



Fixed Asset Dimension and Fact Job Aid

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Fixed Asset Dimension and Fact Job Aid

Introduction

The purpose of this job aid is to provide an explanation of dimensional data modeling and of using dimensions and facts to build analyses within the Fixed Asset Subject Areas.

Dimensional Data Model

The dimensional model is comprised of a fact table and many dimensional tables and is used for calculating summarized data. Since Business Intelligence reports are used in measuring the facts (aggregates) across various dimensions, dimensional data modeling is the preferred modeling technique in a BI environment.

STARS - OBI data model is based on Dimensional Modeling. The underlying database tables are separated as Fact Tables and Dimension Tables. The dimension tables are joined to fact tables with specific keys. This is usually called Star Schema.

The star schema separates business process data into facts, which hold the measurable, quantitative data about a business, and dimensions which are descriptive attributes related to fact data.

Examples of fact data include Current Cost, Acquisition amount, Depreciation amount etc.

Related dimension attribute examples include Asset Details, GL Details, time etc.

Fact Tables:

Fact tables record measurements or metrics for a specific event. Fact tables generally consist of numeric values and foreign keys to dimensional data where descriptive information is kept. Fact tables are designed to a low level of uniform detail (referred to as "granularity" or "grain"), meaning facts can record events at a very atomic level. This can result in the accumulation of a large number of records in a fact table over time. Fact tables are generally assigned a surrogate key to ensure each row can be uniquely identified.

Dimension Tables:

Dimension tables have a relatively small number of records compared to fact tables, but each record may have a very large number of attributes to describe the fact data. Dimensions can define a wide variety of characteristics, but some of the most common attributes defined by dimension tables include

- Time
- Department



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Dimension tables are generally assigned a surrogate primary key, usually a single-column integer data type, mapped to the combination of dimension attributes that form the natural key.

Star Schema:

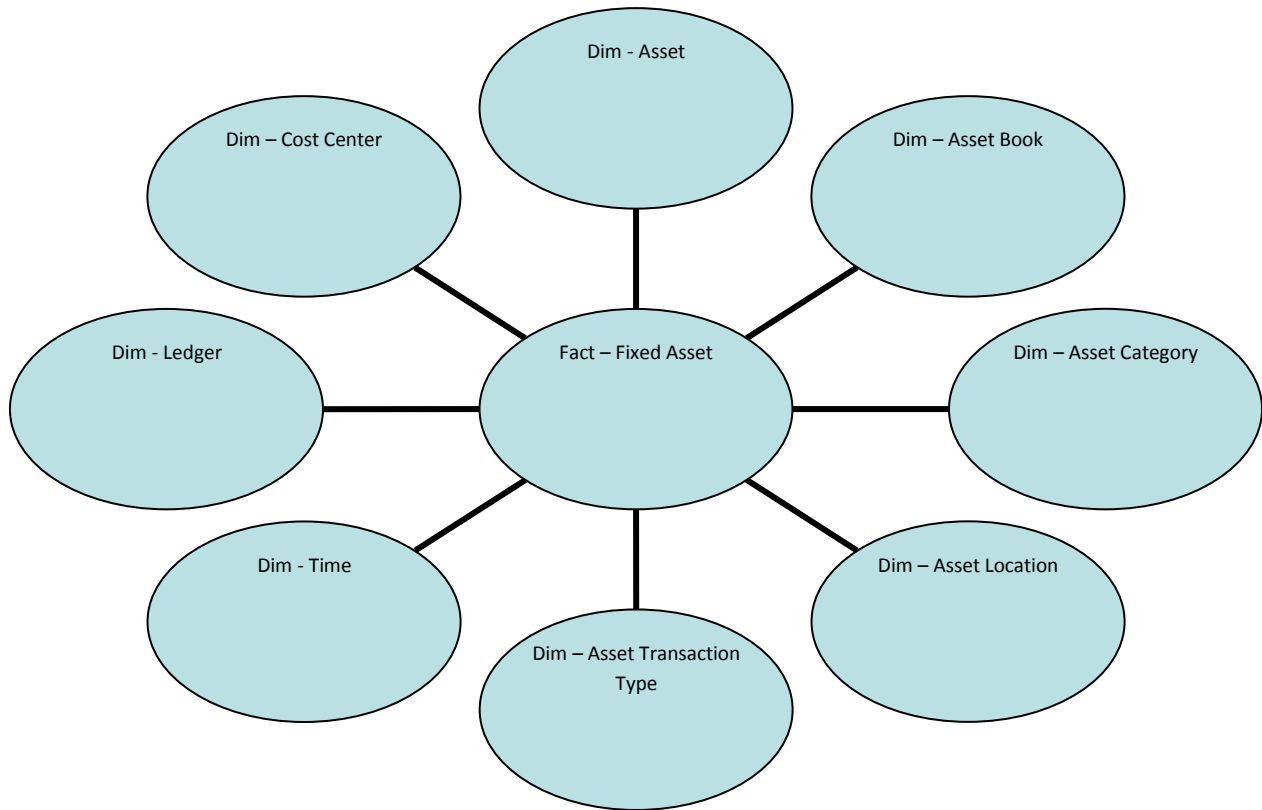
Star schemas are optimized for querying large data sets and are used in data warehouses and data marts to support OLAP cubes, business intelligence analytic applications, and ad hoc queries.

Within the data warehouse or data mart, a dimension table is associated with a fact table by using a foreign key relationship. The dimension table has a single primary key that uniquely identifies each member record (row). The fact table contains the primary key of each associated dimension table as a foreign key. Combined, these foreign keys form a multi-part composite primary key that uniquely identifies each member record in the fact table.

The Fact Table name in **STARS - OBI** Subject Areas is usually preceded with the name **FACT**. This is done to distinguish the Fact tables from the Dimension Tables.

In the example provided below, the underlying Dimension Tables in this Subject Area are joined to the Fact table to form the star schema.

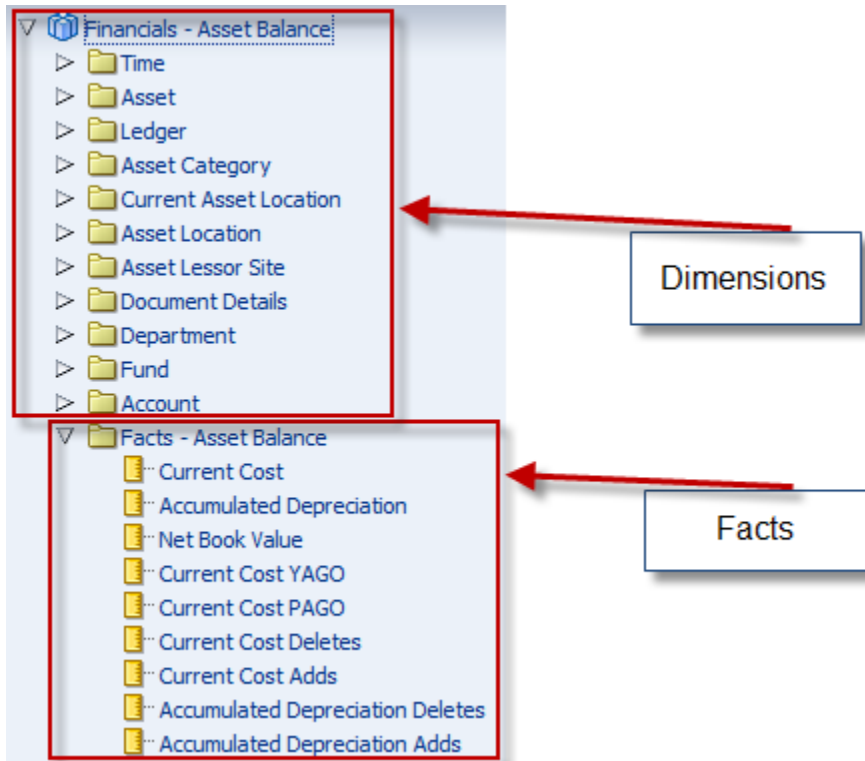
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Subject Area:

A subject area contains folders; attribute columns (Dimensions) and measure columns (Facts) that represent information about the areas of an organization's business or about groups of users within an organization. Subject areas usually have names that correspond to the types of information that they contain, such as Financials – Asset Depreciation, Financials – Asset Acquisition, Financials – Asset Balance, etc.

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There are common **Dimensions Tables** across Financial Subject Areas such as Time, Ledger and Chartfields. These common Dimensions are followed by Subject Area specific Dimensions such as GL Details, AP Details, AR and Fixed Assets Details. There are **FACT Tables** across specific Subject Areas.



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Financial Subject Areas

Fixed Asset Subject Areas

Fixed Assets is the subject area where we keep track of State of CT asset additions, changes and retirements that happen in a life of an asset. It is used to create asset evaluation reports. The Fixed Asset Subject Areas are the master subject areas that have the information posted to them from different sources like Acquisitions, Depreciations and Retirements etc...

There are five Subject Areas in STARS that represent the Fixed Asset module in CORE-CT.

- [Financials – Asset Overview](#) Subject Area
- [Financials – Asset Balance](#) Subject Area
- [Financials – Asset Acquisition](#) Subject Area
- [Financials – Asset Depreciation](#) Subject Area
- [Financials – Asset Retirement](#) Subject Area

Financials – Asset Overview: This is a summary level subject area that provides key statistics on the fixed assets functions including Gross Book Value, Accumulated Depreciation Amount and Net Book Value.

Financials - Asset Balance: This is a summary level subject area that contains point in time asset balance information such as Current Cost, Fiscal YTD Depreciation Amount, Gross Fixed Asset Cost Ratio, etc.

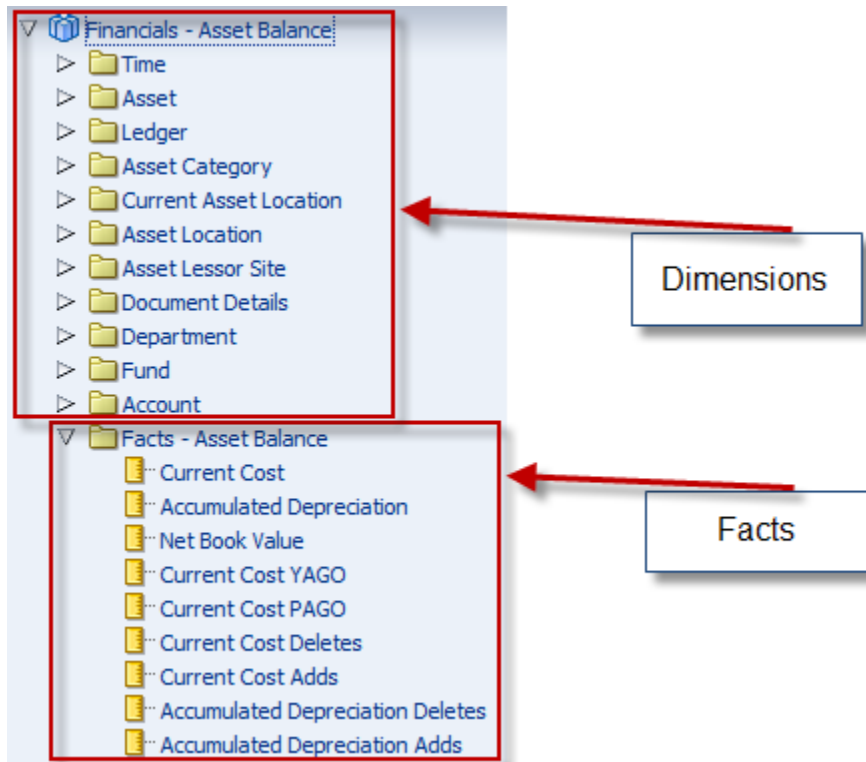
Financials - Asset Acquisition: This subject area includes all the metrics related to asset additions posted through new acquisitions within a given period and both activity and to date (PTD, QTD, and YTD)

Financials - Asset Depreciation: This subject area includes all the metrics related to asset depreciation expense that can be analyzed using several dimensions such as asset book, category, cost center, etc.

Financials - Asset Retirement: This subject area includes all the metrics related to asset retirement such as Cost Retired, Cost of Removal, Proceeds of Sale, Gain/Loss Amount, etc.

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Using Dimensions and Facts to create an analysis:



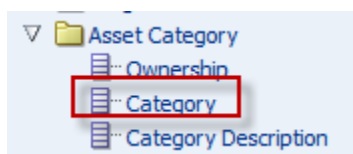
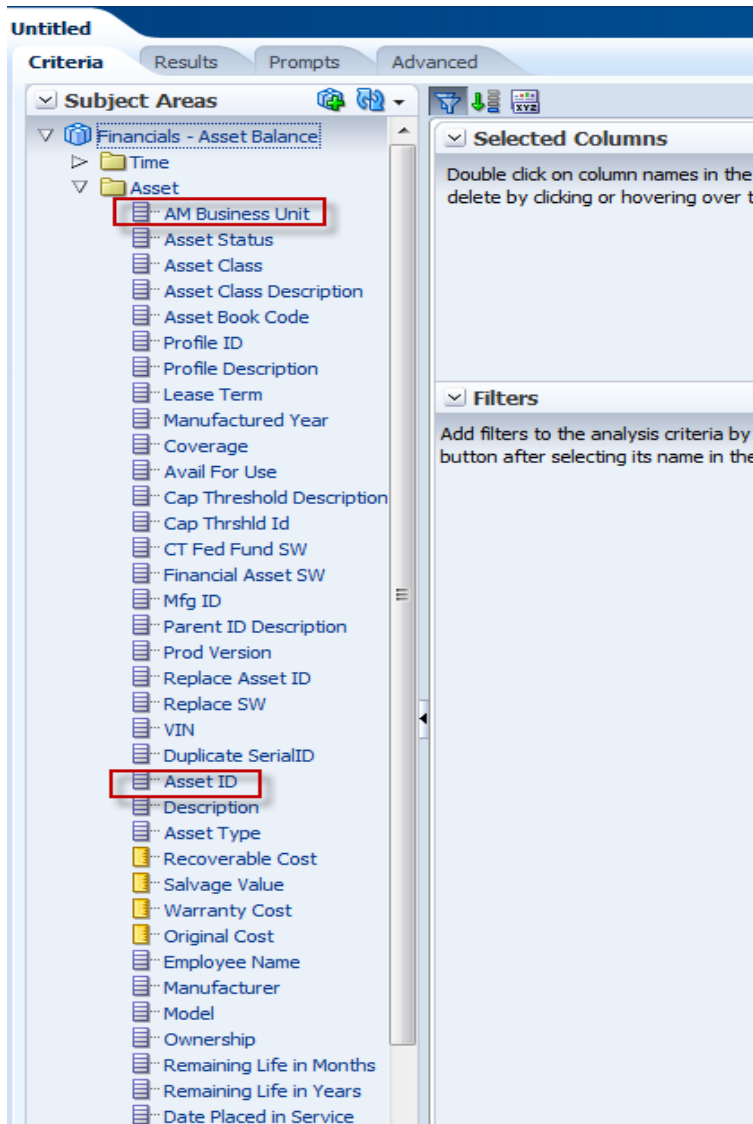
These objects in the left pane are based on database tables in the backend, and the data model behind these subject area tables is dimensional modeling.

The tables listed from Time, Asset, Ledger, Asset Category, Asset Location, Asset Details, Department, Fund and Account are the Dimension Tables in this subject area.

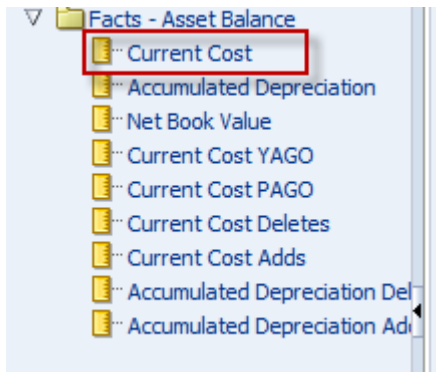
There is one Fact table for this Subject Area and it is called **Facts – Asset Balance**. The Fact Table name in STARS subject areas is usually preceded with the name **FACT**. This is done to distinguish the Fact tables from the Dimension Tables.

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Here is an example of a **Financials – Asset Balance** Subject Area analysis:

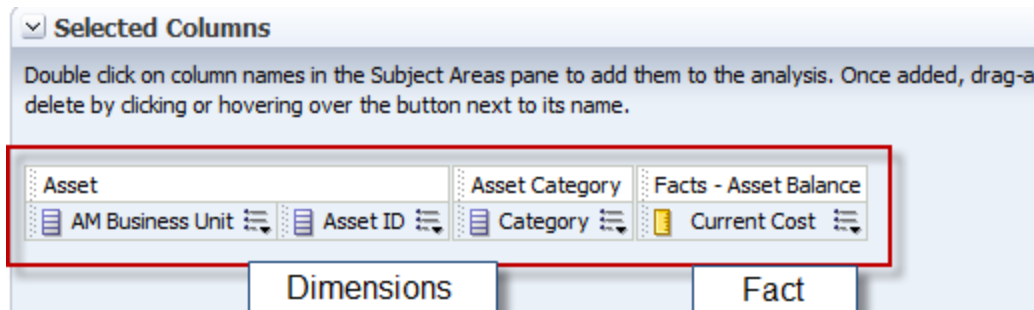


Fixed Asset Dimension and Fact Job Aid

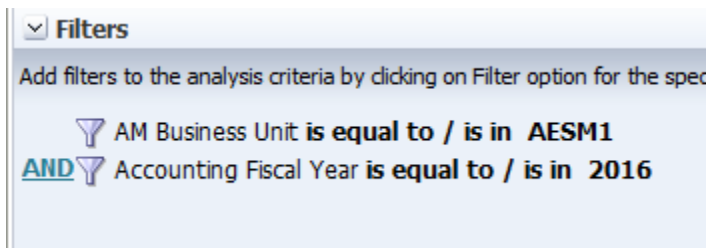


Criteria Tab

Selected Columns



Selected Filters





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Results Tab

The screenshot displays the 'Results Tab' for 'Financials - Asset Balance'. The 'Subject Areas' tree on the left lists various dimensions, with 'Financials - Asset Balance' highlighted. The 'Compound Layout' section shows a table with the following data:

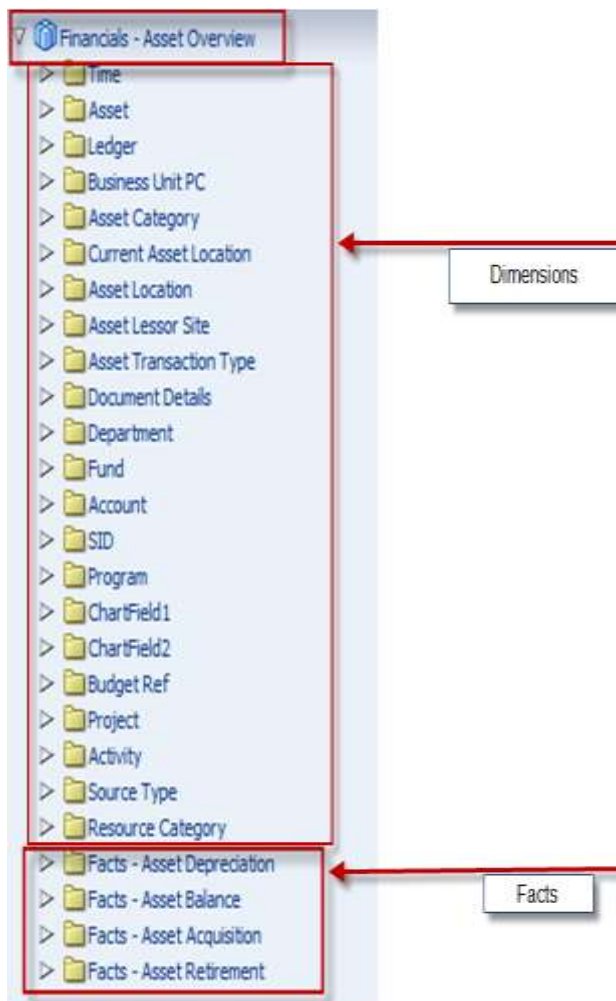
AM Business Unit	Asset ID	Category	Current Cost
AESM1	000000000012	EQUIP	0.00
AESM1	000000000013	EQUIP	0.00
AESM1	000000000014	EQUIP	0.00
AESM1	000000000015	EQUIP	0.00
AESM1	000000000023	CNTRL	700.39
AESM1	000000000027	EQUIP	25,758.00
AESM1	000000000028	EQUIP	0.00
AESM1	000000000029	CNTRL	3,541.00
AESM1	000000000030	EQUIP	49.24
AESM1	1	EQUIP	(70,223.97)
AESM1	1148	CNTRL	0.00
AESM1	1149	CNTRL	0.00
AESM1	1150	CNTRL	0.00

Fixed Asset Dimension and Fact Job Aid

Financials – Asset Overview Subject Area:

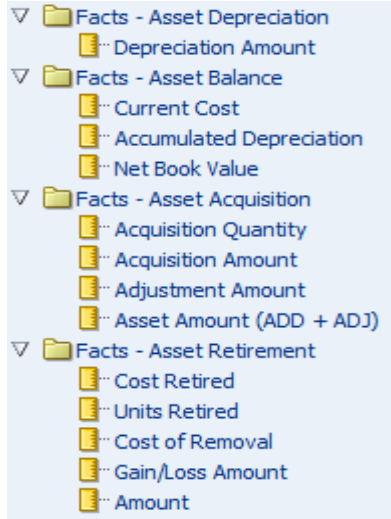
The **Financials – Asset Overview** Subject Area is used to report on Key Performance Indicators pertaining to Assets including Acquisition, Depreciation, Retirement and Balance Available by Asset Category, Business Unit and other chart fields.

This is a summary level subject area that provides key statistics on the fixed assets functions including Gross Book Value, Accumulated Depreciation Amount and Net Book Value. Where applicable, metrics are for Asset Business Unit, Asset Category, Fiscal Year, Fiscal Quarter, and Fiscal Period, To-Date (PTD, YTD, and QTD).





Fixed Asset Dimension and Fact Job Aid



Facts – Asset Acquisition Metrics:

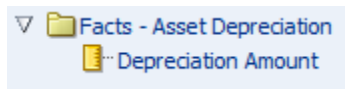


Acquisition Amount: It's the amount from PS_Dist_In with trans_type as ' ADD ' for Capitalized assets and it's the amount from PS_COST_NON_CAP table with trans_type as ' ADD '.

Adjustment Amount: It's the amount from PS_Dist_In with trans_type as ' ADJ ' for Capitalized assets and it's the amount from PS_COST_NON_CAP table with trans_type as ' ADJ '.

Asset Amount: Asset Amount is combination of Acquisition amount and Adjustment amount.

Facts – Asset Depreciation Metrics:

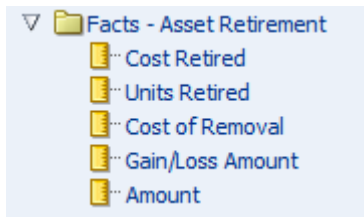


Depreciation Amount: it's the amount with trans_type as ' DPR ' and ' PDP ' and distribution type = ' DE '.



Fixed Asset Dimension and Fact Job Aid

Facts Asset Retirement Measures Definitions:



Cost Retired: It's the total cost of an asset at the time of retirement.

Capitalized Asset: It is the amount with transaction type as 'RET' or 'REI' in PS_DIST_LN and distribution type = 'FA'.

Non Capitalized Asset: It is the amount from PS_Retirement_NF.

Cost of removal: Cost associated with the removal of an asset when it is retired or removed.

Units Retired: This metric shows how many units have been retired.

Gain/Loss Amount: This metric shows the Gain and loss amount of an retirement.

Amount:

Capitalized Assets - It's the retirement amount from PS_DIST_LN with transaction type as 'RET' and 'REI' in PS_DIST_LN and Distribution type in ('AD' or 'FA' or 'GA' or 'GL' or 'RM' or 'CA').

Non Capitalized Assets – It's the retirement amount from PS_Retirement_NF table.

Facts Asset Balance Measures Definitions:



Current Cost: Cost of an asset with DISTRIBUTION_TYPE = 'FA' and trans_type in ('ADD', 'ADJ', 'RCT', 'REI', 'RET', 'TRF')

Accumulated Depreciation: Total Depreciated value for an asset.

Net Book Value: Current Cost minus Depreciation amount.

To create an analysis out of multiple areas in Fixed Assets; like acquisition, depreciation and retirements, Use the **Asset Overview Subject area**.

Fixed Asset Dimension and Fact Job Aid

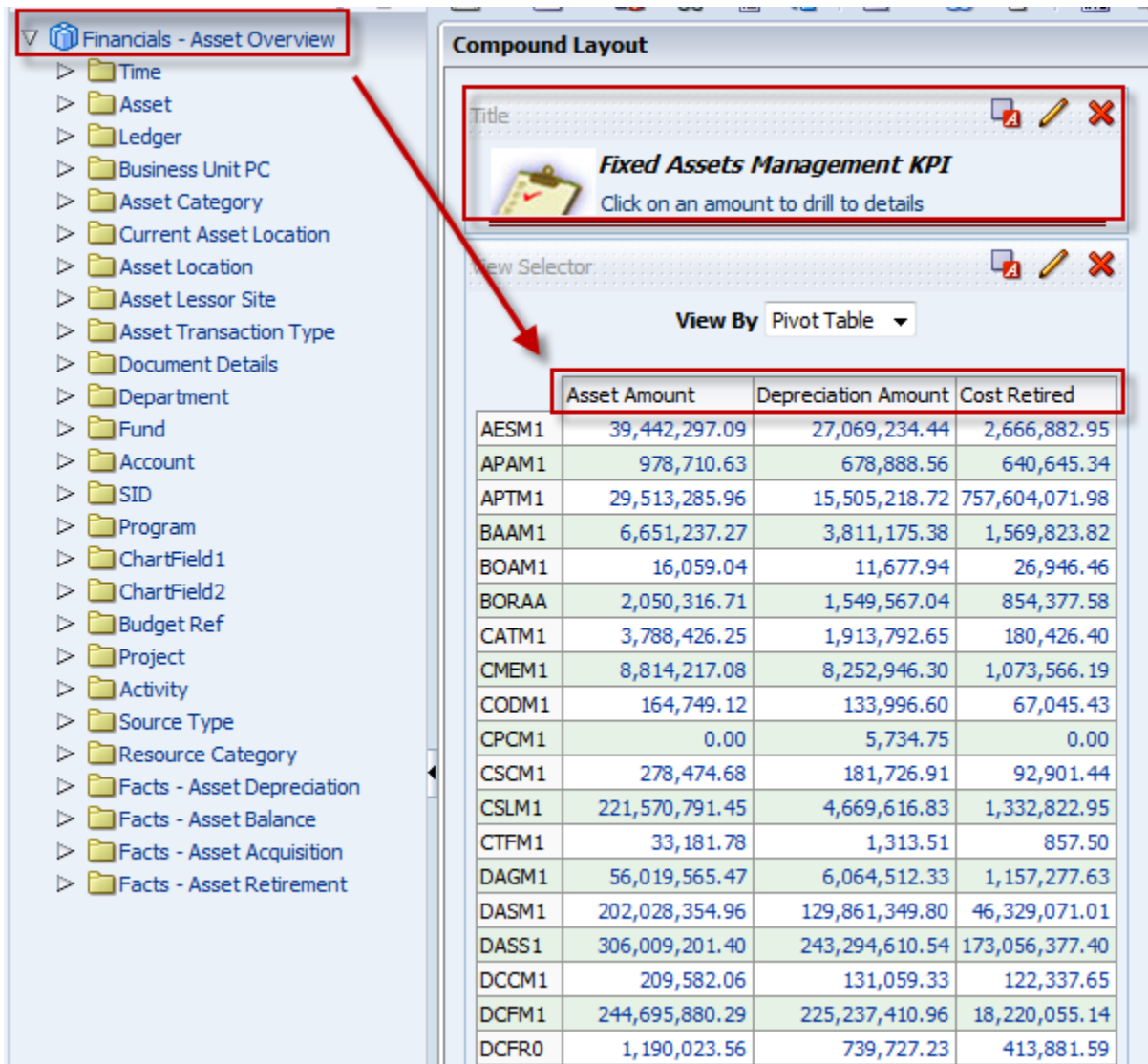
Example:

Compound Layout View:

Compound Layout view allows us to assemble different views for display on a dashboard.

This is an example of Title and View Selector on the Compound Layout.

View Selector gives users the option to choose a display of information from list of choices (View) presented to them.



Financials - Asset Overview

- Time
- Asset
- Ledger
- Business Unit PC
- Asset Category
- Current Asset Location
- Asset Location
- Asset Lessor Site
- Asset Transaction Type
- Document Details
- Department
- Fund
- Account
- SID
- Program
- ChartField1
- ChartField2
- Budget Ref
- Project
- Activity
- Source Type
- Resource Category
- Facts - Asset Depreciation
- Facts - Asset Balance
- Facts - Asset Acquisition
- Facts - Asset Retirement

Compound Layout

Title: *Fixed Assets Management KPI*
Click on an amount to drill to details

View Selector: View By Pivot Table

	Asset Amount	Depreciation Amount	Cost Retired
AESM1	39,442,297.09	27,069,234.44	2,666,882.95
APAM1	978,710.63	678,888.56	640,645.34
APTM1	29,513,285.96	15,505,218.72	757,604,071.98
BAAM1	6,651,237.27	3,811,175.38	1,569,823.82
BOAM1	16,059.04	11,677.94	26,946.46
BORAA	2,050,316.71	1,549,567.04	854,377.58
CATM1	3,788,426.25	1,913,792.65	180,426.40
CMEM1	8,814,217.08	8,252,946.30	1,073,566.19
CODM1	164,749.12	133,996.60	67,045.43
CPCM1	0.00	5,734.75	0.00
CSCM1	278,474.68	181,726.91	92,901.44
CSLM1	221,570,791.45	4,669,616.83	1,332,822.95
CTFM1	33,181.78	1,313.51	857.50
DAGM1	56,019,565.47	6,064,512.33	1,157,277.63
DASM1	202,028,354.96	129,861,349.80	46,329,071.01
DASS1	306,009,201.40	243,294,610.54	173,056,377.40
DCCM1	209,582.06	131,059.33	122,337.65
DCF1	244,695,880.29	225,237,410.96	18,220,055.14
DCFR0	1,190,023.56	739,727.23	413,881.59

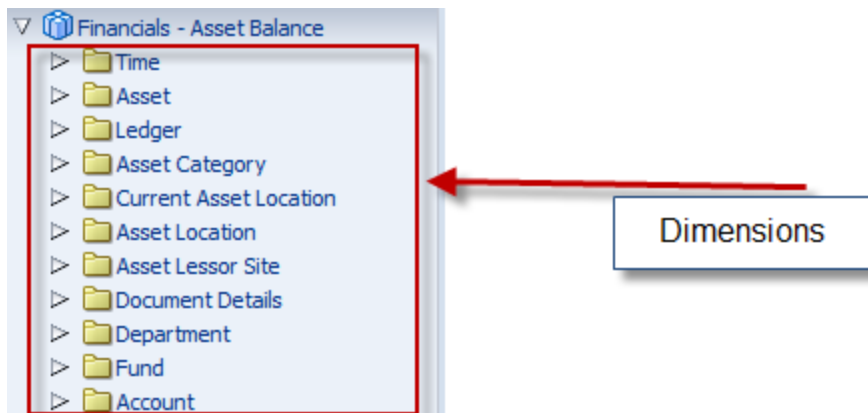
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Financials – Asset Balance Subject Area:

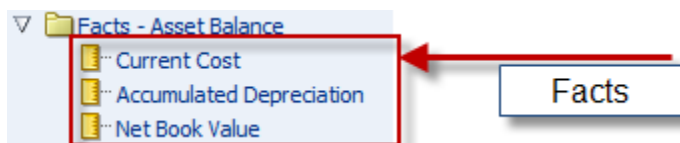
This is a summary level subject area that contains point in time asset balance information such as Current Cost, Accumulated Depreciation Amount, net book value, etc.

To create an analysis based on point in time asset balances, or current cost based reports, use the **Asset Balance Subject Area**.

Asset Balance Subject Area Dimensions



Asset Balance Subject Area Fact



Fact – Measures Definitions:

Current Cost: Cost of an asset with DISTRIBUTION_TYPE = ' FA ' and trans_type in (' ADD ', ' ADJ ', ' RCT ', ' REI ', ' RET ', ' TRF ')

Accumulated Depreciation: Total Depreciated value for an asset.

Net Book Value: Current Cost minus Depreciation amount.

Fixed Asset Dimension and Fact Job Aid

Example:

Compound Layout View:

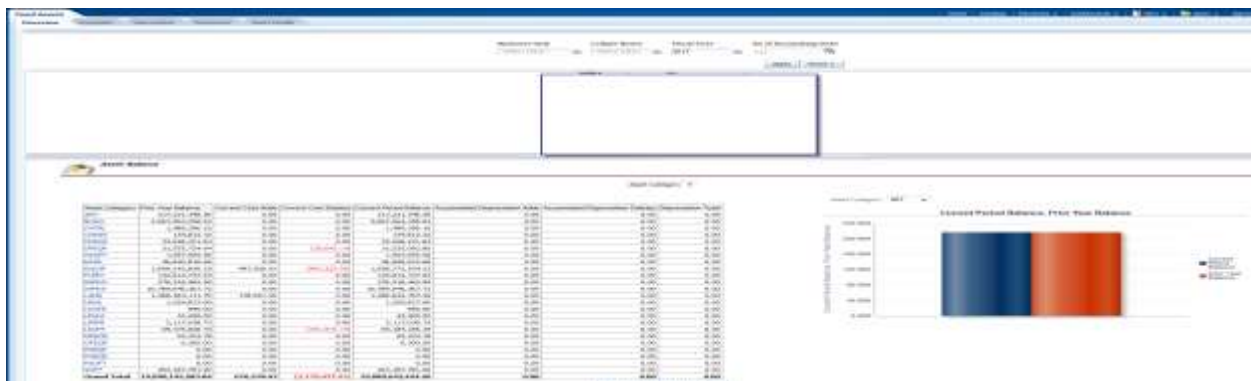
Compound Layout view allows us to assemble different views for display on a dashboard.

This is an example of Title, Column Selector and Table View on the Compound Layout

Column Selector gives users the option to choose a display of information from list of choices (Columns) presented to them.

Asset Category	Price Year Balance	Current Cost Adds	Current Cost Deletes	Current Period Balance	Accumulated Depreciation Adds	Accumulated Depreciation Deletes	Depreciation Total
AIT	217,174,571.56	56,677.00	0.00	217,231,248.56	0.00	0.00	0.00
BUILD	3,622,870,332.36	206,269,827.65	(302,076,401.30)	3,667,064,398.63	238,682,086.63	(32,285,882.76)	196,396,204.05
CMTH	881,851.33	893,301.15	(294,840.38)	1,480,291.90	0.00	0.00	0.00
CONST	134,813.32	0.00	0.00	134,813.32	0.00	0.00	0.00
DICQSP	36,884,385.07	4,749.60	(4,812,812.83)	32,056,221.84	3,306,617.29	(221.64)	3,306,395.65
DPEQSP	37,280,151.19	3,334,865.94	(9,029,381.79)	31,585,724.94	3,423,770.39	(75,061.21)	3,348,709.18
DISOPT	1,478,146.19	127,401.23	(4,548.82)	1,600,998.60	307,215.88	0.00	307,215.88
EASE	33,944,612.48	14,304,234.30	(1,308,036.00)	46,940,810.78	0.00	0.00	0.00
EQUIP	1,981,369,858.11	124,236,893.32	(146,162,675.70)	1,959,244,075.73	307,636,179.94	(1,300,444.93)	306,335,735.01
FHEFT	131,897,887.80	15,715,237.89	(19,862,277.89)	127,750,847.80	39,960,819.34	(16,036.26)	39,944,783.08
INPRLO	370,896,734.84	18,018,542.21	(4,404,811.06)	384,510,466.99	46,191,760.82	(36,746.06)	46,155,014.76
INPRRA	10,789,048,376.73	866,103,128.04	(866,103,128.04)	10,793,048,376.73	265,154,503.14	(22,963.23)	265,131,539.91
LAND	1,484,233,363.62	75,010,303.81	(88,779,300.33)	1,470,464,111.70	0.00	0.00	0.00
LIBR	1,254,817.00	0.00	0.00	1,254,817.00	31,339.30	0.00	31,339.30
LNCTR	980.00	0.00	0.00	980.00	0.00	0.00	0.00
LEQUI	43,200.00	0.00	0.00	43,200.00	0.00	0.00	0.00
LNPR	2,078,071.74	5,318,767.83	(5,279,800.85)	2,116,038.72	170,317.97	0.00	170,317.97
LEOPT	67,267,141.64	9,975,150.90	(7,844,464.13)	69,397,828.41	4,352,388.22	(440,222.64)	3,912,165.58
NDEQSP	93,224.78	0.00	0.00	93,224.78	13,261.42	0.00	13,261.42
OPQSP	0.00	6,300.00	0.00	6,300.00	105.00	0.00	105.00
PCQSP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POQSP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PSQSP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DCPT	241,289,441.13	43,200,775.46	(21,302,434.89)	263,187,781.90	14,352,979.88	0.00	14,352,979.88
Grand Total	19,028,961,516.95	1,372,536,964.87	(1,312,352,197.94)	19,090,145,283.06	863,165,446.64	(34,817,082.79)	828,348,363.85

Dashboard View:



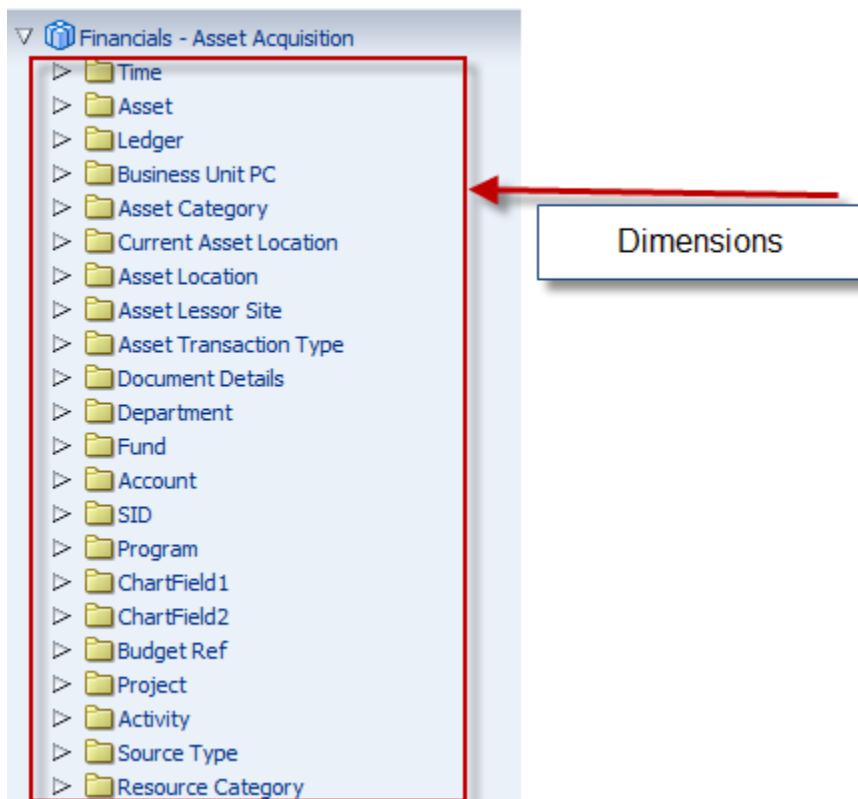
Fixed Asset Dimension and Fact Job Aid

Financials – Asset Acquisition Subject Area:

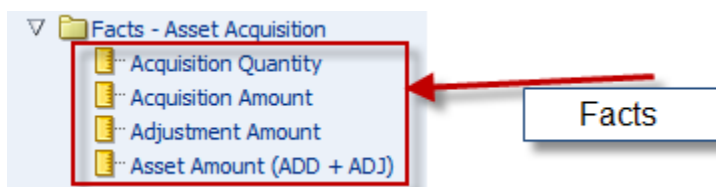
This subject area includes all the metrics related to asset additions posted through new acquisitions in a given period and both activity.

To create an analysis to show all assets that have been acquired and any adjustments (cost adjustment, Re-categorizing, and/or transfers) to the asset since the original purchase of the asset, use the **Asset Acquisition Subject Area**.

Asset Acquisition - Dimensions



Asset Acquisition - Fact



Fixed Asset Dimension and Fact Job Aid

Fact – Measures Defintions:

Acquisition Amount: It's the amount from PS_Dist_In with trans_type as ' ADD ' for Capitalized assets and it's the amount from PS_COST_NON_CAP table with trans_type as ' ADD '.

Adjustment Amount: It's the amount from PS_Dist_In with trans_type as ' ADJ ' for Capitalized assets and it's the amount from PS_COST_NON_CAP table with trans_type as ' ADJ '.

Asset Amount: Asset Amount is the combination of Acquisition amount and Adjustment amount.

Example:

Compound Layout View:

Compound Layout view allows us to assemble different views for display on a dashboard.

This is an example of Title and View Selector on the Compound Layout.

View Selector gives users the option to choose a display of information from list of choices (View) presented to them.



Category	Acquisition Amount	Adjustment Amount	Total Asset Amount
BUILD	14,142,088.57	8,272,936.00	22,914,911.57
EQUIP	15,666,397.91	(1,309,211.99)	15,527,206.91
CNTRL	646,607.46	3,513.14	650,120.60
LAND	104,401.00	0.00	104,401.00
LSOFT	69,011.00	0.00	69,011.00
ART	20,099.00	0.00	20,099.00
SOFT	12,969.00	0.00	12,969.00
LCNTR	583.00	0.00	583.00
Grand Total	30,858,719.64	8,637,127.54	30,495,847.18

Dashboard View:



Category	Acquisition Amount	Adjustment Amount	Total Asset Amount
BUILD	14,142,088.57	8,272,936.00	22,914,911.57
EQUIP	15,666,397.91	(1,309,211.99)	15,527,206.91
CNTRL	646,607.46	3,513.14	650,120.60
LAND	104,401.00	0.00	104,401.00
LSOFT	69,011.00	0.00	69,011.00
ART	20,099.00	0.00	20,099.00
SOFT	12,969.00	0.00	12,969.00
LCNTR	583.00	0.00	583.00
Grand Total	30,858,719.64	8,637,127.54	30,495,847.18

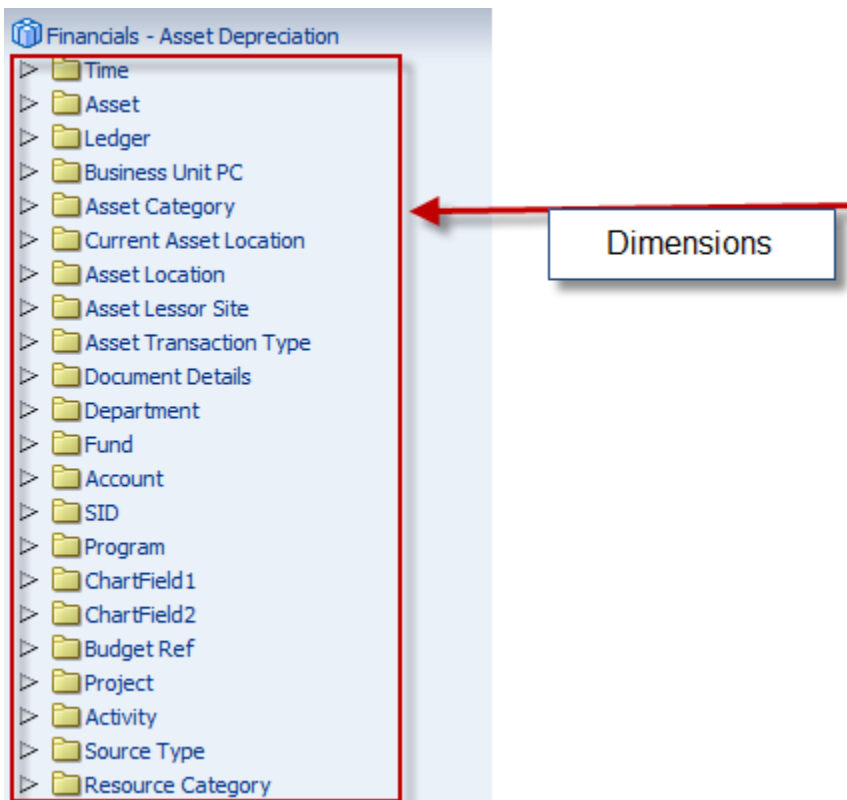
Fixed Asset Dimension and Fact Job Aid

Financials – Asset Depreciation Subject Area:

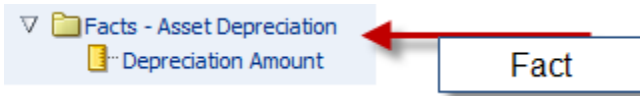
This subject area includes all the metrics related to asset depreciation expense that can be analyzed using several dimensions such as asset book, category, cost center, etc.

To create an analysis to show all assets that have been depreciated by asset category, use **Asset Depreciation Subject Area**.

Asset Depreciation Dimensions



Asset Depreciation Fact



Fixed Asset Dimension and Fact Job Aid

Fact – Measures Defintions:

Depreciation Amount: it's the amount with trans_type as ' DPR ' and ' PDP ' and distribution type in ' DE '

Example:

Compound Layout View:

Compound Layout view allows us to assemble different views for display on a dashboard.

This is an example of Title and Table View on the Compound Layout.

Category	Category Description	Depreciation Amount
BUILD	Buildings	12,904,111.29
EQUIP	State Owned Personal Property	14,083,155.93
LSOFT	Licensed Software	44,368.52
SOFT	Software Owned by the State	491.67
Grand Total		27,032,127.41

Dashboard View:

Category	Category Description	Depreciation Amount
BUILD	Buildings	12,904,111.29
EQUIP	State Owned Personal Property	14,083,155.93
LSOFT	Licensed Software	44,368.52
SOFT	Software Owned by the State	491.67
Grand Total		27,032,127.41

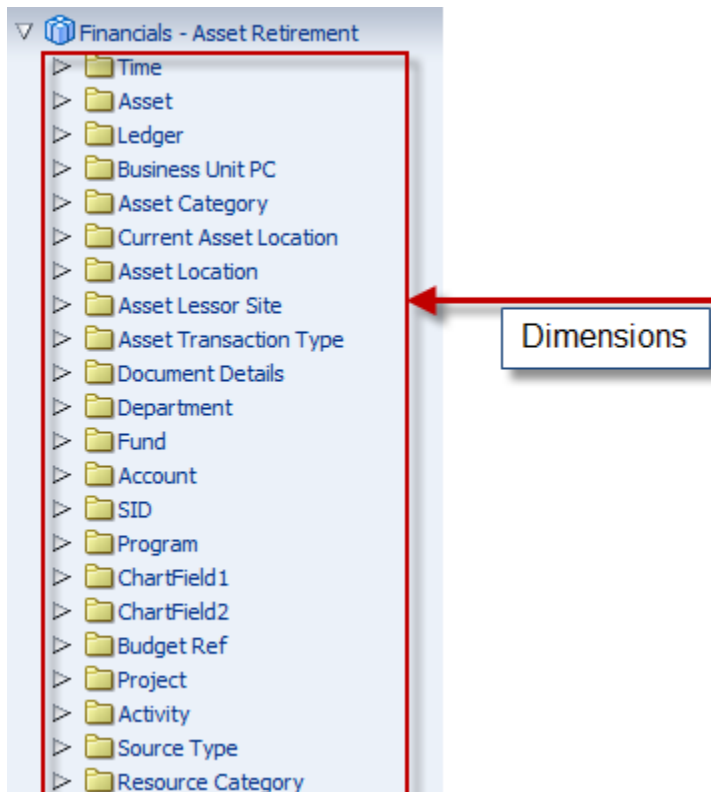
Fixed Asset Dimension and Fact Job Aid

Financials - Asset Retirement:

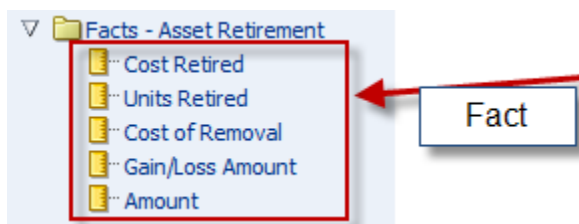
This subject area includes all the metrics related to asset retirement such as Cost Retired, Cost of Removal, Gain/Loss Amount, etc.

To create an analysis to show asset cost retired by asset category, use **Asset Retirement Subject Area**.

Asset Retirement Dimensions



Asset Retirement Fact





Fixed Asset Dimension and Fact Job Aid

Fact – Measures Definitions:

Cost Retired: It's the total cost of an asset at the time of retirement.

Capitalized Asset: It is the amount with transaction type as 'RET' or 'REI' in PS_DIST_LN and distribution type = 'FA'.

Non Capitalized Asset: It is the amount from PS_Retirement_NF.

Cost of removal: Cost associated with the removal of an asset when it is retired or removed.

Units Retired: This metric shows how many units have been retired.

Gain/Loss Amount: This metric shows the Gain and Loss amount of an retirement.

Amount:

Capitalized Assets - It's the retirement amount from PS_DIST_LN with transaction type as 'RET' and 'REI' in PS_DIST_LN and Distribution type in ('AD' or 'FA' or 'GA' or 'GL' or 'RM' or 'CA').

Non Capitalized Assets – It's the retirement amount from PS_Retirement_NF table.

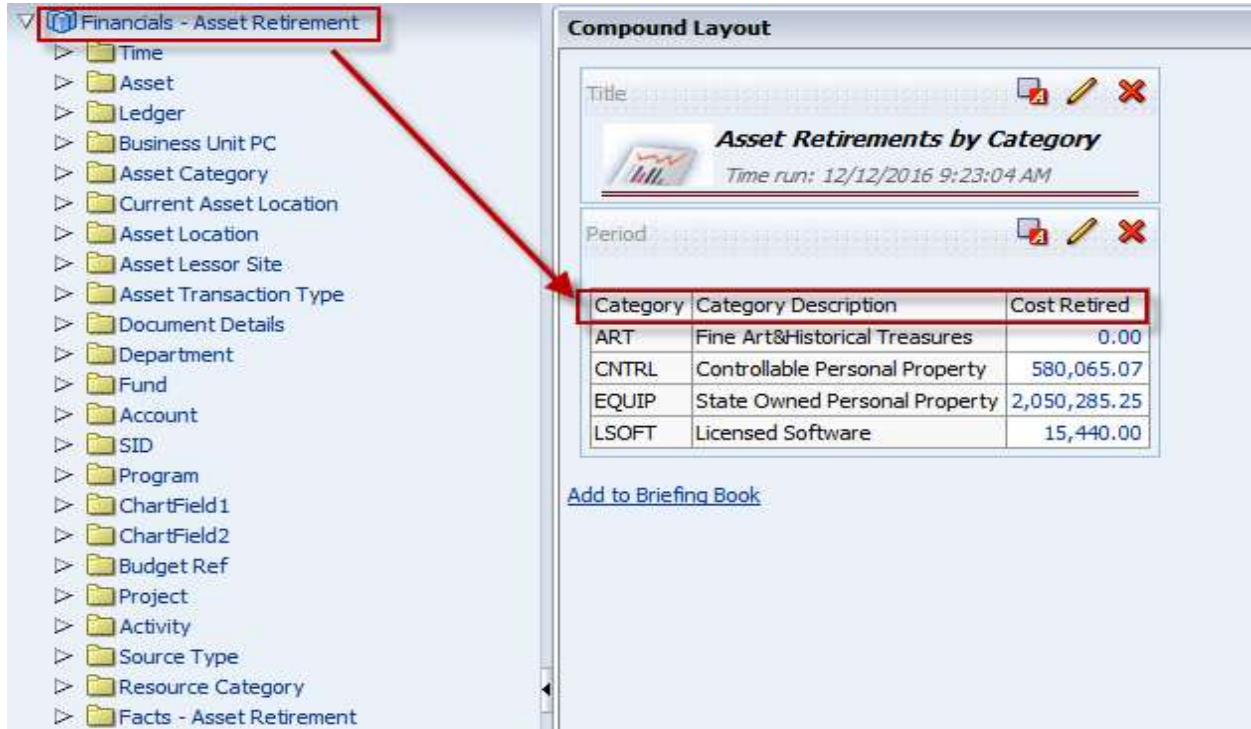
Fixed Asset Dimension and Fact Job Aid

Example:

Compound Layout:

Compound Layout view allows us to assemble different views for display on a dashboard.

This is an example of Title and Table View on the Compound Layout.



Compound Layout

Title: *Asset Retirements by Category*
Time run: 12/12/2016 9:23:04 AM

Period:

Category	Category Description	Cost Retired
ART	Fine Art&Historical Treasures	0.00
CNTRL	Controllable Personal Property	580,065.07
EQUIP	State Owned Personal Property	2,050,285.25
LSOFT	Licensed Software	15,440.00

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Dashboard View:



Fixed Assets

Overview | Acquisition | Depreciation | **Retirements** | Asset Details

Ledger Name: POLICE BUREAU | Business Unit: A2591 | Fiscal Yr: 2017

Asset Retirements by Category
Time run: 2/12/2016 3:15:05 PM

Category	Category Description	Cost Retired
ART	Fine Art&Historical Treasures	0.00
CNTRL	Controllable Personal Property	581,938.95
EQUIP	State Owned Personal Property	2,059,507.00
LSOFT	Licensed Software	15,440.00

Analyze - Edit - Refresh - Print - Export