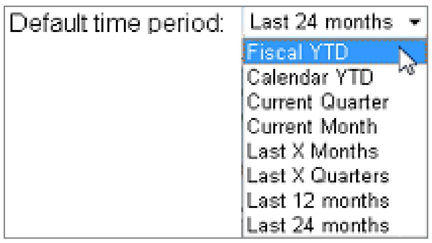
Add Column button: Click this button to add columns to hold dashboard items. The button will be yellow if the dashboard has no columns on it.

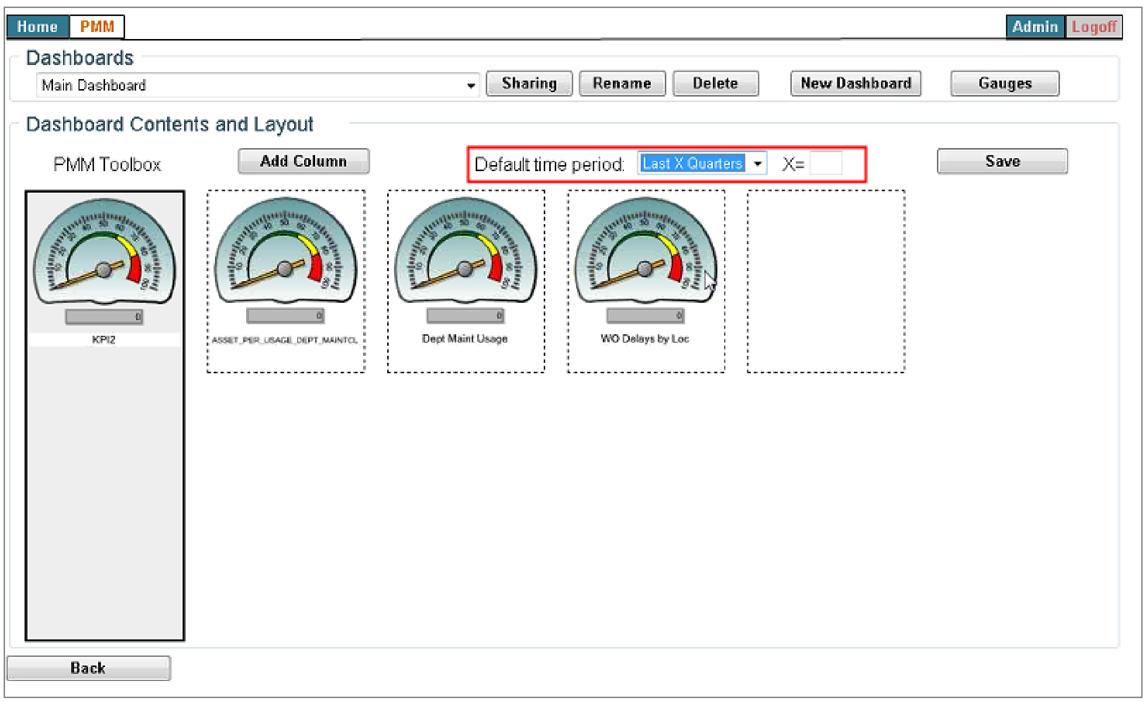


Default time period: Set this drop-down default time period to use for the initial dashboard display.

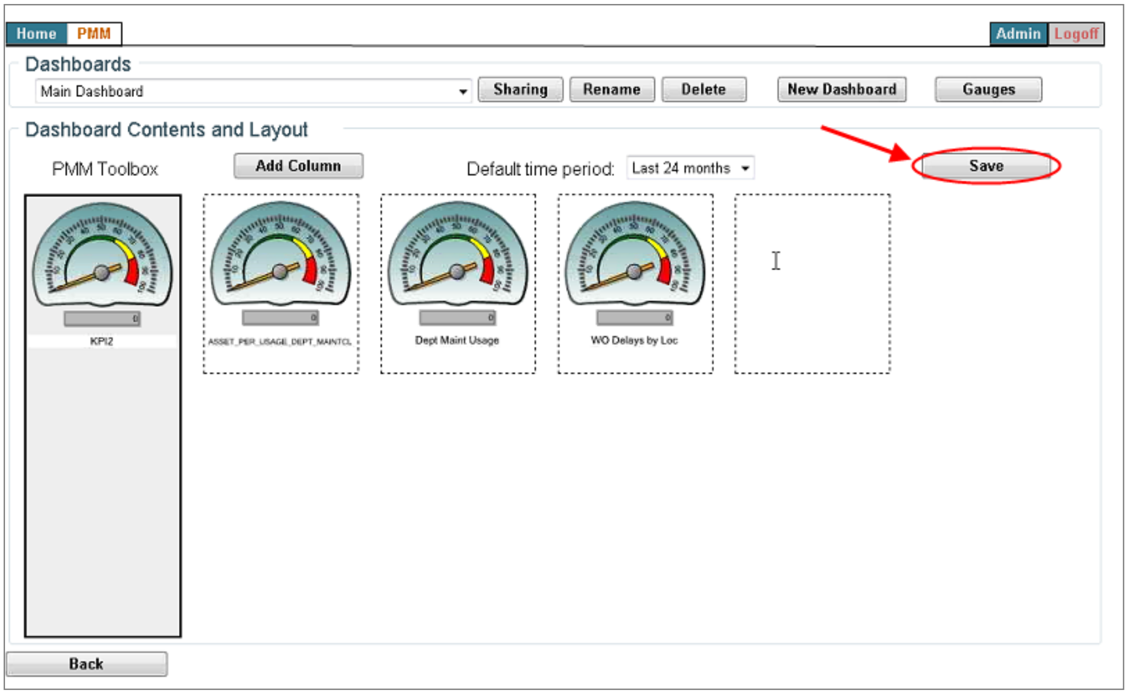
- The default selection is **Fiscal YTD.**
- Values include: Fiscal YTD, Calendar YTD, Current Quarter, Current Month, Last X Months, Last X Quarters, Last 12 Months, Last 24 Months.

The Quarter and Fiscal options are based on the definition of fiscal year end month.





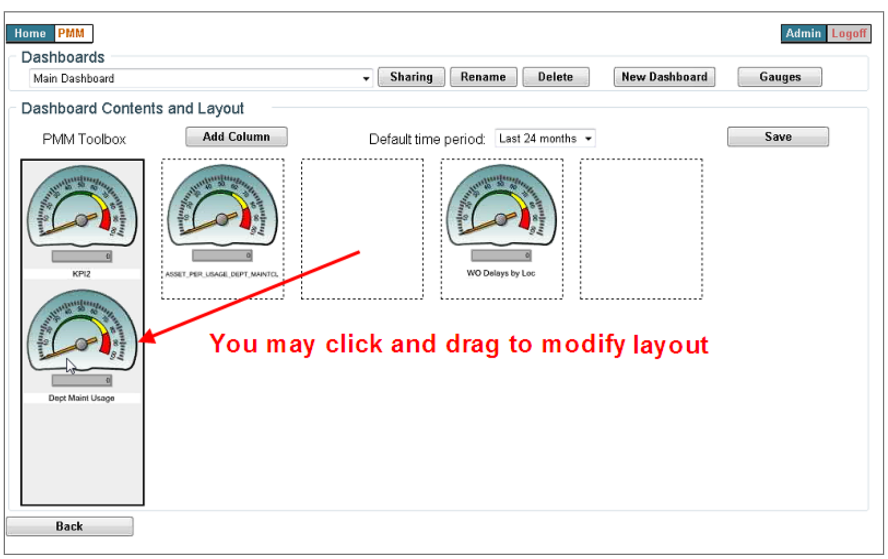
Save button: Click the **Save** button to save your dashboard edits.



After adding at least one column to your layout, you can now add dashboard items to it.

To add dashboard items to columns:

1. Click and drag dashboard items from the toolbox to the layout columns.
2. Drop the items in the column.
3. To rearrange as needed, drag and drop the items in the column itself. If you drag an item from the layout to the toolbox, it is removed from the layout.



4. Click **Save**.

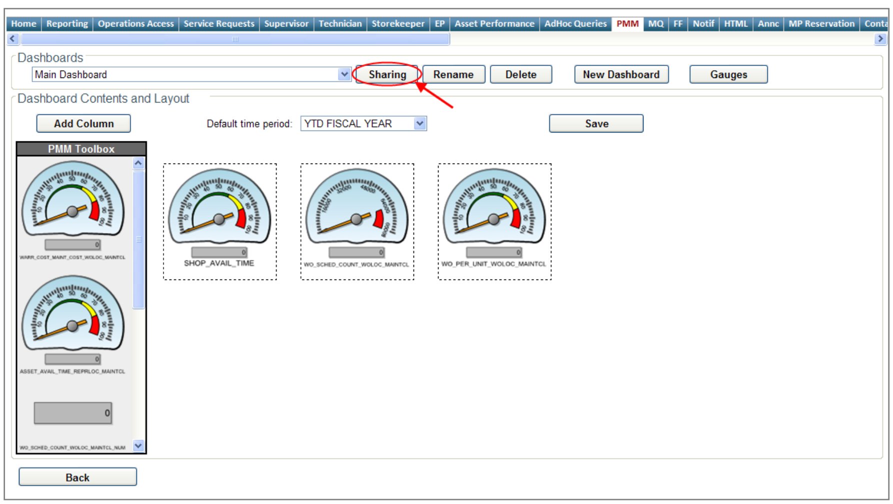
Be sure to save your dashboard before clicking **Back** button to return to the PMM dashboard view.

Sharing Dashboards

Dashboard layouts are created by a specific user and may only be edited by that user. But, you have the ability to share that layout with other user group members by using the sharing functionality.

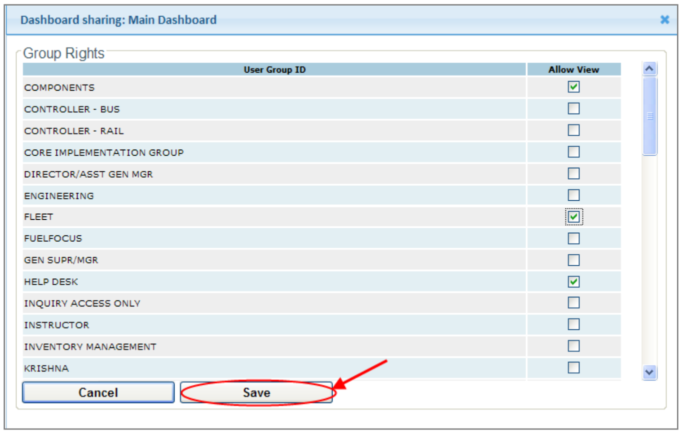
To share a dashboard:

1. While on the Edit page (Dashboard Contents and Layout), click **Sharing** to begin sharing your dashboard.



*The **Dashboard sharing** pop in displays all available user groups with whom you can share your dashboard.*

2. Check the desired associated **Allow View** boxes for the user groups you want to share with, and click **Save**.



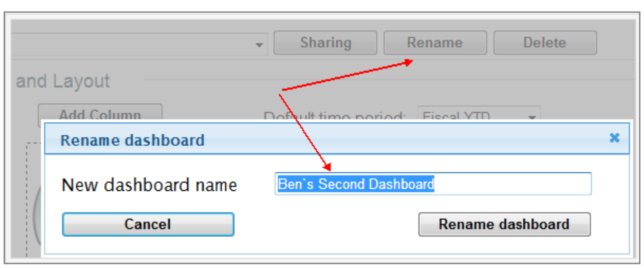
*A user that goes to the **PMM** tab will see all of their own dashboards and any dashboards shared with a user group this user belongs to.*

Renaming a Dashboard

While editing a dashboard, you can also rename it.

To rename a dashboard:

1. Click the **Rename** button to view the **Rename dashboard** dialog.
2. Type in the new name.
3. Click **Rename dashboard** button to save the new name.



Deleting a Dashboard

While editing a dashboard, you can also delete the dashboard.

To delete a dashboard:

1. Click the **Delete** button.

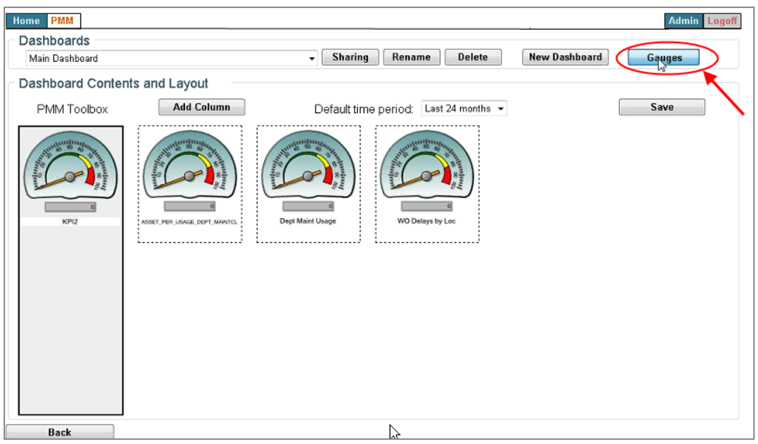
2. You will be prompted to confirm your delete as it will be permanently deleted if you proceed.
3. Confirm your delete.

Note: This will delete it from all user groups you shared it with as well.

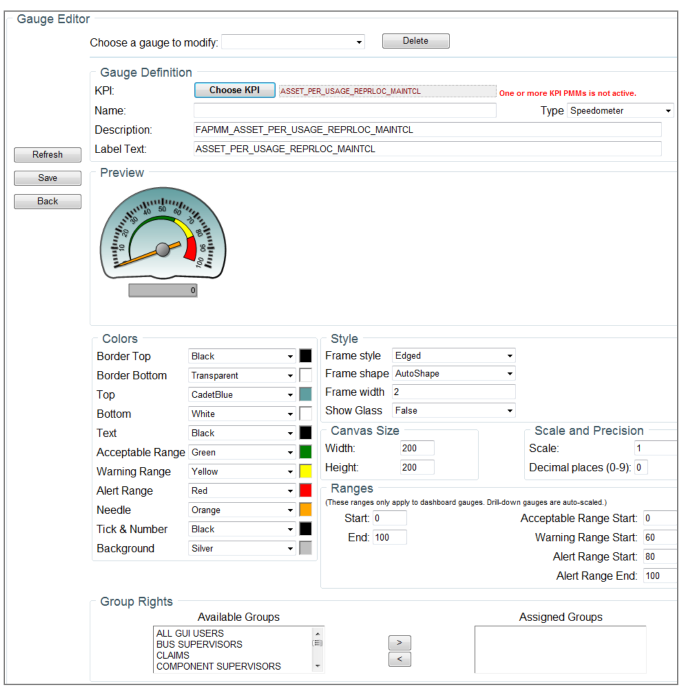
Gauges

To define a gauge:

1. On the Edit page (Dashboard Contents and Layout), click the **Gauges** button.



The Gauge Editor page displays.



2. You can edit many ways your gauge displays including color, size, borders, and more. Make the appropriate changes on this page.

   Gauges are used in both the Dashboards portal and the Performance Measures and Monitors portal. The difference between the portals is very minimal as follows:

   - In PMM, when editing a gauge, choose the gauge to modify from the dropdown list. When choosing the KPI that powers the gauge, click **Choose KPI** and select from the choicelist. Choosing a KPI that uses inactive PMMs will result in a warning that **One or more KPI PMMs are not active**. Similar to the KPI Admin page, this does not prevent the user from saving. However, attempting to view data for a gauge with an inactive PMM will result in a **NO DATA FOUND** message (consistent with the message received in the Dashboards module when no data is found). If you choose a valid KPI (where all PMMs are active) no warning message will display.
   - When creating a new gauge in PMM, do not choose a gauge to modify, instead leave the dropdown blank and proceed to create your new gauge.

3. Click **Save**.

Please refer to the *Dashboard Administrator Guide* for additional information about using the Gauge Editor page.

PMM Functionality

After you have setup all required configurations and preferences, you can now navigate the PMM information.

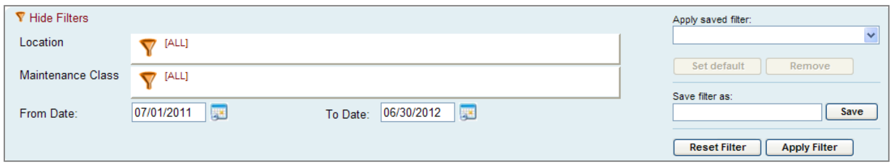
The Main page details show the gauges and charts that you have configured to display. Each PMM gauge allows you to click on them to drill-down to more detailed information. Each PMM gauge is displayed rolled up to the highest drill-down level supported by your user and defined for that gauge.

With PMM gauges, you will find that there are three major drill-down parameters possible. The default drill-down that is available for all PMM's is based on **Date**. The data drill-down will be auto generated based on your filter date range. If your date range spans a year or more, the first drill is to years. Then it drills down to quarters, then months, and finally down to days. The other possible drill-down parameters possible are **Location** and **Department** (based off your PMM data and the Location/Department hierarchy setup). These secondary drill-down parameters are only possible after you have drilled down to the first date level drill-down.

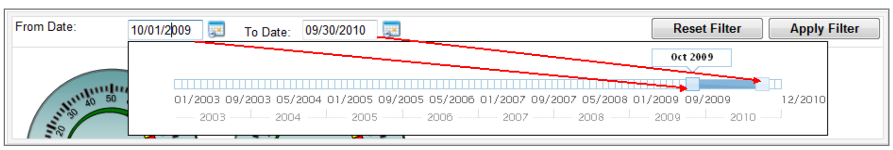
When you first come to the PMM module, you will see your default dashboard. If you do not have a default defined, the first one available in your dashboards dropdown will display automatically. You can set a default dashboard by selecting it in the dropdown and then clicking the **Set Default** button. This will place an asterisk in front of the dashboard name to signify that this one is your default. The **Set Default** button will be disabled if the currently selected dashboard is already set as the default.

Dashboard Filtering

The filter section of the main PMM page shows the union of all possible filters based on all the gauges KPI/PMM data.



The filter criteria that will always be available if you have at least one gauge are the **From Date** and **To Date** filters. The **From** and **To Dates** are defaulted based on the dashboard settings. Date filters have a typical Web date picker as well as a new date range selector shown below:



Click and drag the range end points to update them using this slider control.

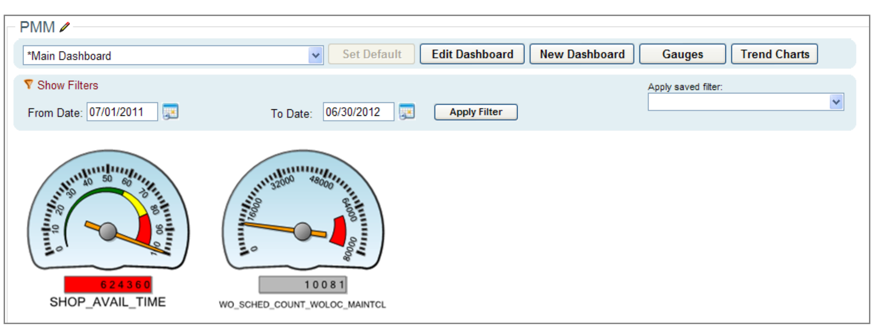
Filters are also defined in more detail below in the KPI Drill-down Filters section.

A special feature of the filters on the main PMM dashboard page is the ability to save quick filters and set default filters.

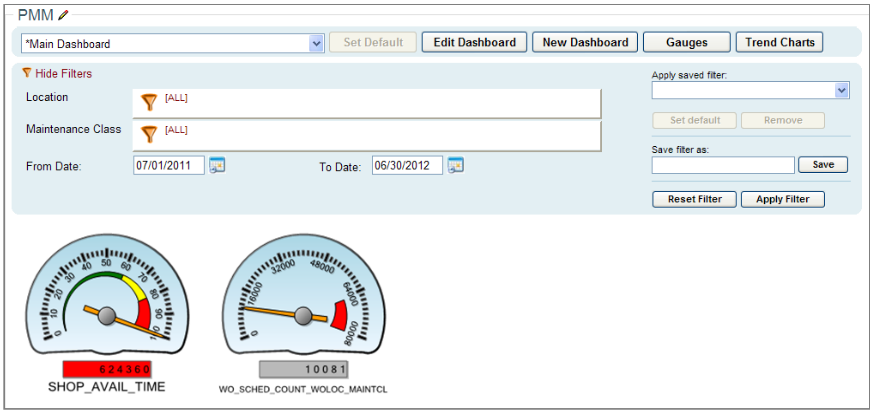
Filters

This is where you define how your gauges and charts are filtered.

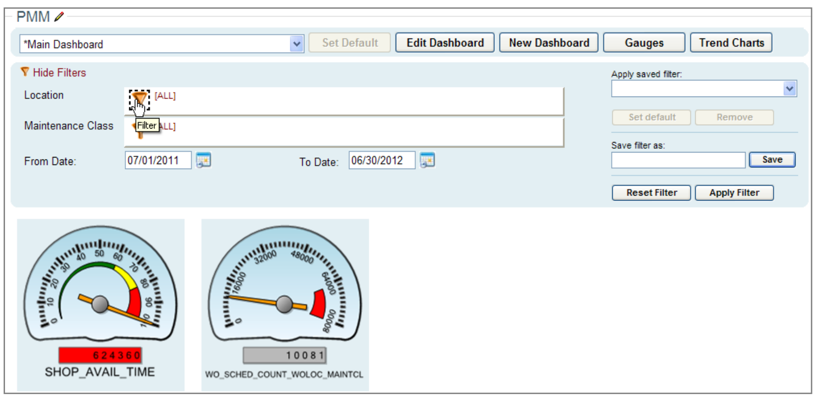
Note: By drilling down the gauges, you are silently setting the filter information as you drill-down.



Click the **Show Filters** link or icon to expand the dashboard filters section to display the current filters and their details.



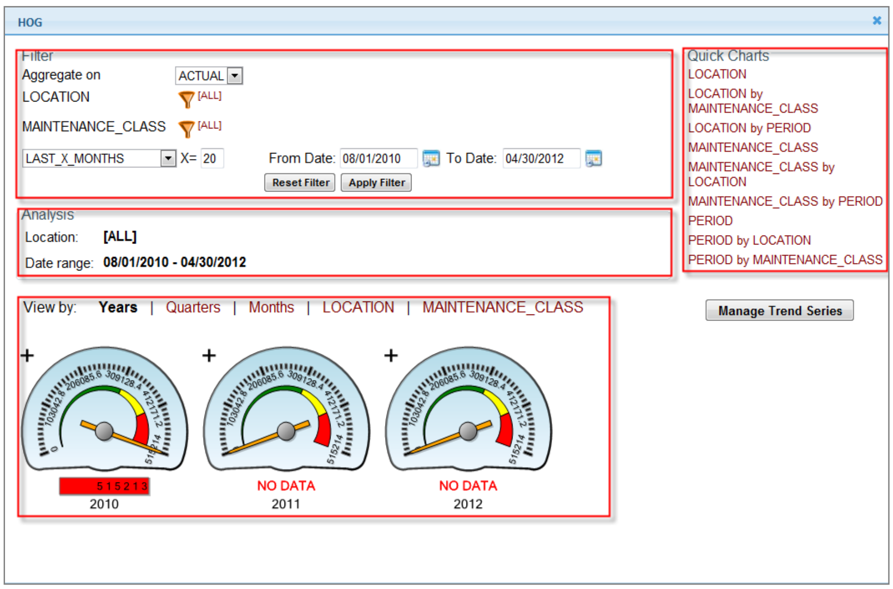
You may hover over a filter icon to see the gauges that this filter applies.



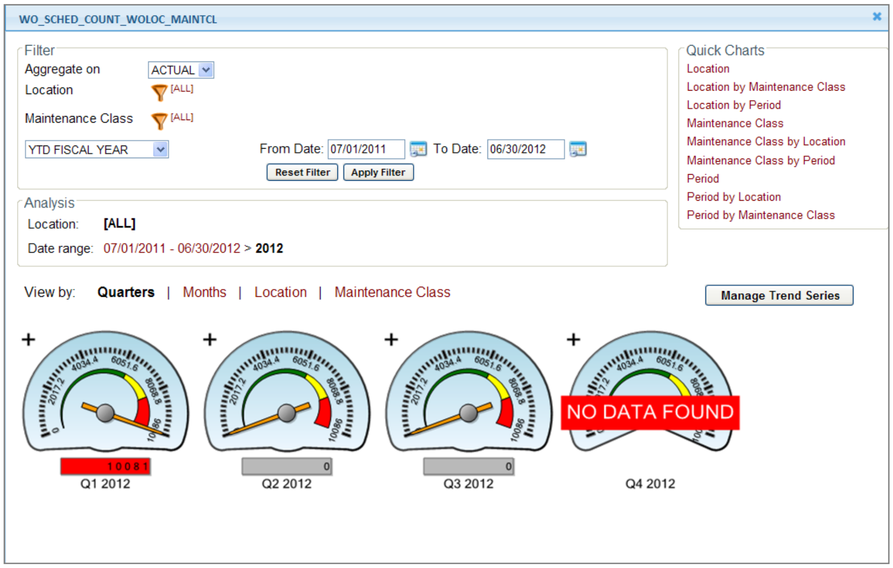
KPI Drill-Down

When you click a gauge in the main dashboard page, the KPI drill-down pop-in opens. At this point, the user can further filter, drill-down, and analyze the specific KPI. The drill-down page contains six main features:

- Filter
- Analysis
- View by
- Gauges
- Quick Charts
- Manage Trend Series button



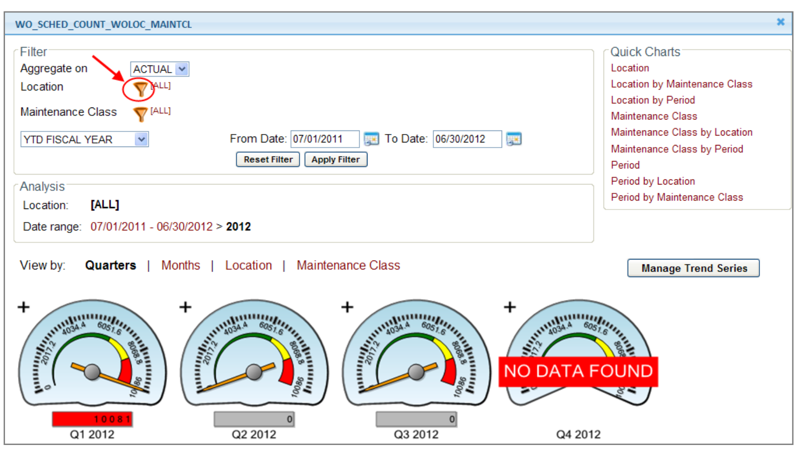
Drill-down Filters

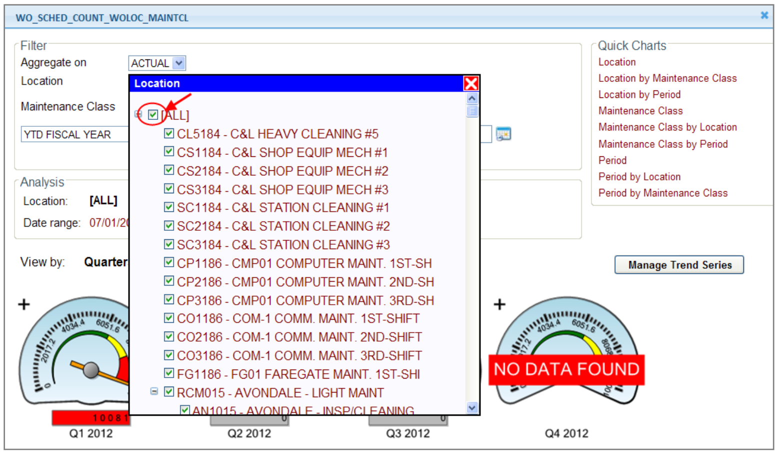


The information that you see in this section is dynamically created based on the definition of the PMM you are currently analyzing. You will always have the date range and also the aggregate-on items. All other items are based on the PMM data points used in the KPI.

All PMM data points have a minimum, maximum, and actual value stored. By default all data displayed is based on actual data points. The **Aggregate on** drop-down allows you to change from actual to either min or max. For most items, actual is the best value to use, but having min and max to analyze could also prove very useful.

1. Click on the filter icon next to each filter item to filter out data by unchecking or checking the check boxes.





When a filter other than all is applied, you will see a list of all the selected values next to the filter to indicate that a special filter was applied. The list will have **+** and **-** signs if the data is hierarchical in style, and can be expanded or collapsed for easier viewing.

2. In the dialog upper right hand corner, click the red x to close the filter dialog.

3. After setting all the desired filter values, click the **Apply Filter** button to ensure that the filter is applied to the gauges and available quick charts.

4. The **Reset Filter** button will reset all drill-downs, view by, and bring you back to the default view when you first came to this drill-down pop in.

Analysis

This section shows any parameters of your KPI that you can drill-down on. You will always have date range available. Any others will be displayed when applicable and at this time will be limited to Location and Department as those are the only two values that can have a hierarchy defined.

When you drill-down on an item, the analysis information will update on the parameter you drilled down. These analysis items will be hyperlinks that clicking will allow you to quickly return to previous drill-down views.

View By

The **View By** hyperlinks allow you to choose what parameter the KPI gauges are grouped and displayed. They will always include date values such as years, Quarters, and Months. These will be determined by the size of your date range and how far you have already drilled down into the data. Others will include all other parameters for your KPI information. Click the desired hyperlink to change the gauges accordingly.

Gauges

The gauges will display based on the parameter chosen in the **View by** area. For instance, if you are viewing by department, you will see one gauge per department that has data for your filter criteria. If the department is a higher level department with departments below it, there will be a + sign graphic in the upper left corner of the gauge to indicate that you may click the gauge to drill-down to a lower level of grouping. The scale of the gauge will depend on the data values and scale based on the Dashboard's gauge definition. All gauges scales will be set to the same for any given view. However, upon drilling down, the scale will likely change depending on the data being displayed.

Quick Charts

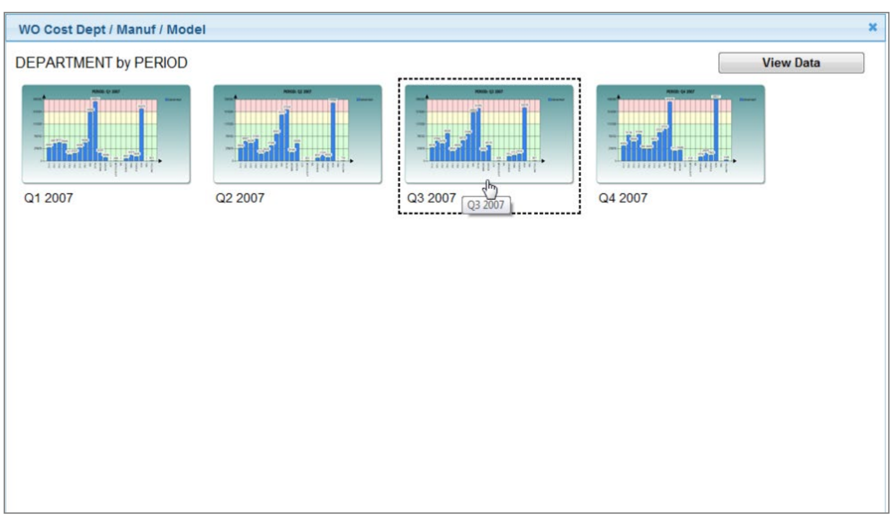
Quick charts are charts based on the data shown in the gauges. The list of charts available is a collection of the possible combinations of data for the selected KPI. There will always be at least Time Period charts available. When you click on the hyperlink to open a chart, a new pop in will show and display the chart(s) that applies to the selected link. When multiple charts are displayed, you will see them displayed as medium sized thumbnails. Clicking on the thumbnail will explode it to full size for review. Close the full size view to return to the thumbnails.

The **View Data** button on the quick charts allows you to see a tabular view of the data that created the underlying charts. This is NOT data from tables such as job_main. This is the actual calculated data used to show the charts. The data is shown in CSV format as well for easy copying to Excel or other external product.

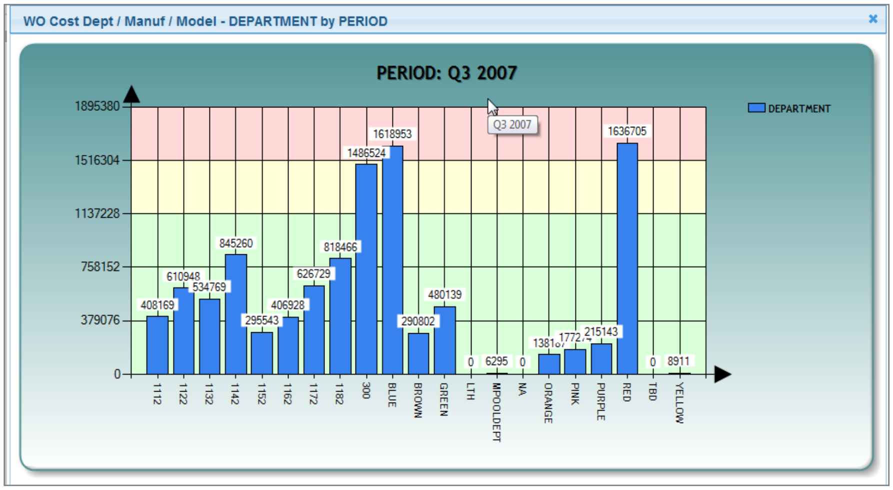
Chart Examples

This section provides some examples of charts that may be created in the Performance Measures and Monitors Module.

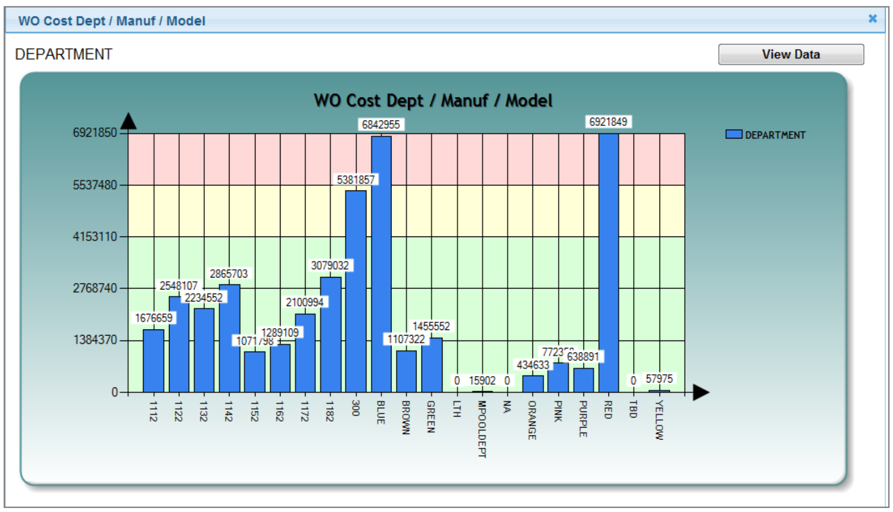
Quick Chart Multi-Dimensional Quarter



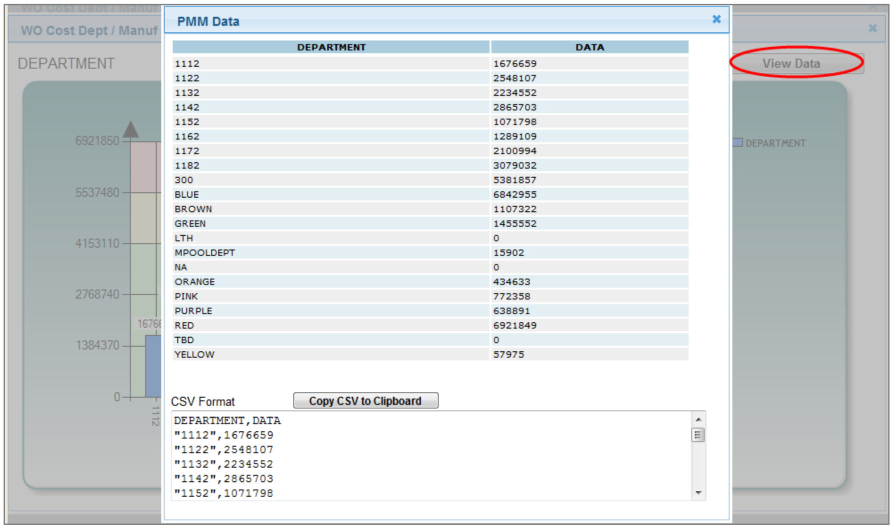
Quick Chart Multi-Dimensional Zoom



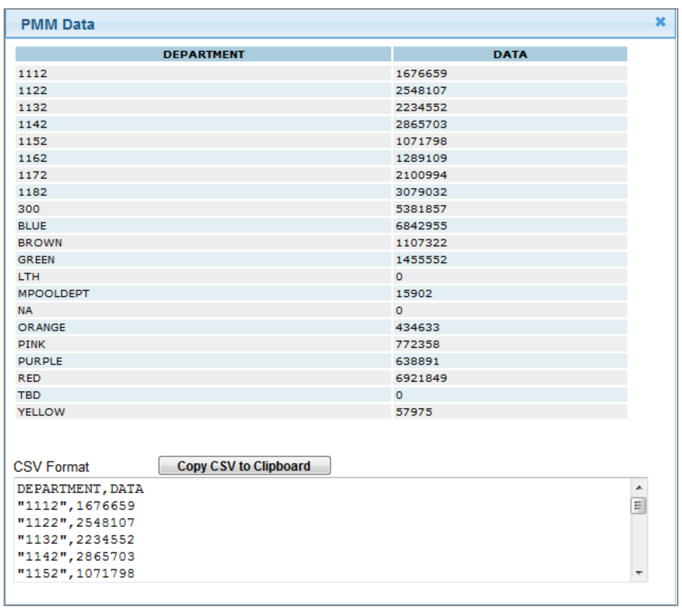
Quick Chart Single Dimensional



Quick Chart View Data



Click the **View Data** button to open a list of the PMM data. You can also copy a CSV file to the Clipboard.



PMM Data

DEPARTMENT	DATA
1112	1676659
1122	2548107
1132	2234552
1142	2865703
1152	1071798
1162	1289109
1172	2100994
1182	3079032
300	5381857
BLUE	6842955
BROWN	1107322
GREEN	1455552
LTH	0
MPOOLDEPT	15902
NA	0
ORANGE	434633
PINK	772358
PURPLE	638891
RED	6921849
TBD	0
YELLOW	57975

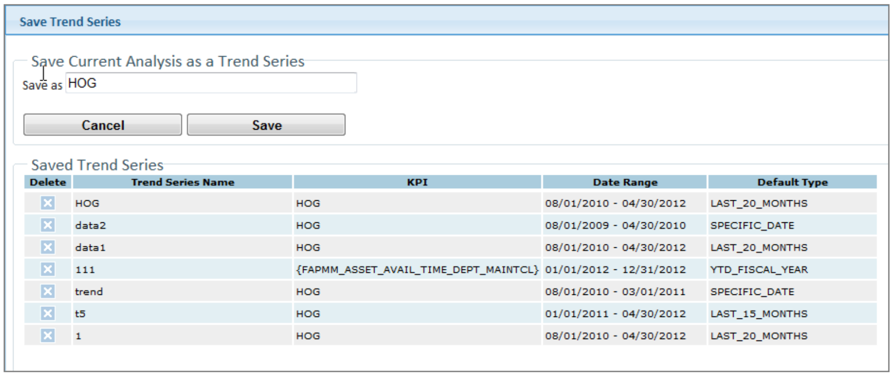
CSV Format Copy CSV to Clipboard

```
DEPARTMENT,DATA
"1112",1676659
"1122",2548107
"1132",2234552
"1142",2865703
"1152",1071798
```

Manage Trend Series

This button opens the Save Trend Series page which will allow the last applied filter to be saved or for any pre-existing filters to be deleted.

Trend series are saved per user and are not shared between different users.

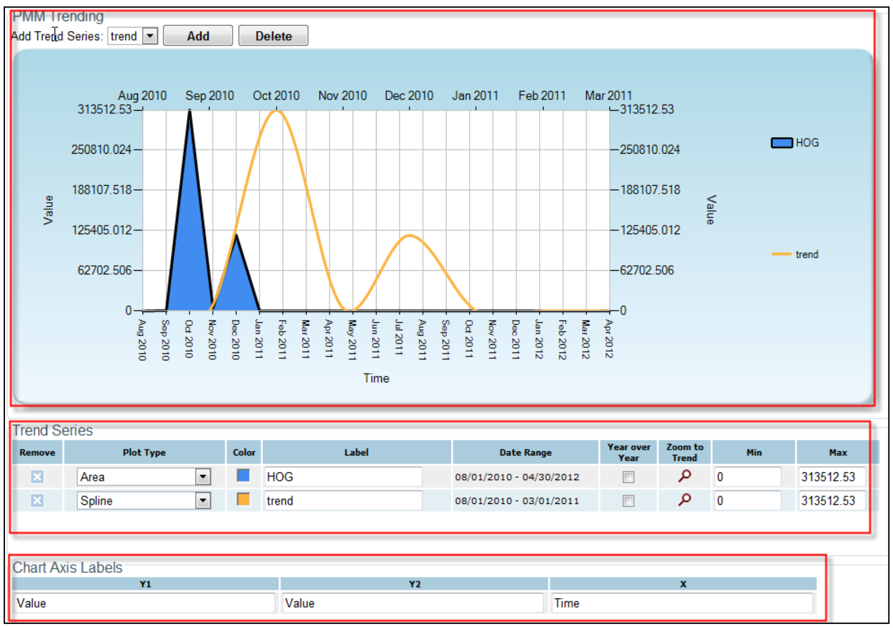

Save Trend Series
Save Current Analysis as a Trend Series
Save as HOG
Cancel
Save
Saved Trend Series
Delete
Trend Series Name
KPI
Date Range
Default Type
HOG
HOG
08/01/2010 - 04/30/2012
LAST_20_MONTHS
data2
HOG
08/01/2009 - 04/30/2010
SPECIFIC_DATE
data1
HOG
08/01/2010 - 04/30/2012
LAST_20_MONTHS
111
{FAPMM_ASSET_AVAIL_TIME_DEPT_MAINTCL}
01/01/2012 - 12/31/2012
YTD_FISCAL_YEAR
trend
HOG
08/01/2010 - 03/01/2011
SPECIFIC_DATE
t5
HOG
01/01/2011 - 04/30/2012
LAST_15_MONTHS
1
HOG
08/01/2010 - 04/30/2012
LAST_20_MONTHS

PMM Trending

PMM Trending allows a user to determine trends by comparing saved filters. If the auto save option is enabled then previously added trends are automatically saved and loaded to the Chart, otherwise they will have to be added each time.

There are three major areas to this page:

- Trend Chart
- Trend Series
- Chart Axis Labels



Trend Chart

The Trend Chart is where saved filters are either added to the graph, deleted from the system or put on a graph. All of the user's saved filters are displayed in the dropdown list near the **Add** button.

- The **Add** button adds the selected filter to the Chart.
- The **Delete** button deletes the selected filter from the system.
- Additional data can be obtained from the chart by hovering over the legend to see the minimum, maximum and average values.
- If two trends are being compared, they use the primary (left and bottom) and secondary axis (right and top).
- If three trends are being compared then they all are drawn on the primary axis.

Trend Series

This table contains a list of trends currently being displayed in the Chart. The following options are available:

- **Remove**: Remove Trend from the Chart
- **Plot Type**: You may specify four types of charts -
- **Line**
- **Spline**
- **Column**
- **Area**
- **Label**: Allows a user to change the label being displayed in the chart.
- **Year over Year**: Compares a trend year by year.
- **Zoom to Trend**: Opens the Drill-down pop-in with the filter data.
- **Min/Max**: Allow a user to scale the graph by setting the minimum and maximum Y axis values.

Chart Axis Labels

These fields allow the user to change the default Axis Labels of Value or Time to any unit of measure.