

Version 25



Trapeze

Enterprise Asset Management

Asset Performance Assessment

Administrator & User Guide

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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.

Asset Performance Assessment - Administrator and User Guide

Version 25.x

February 2025

Contents

1. Overview.....	1
Requirements.....	1
Assumptions	1
2. Asset Performance Assessment Process.....	2
Defining Life Cycle Information	2
Expected Useful Life	3
Capital Category	4
Deterioration Scenario	4
In Service Date	5
Defining Condition Ratings	5
Collecting Condition Ratings.....	6
Manual Collection of Condition Ratings	6
Calculated Collection of Condition Ratings	7
Defining Asset Groups.....	8
Defining Asset Groups for Visualization.....	8
Define Asset Group Hierarchy.....	9
Monitoring Performance and Taking Action.....	9
3. Asset Performance Assessment Portal	11
Available Gadgets	11
Single Instance Gadgets	11
Multiple-instance Gadgets.....	12
Prediction Models.....	14

1. Overview

The Asset Performance Assessment module provides a comprehensive suite of tools for:

- Defining asset groups
- Updating key life cycle statistics
- Monitoring asset performance
- Selecting poor performing assets
- Managing selections
- Adding assets to maintenance projects

Requirements

Application 25.x

Web Modules 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.
- ❗ 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 Modules in multiple browser windows or tabs. This can cause errors or unexpected performance issues.

2. Asset Performance Assessment Process

The basic steps of the asset performance assessment process are as follows:

1. Define life cycle information
2. Define condition ratings by asset category or use one standardized system.
3. Collect asset condition ratings
 - i. Manual condition inspection
 - ii. Calculated condition
4. Define asset groups for monitoring and visualization
5. Use Asset Performance Assessment module to monitor performance and take action

Defining Life Cycle Information

The following information should be gathered in order to properly define the life cycle.

- Critical Data Elements
 - Expected Useful Life
 - Capital Category
 - Deterioration Scenario
 - In Service Date
- Recommended Data Elements
 - Procurement Date
 - Replacement Date

Expected Useful Life

This value is set on the Equipment Types – Primary Information screen, and circulates to equipment of that type. This value can be overwritten per asset if needed.

The screenshot displays the 'Equipment Types' interface with the 'More Info' tab selected. The interface includes a top navigation bar with 'ADMIN MODE', 'CHANGE REQUEST', and 'HELP' links. Below the navigation bar is a toolbar with buttons for Search, Reload, Sort, New, Copy, Delete, Edit, Save, and Cancel. The main content area is divided into a left sidebar with tabs for Basic Info, More Info (selected), Attributes, Parts Used On, and Yard Management. The 'More Info' section contains several input fields organized into sections: 'Default warranty periods' (Months, Meter units), 'Greenhouse gas information' (Vehicle type, Fuel class, On road checkbox), 'Recommended fuel efficiency' (City, Highway, Combined), and a red-bordered box containing 'Useful life' (Minimum, Expected, Manufacturer), 'Expected replacement cost', 'Expected rehabilitation cost', 'Expected rehab cycle months', 'Expected rehab cycle meter', 'Maximum rehabs', 'Procurement lead months', and 'Inflation factor'.

Useful life	Months	Meter
Minimum		
Expected		
Manufacturer		
Expected replacement cost		
Expected rehabilitation cost		
Expected rehab cycle months		
Expected rehab cycle meter		
Maximum rehabs		
Procurement lead months		
Inflation factor		

Capital Category

This value is defined on the Capital Categories screen. It includes default project types for use in the Capital Plans module. It applied to the asset on the Capital tab of an asset.

The screenshot displays the 'Asset Primary Information' interface. At the top, there are tabs for 'ADMIN MODE', 'CHANGE REQUEST', and 'HELP'. Below these are search and filter controls: 'Search', 'Reload', 'Sort', 'Select Filter', and 'Select Sort'. A row of action buttons includes 'New', 'Copy', 'Delete', 'Edit', 'Save', and 'Cancel'. The main content area is divided into a left sidebar with a list of categories (Basic Info, Meter Info, Classes, Locations, Assignments, Accounts, Status, Capital, Motor Pool, Authorization) and a main panel titled 'Capital'. The 'Capital' panel contains various input fields for 'Capital category ID', 'Capital priority ID', 'Procurement lead months', 'Procurement start date', 'Inflation factor', 'Expected useful life' (with sub-fields for Months and Meter), 'Replacement' (with sub-fields for Minimum date, Expected date, Replacement cost, Minimum meter, Expected meter, and a checkbox for 'Calculated at'), 'Rehabilitation' (with sub-fields for Expected date, Expected meter, and Rehabilitation cost), 'Sustainability', 'Climate resiliency', 'Environmental', and 'Capital comment'. At the bottom, there is a table titled 'Capital projects featuring this asset' with columns for 'Row #', 'Capital project ID', 'Description', and 'Status'.

Deterioration Scenario

This value is also defined on the Capital Categories screen. The Scenario ID is required to display a deterioration chart.



Prediction scenarios are a separate optional data load process. Use the DataLoader to load the following files which can be found in the dbobjects\DataLoader folder:

- AgeBasedPredictionScenarios.xml
- SurvivalAgePredictionScenarios.xml

Capital Categories ADMIN MODE CHANGE REQUEST

Search Reload Sort Select Filter Select Sort New Copy Delete Edit

Capital category ID

Basic Info

Description

Default project type for refurbishment Default project type for replacement Project duration (months) Project duration (months)

☐ Score affects effective useful life

Scenario ID

In Service Date

The actual in service date is defined on the Asset Primary Information screen and is required to use this module. It is the basis for calculating and asset's age.

Asset Primary Information ADMIN MODE CHANGE REQUEST HISTORY

Search Reload Sort Select Filter Select Sort New Copy Delete Edit Save

GRID LIST MAP

Equipment ID

Acquisition

Planned Actual

Delivery date In service date

Original cost Base MRP cost

Row #	Delete	Vendor ID	Purchase or

Defining Condition Ratings

The FTA recommends using a 0 to 5 scale with 0 being the lowest score. This is widely adopted in other industries with a few exceptions: pavement is typically 0 – 100, and bridges are typically 0 – 100.

- Critical Data Elements
 - Minimum Value – Defines the lowest value for a condition rating
- Recommended Data Elements
 - Color – Used by Condition Performance charts
 - Supports all or enforce by asset category restrictions

Condition Ratings ADMIN MODE CHANGE REQUEST HE

Search Reload Sort Select Filter Select Sort New Copy Delete Edit Save Cancel

Condition ID

Basic Info

Asset Categories

Ranking

Minimum value

Color

Asset Categories

☐ Supports all asset categories ☐ Enforce asset category restrictions for this condition

Supported asset categories

Row #	Delete	Asset category ID	Description
-------	--------	-------------------	-------------

Collecting Condition Ratings

Condition ratings can be collected manually or by calculation.

Manual Collection of Condition Ratings

Condition ratings can be collected manually from the following:

- On service requests
- By assigning PM/Inspections with test results
- Entry using Adobe Smart Forms integration (requires MAXQueue)

Very Good	Pavement Structure is stable, with no cracking, no patching, and no deformation evident. Roadways in this category are usually fairly new. Riding qualities are excellent. Nothing would improve the roadway at this time.
	
Good	Stable, minor cracking, generally hairline and hard to detect. Minor patching and possibly some minor deformation evident. Dry or light colored appearance. Very good riding qualities. Rutting less than 1/2".
	

Calculated Collection of Condition Ratings

Condition ratings can be calculated from the following:

- Define a capital score element using the asset's deterioration scenario
 - 📖 Refer to the *State of Good Repair Reference Guide* for more information about setting up capital scoring.
- Define capital score asset grouping
- Define capital score rules for the asset grouping
- Calculate scores during the end of period processing
- Blend a mix of age-based and other out-of-box capital score elements such as PM compliance and major repairs (Advanced Users)

Defining Asset Groups

Defining Asset Groups for Visualization

Asset groups are defined on the Asset Groups screen. Include the following criteria: Account, Department, Equipment Type, Class, Asset Category, Model, Year, Locations, Others.

The screenshot shows the 'Asset Groups' interface. At the top, there's a header with 'Asset Groups' and links for 'ADMIN MODE', 'CHANGE REQUEST', and 'HELP'. Below the header is a toolbar with icons for Search, Reload, Sort, and a dropdown for 'Select Filter'. To the right of the toolbar are buttons for 'New', 'Copy', 'Delete', 'Edit', 'Save', and 'Cancel'. The main content area is divided into a sidebar on the left with tabs for 'Basic Info', 'Asset Criteria', and 'Statistics'. The 'Basic Info' tab is selected, showing a form with a 'Description' field and an 'Asset Criteria' section. The 'Asset Criteria' section includes a note: 'Asset criteria to restrict the assets belonging to the group. Wildcards OK.' and a table with columns 'Row #', 'Delete', 'Criteria item', and 'Criteria value'.

Updated summary statistics for an asset group including: Count, Replacement Costs, Average Age, % Assets within useful life.

Also on the Asset Groups screen, Statistics tab, define the state of good repair condition threshold.

The screenshot shows the 'Statistics' tab. It includes a checkbox for 'Update statistics' and a 'Date and time last updated' field showing '08/03/2018 09:31'. Below this are input fields for 'Asset count' (1), 'Replacement costs' (300000.00), 'Average age' (0.08), 'Average meter 1' (1.00), 'Average meter 2' (0.00), 'Condition score target (level of service)' (0.00), 'Percent of assets within useful life' (100.00), and 'Percent of assets within meter 1 useful life' (100.00). At the bottom is a table with 6 columns: 'Row #', 'Rating source', 'Rating type', 'Number of events', 'Average condition score', and 'Percent of assets within useful life'.

Row #	Rating source	Rating type	Number of events	Average condition score	Percent of assets within useful life
1	TEST RESULT	CONDITION SCORE	1	4.00	100.00
2	CALCULATED SCORE	DIRECT ENTRY	1	252.25	100.00
3	EQUIPMENT MASTER	DIRECT ENTRY	1	252.25	100.00
4	SERVICE REQUEST	DIRECT ENTRY	1	3.00	100.00

Define Asset Group Hierarchy

Defining asset group hierarchy is done on the Asset Group Hierarchy screen. This is where parent-child relationships for asset groups are defined.

Asset Group Hierarchy ADMIN MODE CHANGE

Search Reload Sort Select Filter Select Sort New Copy Delete Edit

Asset group ID FTA: FACILITIES

Child Groups

Row #	Delete	Asset group ID
1	☐	FTA: SUPPORT FACILITIES
2	☐	FTA: PASSENGER FACILITIES
3	☐	FTA: PARKING FACILITIES

Monitoring Performance and Taking Action

The final step of the process can be completed after setting-up the ratings and parameters. At this point, you can do the following from the Asset Performance Assessment Portal:

Asset Performance Assessment Portal

Prediction Models Customize

Asset Management

	Name	Asset Count	Avg Age	Condition Score Target	Avg Calc Score	Calc Score - Meeting Target	Avg Manual Score	Manual Score - Meeting Target	Est. Replace Cost	Avg Met
Q	2 - EQUIPMENT	401	11.00	0.00	0.00	0.00%	0.00	0.00%	\$ 211,764.00	7148
Q	3 - FACILITIES	4461	22.84	0.00	0.00	0.00%	0.00	0.00%	\$ 0.00	0
Q	4 - INFRASTRUCTURE	297	18.43	0.00	0.00	0.00%	0.00	0.00%	\$ 0.00	0
Q	ELMS	0	0.00	0.00	0.00	0.00%	0.00	0.00%	\$ 0.00	0
Q	EQUIPMENT	503	9.45	N/A	4.70	98.17%	11.45	5.78%	\$ 1,826,924.50	3739
Q	SUBARUS	7	16.19	2.25	3.63	66.67%	3.45	66.67%	\$ 1,435,615.00	9225
Q	TOYOTA	8	3.95	2.25	0.00	0.00%	5.00	100.00%	\$ 0.00	321
Q	FORD	488	9.44	2.50	4.71	98.36%	11.93	1.75%	\$ 391,309.50	3717
Q	CHEVY	0	0.00	2.25	0.00	0.00%	0.00	0.00%	\$ 0.00	0
Q	MERCEDES	0	0.00	2.25	0.00	0.00%	0.00	0.00%	\$ 0.00	0

Asset Management Table

- Quickly understand key performance metrics
 - Average Age
 - Average Conditions from Multiple Sources
 - % of Assets Above Condition Threshold
 - Estimated Replacement Costs

- Average Meter Reading
- % of Assets within Remaining Service Life
- View poor performing groups which are visually highlighted
- Drill-down into Asset Group Hierarchy
- Drill down into detail within a group
- Sort assets by condition, age or priority

Asset Group Performance

Click on the Name link in the Asset Management table.

The Asset Group Performance page will display.

Assets								
Group On Capital Project		Add to List	Remove From List		List: Replacement Candidates			
☐	Asset ID	Description	Condition Score	Condition Source	Manual Score	Manual Date	Calculated Score	Calculated
☐	14422	2004 FORD F350 4X2 XL 168" WB PICK-UP W	4.62	CALCULATED SCORE			4.62	03/29/2016
☐	14664	4X2 DRW REG CAB P-UP XL	4.81	CALCULATED SCORE			4.81	03/29/2016
☐	16802	2.3L 14 ATKINSON 2008 FORD ESCAPE HY	4.92	CALCULATED SCORE			4.92	03/29/2016
☐	14108	2001 5.4L F-250 PICK UP 4X4 4 SPEED AUTO	4.13	CALCULATED SCORE			4.13	03/29/2016
☐	13420	POLICE INTERCEPTOR 4.6L 6-PASSENGER	4.62	CALCULATED SCORE			4.62	03/29/2016
☐	14121	2001 5.4L F-250 PICK UP 4 SPEED AUTOMATI	4.13	CALCULATED SCORE			4.13	03/29/2016
☐	14123	2001 7.3L F-250 PICK UP 4X4 4 SPEED AUTO	4.13	CALCULATED SCORE			4.13	03/29/2016
☐	14418	2004 FORD F-250 PICK-UP ENGINE 5.4L V8.	4.62	CALCULATED SCORE			4.62	03/29/2016
☐	14208	2002 5.4L EFI F-250 4X2 PICK UP 4 SPEED	4.33	CALCULATED SCORE			4.33	03/29/2016

- View asset details and the Condition Performance chart. This table includes compliance information indicating whether an asset is compliant, when the most recent compliance check was run, and the model and version number of the configuration model used for compliance verification.
- Action an asset or assets by clicking the box next to the Asset ID then selecting **Group on Capital Project** or **Add to List**.
 - Add the contents of a list to a Capital Project, or create a new Capital Project
 - Add assets to a custom list.
 - Maintain a queue of assets that need further research.
 - Move assets between lists.

3. Asset Performance Assessment Portal

The Asset Performance Assessment portal front page enables you to launch prediction models or customize the layout of the portal. The default gadgets include: Asset Management, Asset Group Performance and Decay Chart.

To add a gadget, click **Layout** and select the desired gadgets by clicking **Add Gadget**.

Available Gadgets

- **Single-instance Gadgets:** Gadgets with one instance per layout (location/user).
 - Asset Management Gadget
- **Multiple-instance Gadgets:** Gadgets that can have more than one instance per layout (location/user).
 - Metrics
 - URL
 - Ad hoc Query

Single Instance Gadgets

Asset Management Gadget

This gadget provides an overview of the Asset Groups defined in the system. It displays statistics about the assets within the groups.

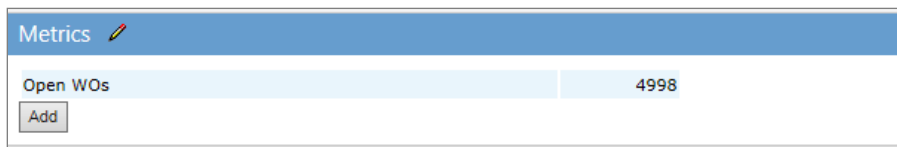
Asset Management 					
	Name	Asset Count	Avg Age	Condition Score Target	Avg Calc Score
	1 - ROLLING STOCK	829	29.61	0.00	0.00
	2 - EQUIPMENT	401	11.00	0.00	0.00
	3 - FACILITIES	4461	22.84	0.00	0.00
	4 - INFRASTRUCTURE	297	18.43	0.00	0.00
	ELMS	0	0.00	0.00	0.00
	 EQUIPMENT	503	9.45	N/A	4.70
	SUBARUS	7	16.19	2.25	3.63
	TOYOTA	8	3.95	2.25	0.00
	FORD	488	9.44	2.50	4.71
	CHEVY	0	0.00	2.25	0.00
	HONDA	0	0.00	2.25	0.00

- **Zoom** - Magnifying glass will open the Asset Groups or Asset Group Hierarchy screen.

- **Name** - Name of the group or hierarchy.
- **Asset Count** - Number of assets that match the criteria of the group.
- **Avg. Age** - Average age of the assets contained within the group.
- **Avg Meter** - Average meter of the assets contained within the group.
- **Condition Score Target** - Condition score threshold specified on the Asset Group. This is the threshold to indicate that an asset is or is not in a state of good repair.
- **Calc Score - Avg Score** - Average calculated (EoP) score of the assets.
- **Calc Score - Meeting Target** - Percent of the assets who's calculated score is above the condition threshold.
- **Avg Manual Score** - Average manual (direct entry) score of the assets.
- **Manual Score - Meeting Target** - Percent of the assets who's manual score is above the condition threshold.
- **Est. Replace Cost** - Summation of the replacement cost of all the assets in the group.
- **% Within Remaining Life – Age** - Percentage of assets within remaining service life by age.
- **% Within Remaining Life – Meter** - Percentage of assets within remaining service life by meter.

Multiple-instance Gadgets

Metrics



The Metrics gadget displays user-defined metrics consisting of a single data value (similar to a Dashboard gauge but with only a label and a value). This gadget uses the same data sources supported by Dashboard Module gauges: saved Ad hoc Query reports (with category KPI only), and advanced Key Performance Indicators (KPIs), including ad hoc SQL statements (requires Dashboard Module administrator access).

The Metrics gadget supports existing "{FAVAR_*}" KPI variables and two new KPI variables "{WEBVAR_CURRENTLOC}" (current Supervisor Portal/Production Manager Portal/Work Management Portal selected shop location) and "{WEBVAR_CURRENTPARTSLOC}" (current Storekeeper Portal selected parts location). The Dashboards module also supports these variables, making it a feature for users with the Supervisor Portal and Dashboards on the same tab.

URL

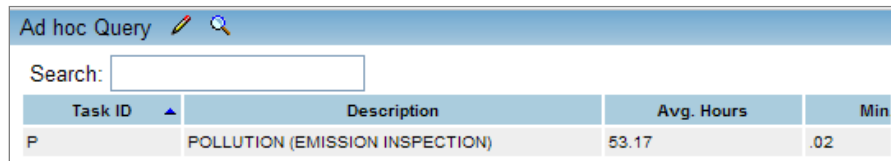
The URL gadget allows you to embed any URL (images, news feeds, webcams, maps, etc.) into an iFrame.

The embedded URL must support being inside an iFrame. Generally, any website where sensitive or personal data is sent does not support iFrame. All browser and OS-based security rules still apply.

Suggested uses:

- An embedded map
- An image/webcam (traffic cams, for example)
- A network document (Use a "file:/" URL)

Ad hoc Query



Ad hoc Query  			
Search:			
Task ID	Description	Avg. Hours	Min
P	POLLUTION (EMISSION INSPECTION)	53.17	.02

The Ad hoc Query gadget provides flexibility by allowing almost any saved Ad hoc Query report (that the user has access to) to be embedded in the gadget. Search and sort functions are included, as well as the ability to launch the report in a separate window. (Refer to the *Ad Hoc Query Administrator or User Guides* for information about using the Ad Hoc Query module.)

For the gadget to work properly, the query must return a single table.

Prediction Models

Click **Prediction Models** to be taken to the Prediction Models page. Here you can run models based on specified scenarios and parameters.

Prediction Models

Scenario Name ...

Model ID

Name	Value	Description
AGE	0	Age of asset in years
AGE.INCREMENT	0	Age value to increment age by each run
AGE.FROM	0	Age to start run
AGE.TO	0	Age to finish run
HIGHSCORE	0	Highest possible score
RESULTASPCCTOFFAULTURE	0	Result as probability of failure (1=true or 0=false)
SHAPE	0	Shape of curve
SCALE	0	Scale of curve

Model Results

Result

Key Parameters

Back

Run Model

Predictions scenarios are used to define parameters around a model. Out-of-box scenarios for a series of fixed guideways, stations, and system assets derived from TERM data can be loaded using the DataLoader.

The files to be loaded can be found in the dbobjects\DataLoader folder:

- AgeBasedPredictionScenarios.xml
- SurvivalAgePredictionScenarios.xml