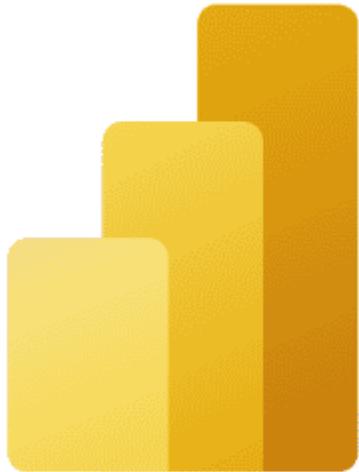




sadā śiva samāramabhbāṁ śaṅkarācārya madhyamām..
asmadācārya paryantām vande guru paramparām..

Salutation to the lineage starting with lord Sadasiva, with Adi Sankara in the middle and continuing up to my immediate teacher.



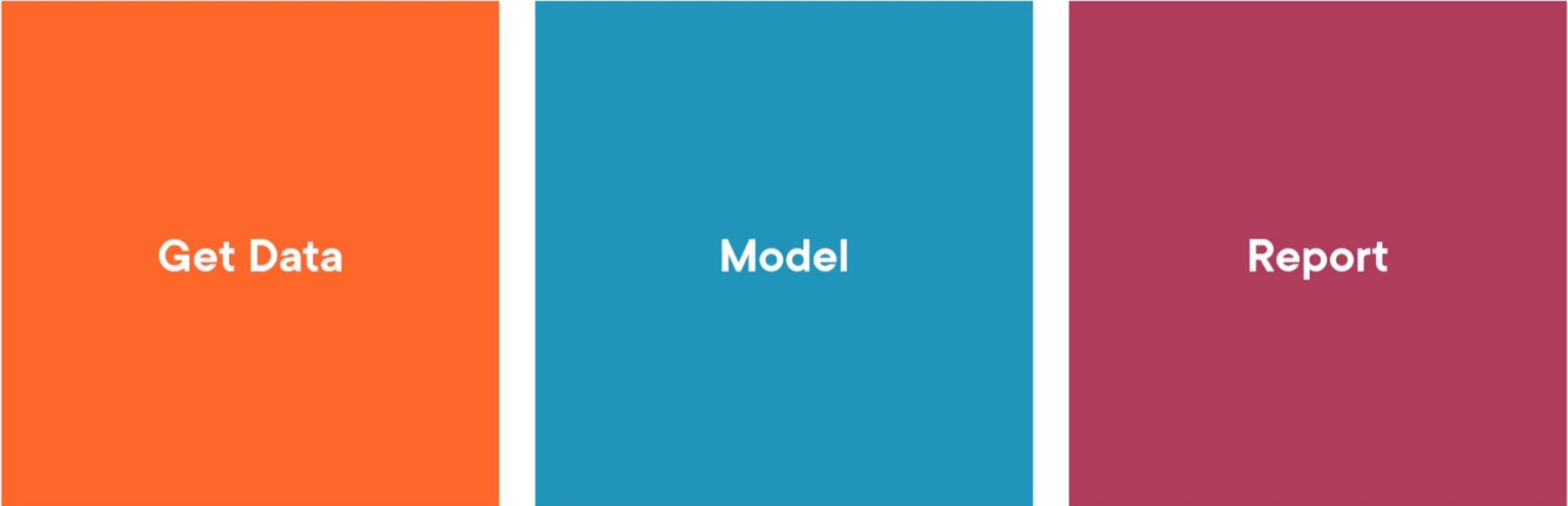
Power BI

<https://learn.microsoft.com/en-us/power-bi/visuals/power-bi-visualization-types-for-reports-and-q-and-a>

Visualizing Data

- Organization Requirements Review
- Creating a Table
- Creating a Clustered Column Chart
- Creating a Bar Chart
- Creating a Map
- Creating a Card
- Creating a Matrix
- Organization Requirements Review
- Creating and Adjusting a Clustered Column Chart
- Creating a Filled Map
- Creating a KPI
- Filtering
- Slicer Filtering
- Highlighting
- Setting Properties
- Drilling within a Hierarchy

Power BI Development Workflow



Get Data

Model

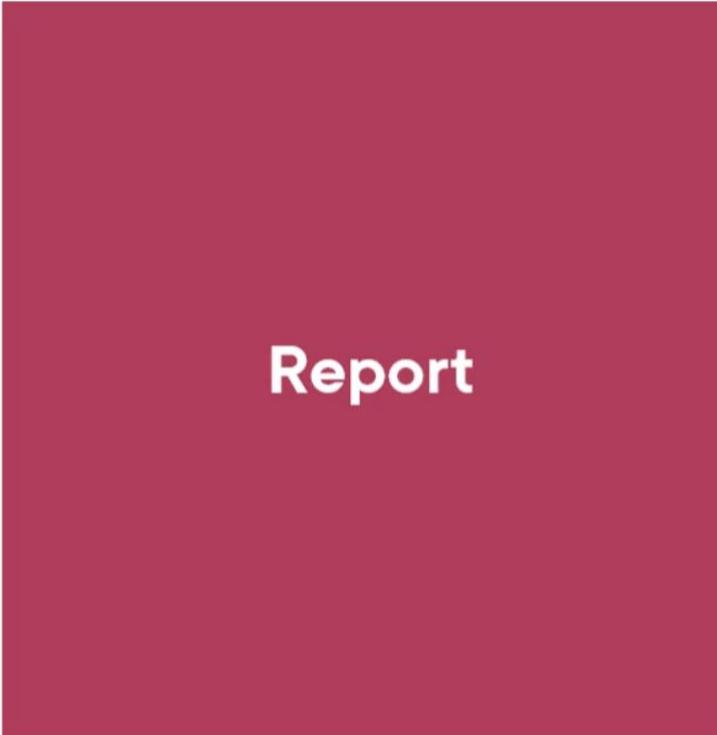
Report

Power BI Development Workflow

Get Data

Model

Report



Report



Visualizations
Interactive features
Visualization properties

Globomantics Requirements

Table

Customer Count and
Pct of Total Customers
by State

Clustered Column Chart

Customer Count by
State and Median Group

Bar Chart

Customer Count by
State

Map

Customer Count by
Postal Code

Card

Customer Count

Matrix

Customer Count by
State, City, Customer,
and Gender

Demo



Create a table

- StateProvinceName
- Customer Count
- Pct of Total Customers

File Home Insert Modeling View Help Format Data / Drill

Cut Copy Format painter Paste Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure Quick measure Sensitivity (preview) Publish Clipboard

Clipboard

Customer Count Pct of Total Customers

StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	100%

Visualizations Fields

Filters

Values

Drill through

Cross-report

Off

Page 1 +

Select below fields from Customer Table

- StateProvinceName
- Customer Count
- PCT of Total Customers

CountryRegionName
Customer Count
CustomerName
Education
Gender
Homeowner
Location
Marital Status
NumberCarsOwned
NumberChildrenAtHome
Occupation
Pct of Total Customers
PhoneNumber
PhoneNumberType

Page 1 of 1

Demo



Create a clustered column chart

- StateProvinceName clustered by MedianGroup
- Customer Count

Duplicate the Graph

The screenshot shows the Power BI Desktop interface with the following details:

- Home Tab:** Selected tab.
- Data Tab:** Contains options for Get data, Excel datasets, Power BI datasets, SQL Server, Enter data, Dataverse, Recent sources, Transform, Refresh data, New visual, Text box, More visuals, New measure, Quick measure, Sensitivity (preview), and Publish.
- Insert Tab:** Contains options for Insert, Calculations, and Sensitivity.
- Format Tab:** Contains options for Cut, Copy, Paste, Format painter, and Clipboard.
- Visualizations Panel:** Shows a list of available visualizations including bar charts, line charts, pie charts, and maps.
- Fields Panel:** Shows a search bar and a list of fields:
 - CountryRegionName
 - Customer Count
 - CustomerName
 - Education
 - Gender
 - Homeowner
 - Location
 - Marital Status
 - NumberCarsOwned
 - NumberChildrenAtHome
 - Occupation
 - Pct of Total Customers
 - PhoneNumber
 - PhoneNumberType
- Values Panel:** Shows selected values: StateProvinceName, Customer Count, and Pct of Total Customers.
- Drill through Panel:** Shows options for Cross-report and Off.
- Page Navigation:** Shows Page 1 and a plus sign button.

File Home Insert Modeling View Help Format Data / Drill

Cut Paste Copy Format painter Clipboard

Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure Quick measure Sensitivity (preview) Publish

Clipboard

Data

Customer Count and Pct of Total Customers by StateProvinceName

Customer Count Pct of Total Customers

StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	100%

Customer Count and Pct of Total Cu.

4K
2K
0K

California Washington Oregon

StateProvinceName

Filters

Visualizations Fields

Search

CountryRegionName Customer Count CustomerName Education Gender Homeowner Location Marital Status NumberCarsOwned NumberChildrenAtHome Occupation Pct of Total Customers PhoneNumber PhoneNumberType

Axis

StateProvinceName

Legend

Add data fields here

Values

Customer Count

Pct of Total Customers

Remove This

Page 1 +

Page 1 of 1

The screenshot shows the Microsoft Power BI desktop interface. In the center, there is a bar chart titled "Customer Count and Pct of Total Customers by StateProvinceName". The chart displays three bars for California, Washington, and Oregon, with values 4,444, 2,263, and 1,073 respectively. The Y-axis ranges from 0K to 4K. To the right of the chart is the "Visualizations" pane, which is highlighted with a red box. It contains sections for "Axis" (with "StateProvinceName" selected), "Legend" (with "Customer Count" and "Pct of Total Customers" selected), and "Values" (also showing "Customer Count" and "Pct of Total Customers"). A large blue arrow points from the text "Remove This" at the bottom left towards the "Values" section of the Visualizations pane. The top menu bar includes File, Home, Insert, Modeling, View, Help, Format, Data / Drill, and various data source and tool icons. The ribbon also has sections for Data, Queries, Insert, Calculations, Sensitivity, and Share. On the far left, there are several small icons representing different features like charts, tables, and filters. At the bottom left, there are navigation buttons for "Page 1" and a plus sign, along with the text "Page 1 of 1".

File Home Insert Modeling View Help Format Data / Drill

Cut Paste Copy Format painter Clipboard

Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure Quick measure Sensitivity (preview) Publish

Clipboard

Data

Customer Count by StateProvinceName and MedianGroup

MedianGroup ● Above Median ● Below Median ● Unknown

StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	100%

Queries

Insert Calculations Sensitivity Share

Visualizations Fields

Search

Filters

Legend

MedianGroup

Values Customer Count

Small multiples

Add data fields here

Tooltips

MedianGroup

Sales

NumberCarsOwned
NumberChildrenAtHome
Occupation
Pct of Total Customers
PhoneNumber
PhoneNumberType
PostalCode
StateProvinceName
TotalChildren
YearlyIncome

Date

Median Groups

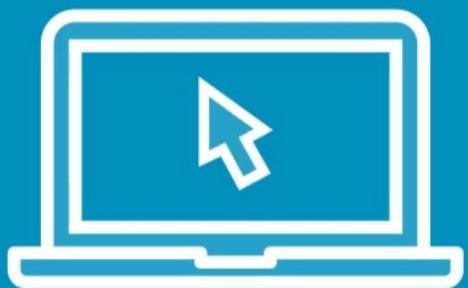
Sensitivity

Share

Page 1 +

The screenshot shows the Microsoft Power BI desktop interface. In the center, there is a bar chart titled "Customer Count by StateProvinceName and MedianGroup". The chart displays customer counts for California, Washington, and Oregon, categorized by Median Group (Above Median, Below Median, Unknown). Below the chart is a data grid showing the same information in a tabular format. To the right of the chart is the "Visualizations" pane, which contains various visualization icons and a search bar. A large blue arrow points from the chart area towards the "Visualizations" pane. The "Fields" pane is also visible on the right, listing various data fields with checkboxes. Another blue arrow points from the "Visualizations" pane towards the "Fields" pane. At the bottom left, there is a navigation bar with "Page 1" and a plus sign icon.

Demo



Create a bar chart

- StateProvinceName
- Customer Count

File Home Insert Modeling View Help Format Data / Drill

Cut Paste Copy Format painter Clipboard

Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure Quick measure Sensitivity (preview) Publish

Clipboard

Data

Customer Count by StateProvinceName and MedianGroup

MedianGroup ● Above Median ● Below Median ● Unknown

Customer Count

StateProvinceName

California Washington Oregon

Total 7,780 100%

Customer Count by StateProvinceName and MedianGroup

MedianGroup ● Above Median ● Below Median ● Unknown

Customer Count

StateProvinceName

California Washington Oregon

Visualizations Fields

Search

NumberCarsOwned NumberChildrenAtHome Occupation Pct of Total Customers PhoneNumber PhoneNumberType PostalCode StateProvinceName TotalChildren YearlyIncome Date Median Groups MedianGroup Sales

Axis

StateProvinceName

Legend

MedianGroup

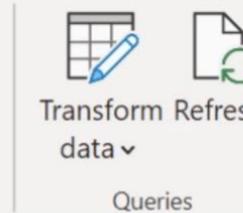
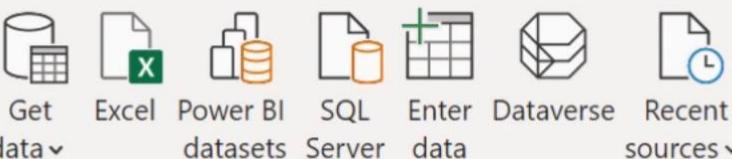
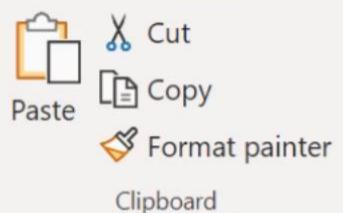
Values

Customer Count

Small multiples

Page 1 +

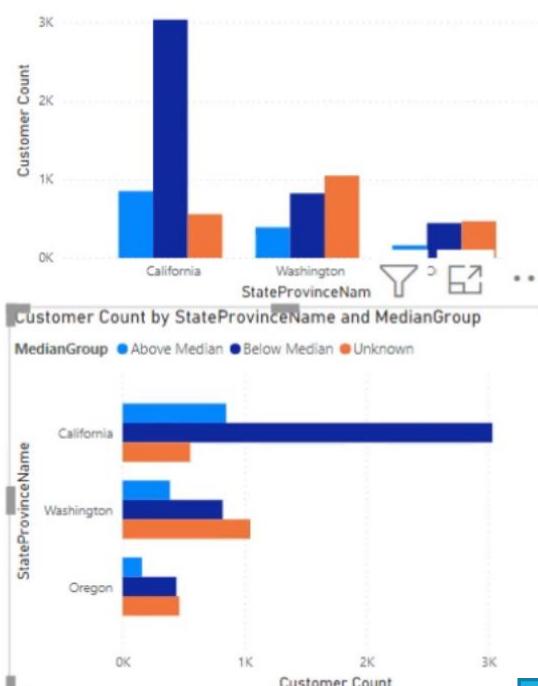
StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	100%



StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	100%

Customer Count by StateProvinceName and MedianGroup

MedianGroup ● Above Median ● Below Median ● Unknown



Remove

Visualizations

Filters

Axis

Legend

Values

Small multiples

StateProvinceName

MedianGroup

Customer Count

Date

Median Groups

MedianGroup

Sales

Fields

Search

- \sum NumberCarsOwned
 - \sum NumberChildrenAtHome
 - Occupation
 - Pct of Total Customers
 - PhoneNumber
 - PhoneNumberType
 - PostalCode
 - StateProvinceName
 - \sum TotalChildren
 - \sum YearlyIncome
- > Date
- < Median Groups
- MedianGroup
- > Sales

The screenshot shows the Microsoft Power BI desktop interface. The ribbon at the top includes File, Home, Insert, Modeling, View, Help, Format, and Data / Drill. The Home tab is selected. The Data section of the ribbon contains icons for Paste, Cut, Copy, Format painter, Get data, Excel, Power BI datasets, SQL Server, Enter data, Dataverse, Recent sources, Transform, Refresh data, New visual, Text box, More visuals, New measure, Quick measure, Sensitivity (preview), and Publish. The Queries section contains icons for Transform and Refresh data.

The main workspace displays two visualizations:

- A bar chart titled "Customer Count by StateProvinceName and MedianGroup". The vertical axis is "Customer Count" (0K to 3K) and the horizontal axis is "StateProvinceName" (California, Washington). The legend indicates three categories: Above Median (blue), Below Median (dark blue), and Unknown (orange). The data shows California has the highest count (above median), followed by Washington (below median), and Oregon (unknown).
- A horizontal bar chart titled "Customer Count by StateProvinceName". The vertical axis is "StateProvinceName" (California, Washington, Oregon) and the horizontal axis is "Customer Count" (0K to 4K). The bars represent the total customer count for each state.

The Fields pane on the right lists various data fields with checkboxes:

- NumberCarsOwned
- NumberChildrenAtHome
- Occupation
- Pct of Total Customers
- PhoneNumber
- PhoneNumberType
- PostalCode
- StateProvinceName
- TotalChildren
- YearlyIncome

The Visualizations pane is open, showing the selected visualization. It includes sections for Filters, Legend, and Values. The "Values" section currently displays "Customer Count". A large blue arrow points from the text "Select" to the "Visualizations" pane.

Vertical-Axis: StateProvinceName
Horizontal-Axis: Values Customer Count

Page 1 +

Demo



Create a map

- Customer Count
- PostalCode
- MedianGroup

File Home Insert Modeling View Help Format Data / Drill

Paste Cut Copy Format painter Clipboard

Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources

Transform Refresh data New visual Text box More visuals

New measure Quick measure Sensitivity (preview) Publish Share

Customer Count by StateProvinceName

MedianGroup ● Above Median ● Below Median ● Unknown

Seattle
Olympia
Portland
Salem
Eugene
OREGON
California
Spokane
Reno
Carson City
Santa Rosa
Sacramento
San Francisco
San Jose

Customer Count by StateProvinceName and MedianGroup

Customer Count by StateProvinceName

StateProvinceName Customer Count Pct of Total Customers

StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	100%

Remove

Visualizations Fields

Filters

Location

StateProvinceName

Legend

MedianGroup

Latitude

Add data fields here

Longitude

Search

NumberCarsOwned
NumberChildrenAtHome
Occupation
Pct of Total Customers
PhoneNumber
PhoneNumberType
PostalCode
StateProvinceName
TotalChildren
YearlyIncome

Date

Median Groups

MedianGroup

Sales

Page 1 +

A screenshot of the Microsoft Power BI desktop interface. The ribbon at the top includes File, Home, Insert, Modeling, View, Help, Format, Data / Drill, and various data source and tool icons. The Home tab is selected. On the left, there's a map of the Pacific Northwest with callouts for Seattle, Olympia, Portland, Salem, Eugene, Oregon, California, Spokane, Reno, Carson City, Santa Rosa, Sacramento, San Francisco, and San Jose. Three bar charts are displayed: 'Customer Count by StateProvinceName' (stacked bars for California, Washington, and Oregon), 'Customer Count by StateProvinceName and MedianGroup' (stacked bars for California, Washington, and Oregon with a legend for Above Median, Below Median, and Unknown), and 'Customer Count by StateProvinceName' (horizontal bars for California, Washington, and Oregon). A large blue arrow points from the 'Remove' button in the Fields pane towards the 'MedianGroup' filter entry. The Fields pane on the right lists various data fields with checkboxes, some of which are checked (e.g., StateProvinceName, MedianGroup). The 'MedianGroup' checkbox is highlighted with a yellow circle. The bottom navigation bar shows 'Page 1' and a yellow plus sign icon.

File

Home

Insert

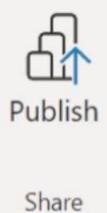
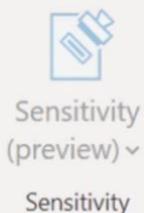
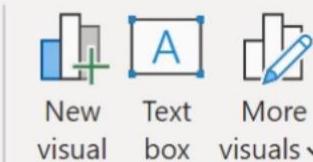
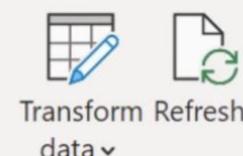
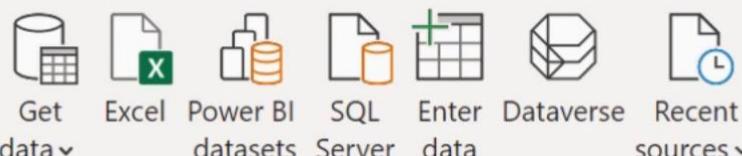
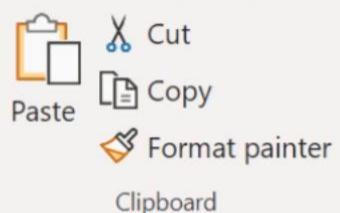
Modeling

View

Help

Format

Data / Drill



Visualizations

Filters

Fields

Search:

Location

- PostalCode
- StateProvinceName
- TotalChildren
- YearlyIncome

Legend

- MedianGroup

Latitude

Add data fields here

Longitude

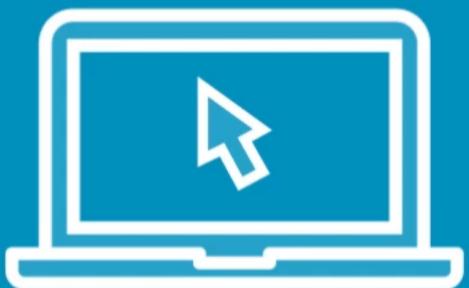
Date

Median Groups

- MedianGroup

Sales

Demo



Create a card

- Customer Count

File Home Insert Modeling View Help Format Data / Drill

Cut Copy Format painter Paste Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure measure Quick Sensitivity (preview) Publish Clipboard

Customer Count by PostalCode and MedianGroup
MedianGroup ● Above Median ● Below Median ● Unknown

Customer Count by StateProvinceName and MedianGroup
MedianGroup ● Above Median ● Below Median ● Unknown

Customer Count by StateProvinceName

StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	

Customer Count

7,780 Customer Count

Visualizations > Fields

Filters

Search

Fields

Customer Count

Drill through

Cross-report

Off

Keep all filters

On

CityState
CommuteDistance
CountryRegionName
Customer Count
CustomerName
Education
Gender
Homeowner
Location
Marital Status
 \sum NumberCarsOwned
 \sum NumberChildrenAtHome
Occupation

Page 1 +

Demo



Create a matrix

- StateProvinceName
- CityState
- CustomerName
- Customer Count
- Gender

File Home Insert Modeling View Help Format Data / Drill

Cut Copy Format painter Clipboard Paste

Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources

Transform Refresh data New visual Text box More visuals

New measure Quick measure

Sensitivity (preview) Publish Share

Customer Count by PostalCode and MedianGroup

MedianGroup ● Above Median ● Below Median ● Unknown

Customer Count by StateProvinceName and MedianGroup

MedianGroup ● Above Median ● Below Median ● Unknown

Customer Count by StateProvinceName

StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	100%

7,780 Customer Count

Visualizations >

Filters < >

Fields

Search

AddressType

City

CityState

CommuteDistance

CountryRegionName

Customer Count

CustomerName

Education

Gender

Homeowner

> Location

Marital Status

NumberCarsOwned

Select :
StateProvinceName
CityState

Page 1 +

A screenshot of the Microsoft Power BI desktop interface. The ribbon shows tabs: File, Home, Insert, Modeling, View, Help, Format, Data / Drill. The Home tab is selected. The Data section of the ribbon includes options for Get data (Excel, Power BI datasets, SQL Server, Enter data, Dataverse, Recent sources), Transform (Refresh data), New visual (Text box, More visuals), Insert, Calculations, Sensitivity (New measure, Quick measure), and Share. The main workspace displays three visualizations: a map of the Western US showing customer counts by postal code and median group; a bar chart of customer count by state/province name (California, Washington, Oregon); and a horizontal bar chart of customer count by state/province name. A summary value of "7,780 Customer Count" is shown. The Fields pane on the right lists various data fields with checkboxes: AddressType, City, CityState (which is checked), CommuteDistance, CountryRegionName, Customer Count, CustomerName, Education, Gender, Homeowner, Location, Marital Status, and NumberCarsOwned. A blue arrow points from the "CityState" field in the Fields pane to the "CityState" dropdown in the "Values" section of the visualization's filter pane.

File Home Insert Modeling View Help Format Data / Drill

Paste Cut Copy Format painter Clipboard

Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure measure Quick Sensitivity (preview) Publish Share

Customer Count by PostalCode and MedianGroup
MedianGroup ● Above Median ● Below Median ● Unknown

Customer Count by StateProvinceName and MedianGroup
MedianGroup ● Above Median ● Below Median ● Unknown

Customer Count by StateProvinceName

StateProvinceName	Customer Count	Pct of Total Customers
California	4,444	57%
Oregon	1,073	14%
Washington	2,263	29%
Total	7,780	100%

Customer Count 7,780

Visualizations

Filters

Fields

Search

AddressType
 City
 CityState
 CommuteDistance
 CountryRegionName
 Customer Count
 CustomerName
 Education
 Gender
 Homeowner
 Location
 Marital Status
 NumberCarsOwned

Rows

- StateProvinceName
- CityState
- CustomerName

Columns

- Gender

Values

Page 1 +

Page 1 of 1

Globomantics Requirements

**Clustered Column
Chart**

Total Sales and Previous
Year Sales by Category

Filled Map

Total Sales
by State

KPI

Key Performance Indicator

**Compare Total Sales to
a Target**

Demo



Create a clustered column chart

- Category
- Total Sales
- Previous Year Sales

File

Home

Insert

Modeling

View

Help

Format

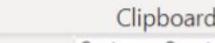
Data / Drill



Cut



Copy



Format painter



Clipboard



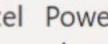
Get data



Excel



Power BI datasets



SQL Server



Enter data



Dataverse



Recent sources



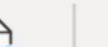
Transform data



Refresh data



New visual



Text box



More visuals



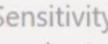
New measure



Quick measure



Sensitivity (preview)



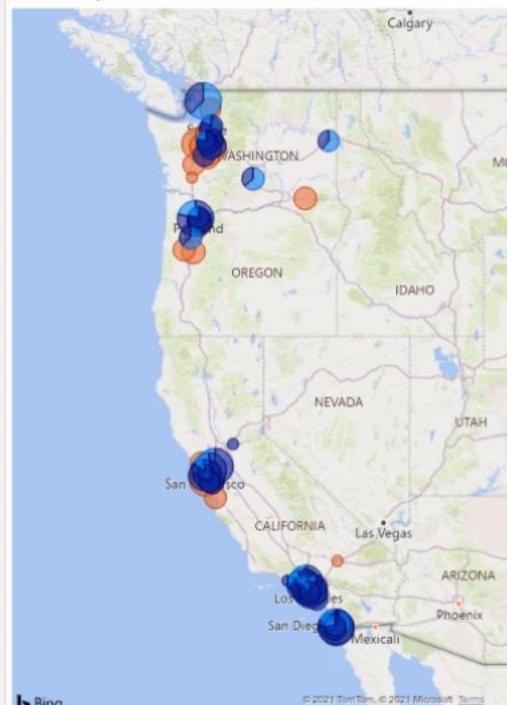
Publish



Share

Customer Count by PostalCode and MedianGroup

MedianGroup • Above Median • Below Median • Unknown



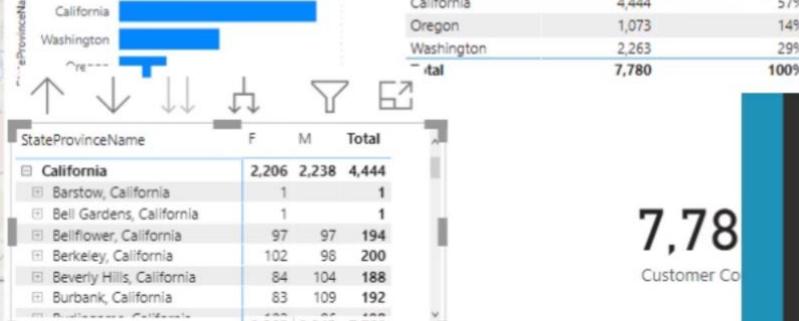
Customer Count by StateProvinceName and MedianGroup

MedianGroup • Above Median • Below Median • Unknown



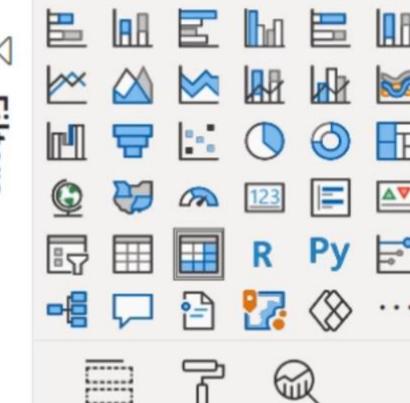
Customer Count by StateProvinceName

Customer Count by StateProvinceName



Visualizations

Filters



Fields

Search

- AddressType
- City
- CityState
- CommuteDistance
- CountryRegionName
- Customer Count

7,78

Customer Co

Customers by Location

Columns

Gender

Values

- Marital Status
- \sum NumberCarsOwned

Customers by Location



File Home Insert Modeling View Help

Cut Copy Paste Format painter Clipboard

Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources

Transform Refresh data New visual Text box More visuals

New measure Quick measure

Sensitivity (preview) Publish

Clipboard

Build visuals with your data

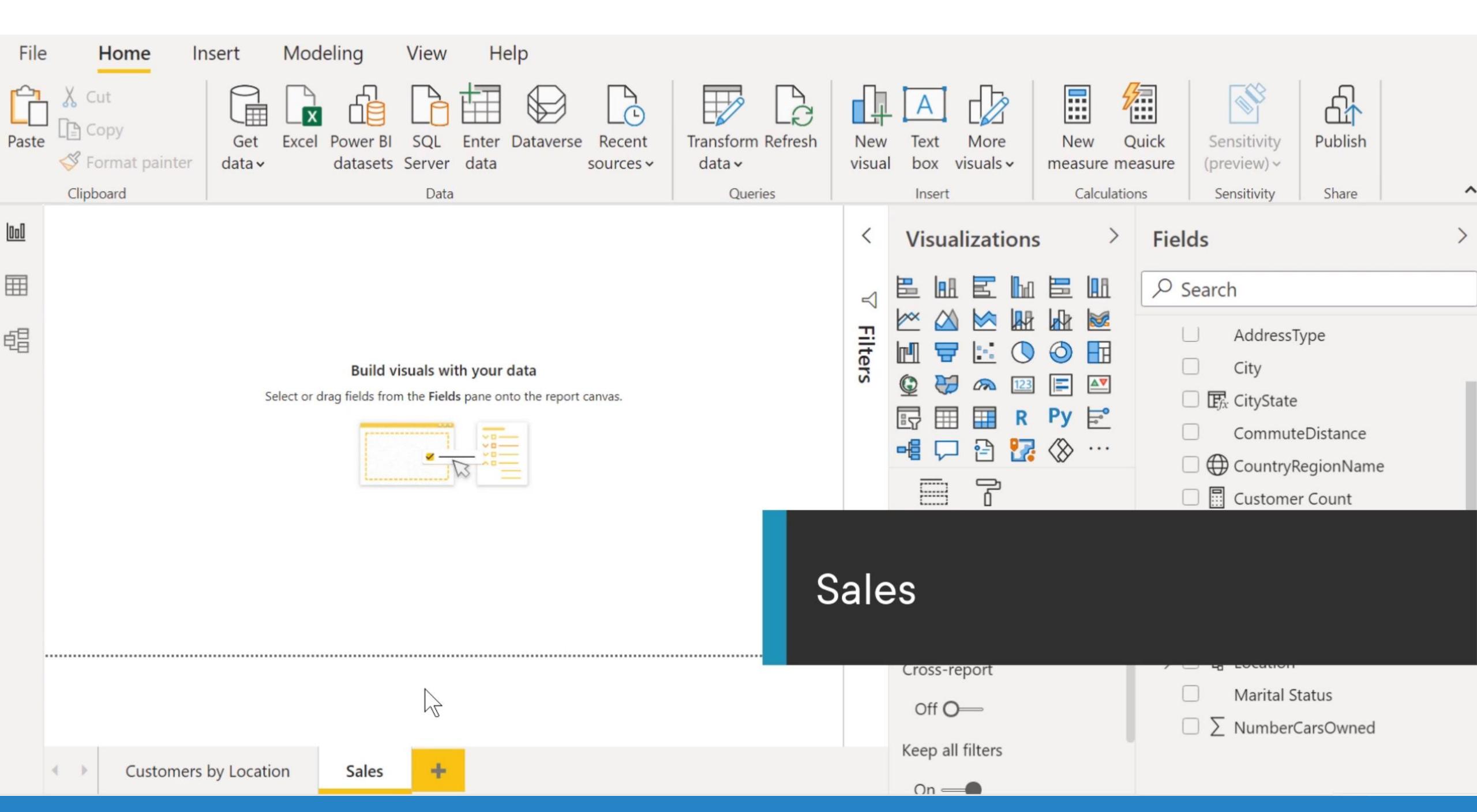
Select or drag fields from the Fields pane onto the report canvas.

AddressType
City
 CityState
CommuteDistance
 CountryRegionName
 Customer Count

Sales

Cross-report
Off
Keep all filters
On

Customers by Location Sales +



File Home Insert Modeling View Help

Paste Cut
Copy
Format painter
Clipboard

Get data v Excel Power BI datasets SQL Server Enter Data
Recent sources v

Transform Refresh data v

New visual Text box More visuals v

New measure Quick measure

Sensitivity (preview) v Publish Share

ProductCategory Total Sales Previous

Accessories	\$254,857.16
Bikes	\$8,964,833.83
Clothing	\$132,806.58
Total	\$9,352,497.57

Visualizations Fields

Filters

Search

PostalCode
StateProvinceName
 \sum TotalChildren
 \sum YearlyIncome

Date
Median Groups

Sales

ProductCategory
Total Sales
Previous Year Sales

Drill through

Customers by Location Sales +

Previous Year Sales
Product
ProductCategory
SalesOrderDetail
SalesOrderNumber
Total Sales

Screenshot of the Microsoft Power BI desktop interface showing the Home tab selected.

File **Home** Insert Modeling View Help

Data

Queries

Insert

Calculations

Sensitivity

Share

Clipboard

Get data ▾

- Excel
- Power BI datasets
- SQL Server
- Enter data
- Dataverse
- Recent sources ▾

Transform Refresh data ▾

- New visual
- Text box
- More visuals ▾

New measure

Quick measure

Sensitivity (preview) ▾

Publish

Filters

Search

is (All)

Year

is (All)

Filter type □ Advanced filtering ▾

Show items when the value

is

2014

And □ Or

Apply filter

Visualizations

Values

- ProductCategory
- Total Sales
- Previous Year Sales

Drill through

Cross-report

Fields

Search

- PostalCode
- StateProvinceName
- Σ TotalChildren
- Σ YearlyIncome

Date

- Calendar
- Date
- MonthYear

Median Groups

Sales

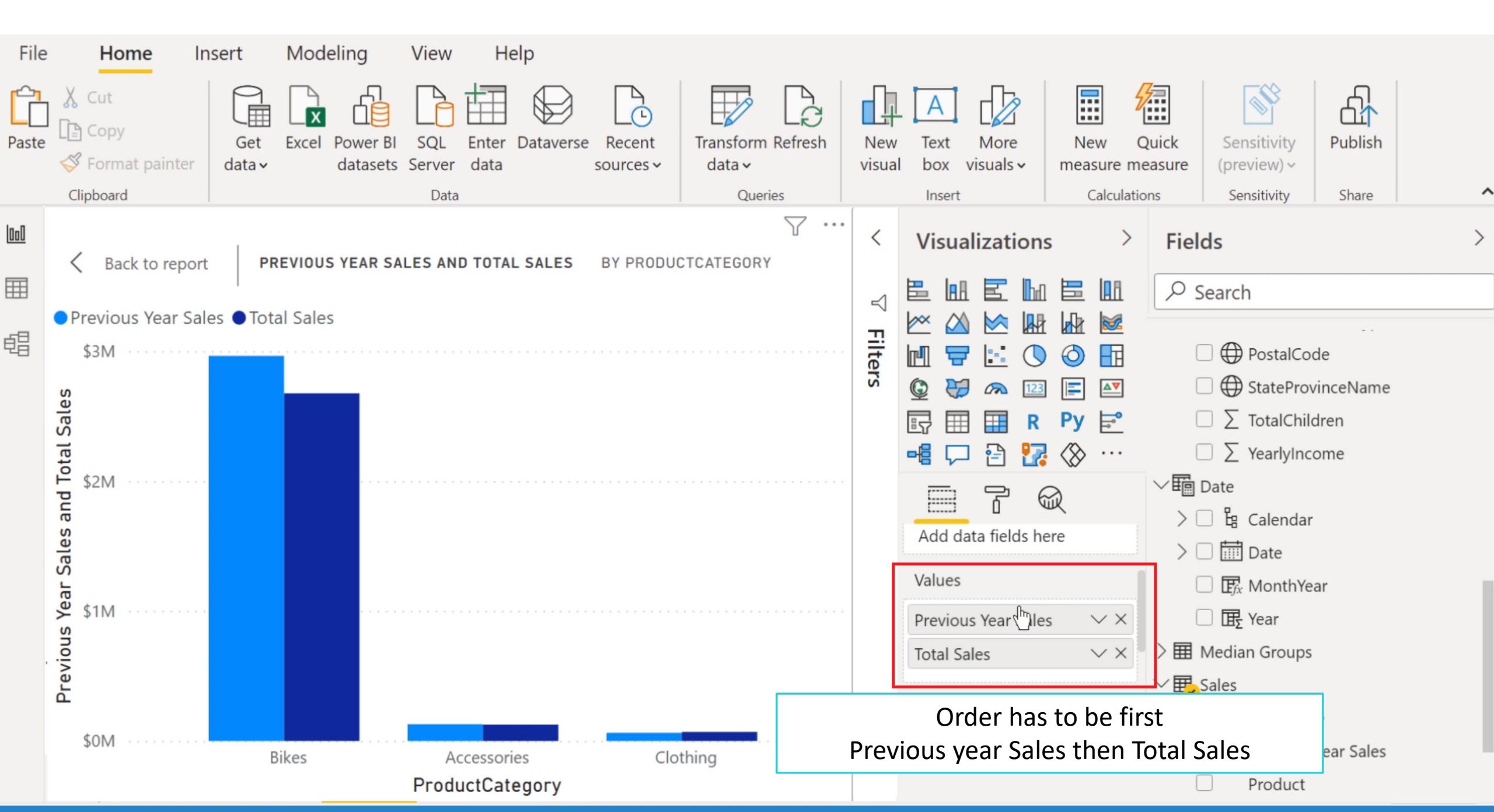
- OrderDate
- Previous Year Sales
- Product

Customers by Location

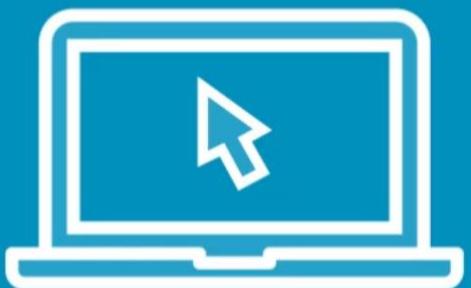
Sales

+

A blue arrow points from the 'Values' section of the Fields pane to the 'Total Sales' item in the Filters pane. Another blue arrow points from the 'YearlyIncome' item in the Fields pane to the 'Year' filter in the Filters pane. A third blue arrow points from the 'Apply filter' button in the Filters pane to the '2014' value in the 'Show items when the value' dropdown.



Demo



Create a filled map

- Total Sales
- StateProvinceName

File Home Insert Modeling View Help Format Data / Drill

Paste Cut Copy Format painter Clipboard

Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals Insert Calculations Sensitivity (preview) Publish Share

Previous Year Sales and Total Sales by ProductCategory

Previous Year Sales and Total Sales by ProductCategory

ProductCategory: Bikes, Accessories, Clothing

Duplicate the graph first
And
Remove Year Filter

Filters

Search

Filters on this visual

Previous Year Sales is (All)

ProductCategory is (All)

Total Sales is (All)

Year is 2014

Add data fields here

Fields

Search

PostalCode

StateProvinceName

TotalChildren

YearlyIncome

Date

Calendar

Date

MonthYear

Year

Median Groups

Sales

OrderDate

Previous Year Sales

Product

Customers by Location

Sales

+

Screenshot of the Microsoft Power BI desktop interface showing the Home tab selected.

The ribbon menu includes: File, Home, Insert, Modeling, View, Help, Format, Data / Drill, Data, Queries, Insert, Calculations, Sensitivity (preview), and Share.

Clipboard section: Cut, Copy, Format painter, Paste.

Data section: Get data (Excel, Power BI datasets, SQL Server, Enter data, Dataverse), Recent sources, Transform, Refresh data, New visual, Text box, More visuals, New measure, Quick measure.

Fields section: Search bar, Filter, Visualizations, Fields.

Visualizations pane:

- Previous Year Sales and Total Sales by ProductCategory chart (Bar chart).
- ProductCategory: Bikes, Accessories, Clothing.
- Legend: Previous Year Sales (blue), Total Sales (dark blue).
- Values: Previous Year Sales (selected).

Fields pane:

- Visualizations: Bar chart icon.
- Fields: PostalCode, StateProvinceName, TotalChildren, YearlyIncome.
- Date: Calendar, Date, MonthYear, Year.
- Median Groups.
- Sales: OrderDate, Previous Year Sales (selected), Product.

Annotations:

- A large blue arrow points to the "Select Filled Map" icon in the Visualizations pane.
- A green arrow points to the "Select" button in the Fields pane.
- A blue arrow points to the "Remove" button in the Values section of the Visualizations pane.
- A blue arrow points to the "Remove" button in the Sales section of the Fields pane.

File Home Insert Modeling View Help Format Data / Drill

Cut Copy Paste Format painter Clipboard

Get data Workbook hub Data SQL Server Enter data Dataverse Recent Transform Refresh New Text More New Quick Sensitivity Publish

Total Sales Previous Year Sales Product
\$26,761,68.75 \$29,64,202.12 Bikes
\$1,25,916.46 \$1,28,940.70 Access
\$69,688.64 \$63,117.94 Clothing
\$28,71,773.85 \$31,56,260.76

Year
2011
2012
2013
2014

Default color - Fill colors

Format style Gradient

What field should we base this on? Summarization How should we format empty values?

Count of Location - StateProvinceName Count As zero

Minimum Lowest value Enter a value Add a middle color Highest value Enter a value

Learn more about conditional formatting OK Cancel

Visualizations Form visual Search Visual General Map settings Style Controls Auto zoom On Zoom buttons Off Lasso button Off Geocoding culture Auto Reset to default Legend Off Fill color Colors Default Show all Off

Colors Default fx Show all Off

Reset to default

^

Default color - Data colors

Format by

Color scale ▾

Based on field

Total Sales ▾

Default formatting ⓘ

As zero ▾

Minimum

Lowest value ▾



Enter a value

Diverging



Maximum

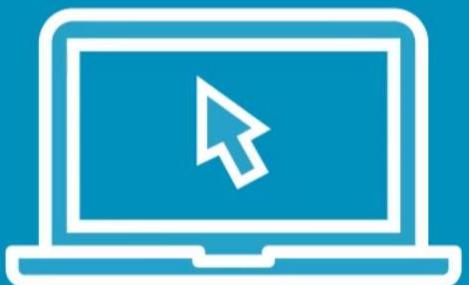
Highest value ▾



Enter a value



Demo



Create a KPI

- Total Sales by Year
- Target: Previous Year Sales

Screenshot of Microsoft Power BI showing a dashboard with two visualizations and the Power BI ribbon.

The ribbon tabs shown are: File, Home, Insert, Modeling, View, Help, Format, Data / Drill, Data, Queries, Insert, Calculations, Sensitivity, and Share.

The dashboard contains the following visualizations:

- A bar chart titled "Previous Year Sales and Total Sales by ProductCategory". It shows sales for Bikes, Accessories, and Clothing. The total sales are highlighted with a large orange border and the value "\$2.87M".
- A map titled "Total Sales by StateProvinceName" showing sales distribution across the Western United States and parts of Mexico. A legend indicates sales levels by color: light blue, medium blue, dark blue, and red.

The "Fields" pane on the right lists various data fields categorized under "Visualizations" and "Fields". The "Visualizations" section includes icons for various chart types. The "Fields" section includes:

- Search bar: Bing
- Filters: Calendar, Date, MonthYear, Year (selected)
- Median Groups: Median Group
- Sales: OrderDate, Previous Year Sales, Product, ProductCategory, SalesOrderDetail, SalesOrderNumber (Sales is selected)
- Indicators: Total Sales (selected), Trend axis: Year, Target goals, Add data fields here, Drill through: Total Sales (Total Sales is selected)

Blue arrows point from the "Fields" pane to the "Drill through" section of the "Fields" pane, indicating the relationship between the selected fields and the drill-through feature.

File Home Insert Modeling View Help Format Data / Drill

Cut Copy Format painter Paste Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure measure Quick Sensitivity (preview) Publish Clipboard

Previous Year Sales and Total Sales by ProductCategory

Total Sales and Previous Year Sales by Year

\$2.87M Goal: \$3.16M (-9.01%)

Customers by Location

Sales +

Total Sales by StateProvinceName

Bing

Visualizations

Filters

Indicator

Trend axis

Target goals

Search

Calendar Date MonthYear Year

Median Groups MedianGroup

Sales OrderDate Previous Year Sales Product ProductCategory SalesOrderDetail SalesOrderNumber Total Sales

The screenshot shows a Microsoft Power BI interface with a dashboard containing three visualizations: a bar chart for 'Previous Year Sales and Total Sales by ProductCategory', a bubble chart for 'Total Sales and Previous Year Sales by Year' with a large red bubble indicating a goal of '\$2.87M' (Goal: \$3.16M, -9.01%), and a map for 'Total Sales by StateProvinceName'. The 'Data / Drill' tab is selected in the ribbon. The 'Fields' pane on the right lists various data items under categories like 'Median Groups', 'Sales', and 'Total Sales'. A blue arrow points to the 'Total Sales' item under the 'Sales' category, which has a yellow checkmark next to it.

Demo



Work with filters

Filtering

We can filter all the sheets or single sheet

Map

Clustered Column Chart

Bar Chart

Table

Matrix

Card

Customers by Location

Clustered Column
Chart

KPI

Filled Map

Sales

File Home Insert Modeling View Help Format Data / Drill

Paste Cut Copy Format painter Clipboard

Get data Excel Power BI datasets SQL Server Enter Data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure Quick measure Sensitivity (preview) Publish Share

Clipboard Data Queries Insert Calculations Sensitivity Share

Previous Year Sales and Total Sales by ProductCategory

Total Sales by StateProvinceName

\$2.87M Goal: \$3.16M (-9.01%)

Customers by Location Sales +

Filters

Search

Filters on this visual

Previous Year Sales is (All)

Total Sales is (All)

Year is (All)

Add data fields here

Filters on this page

Fields

Search

Marital Status

NumberCarsOwned

NumberChildrenAtHome

Occupation

Pct of Total Customers

PhoneNumber

PhoneNumberType

PostalCode

StateProvinceName

TotalChildren

YearlyIncome

Date

Calendar

Date

MonthYear

A screenshot of the Microsoft Power BI desktop application interface. The ribbon at the top includes File, Home, Insert, Modeling, View, Help, Format, Data / Drill, and several specific data source and tool icons. The main workspace displays two visualizations: a bar chart titled 'Previous Year Sales and Total Sales by ProductCategory' and a map titled 'Total Sales by StateProvinceName'. To the right of the visualizations are two floating panes: 'Filters' and 'Fields'. The 'Filters' pane shows filters applied to the current visualization, including 'Previous Year Sales is (All)', 'Total Sales is (All)', and 'Year is (All)'. It also contains a placeholder 'Add data fields here' and a section for filters on the page. The 'Fields' pane lists various data fields with checkboxes, such as Marital Status, NumberCarsOwned, NumberChildrenAtHome, Occupation (which is checked), Pct of Total Customers, PhoneNumber, PhoneNumberType, PostalCode, StateProvinceName, TotalChildren, YearlyIncome, Date (which is checked), Calendar, Date, and MonthYear. A large blue arrow points from the 'Occupation' field in the 'Fields' pane to its corresponding filter in the 'Filters' pane. Another orange arrow points from the 'Add data fields here' placeholder in the 'Filters' pane back to the 'Occupation' field in the 'Fields' pane.

The screenshot shows a Microsoft Power BI desktop interface with a dashboard containing three visualizations:

- A bar chart titled "Previous Year Sales and Total Sales by ProductCategory" comparing "Previous Year Sales" (blue) and "Total Sales" (dark blue) for "Bikes" and "Accessories".
- A map titled "Total Sales by StateProvinceName" showing sales distribution across the Western United States and parts of Canada.
- A treemap visualization titled "Total Sales and Previous Year Sales by Year" showing sales volume for different years, with a prominent pink area labeled "\$1.21M" and "Goal: \$1.25M (-3.09%)".

The "Occupation" filter in the "Filters" pane is selected, displaying the following data:

Occupation	Count
Select all	610
Clerical	1655
Management	41
Manual	2751
Skilled Manual	2723

A large blue arrow points from the treemap visualization towards the "Filters" pane.

Visual Level Filters And Page Level Filters

The screenshot shows a Microsoft Power BI desktop interface with the following details:

- File Home Insert Modeling View Help Format Data / Drill**
- Clipboard** (Paste, Cut, Copy, Format painter)
- Data** (Get data, Excel, Power BI datasets, SQL Server, Enter data, Dataverse, Recent sources)
- Queries** (Transform, Refresh data)
- Insert** (New visual, Text box, More visuals)
- Calculations** (New measure, Quick measure, Sensitivity (preview), Publish, Share)

The dashboard contains three visualizations:

- Previous Year Sales and Total Sales by ProductCategory**: A bar chart comparing Bikes and Accessories sales.
- Total Sales by StateProvinceName**: A map of the Western United States showing sales distribution.
- Total Sales and Previous Year Sales by Year**: A card displaying total sales of \$1.21M against a goal of \$1.25M.

The **Filters** pane on the right shows the **Occupation** filter set to "Professional". A red arrow points to the filter icon for "Professional".

Occupation	Count
Select all	610
Clerical	1655
Management	41
Manual	2751
Skilled Manual	2723

The **Fields** pane lists various data fields:

- Marital Status
- NumberCarsOwned
- NumberChildrenAtHome
- Occupation
- Pct of Total Customers
- PhoneNumber
- PhoneNumberType
- PostalCode
- StateProvinceName
- TotalChildren
- YearlyIncome
- Date (selected)
- Calendar
- Date
- MonthYear

File Home Insert Modeling View Help Format Data / Drill

Cut Copy Get data Excel Power BI datasets SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure Quick measure Sensitivity (preview) Publish Clipboard

Clipboard

Previous Year Sales and Total Sales by ProductCategory

Total Sales and Previous Year Sales by Year

\$2.87M! Goal: \$3.16M (-9.01%)

Customers by Location

Sales +

Total Sales by StateProvinceName

Bing

Filters

Search

Year is (All)

Add data fields here

Filters on this page

Occupation is (All)

Filter type Basic filtering

Search

Select all

Classical

Fields

Search

Visualizations

Marital Status

NumberCarsOwned

NumberChildrenAtHome

Occupation

Pct of Total Customers

PhoneNumber

PhoneNumberType

PostalCode

StateProvinceName

TotalChildren

YearlyIncome

Date

Calendar

Date

MonthYear

Screenshot of the Microsoft Power BI desktop interface showing a dashboard with three visualizations: a bar chart, a map, and a stacked area chart. The ribbon menu is visible at the top, and the Fields pane on the right shows a list of fields with checkboxes. An orange arrow points from the 'Professional' checkbox in the Fields pane to the 'Professional' filter in the Filters pane.

File Home Insert Modeling View Help Format Data / Drill

Paste Cut Copy Get data v Excel Power BI datasets SQL Server Enter data Dataverse Recent sources v Transform Refresh data v New visual Text box More visuals v New measure measure Quick Sensitivity (preview) v Publish Share

Clipboard

Previous Year Sales and Total Sales by ProductCategory

Total Sales by StateProvinceName

\$2M
\$1M
\$0M

Bikes Accessories ProductCategory

● Previous Year Sales ● Total Sales

Total Sales and Previous Year Sales by Year

\$2.01M Goal: \$2.18M (-7.93%)

Customers by Location Sales +

Calgary
Seattle WASHINGTON MONTANA
Portland OREGON
IDAHO NEVADA UTAH COLORADO
San Francisco CALIFORNIA LAS VEGAS ARIZONA NEW MEXICO
Los Angeles San Diego PHOENIX Ciudad Juarez SONORA MEXICO
Bing

Filters

Search

is Professional or Skill... ☐ ☑

Filter type i Basic filtering

Search

Select all

Clerical 610

Management 1655

Manual 41

Professional 2751

Skilled Manual 2723

Require single selection

Fields

Search

Marital Status

NumberCarsOwned

NumberChildrenAtHome

Occupation

Pct of Total Customers

PhoneNumber

PhoneNumberType

PostalCode

StateProvinceName

TotalChildren

YearlyIncome

Date

Calendar

Date

MonthYear



CERTIFICATIONS

Microsoft Certified: Power BI Data Analyst Associate

<https://learn.microsoft.com/en-us/certifications/power-bi-data-analyst-associate/>



EXAMS

Exam PL-300: Microsoft Power BI Data Analyst

<https://learn.microsoft.com/en-us/certifications/exams/pl-300>



EXAMS

Exam DA-100: Analyzing Data with Microsoft Power BI

<https://learn.microsoft.com/en-us/certifications/exams/da-100>