

Chapter 1: Creating Your First Virtualizations and Dashboard

The screenshot shows the Tableau Desktop interface. On the left, the 'Connections' pane lists 'Superstore' as a 'Text File'. Below it, the 'Files' pane shows 'Superstore.csv' and 'New Union'. The main area displays the 'Superstore' data source with a 'Live' connection. A table of data is shown with columns: Category, City, Container, Customer ID, Customer Name, and Customer Segment. A tooltip 'Go to Worksheet' is visible over the 'Category' column header. At the bottom, the 'Data Source' tab is active, showing 'Sheet 1'.

Category	City	Container	Customer ID	Customer Name	Customer Segment
Paper	Lombard	Small Box	3035	Mark Bailey	Home Office
Paper	Lombard	Wrap Bag	3035	Mark Bailey	Home Office
Pens & Art Supplies	Southbury	Wrap Bag	3385	Daniel Richmond	Corporate
	Coachella	Small Box	3133	Kristine Singleton	Corporate

The screenshot shows the Tableau Desktop interface with the 'Worksheet' view selected. The interface includes a menu bar (File, Data, Worksheet, Dashboard, Story, Analysis, Map, Format, Server, Window, Help) and a toolbar. The left pane shows the 'Data' source 'Superstore' with a list of dimensions (Category, City, Container, Customer ID, Customer Name, Customer Segment, Department, Item, Item ID, Order Date, Order ID, Order Priority, Postal Code) and measures (Discount, Order Quantity, Product Base Margin, Profit, Sales, Shipping Cost). The central area is labeled 'Sheet 1' and contains 'Drop field here' prompts. The right pane shows a grid of visualization types (maps, bar charts, line charts, etc.) with a 'Select or drag data' instruction. The bottom status bar shows 'Data Source', 'Sheet 1', and the user 'Joshua Milligan'.

1 File Data Worksheet Dashboard Story Analysis Map Format Server Window Help

2 [Navigation icons]

3 [Dimensions list]

4 [Columns and Rows shelves]

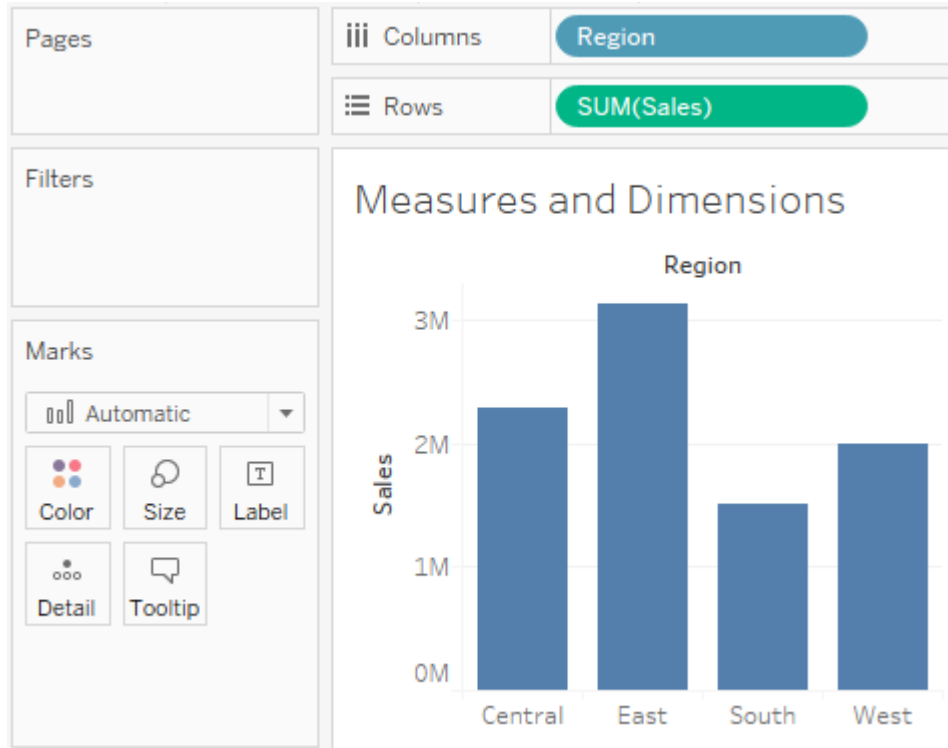
5 [Worksheet area with 'Drop field here' prompts]

6 [Visualization gallery]

7 [Data Source tab]

8 [Status bar]

9 [User name: Joshua Milligan]



Columns: Region

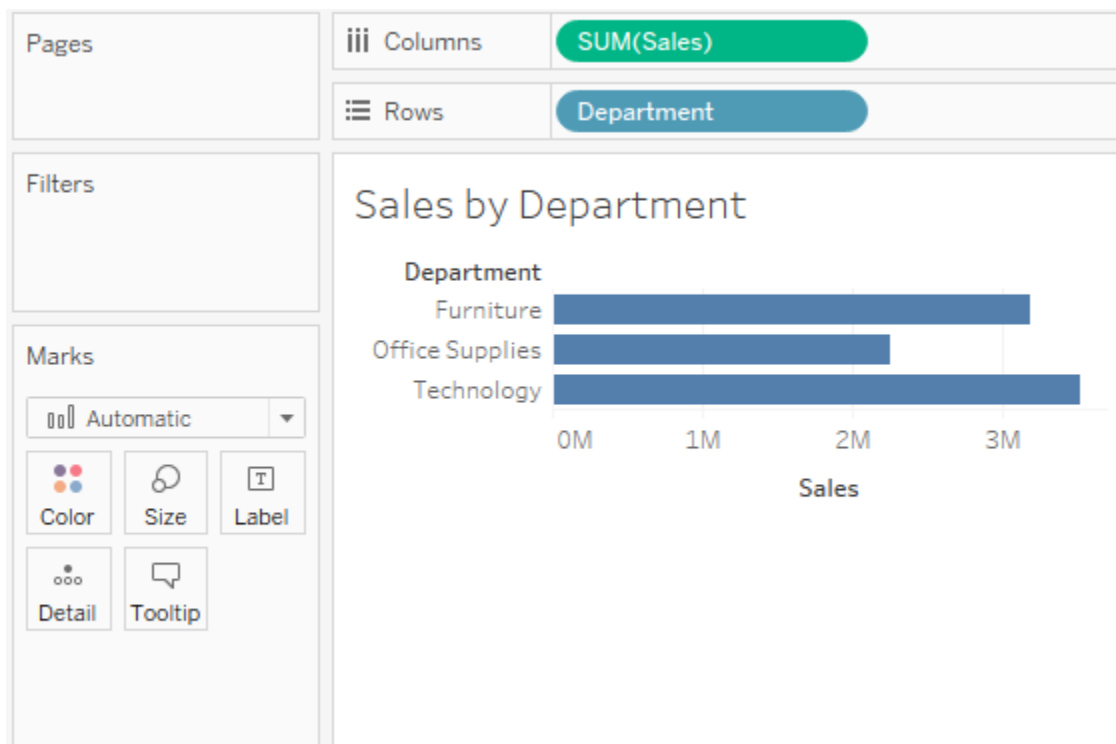
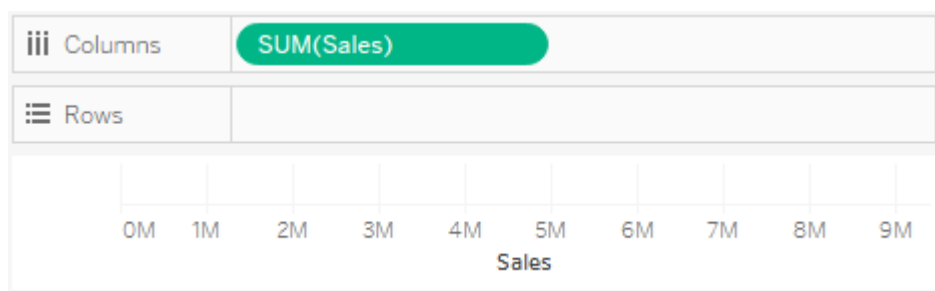
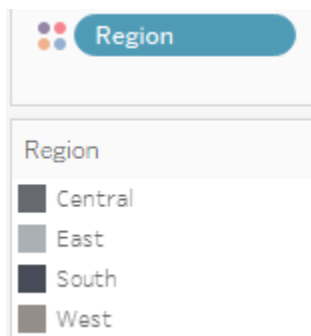
Rows:

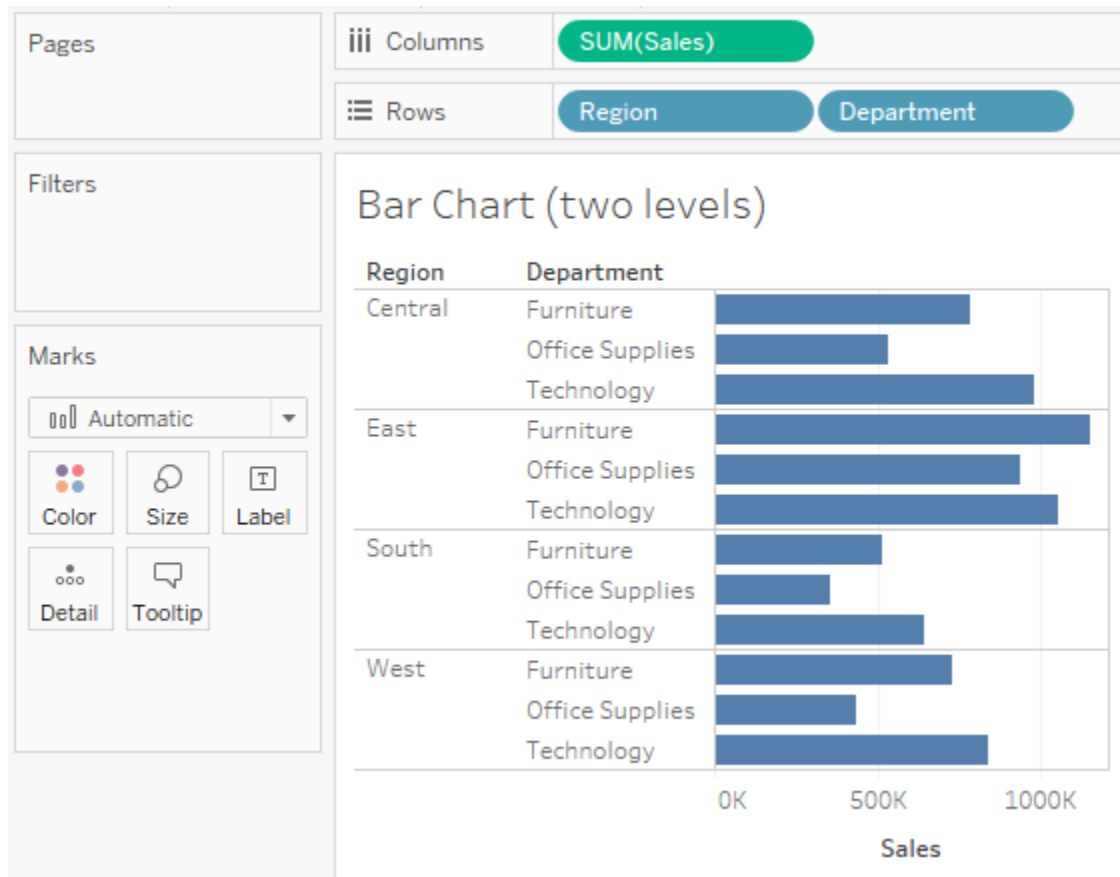
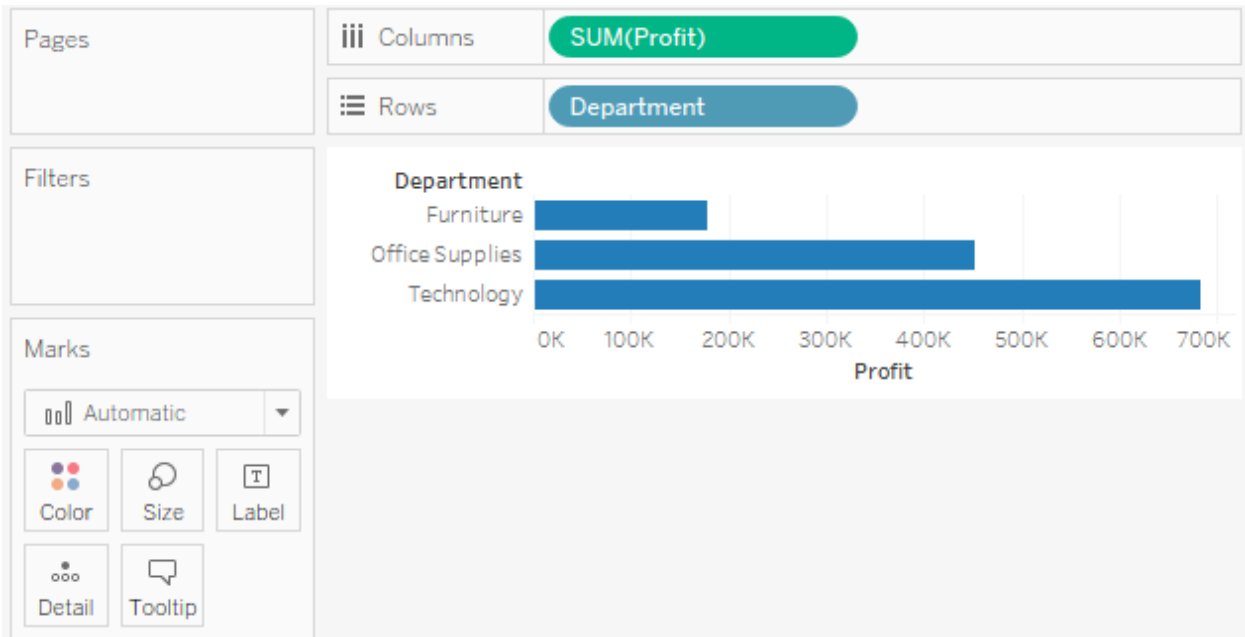
Region
Central
East
South
West

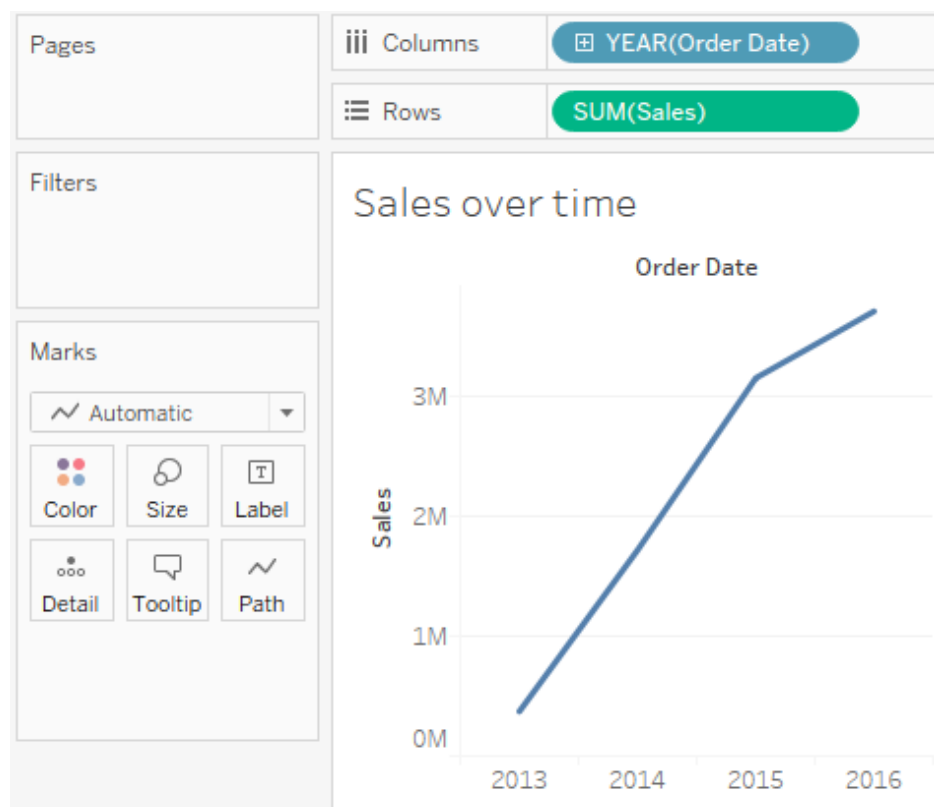
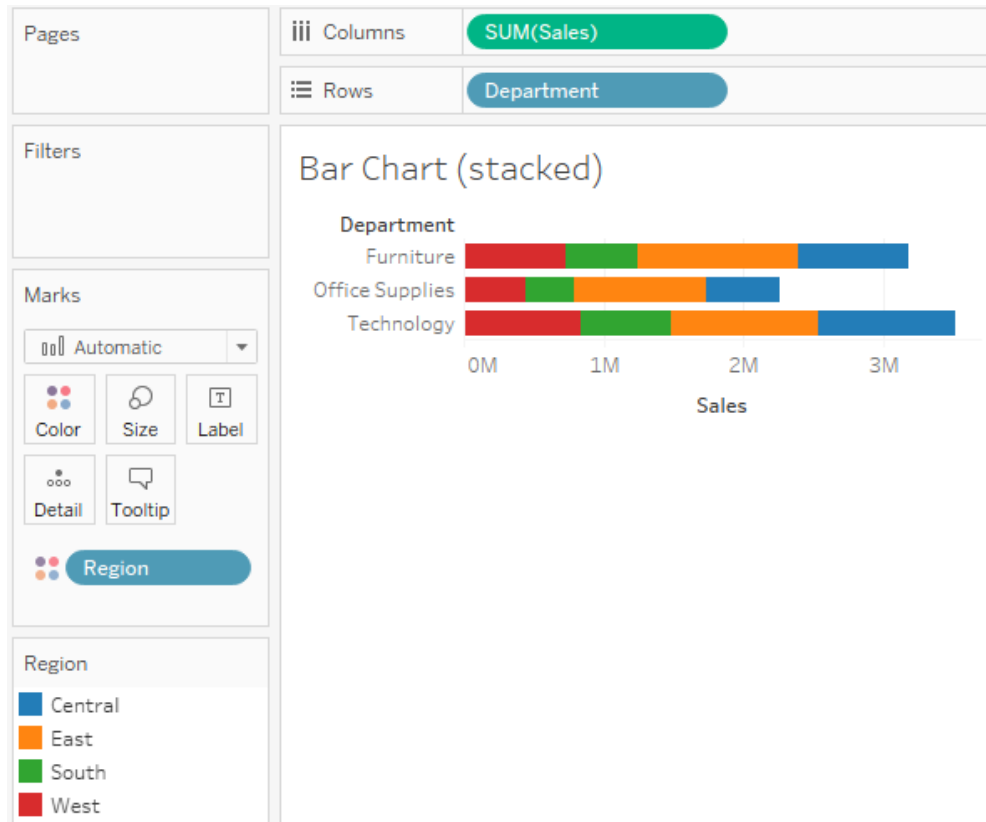
Columns:

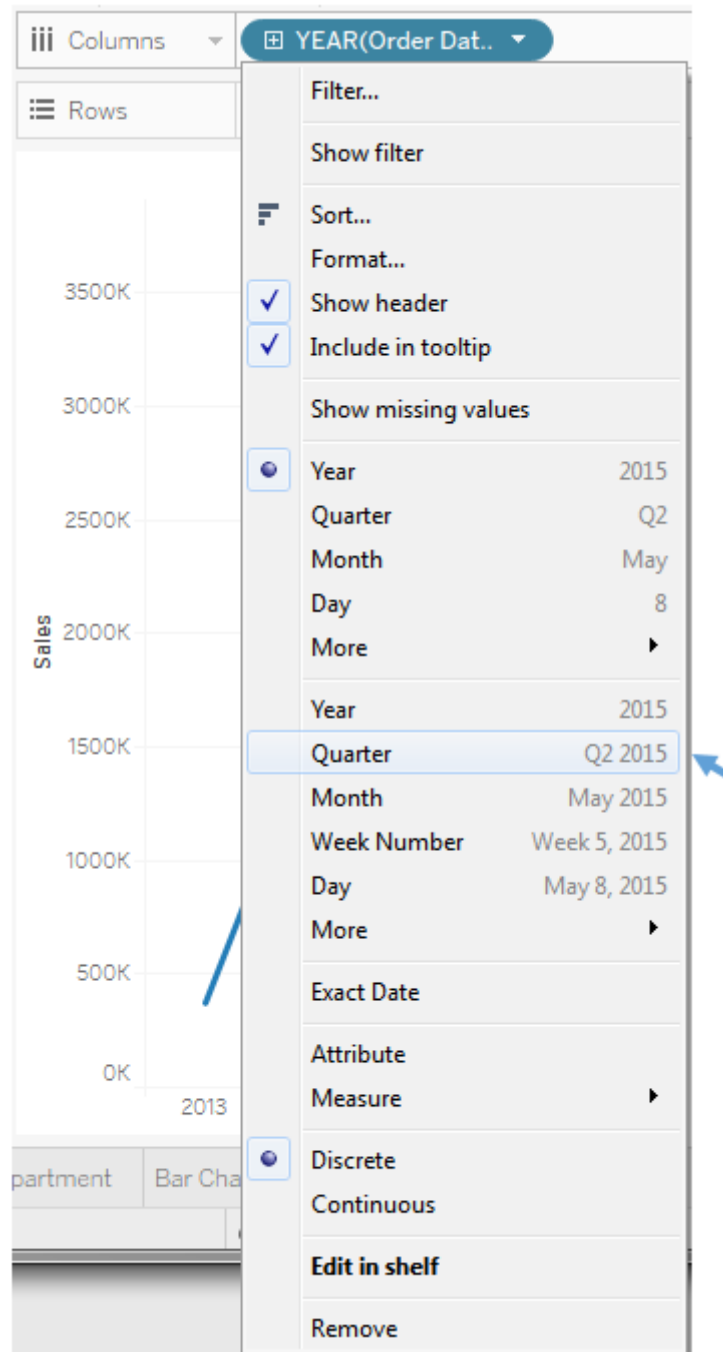
Rows: Region

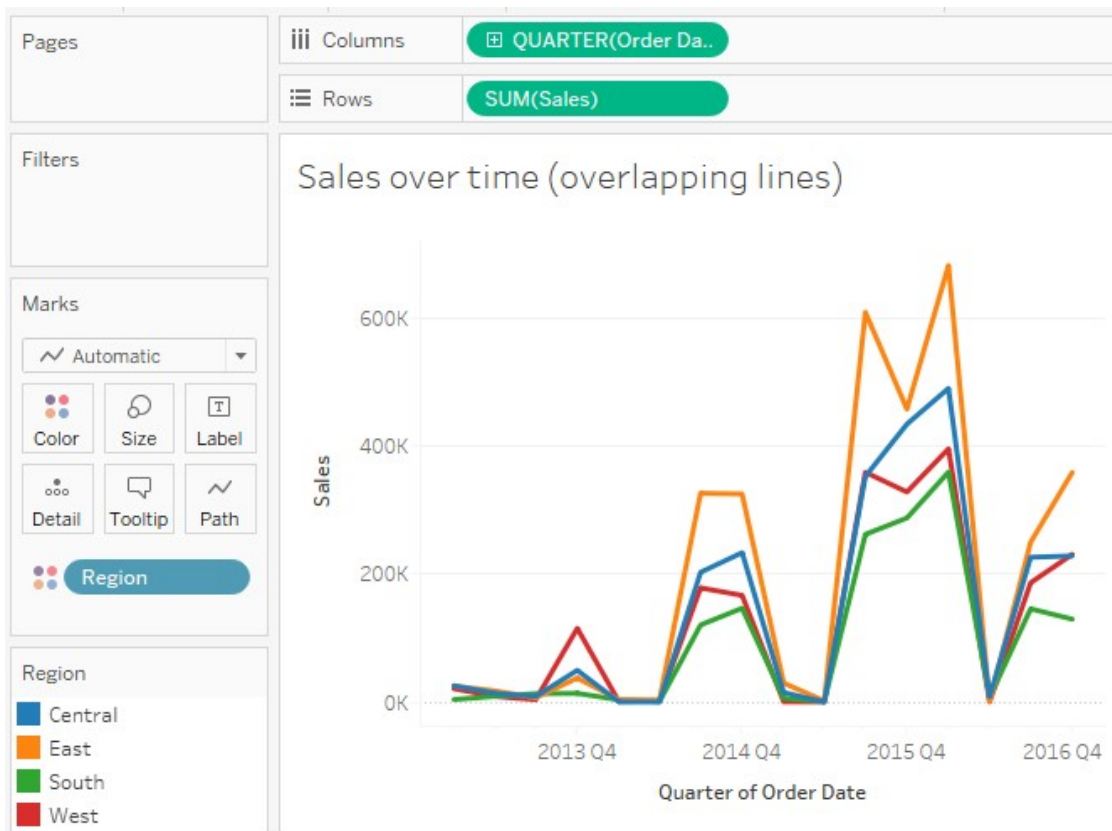
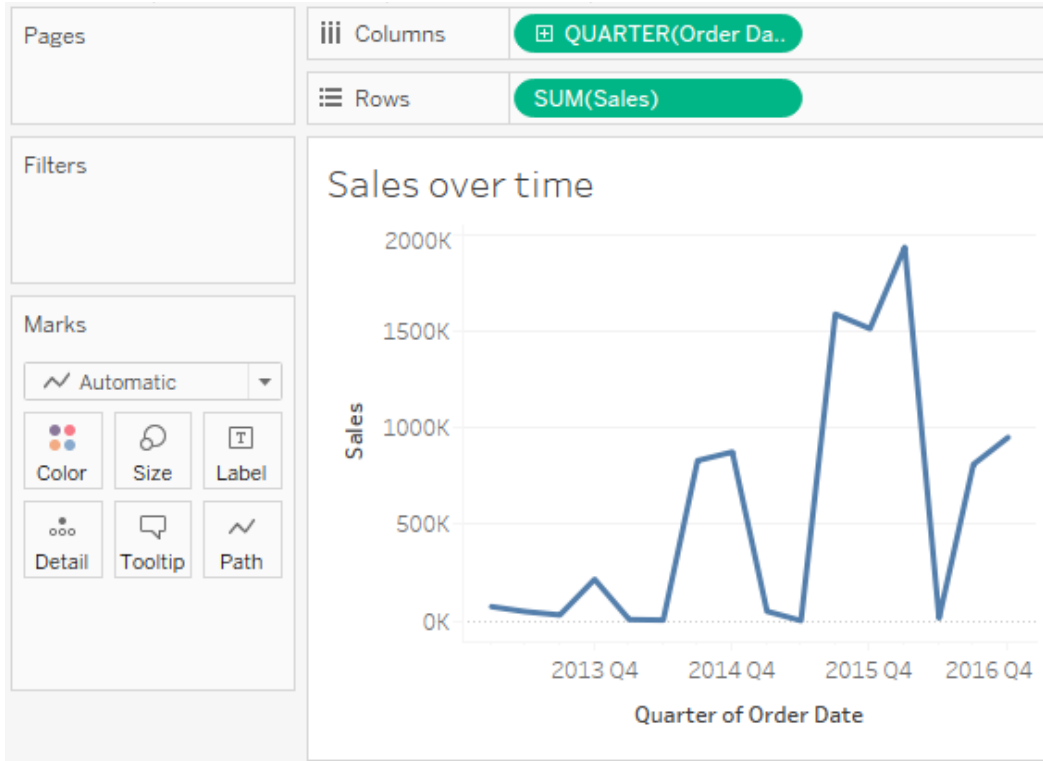
Region
Central
East
South
West

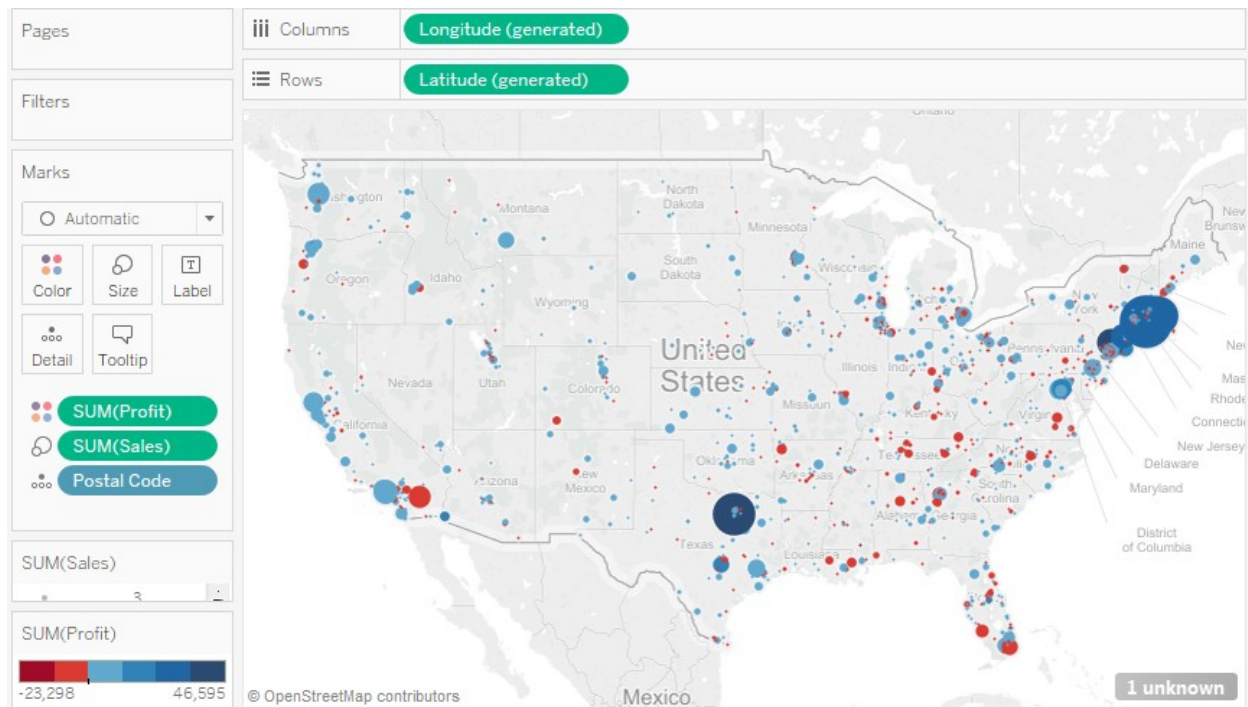
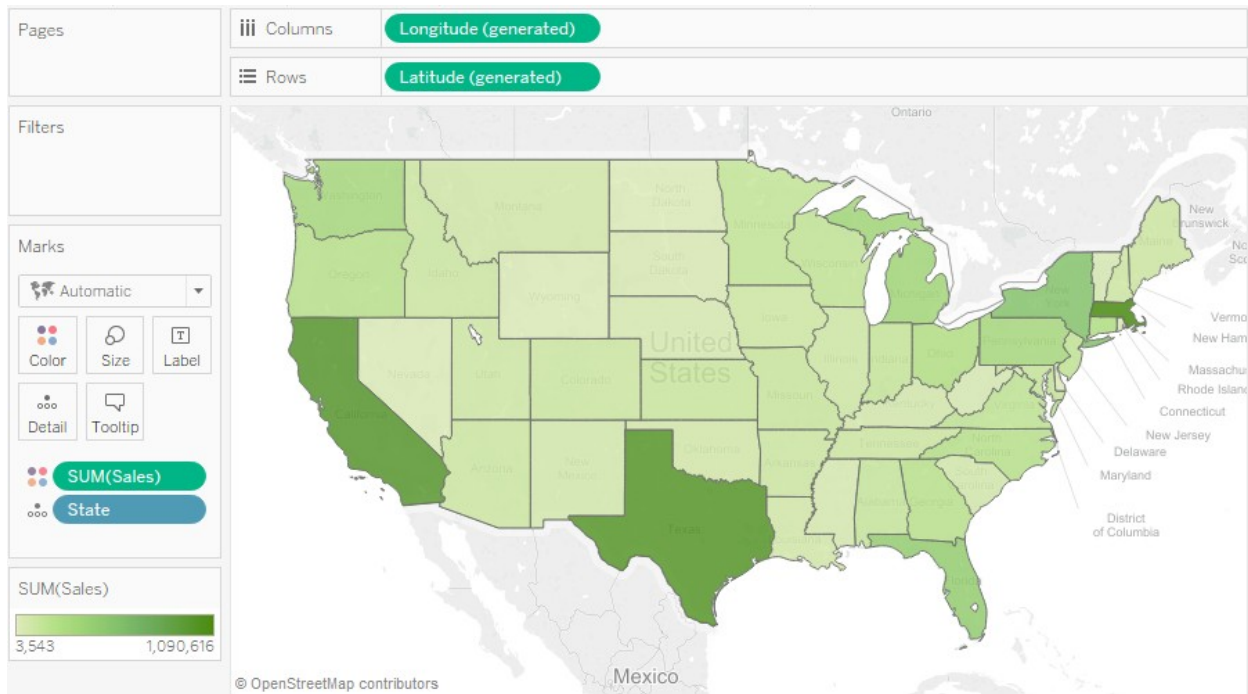


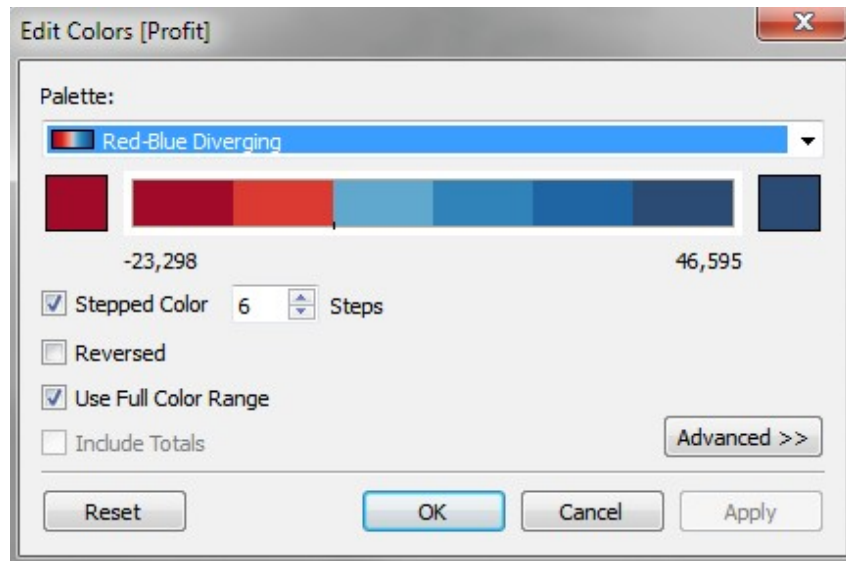












Dashboard


Layout


Device Preview


Size


Desktop Browser (1000 x 800)


Sheets


 Measures and Dimensions


 Sales by Department


 Bar Chart (two levels)


 Bar Chart (stacked)


 Bar Chart (experimentation)


 Sales over time

 Sales over time (overlappi...


 Sales over time (multiple r...


 Sales by State


 Sales by Postal Code


 Show Me


Objects


 Horizontal

 Vertical

 Text

 Image

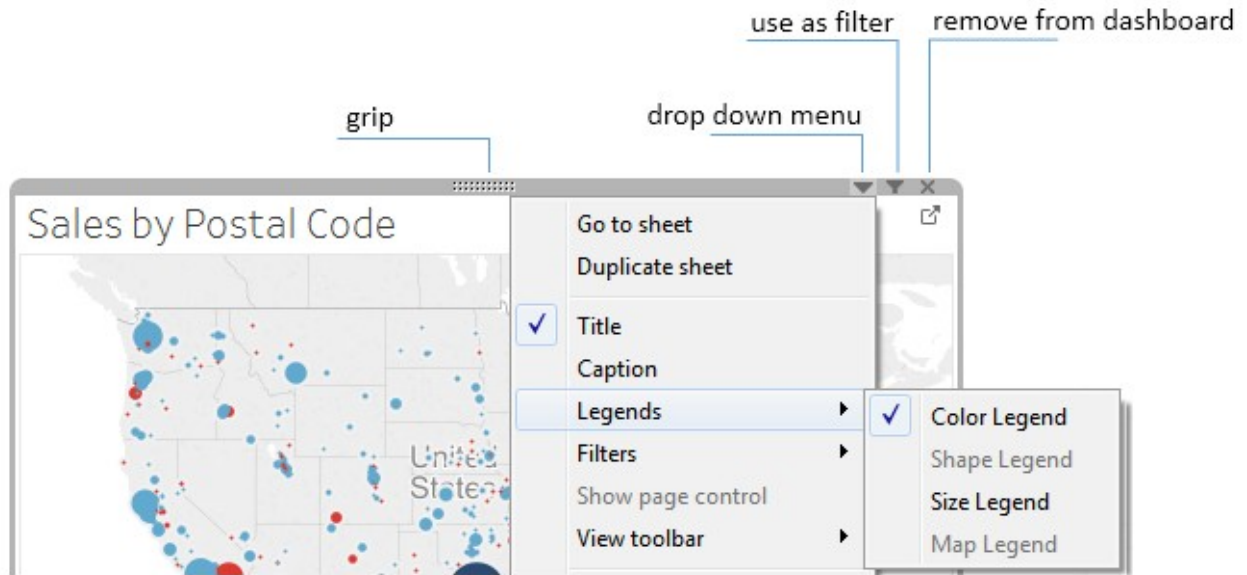
 Web Page

 Blank

Tiled

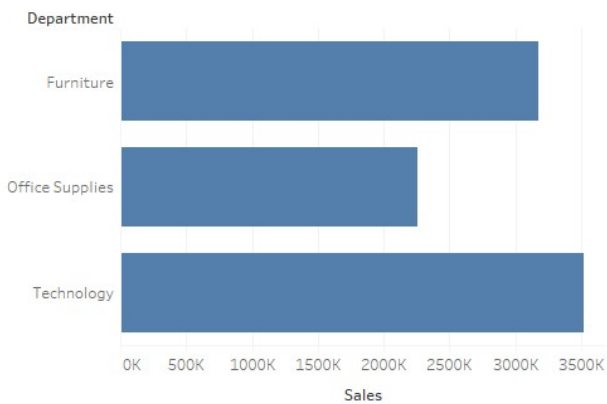
Floating

☒ Show dashboard title

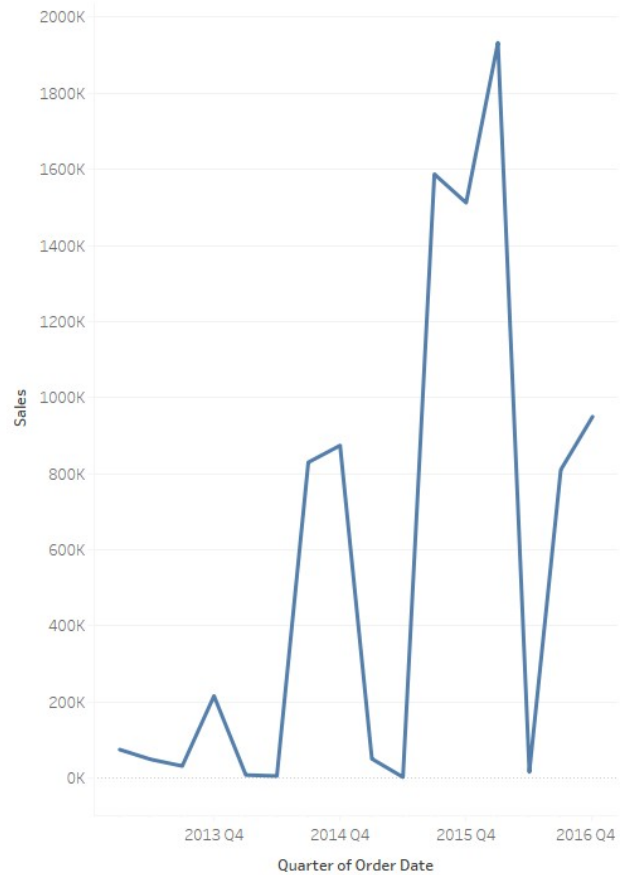


Superstore Sales

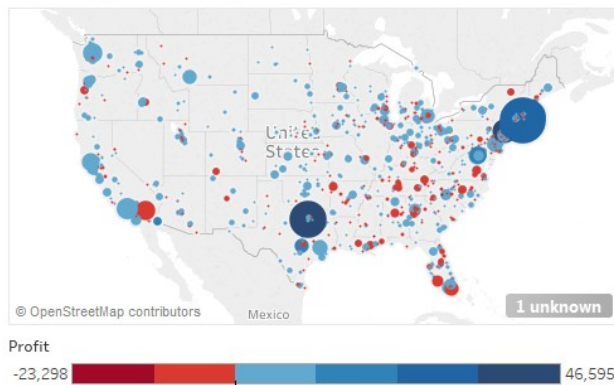
Sales by Department



Sales over time

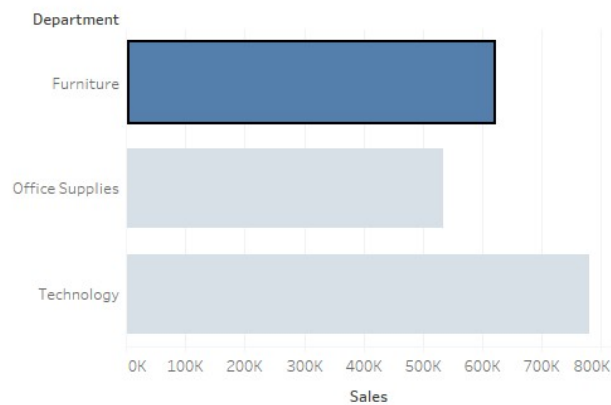


Sales by Postal Code

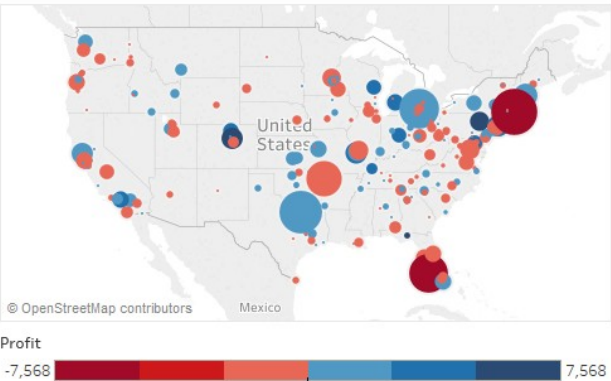


Superstore Sales

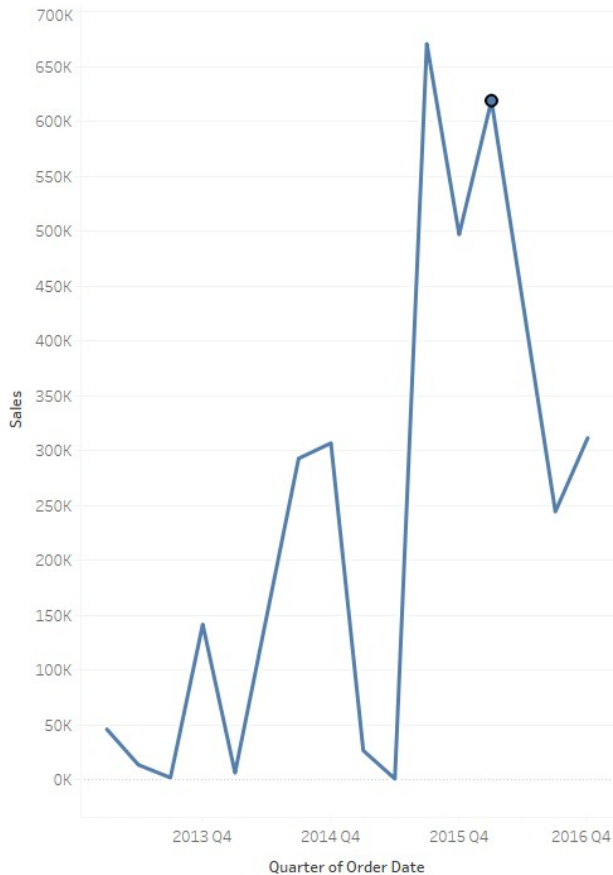
Sales by Department



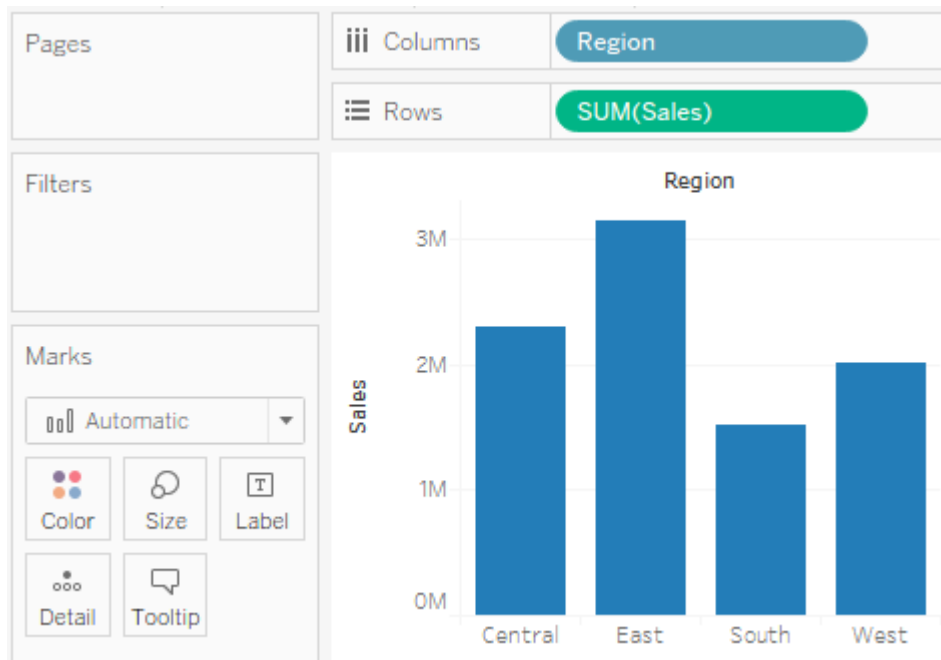
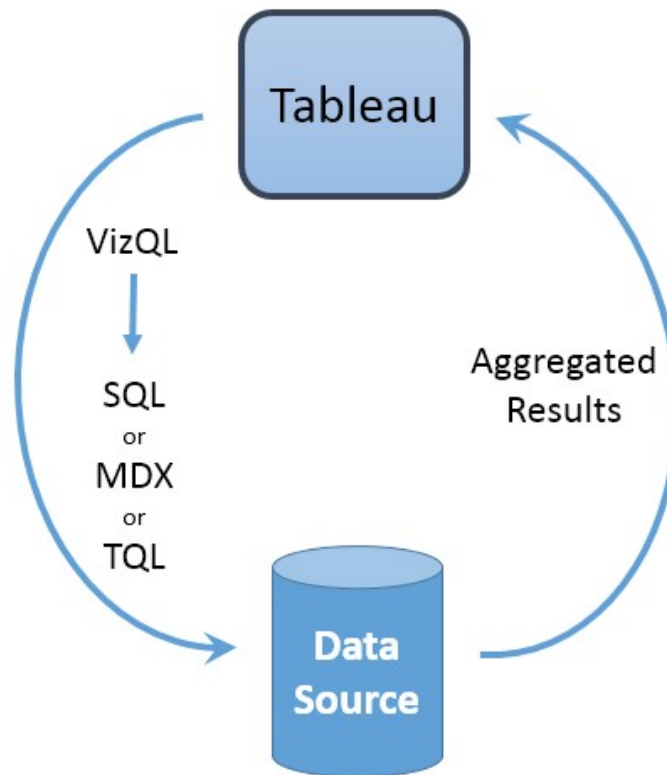
Sales by Postal Code



Sales over time



Chapter 2: Working with Data in Tableau



View Data

☒ Show aliases Copy Export All

Region	Sales
West	2,002,353
South	1,511,949
East	3,143,122
Central	2,294,603

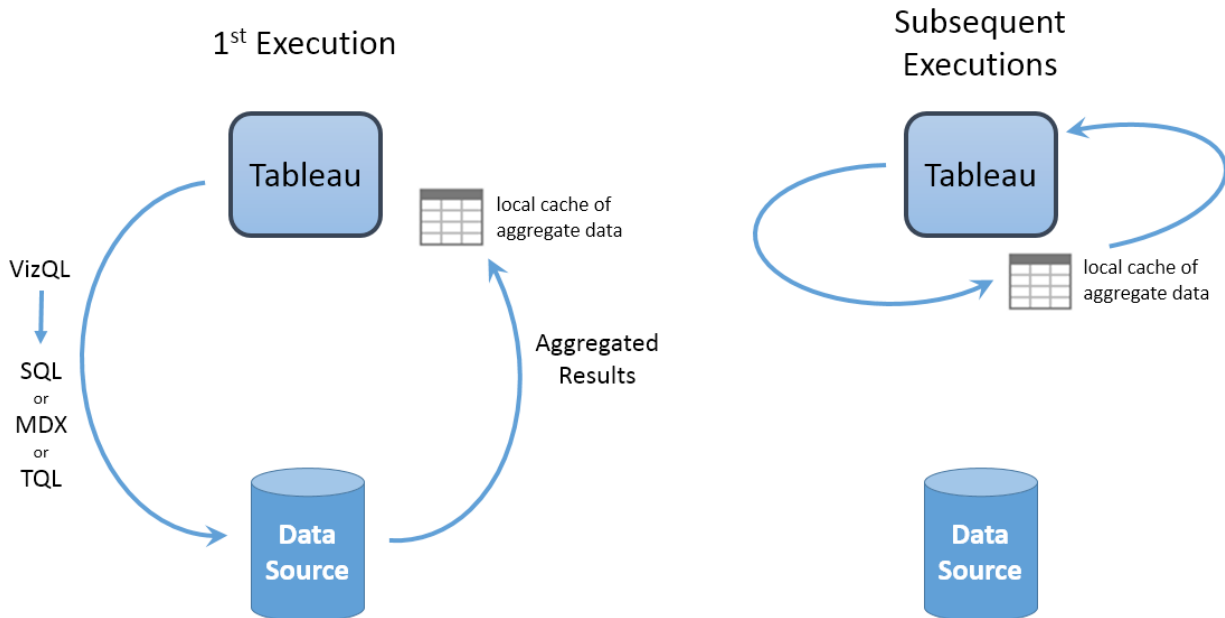
Summary Underlying 4 rows

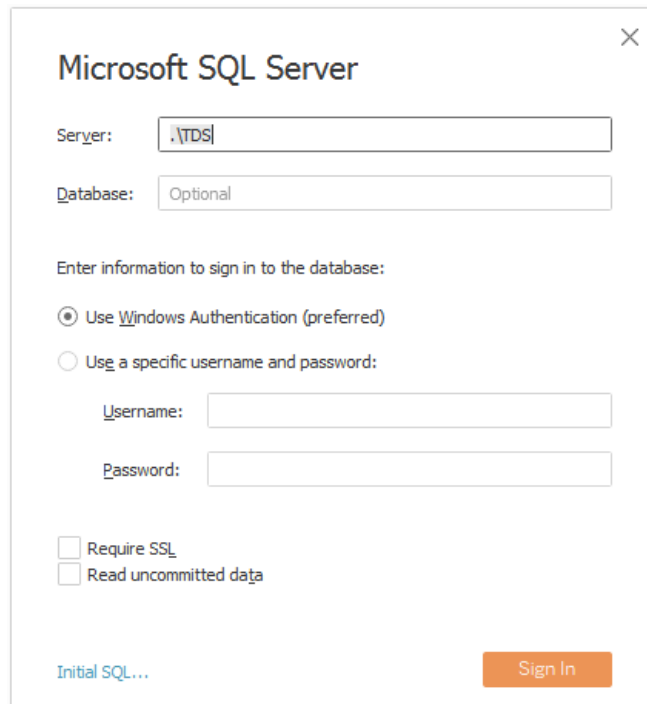
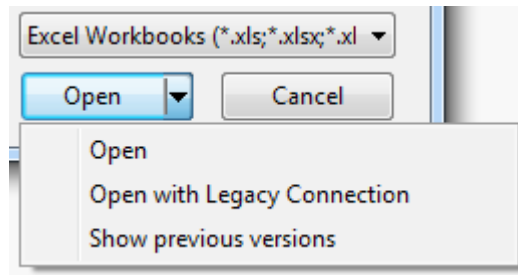
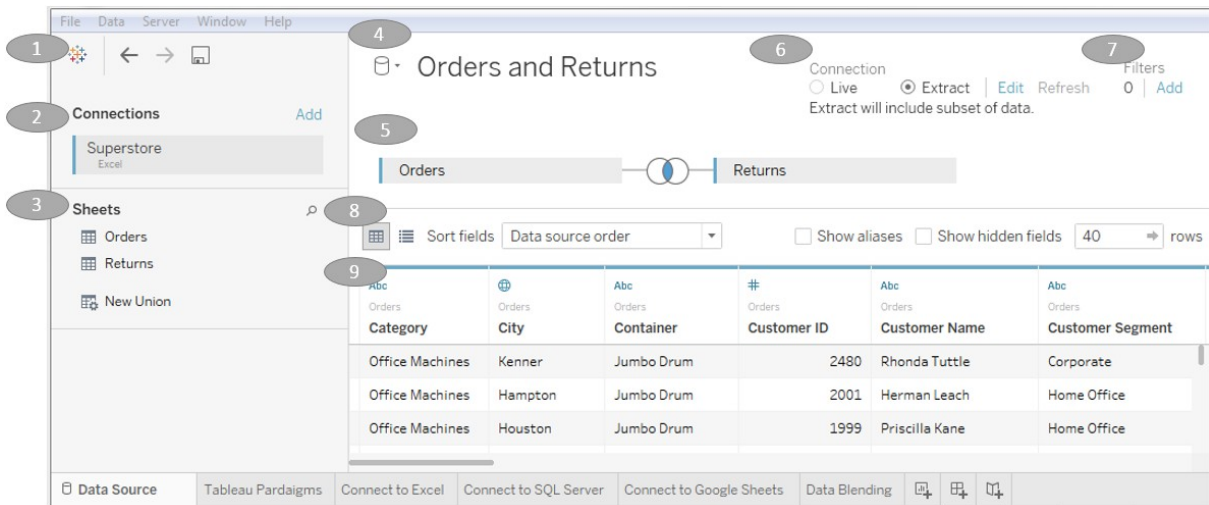
View Data

9,426 rows ☒ Show aliases ☒ Show all fields Copy Export All

Category	City	Container	Customer ID	Customer Name
Appliances	Lancaster	Small Box	1890	Jonathan Drummey
Paper	Oxford	Small Box	607	Joe Mako
Paper	Boston	Small Box	608	Chuck Hooper
Paper	Conway	Small Box	3073	Shawn Wallwork

Summary Underlying 9,426 rows





Connections

[Add](#)

.\TDS








Microsoft SQL Server

Database

Hospital




Table



-  Discharge Details
-  Hospital Visit
-  Hospital_Visits
-  Patient
-  Patient Visit
-  Primary Physician
-  New Custom SQL

Stored Procedures



-  Get_Active_Doctors
-  Get_Patient_Diagnoses
-  Get_Patient_Treatments




Select Your Google Sheet

Signed in as **jmilligan@vizpainter.com**

Search by Sheet Title or by URL (https://docs.google.com/spreadsheets/d/{GoogleSheetsID})

Search

Name	Owned by	Last opened by me
Christmas List!	jmilligan	Feb 21, 2015
Favorite Books	jmilligan	Oct 30, 2014
Assimilations	Borg	Nov 3, 2014



Christmas List!

Owned by **jmilligan**

Last Modified on **Mar 1, 2015**

Last Modified by **jmilligan**

[Open in Google Drive](#)

Cancel

Connect

Pages

Columns

Longitude (generated)

Rows

Latitude (generated)

Filters

Marks

Automatic

Color

Size

Label

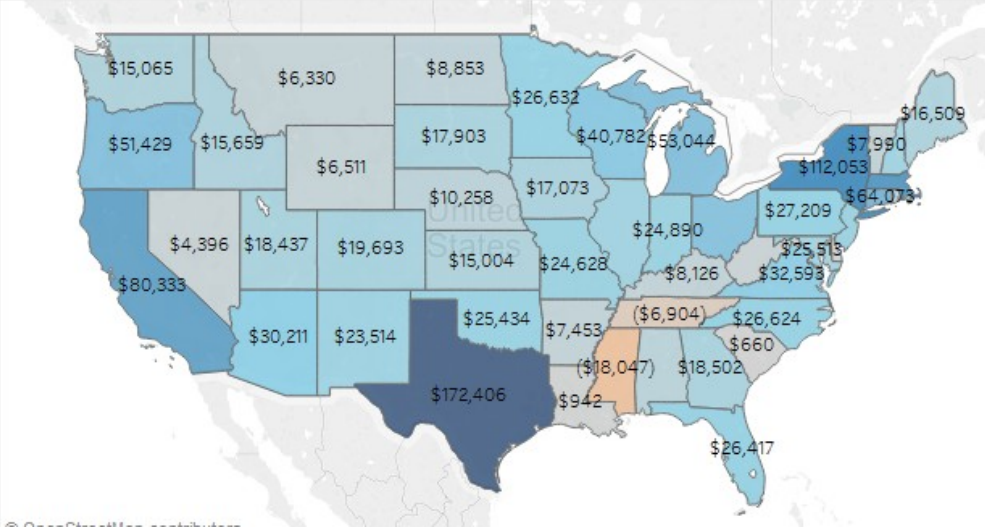
Detail

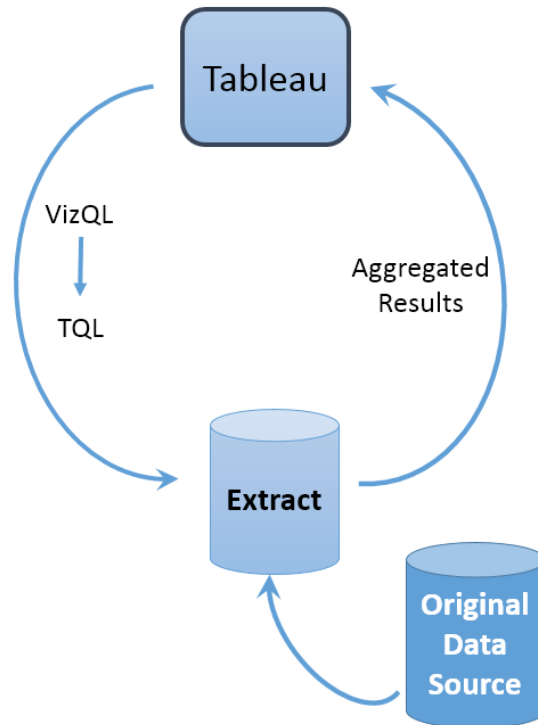
Tooltip

SUM(Profit)

SUM(Profit)

State

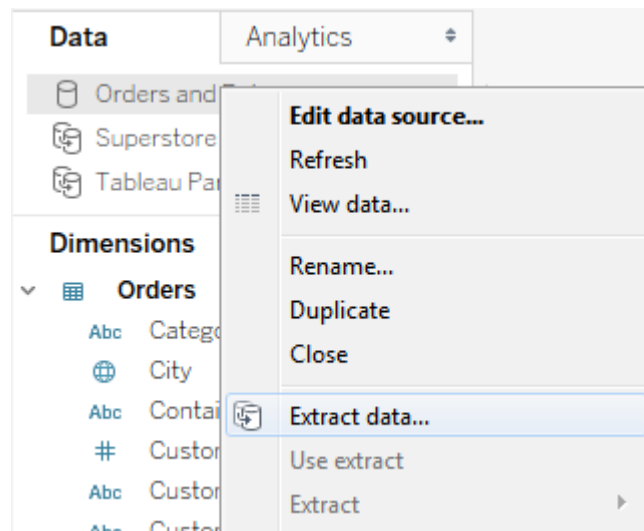


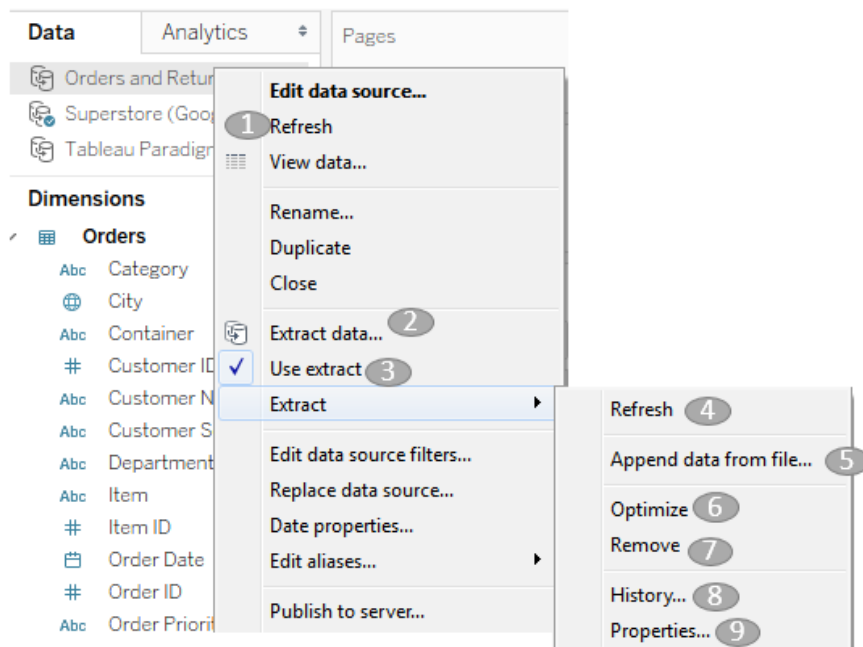
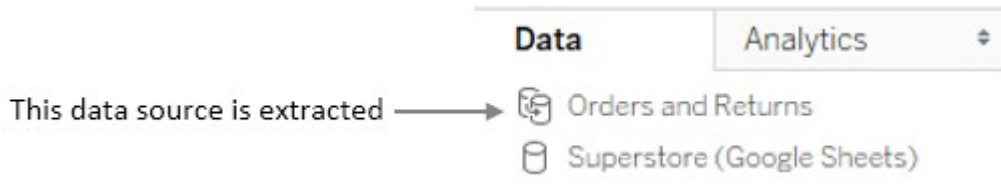
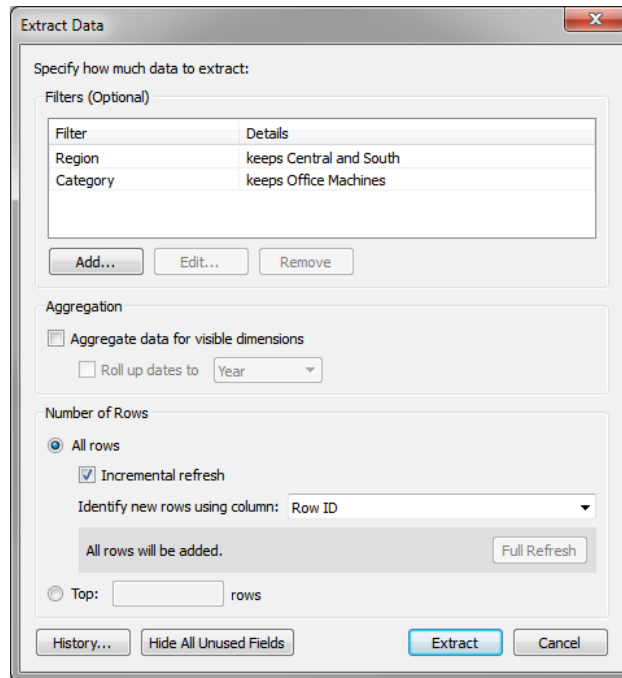


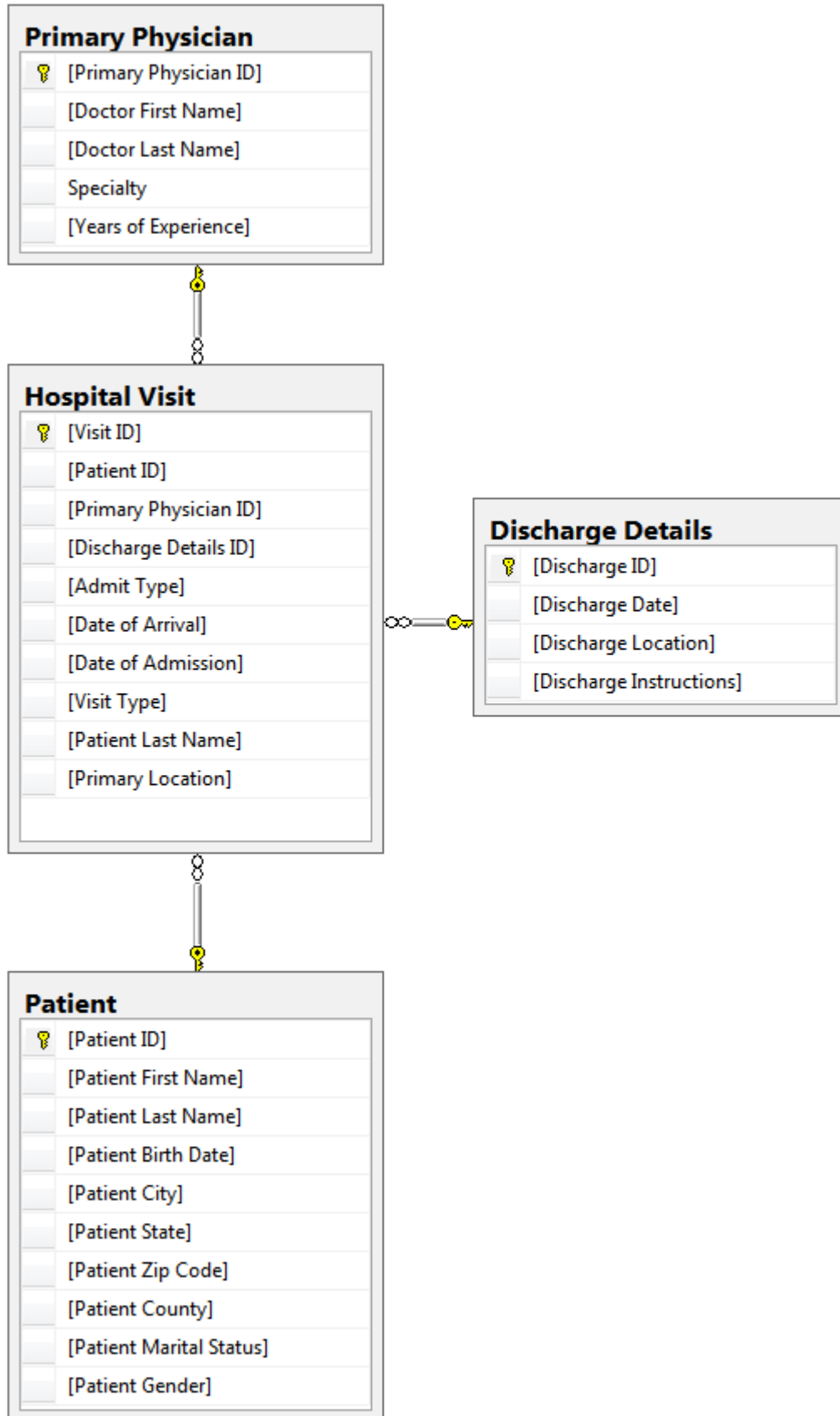
Connection

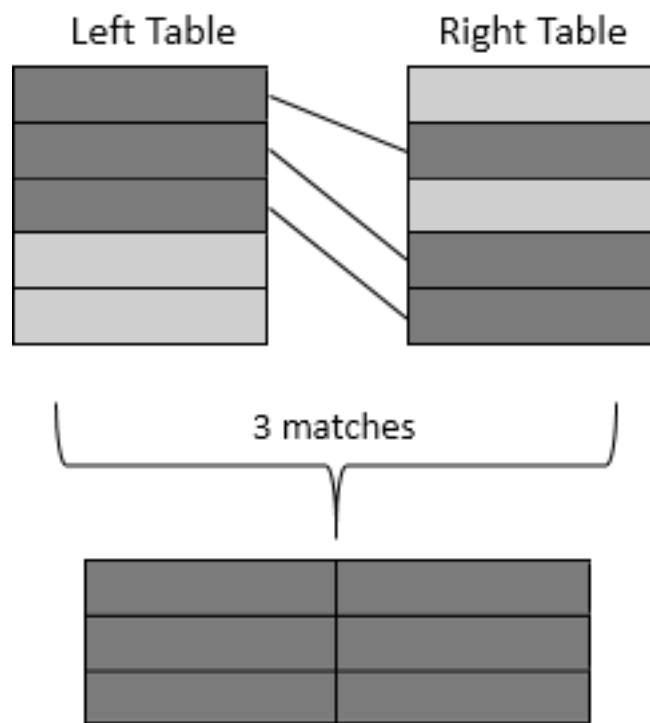
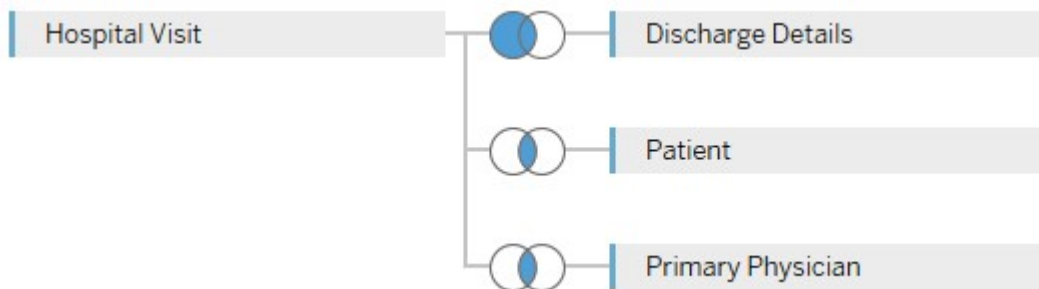
☐ Live ☒ Extract | [Edit...](#)

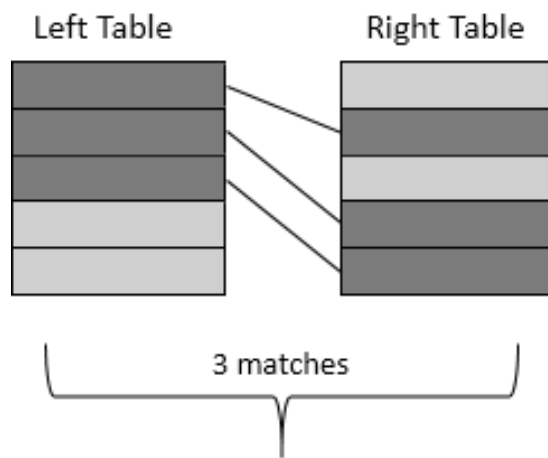
Extract will include all data.



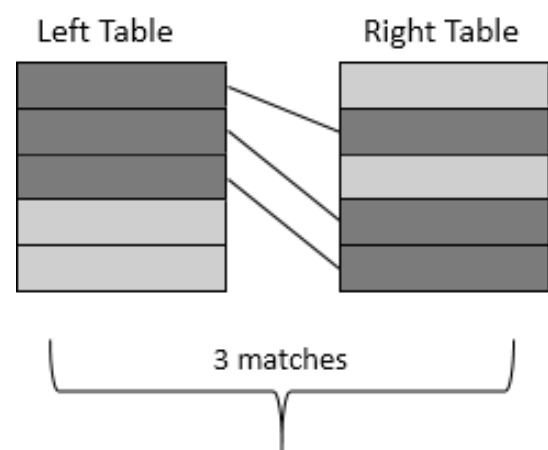








Dark Gray	Dark Gray
Dark Gray	Dark Gray
Dark Gray	Dark Gray
Light Gray	White
Light Gray	White



White	Light Gray
Dark Gray	Dark Gray
White	Light Gray
Dark Gray	Dark Gray
Dark Gray	Dark Gray

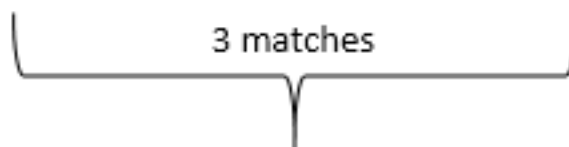


Left Table

Dark Gray
Dark Gray
Dark Gray
Light Gray
Light Gray

Right Table

Light Gray
Dark Gray
Light Gray
Dark Gray
Dark Gray



Dark Gray	Dark Gray
Dark Gray	Dark Gray
Dark Gray	Dark Gray
Light Gray	White
Light Gray	White
White	Light Gray
White	Light Gray

Connections [Add](#)

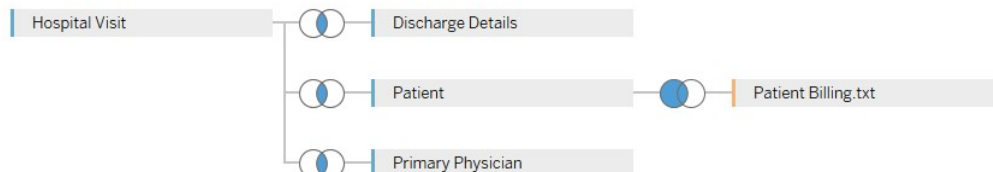
.\TDS
Microsoft SQL Server

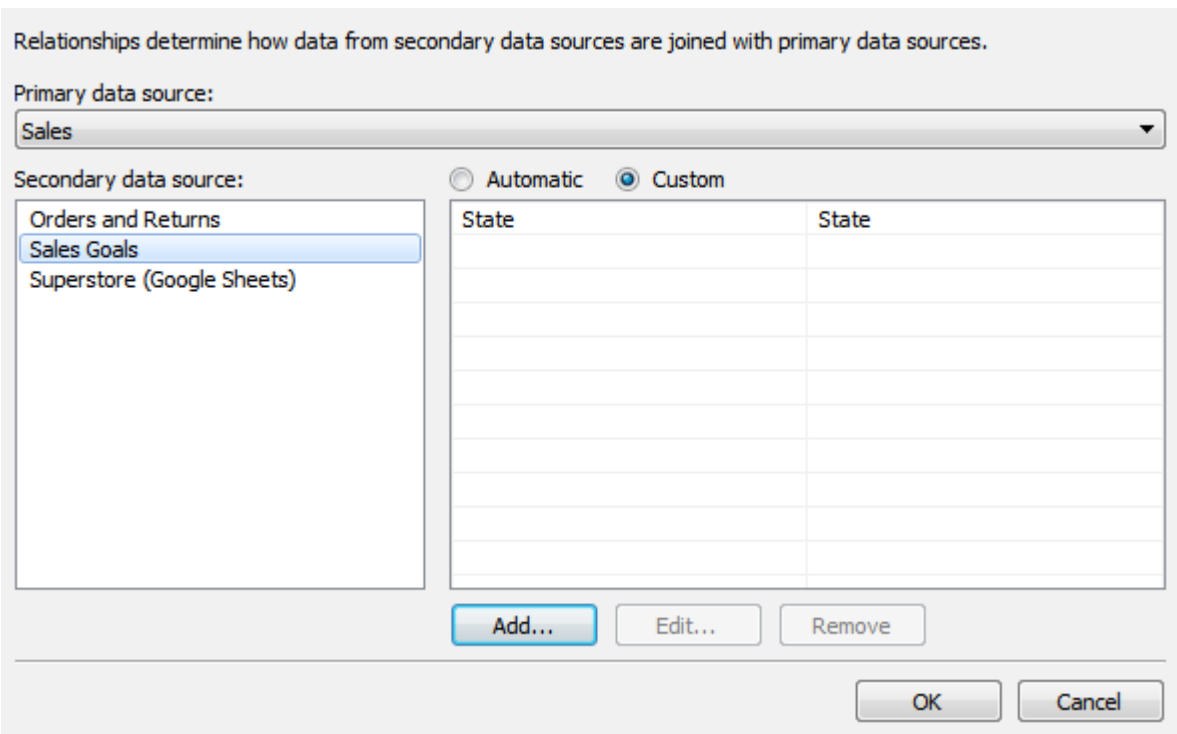
Patient Billing
Text File

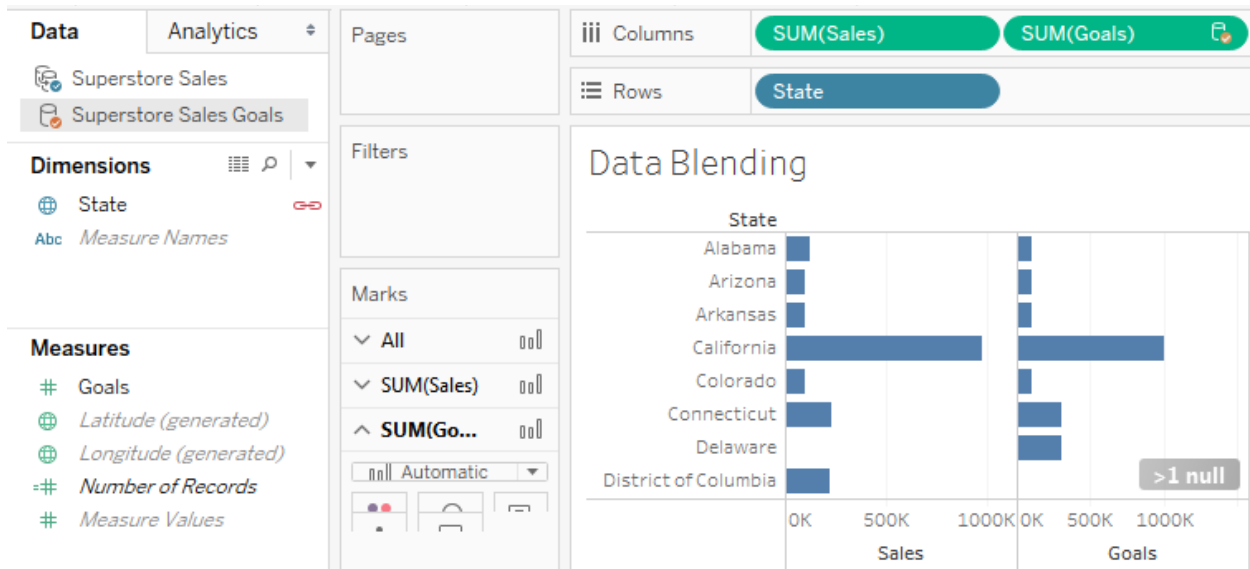
Files [New Union](#)

Patient Billing.txt

New Union







✓ Keep Only ✗ Exclude

Filter [Department]

General | Wildcard | Condition | Top

☒ Select from list ☐ Custom value list ☐ Use all

Enter Text to Search

- ☒ Furniture
- ☐ Office Supplies
- ☒ Technology

All None ☐ Exclude

Summary

Field: [Department]
Selection: Selected 2 of 3 values
Wildcard: All
Condition: None
Limit: None

Reset OK Cancel Apply

Filter Field [Sales]

How do you want to filter on [Sales]?

- # All values
- # Sum
- # Average
- # Median
- # Count
- # Count (Distinct)
- # Minimum
- # Maximum
- # Standard deviation
- # Standard deviation (Population)
- # Variance
- # Variance (Population)

Next > Cancel

Filter [Sales]

Range of values At least At most Special

At least

40,000 4,380,165.2

\$32,249 \$4,380,165

Show: Only relevant values Include null values

Reset OK Cancel Apply

Filter Field [Order Date]

How do you want to filter on [Order Date]?

Relative date

Range of dates

Years

Quarters

Months

Days

Week numbers

Weekdays

Month / Year

Month / Day / Year

Individual dates

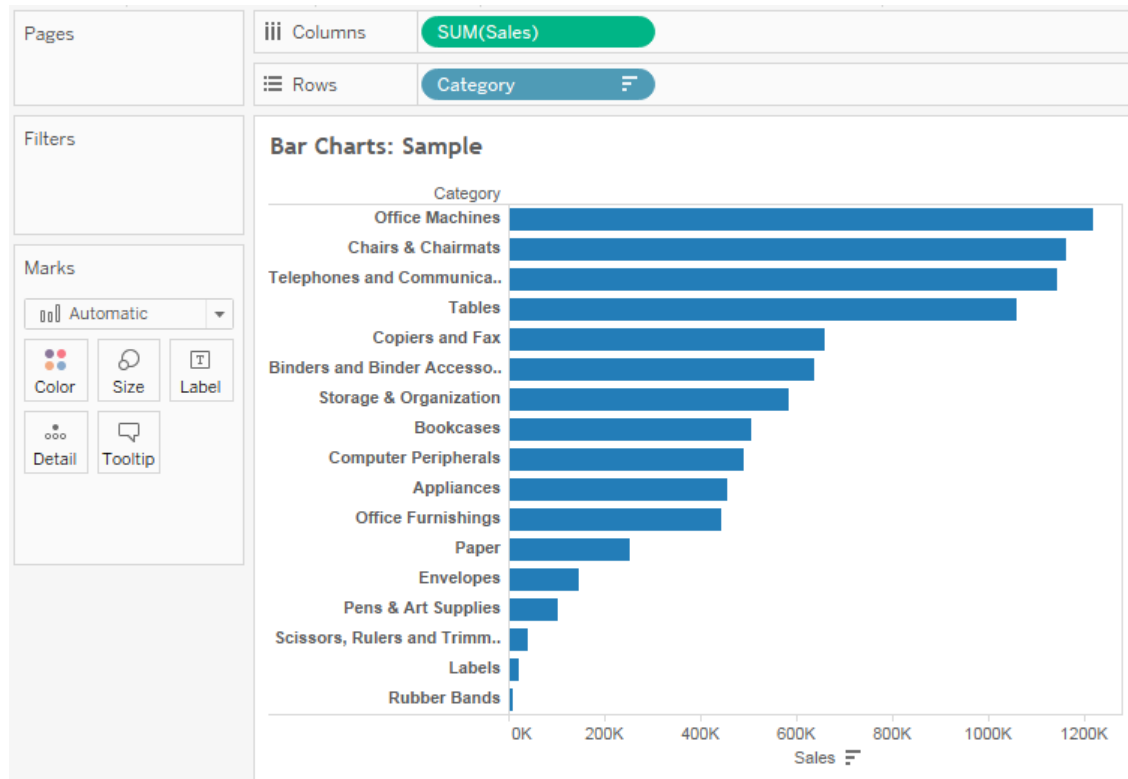
Count

Count (Distinct)

Next >

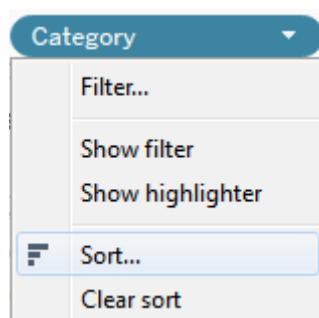
Cancel

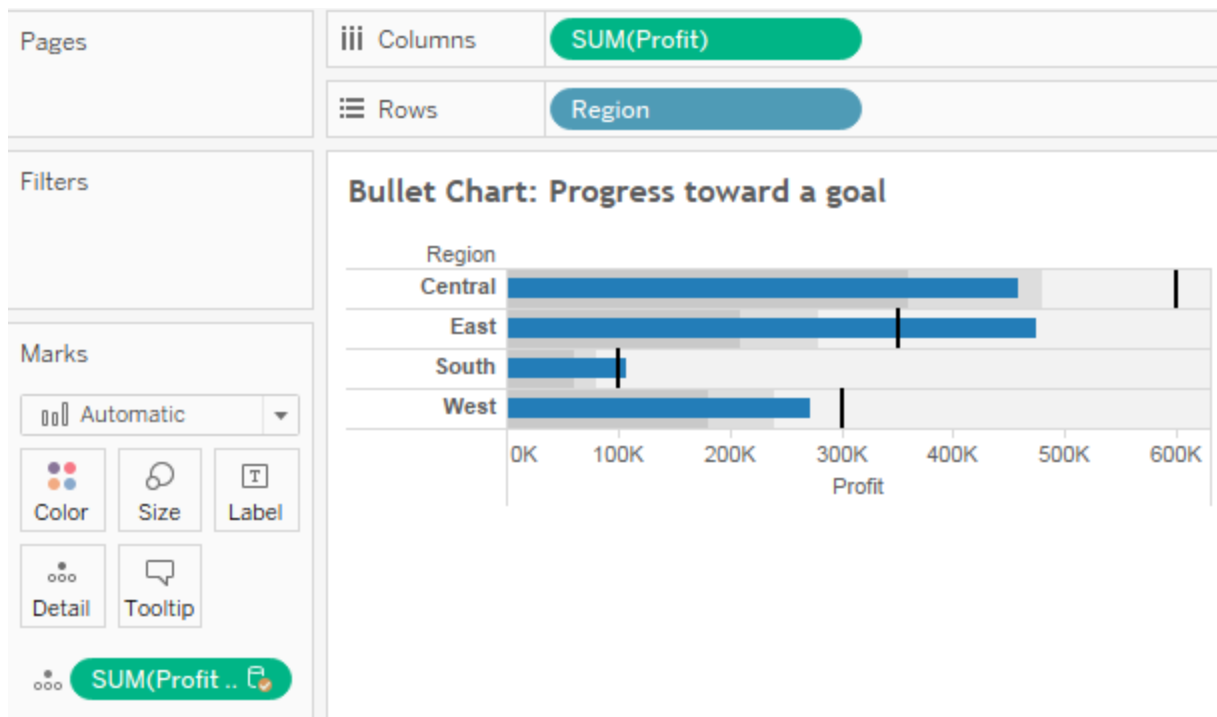
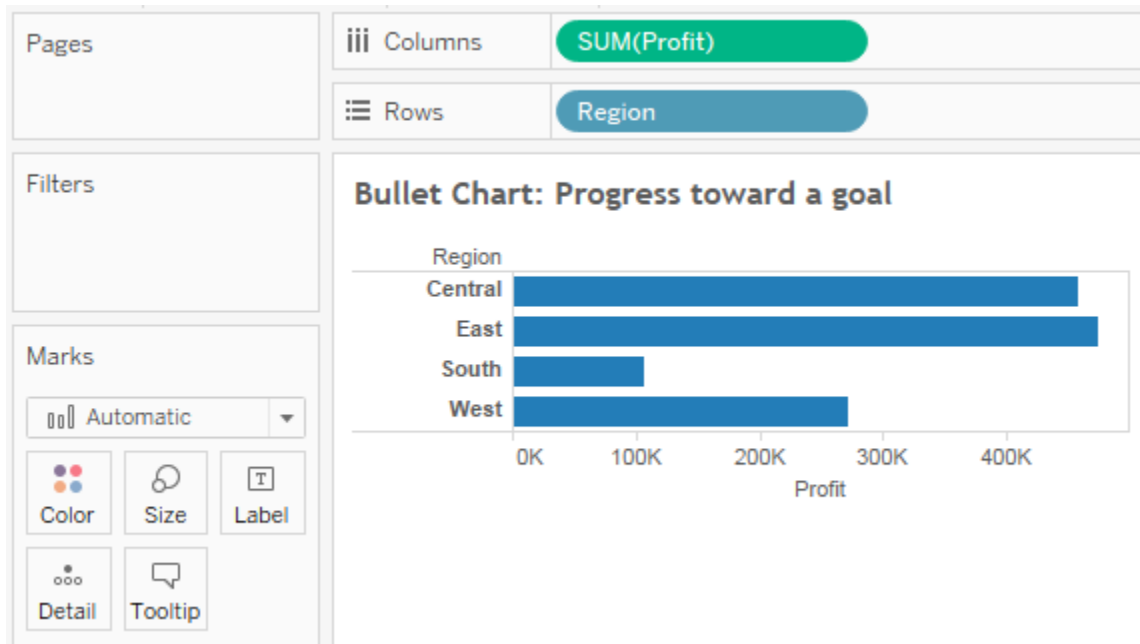
Chapter 3: Moving from Foundational to More Advanced Visualizations

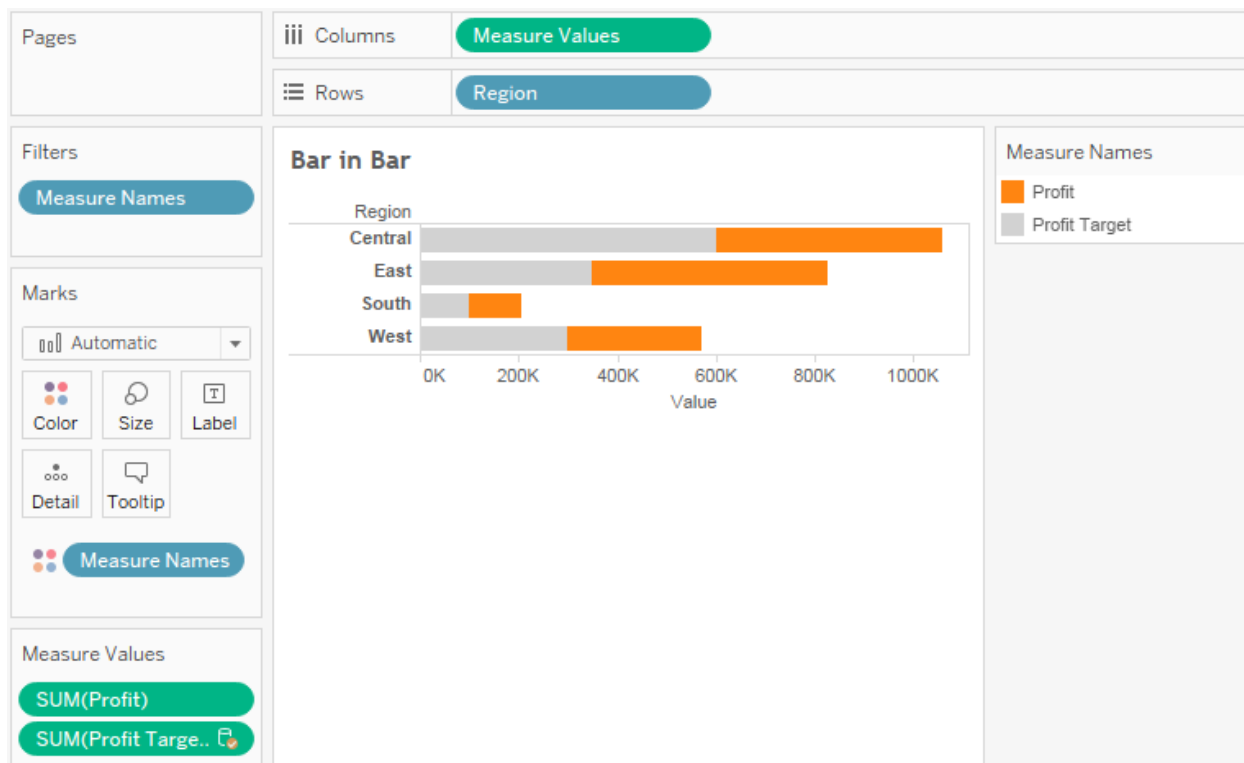
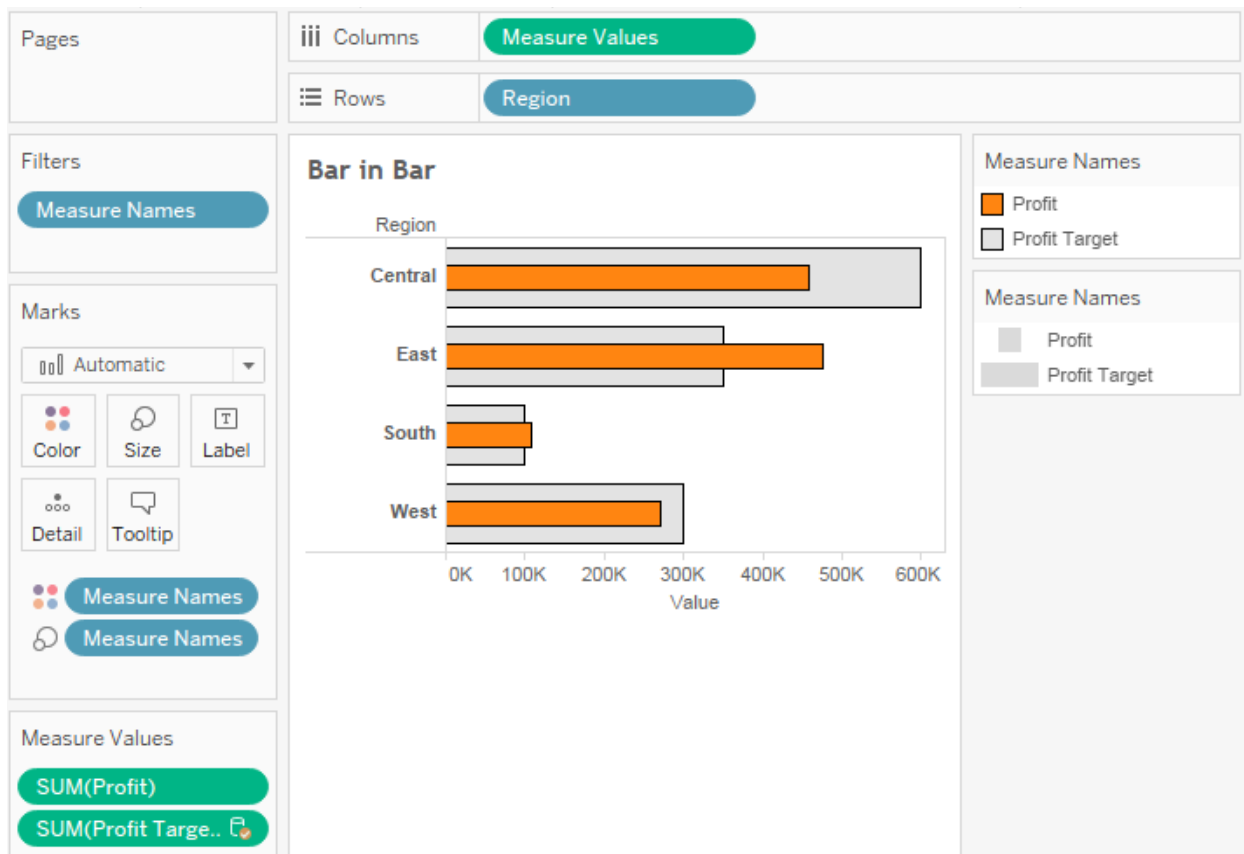


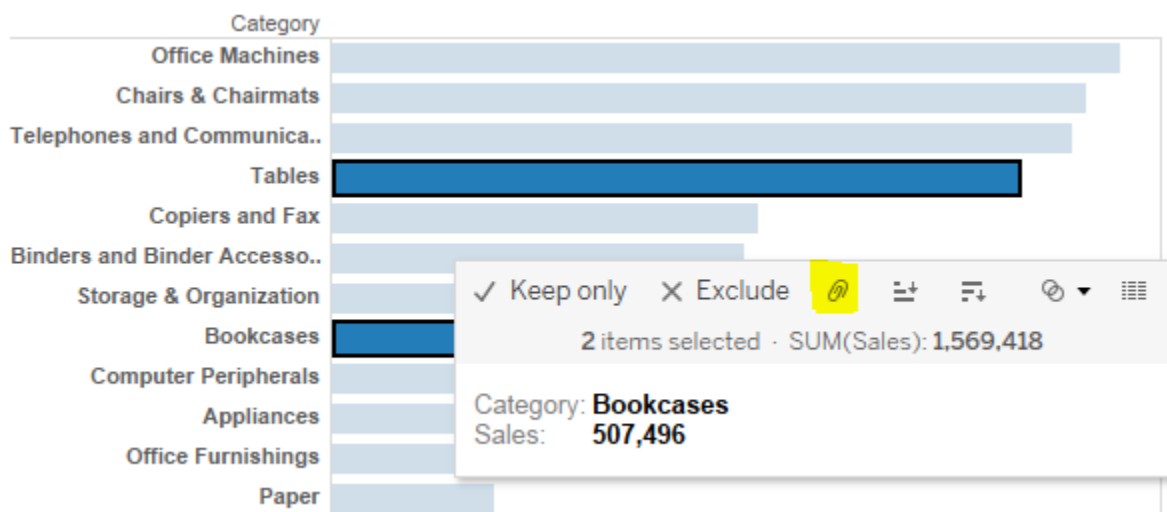
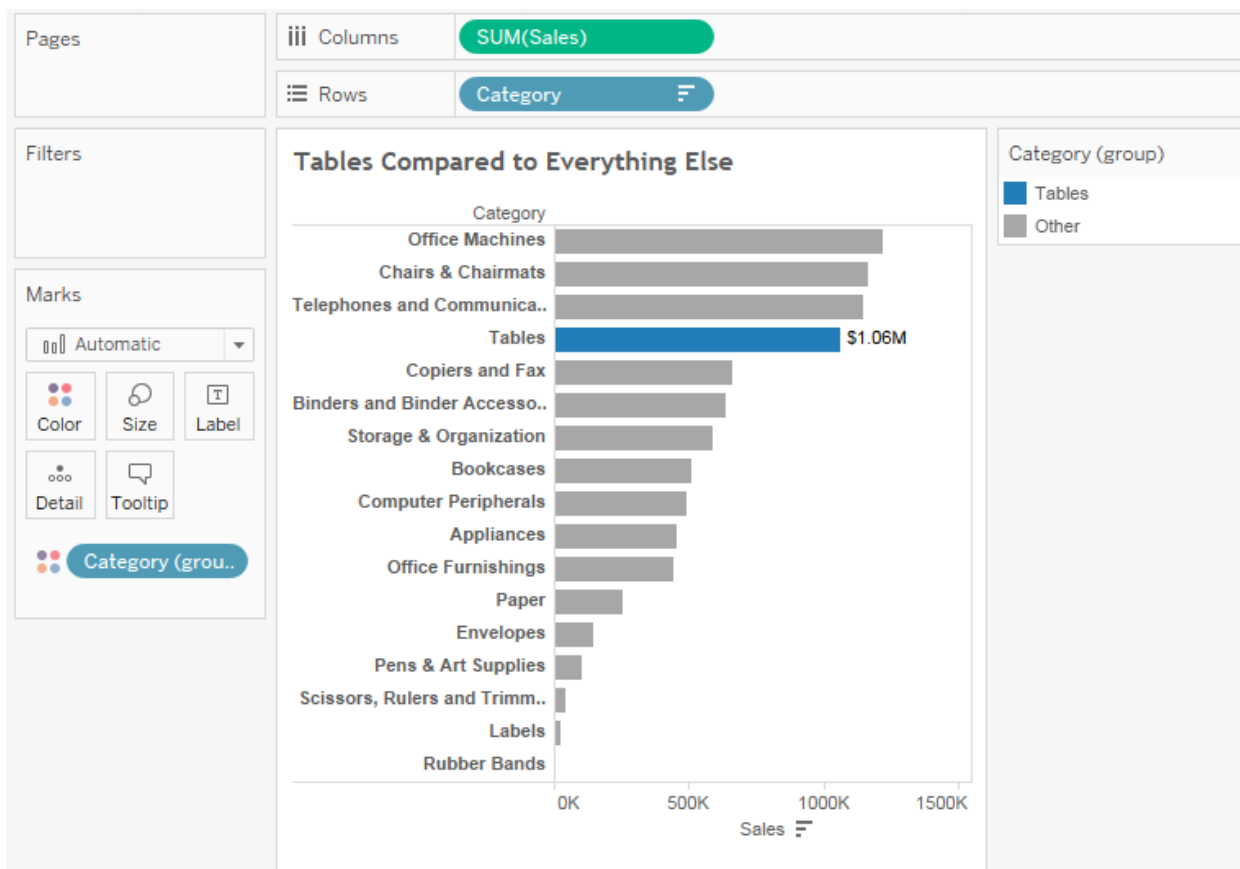
0K 200K 400K 600K 800K 1000K 1200K

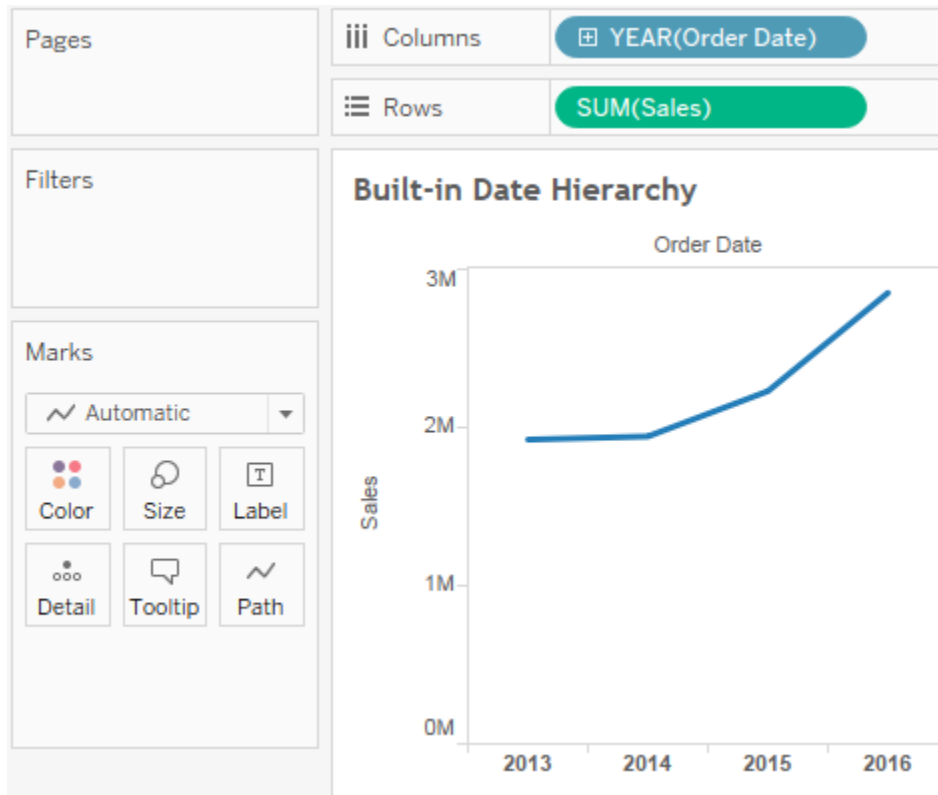
Sales



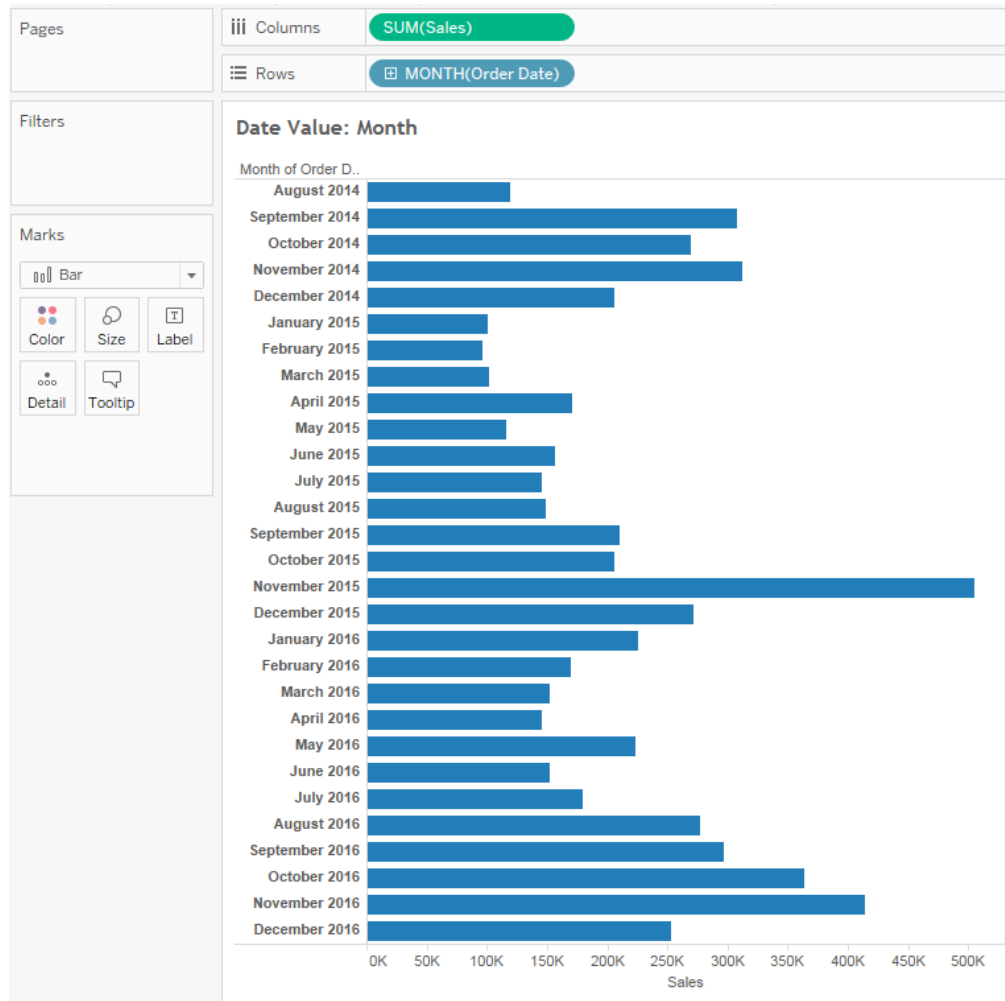
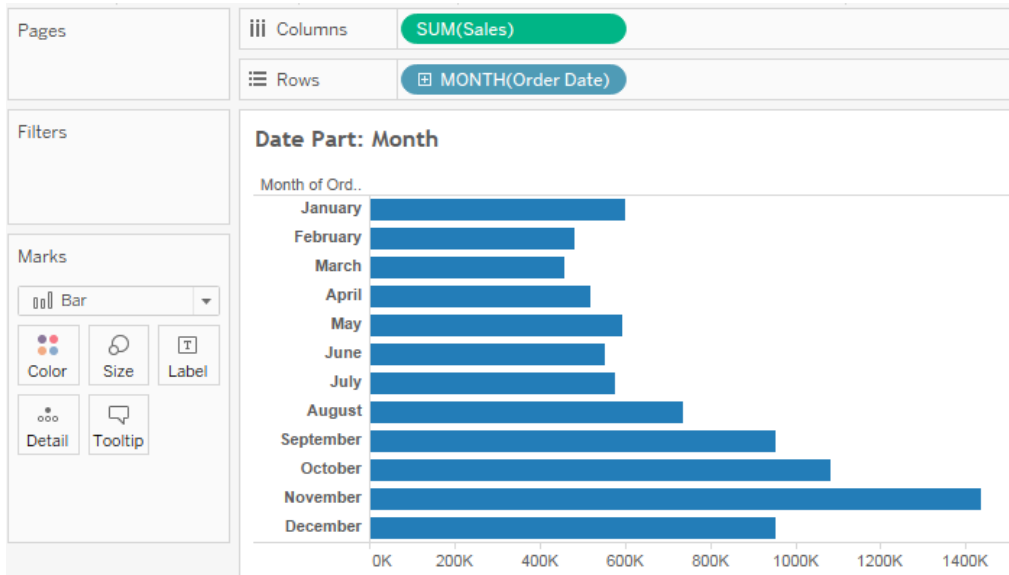


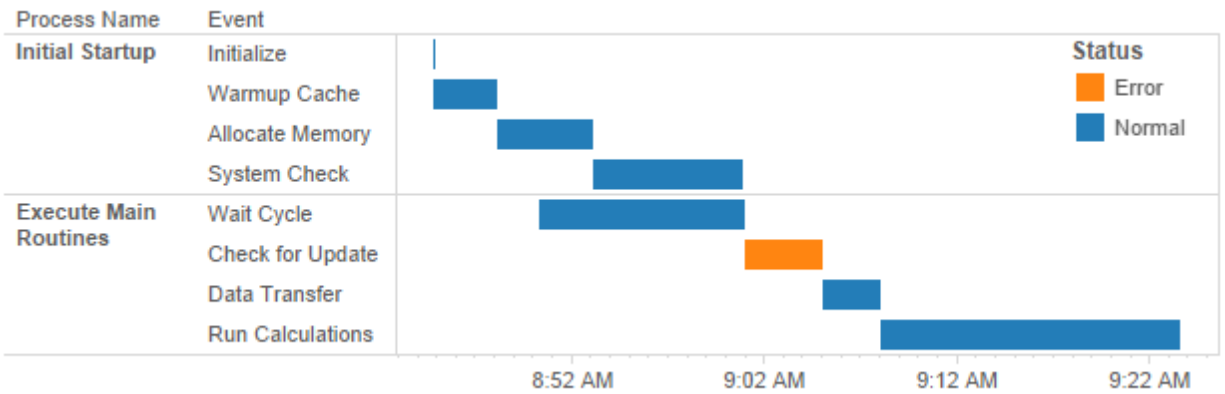






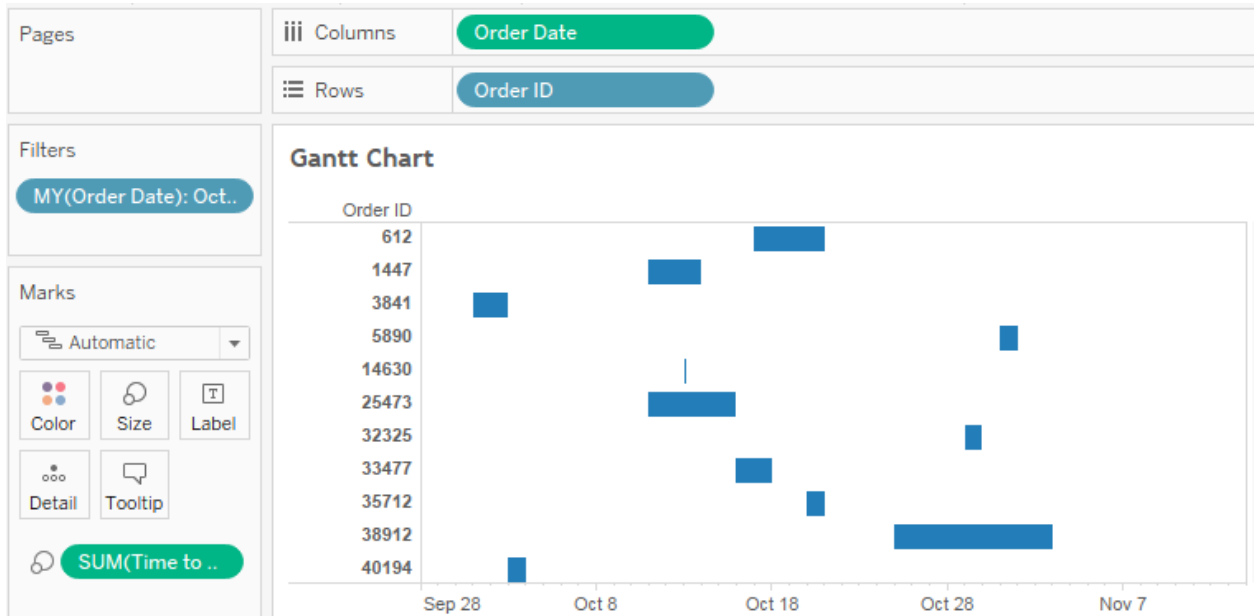
Show Missing Values		
Year	2011	Date Part
Quarter	Q2	
Month	May	
Day	8	
More	►	
Year	2011	Date Value (Truncated)
Quarter	Q2 2011	
Month	May 2011	
Week Number	Week 5, 2011	
Day	May 8, 2011	
More	►	
Exact Date		Exact Value of Field
Attribute		
Measure	►	
Discrete		Switch between Discrete and Continuous
Continuous		

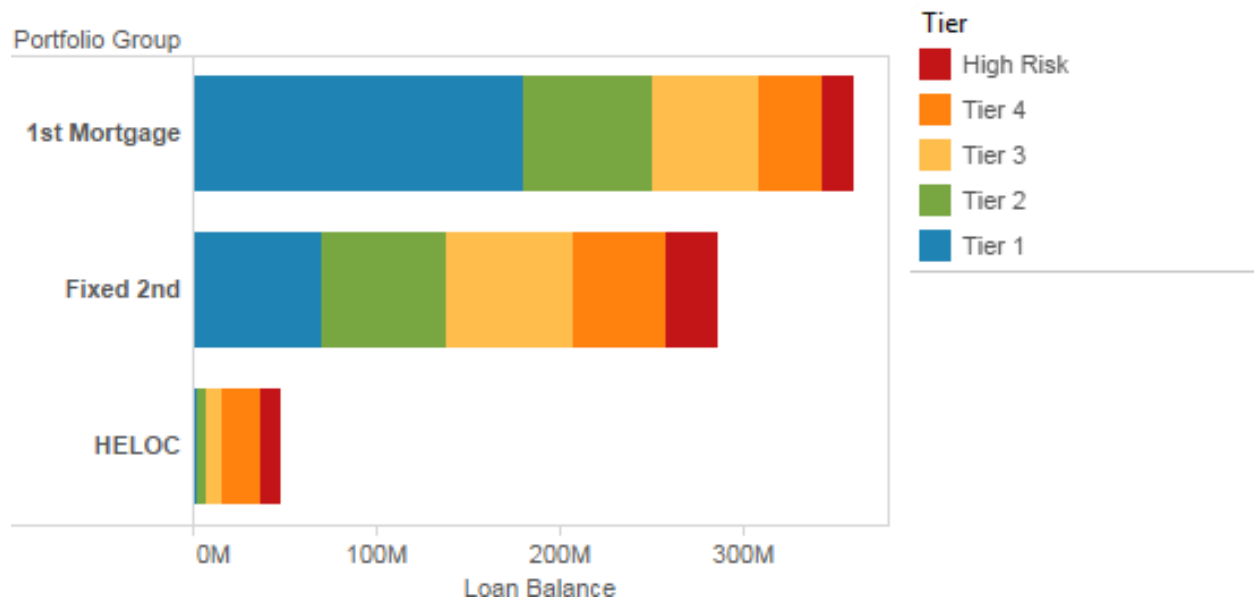
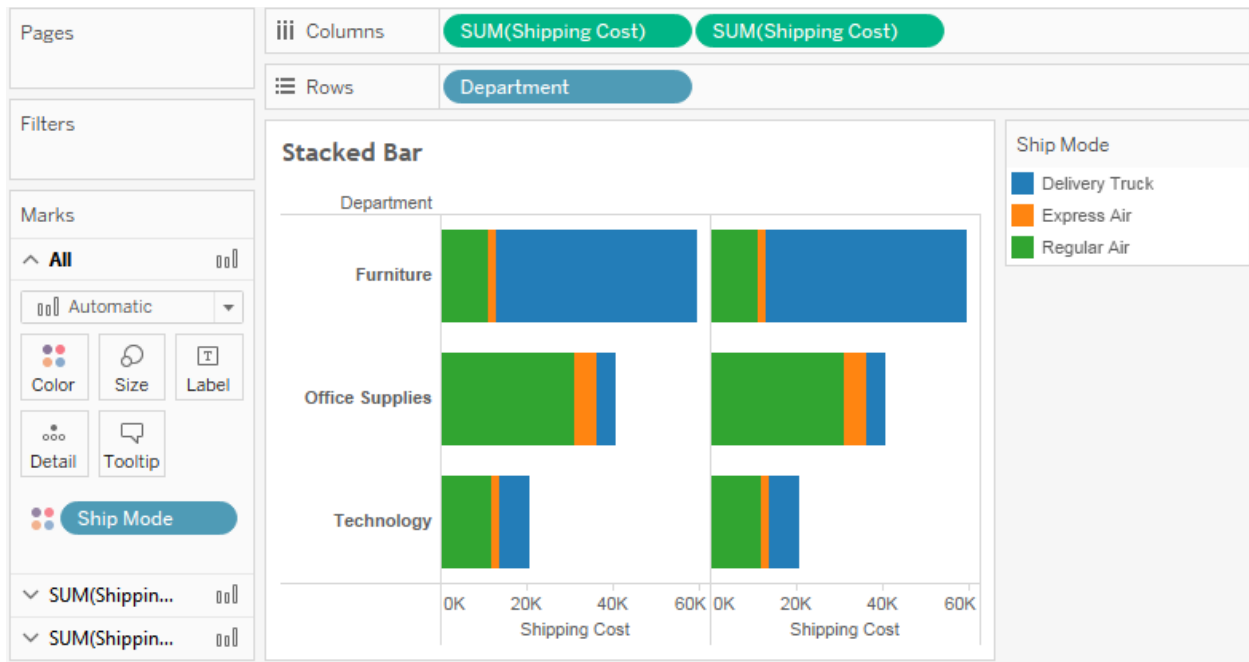


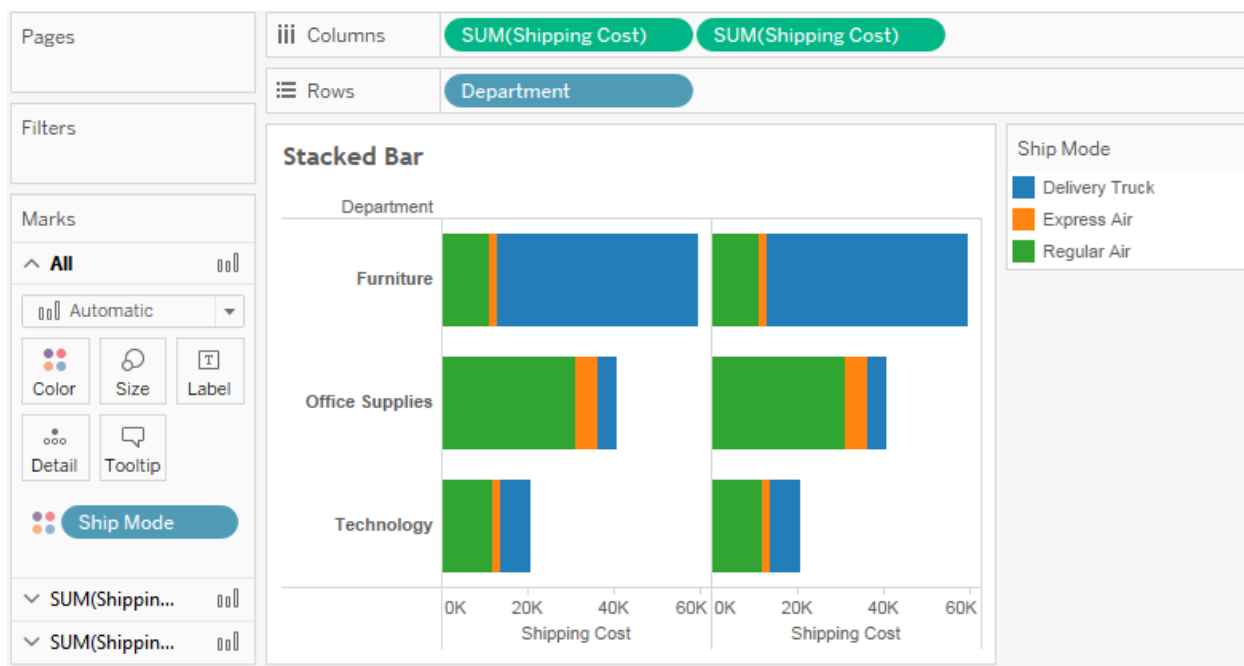
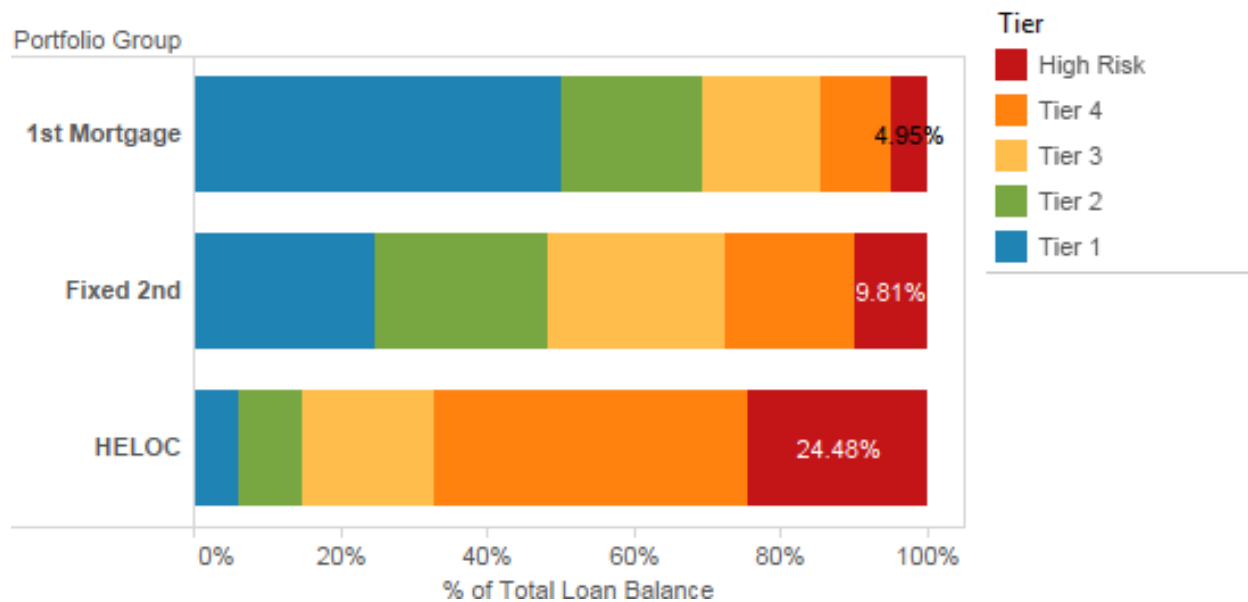


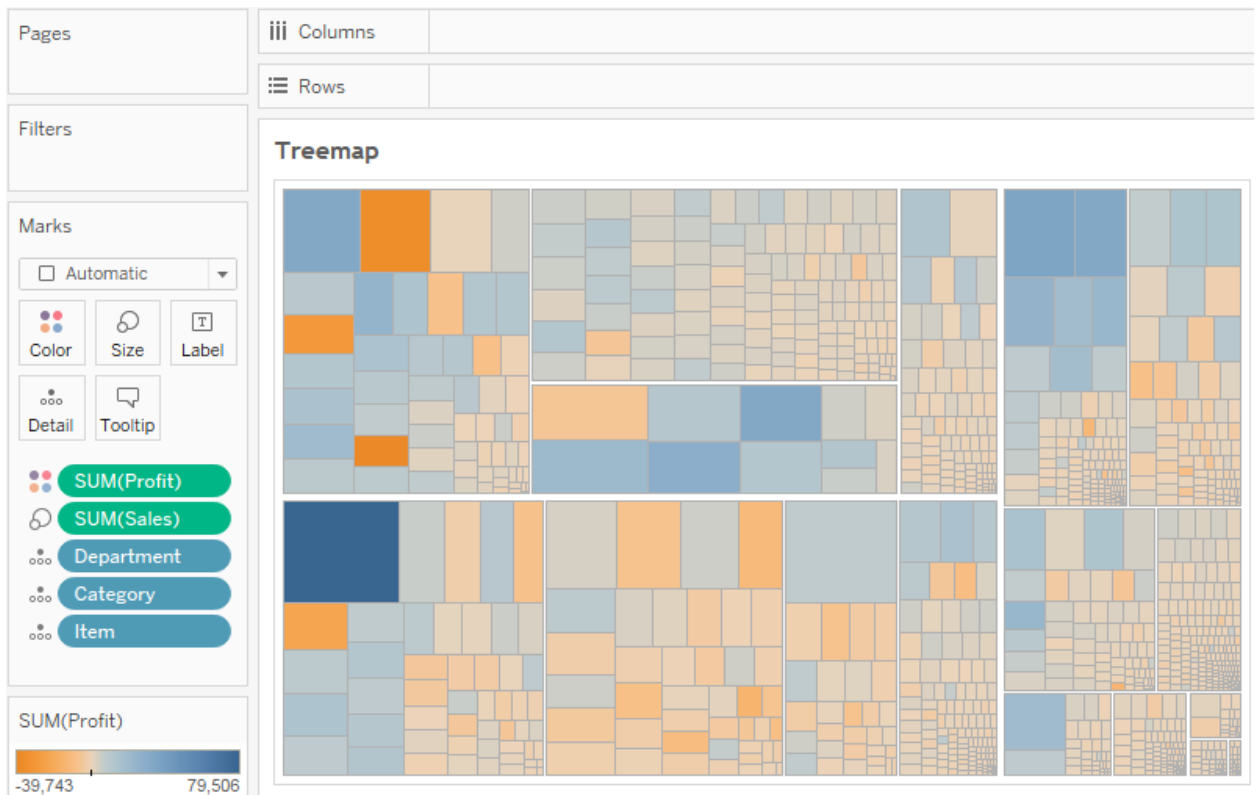
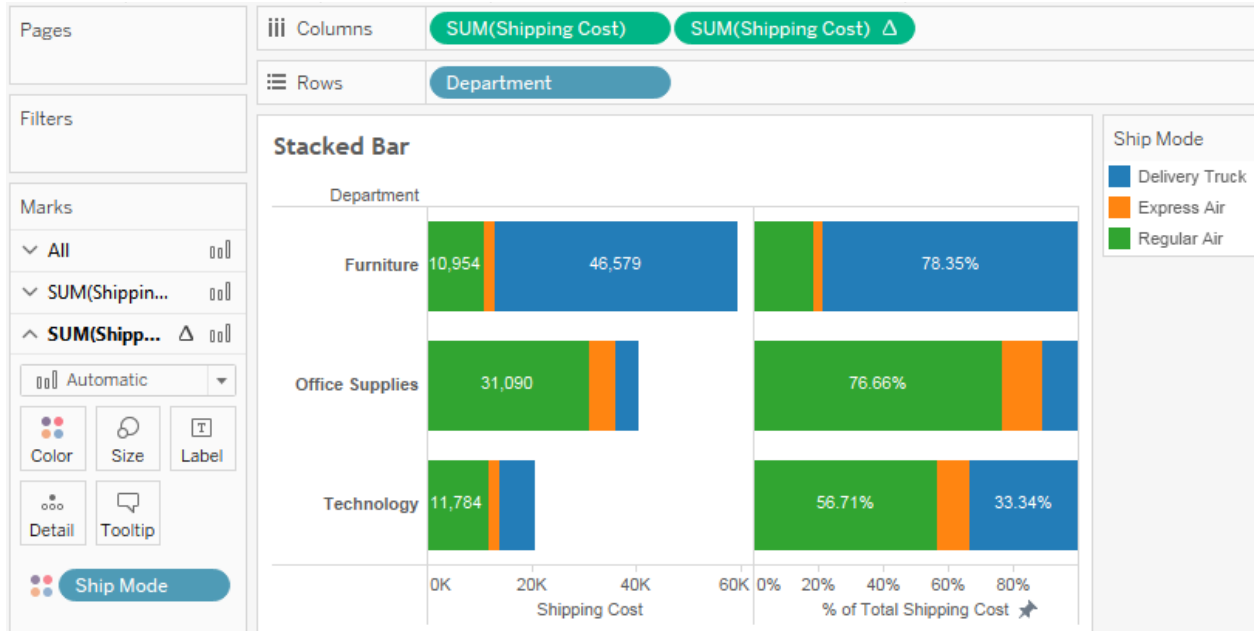
Marks

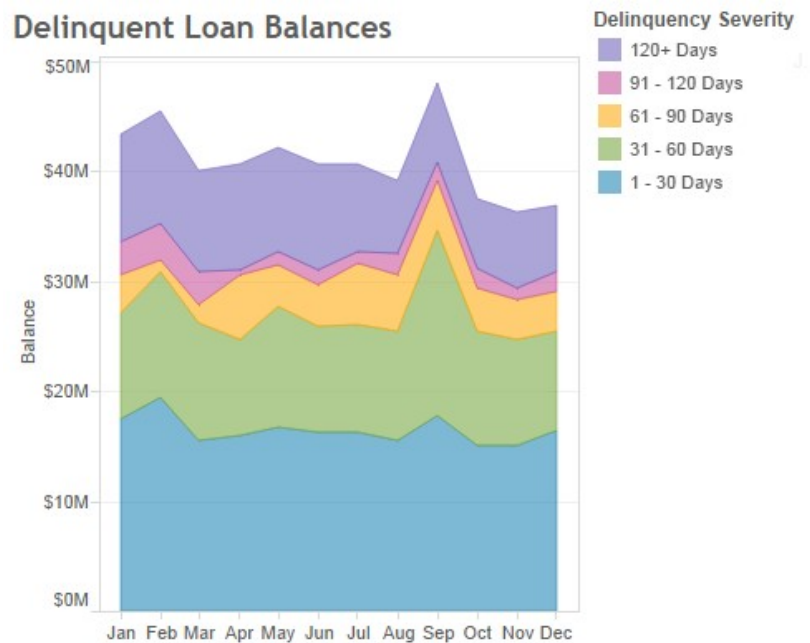
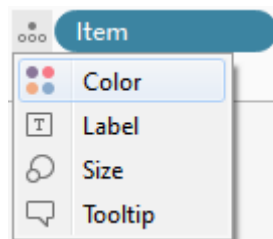
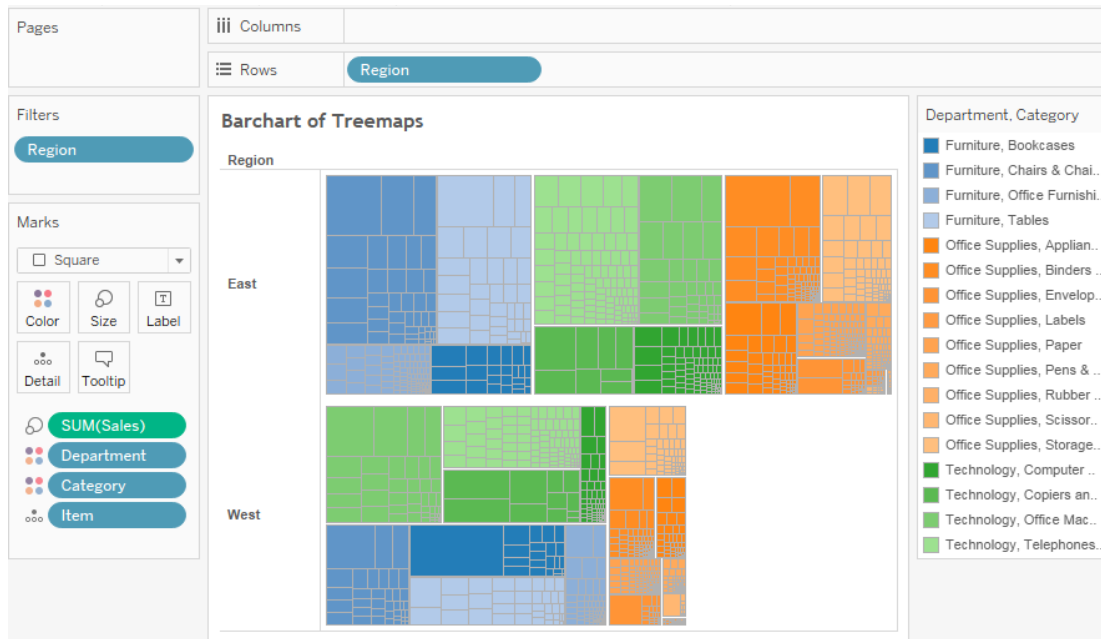
Automatic



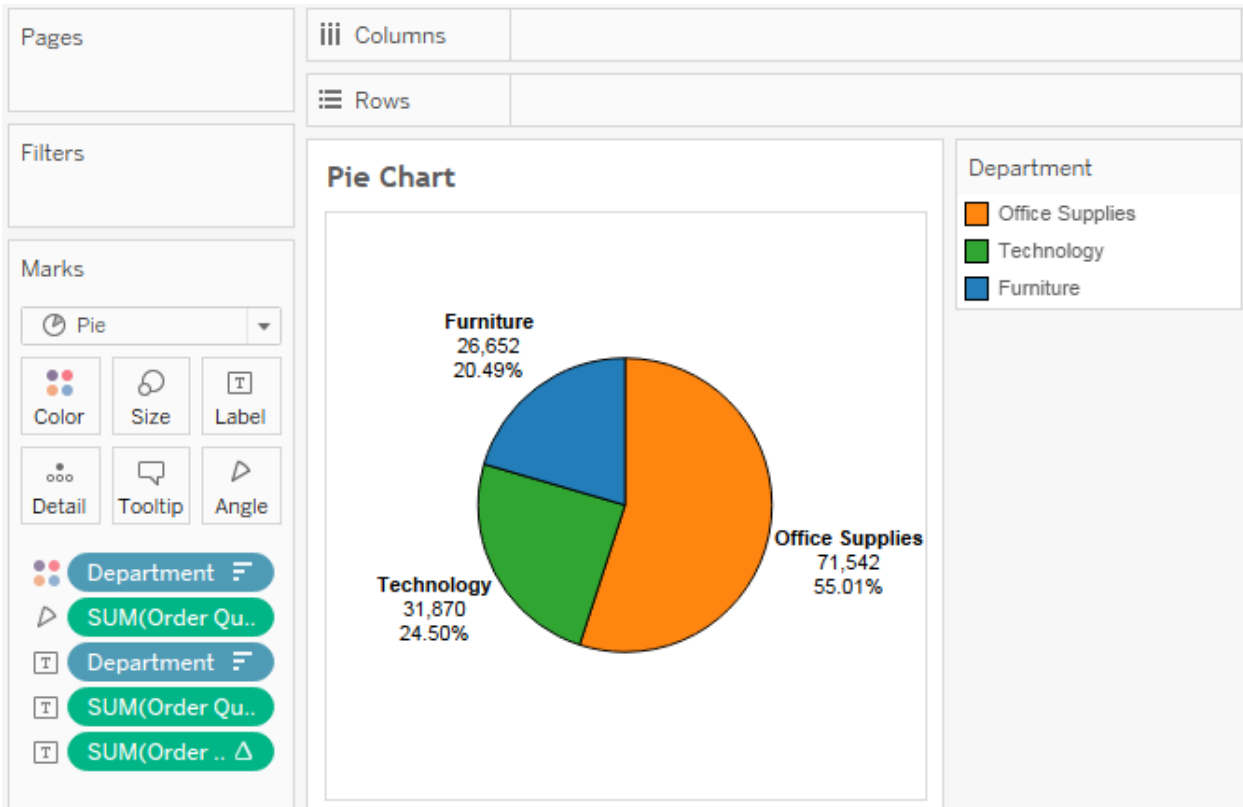
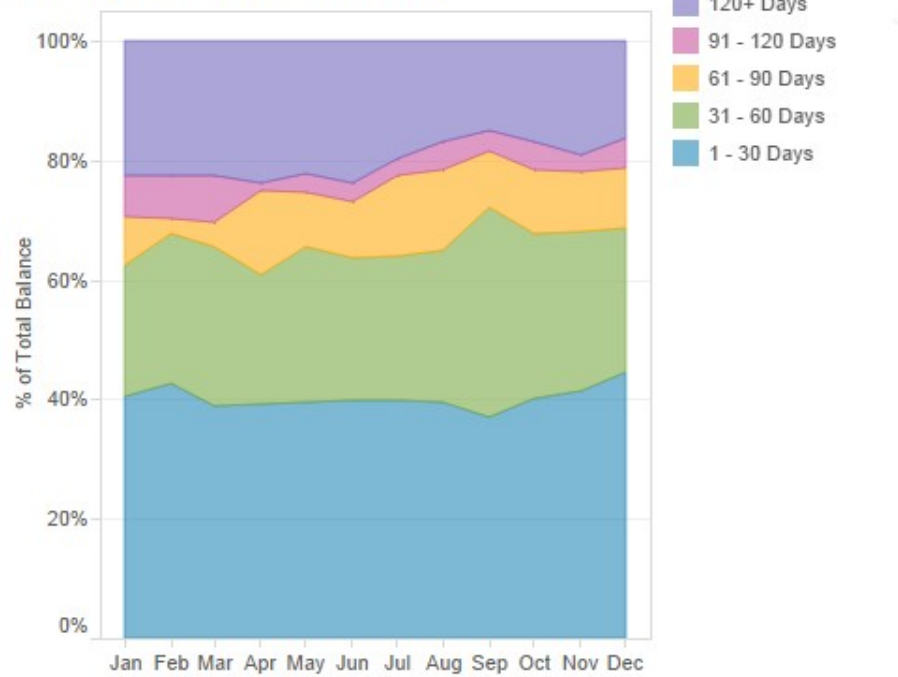


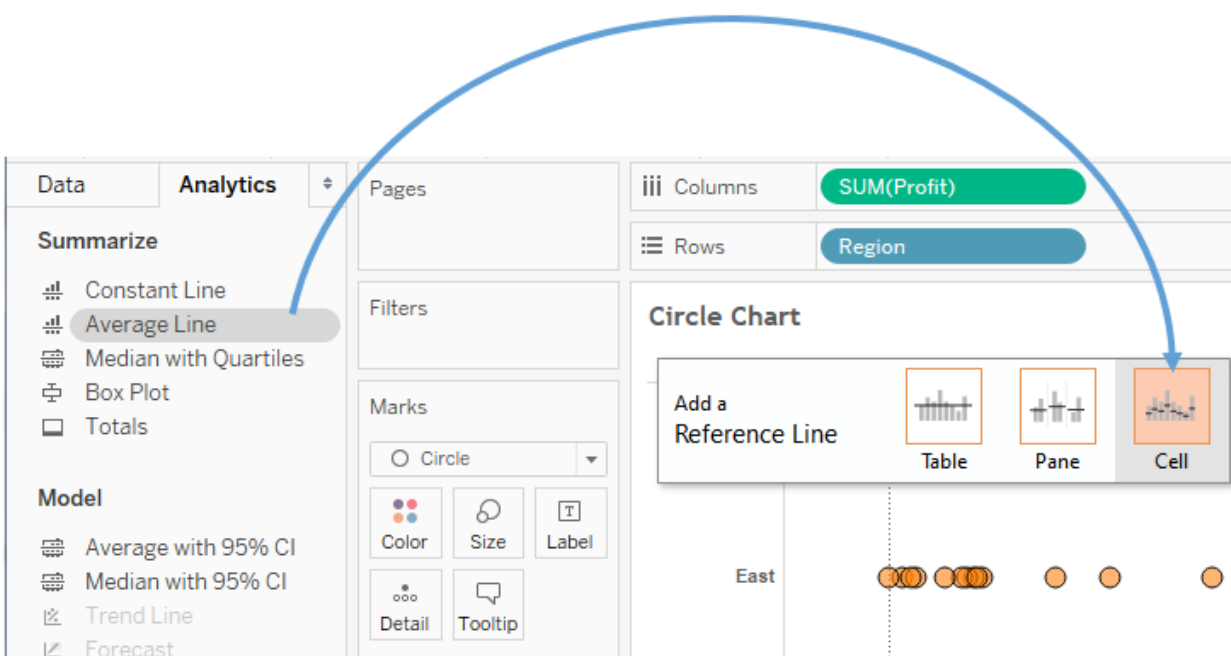
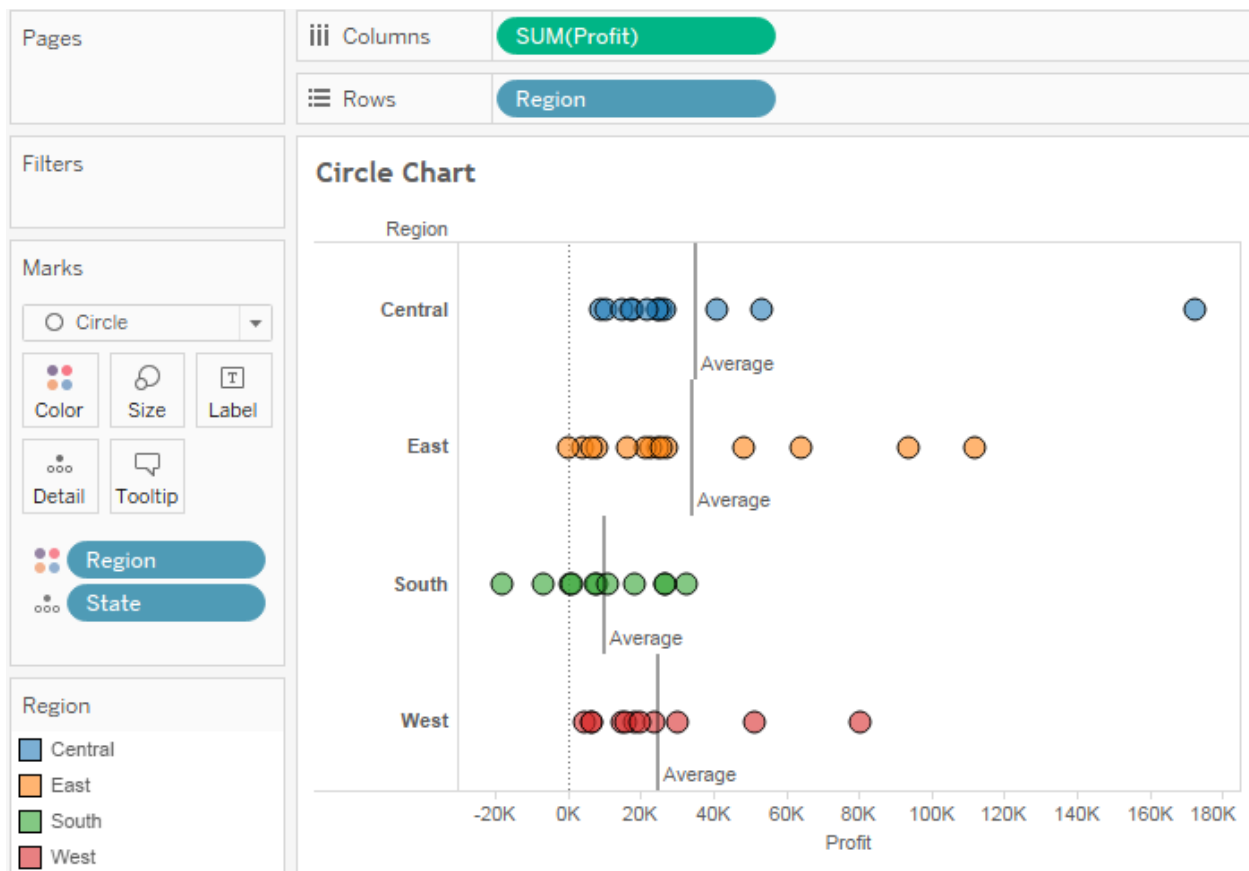


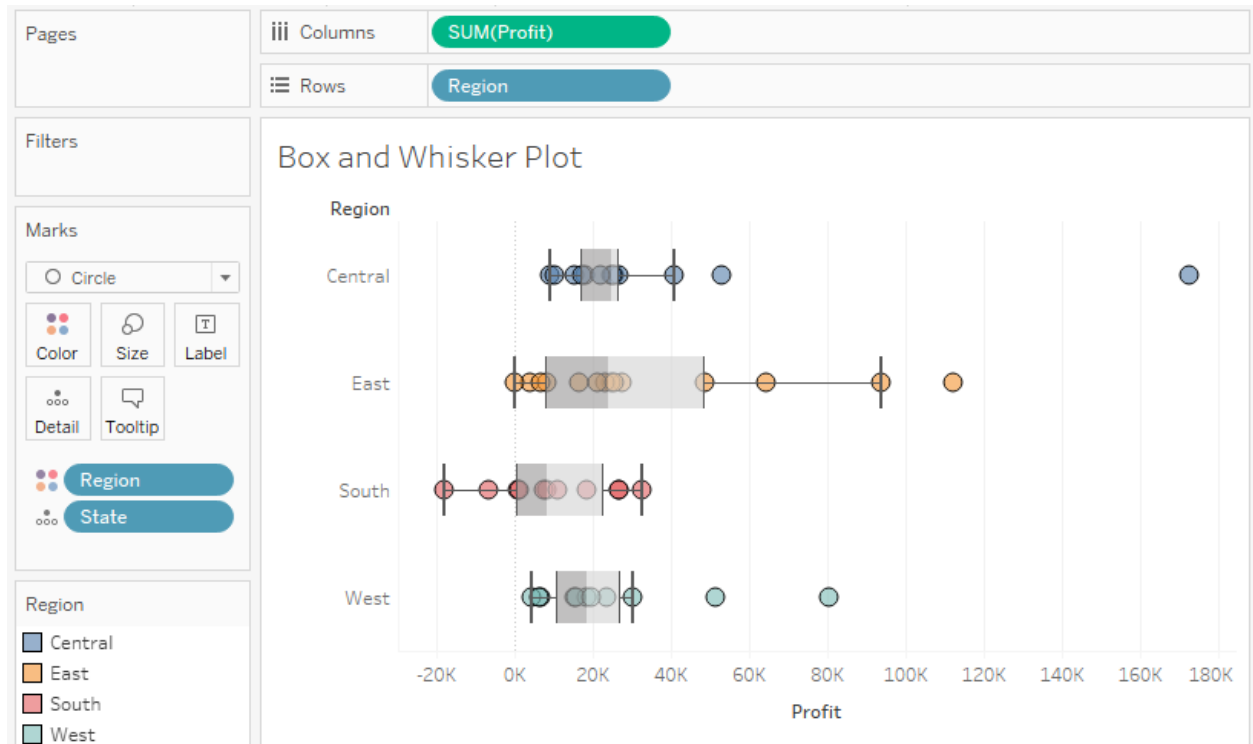
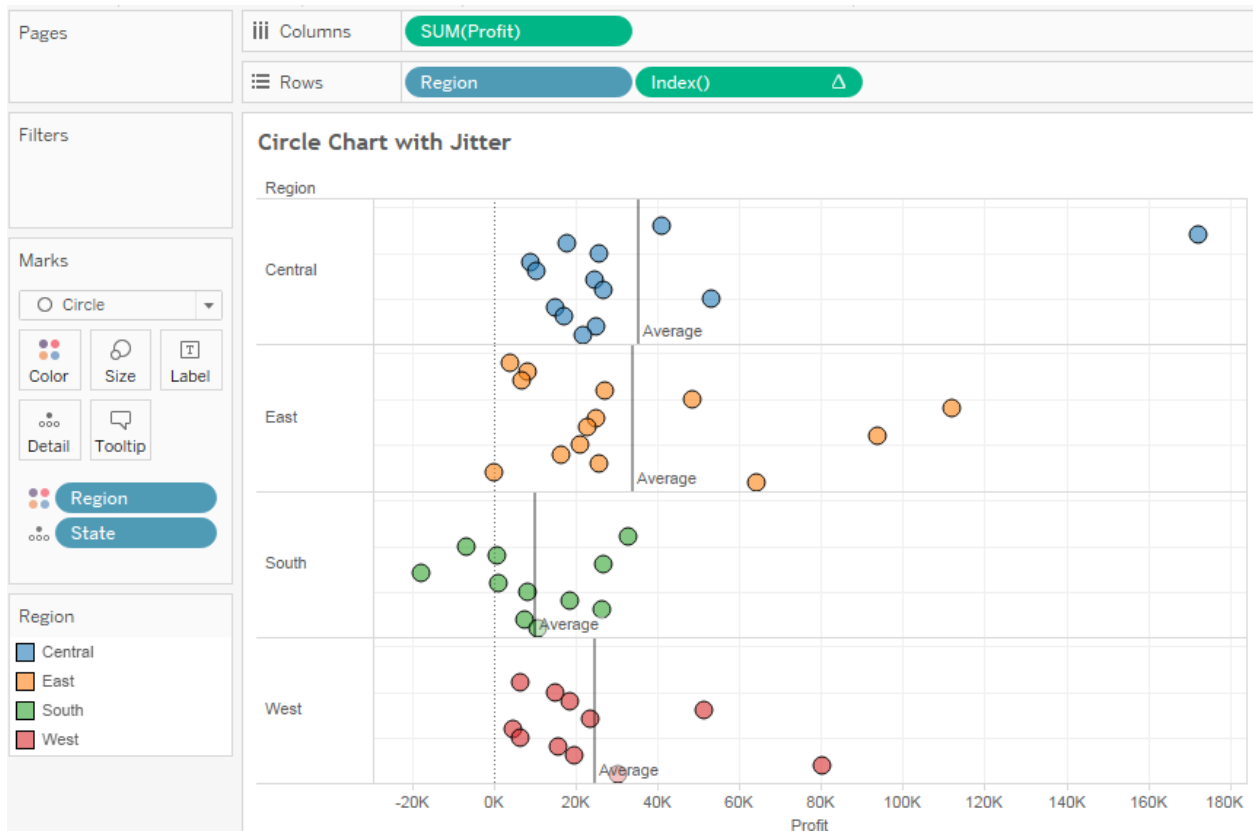


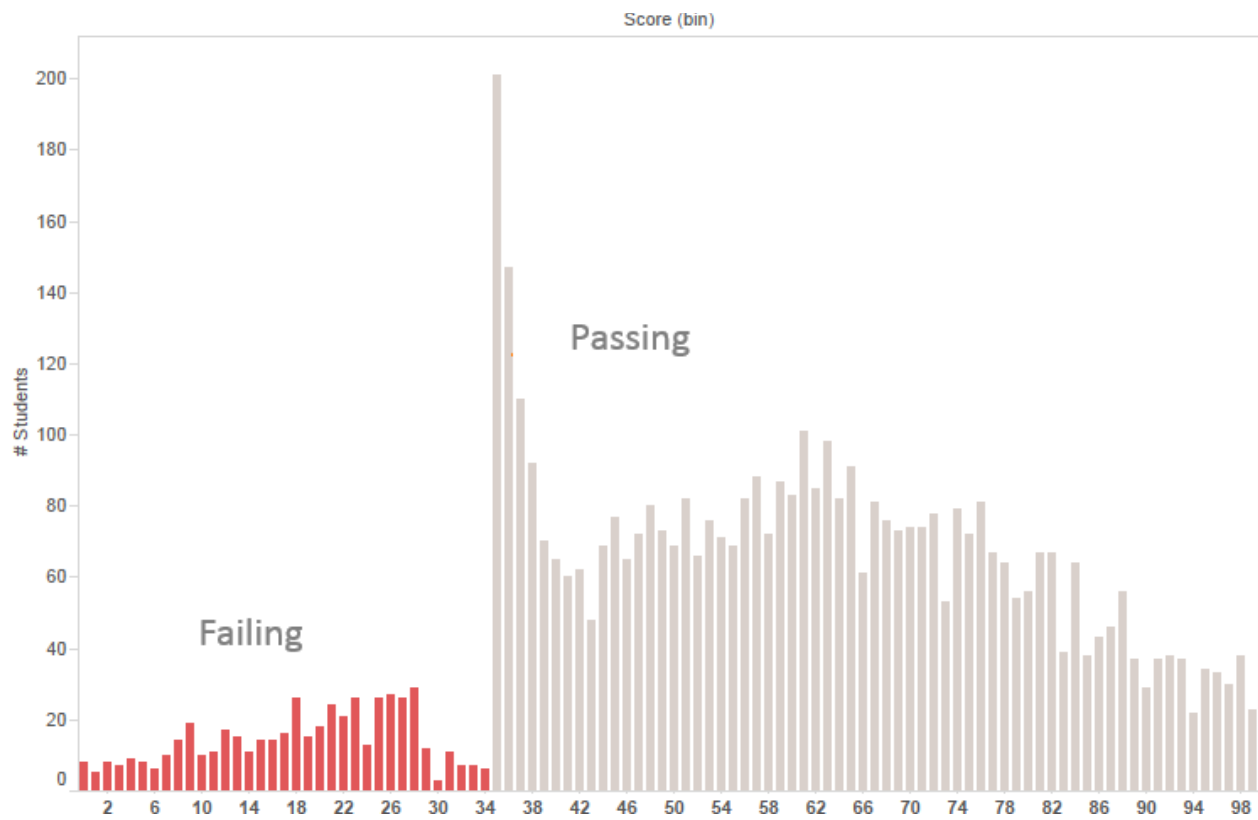


Delinquent Loan Balances









Create Bins [Time to Ship]

New field name: Time to Ship (bin)

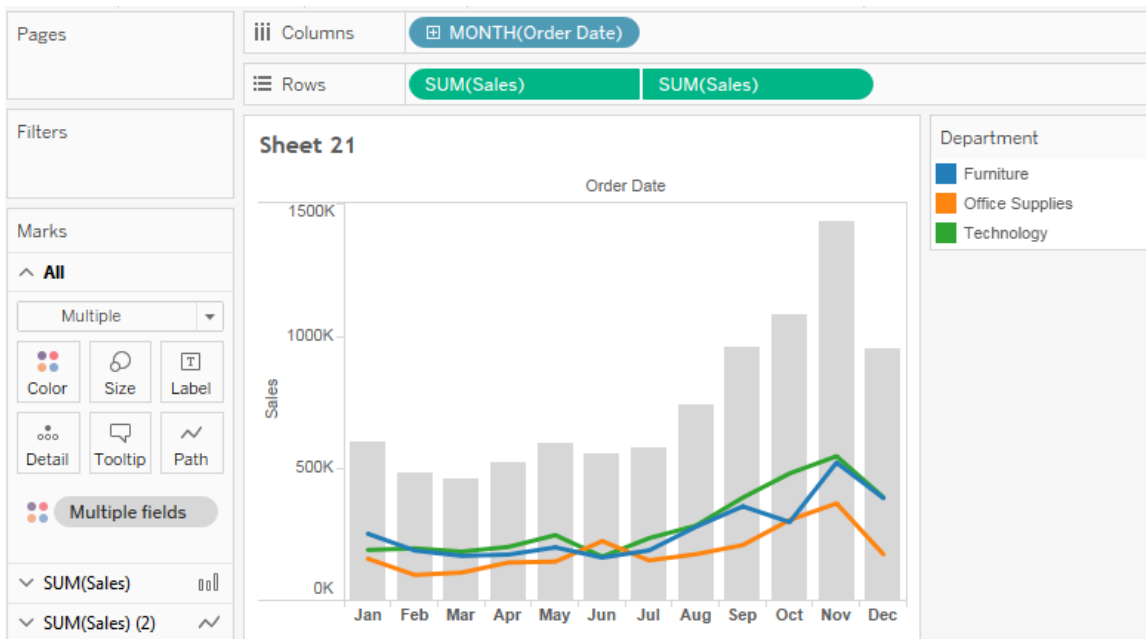
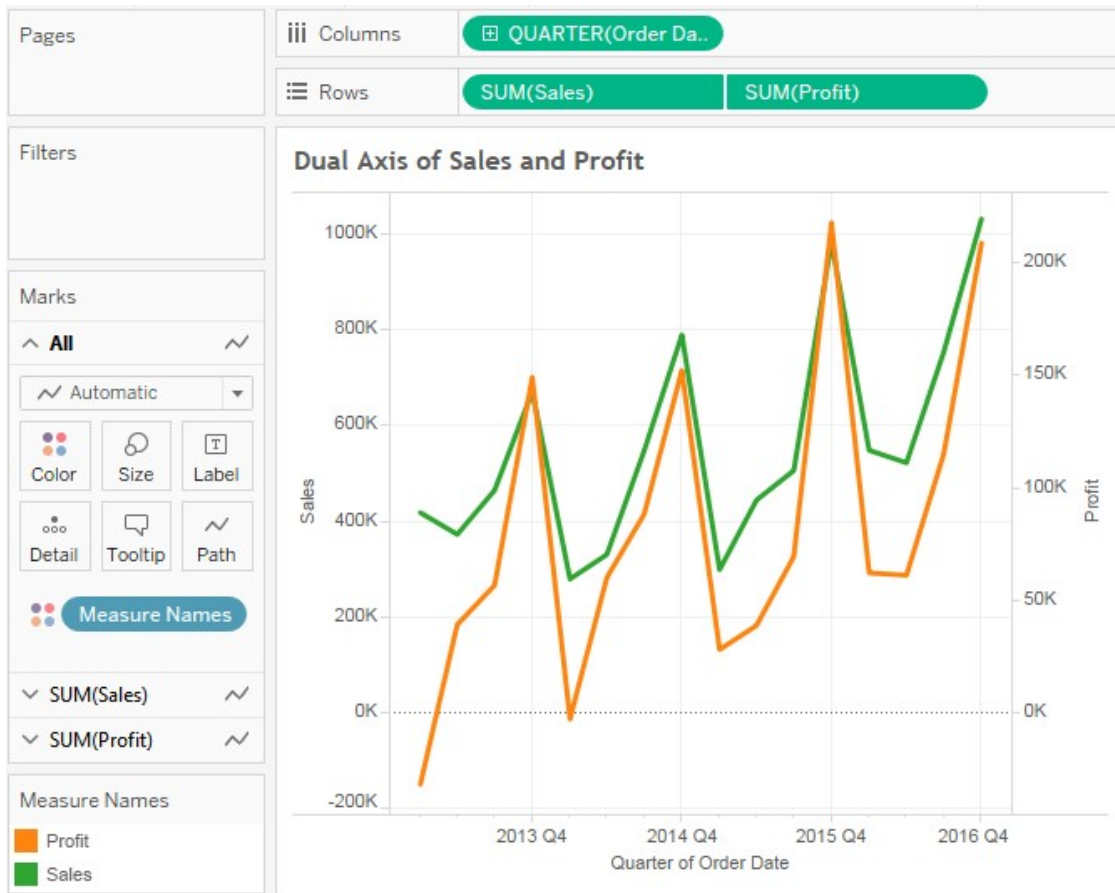
Size of bins: 1 | Suggest Bin Size

Range of Values:

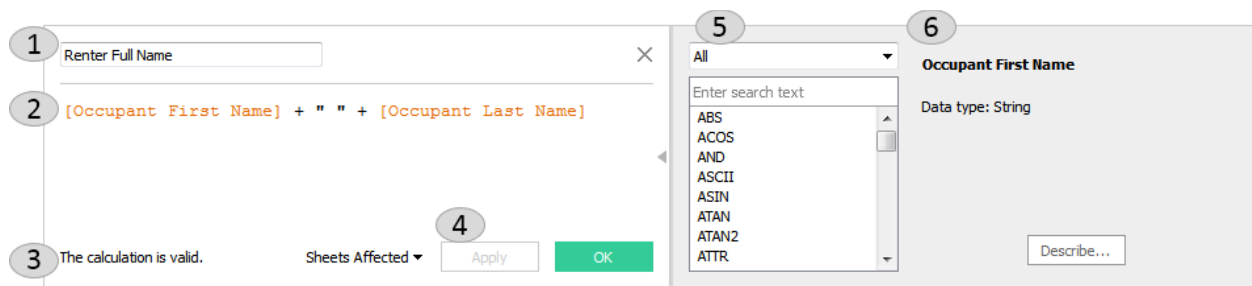
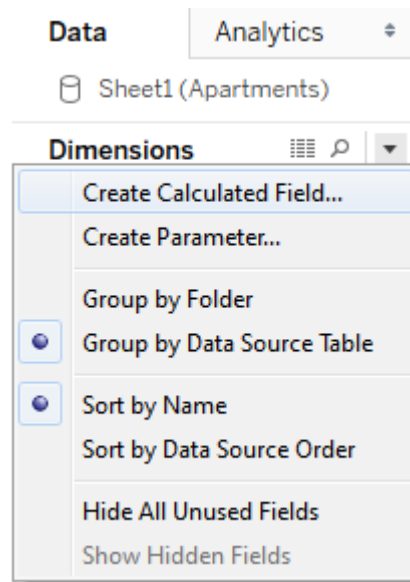
Min: 0 Diff: 91

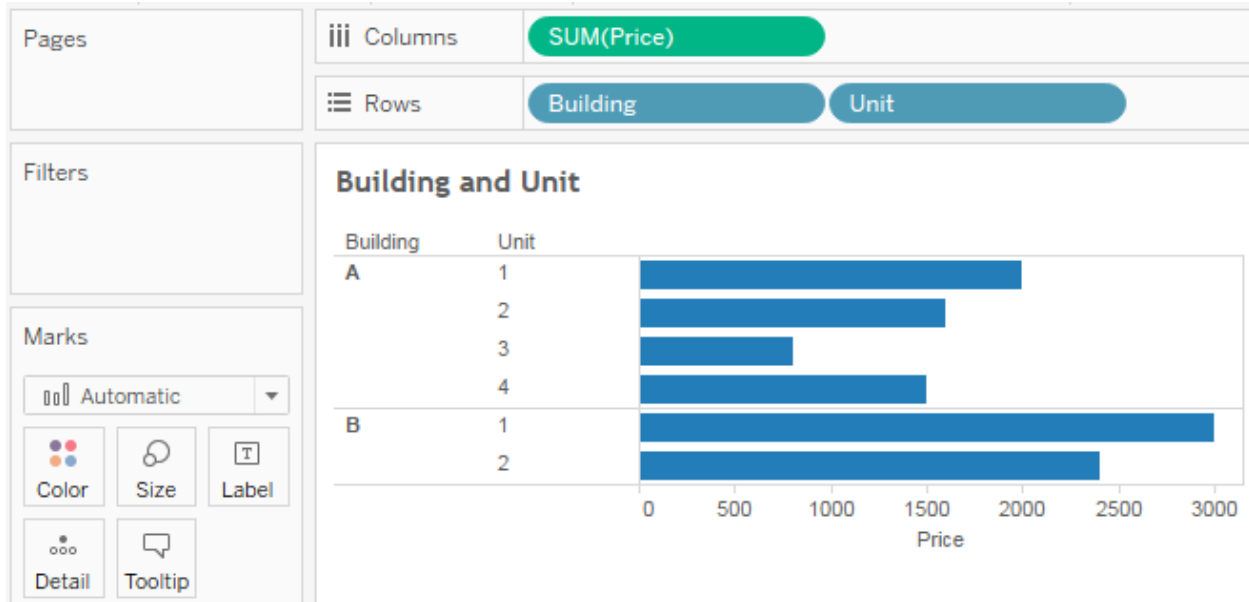
Max: 91 CntD: 23

OK Cancel



Chapter 4: Using Row–Level, Aggregate, and Level of Detail Calculations





Data Analytics

Apartment Rentals

Dimensions

Abc	Apartment
=Abc	Building
Abc	End Date
Abc	Occupant First Name
Abc	Occupant Last Name
Abc	Start Date
=Abc	Unit

View Data: Apartment Rentals

6 rows Show aliases Copy

Apartment	Building	End Date	Occupant First Name	Occupant Last Name	Start Date	Unit
A-1	A	Dec 31	Dwight	Moody	May 01	1
A-2	A	Dec 2	Mary	Slessor	Aug 01	2
A-3	A	Feb 16	Charles	Ryrie	Mar 02	3
A-4	A	June 03	Hudson	Taylor	May 21	4
B-1	B	Sep 18	Amy	Carmichael	Jan 18	1
B-2	B	Dec 20	John	Walvoord	May 01	2

Pages

Filters

Marks

Automatic

Color

Size

Text

Detail

Tooltip

AGG(Price per Square Foot)

Columns

Rows

Building

Floor

Building and Floor

Building	Floor	
A	Downstairs	2.000
	Upstairs	0.852
B	Downstairs	1.421

Pages

Filters

Marks

Automatic

Color

Size

Text

Detail

Tooltip

AGG(Price per ..

Columns

Rows

Building

Floor

Unit

Building, Floor, and Unit

Building	Floor	Unit	
A	Downstairs	1	2.0
		2	2.0
	Upstairs	3	0.5
		4	1.0
B	Downstairs	1	1.0
		2	3.0

Pages

Filters

Marks

Measure Values

Columns

Rows

Measure Names

Price Per Square Foot (Row Level vs. Aggregate)

Price per Square Foot (Row Level)	9.500
Price per Square Foot (Aggregate)	1.337

Pages

Filters

Marks

Measure Values

Columns

Rows

Measure Names

Price Per Square Foot (Row Level vs. Aggregate)

Price per Square Foot (Row Level)	9.500
Price per Square Foot (Aggregate)	1.337

Apartment	Area	Price	Price per Square Foot (Row Level)
A-1	1000	2000	2
A-2	800	1600	2
A-3	1200	600	0.5
A-4	1500	1500	1
B-1	3000	3000	1
B-2	800	2400	3
			9.5

Row Level:

$[Price] / [Area]$

Results calculated for each Row

Sum of Row Level Results

Apartment	Area	Price	Price per Square Foot (Aggregate)
A-1	1000	2000	
A-2	800	1600	
A-3	1200	600	
A-4	1500	1500	
B-1	3000	3000	
B-2	800	2400	
		8300	11100
			1.337

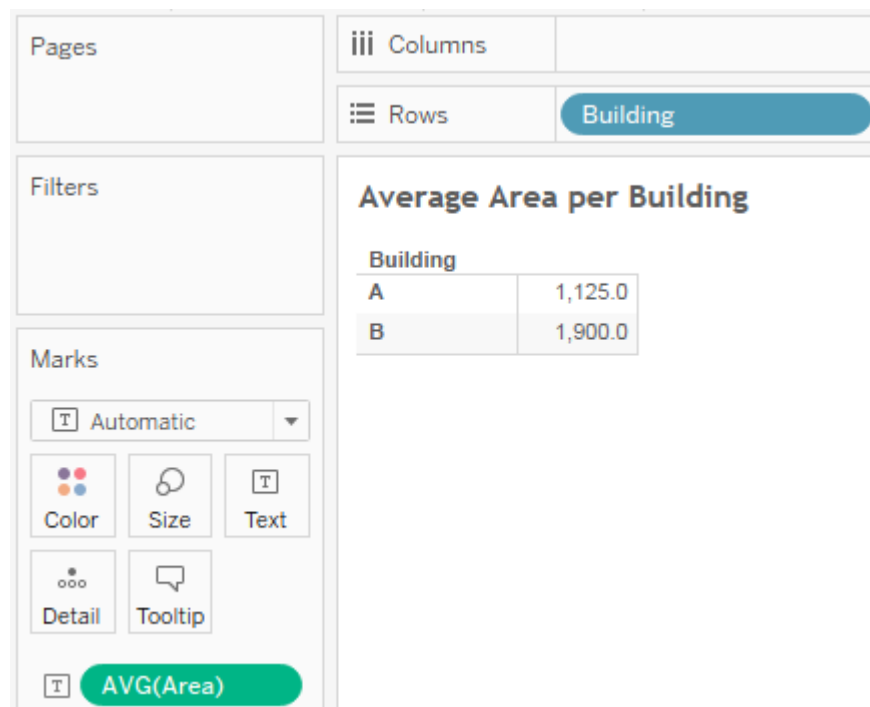
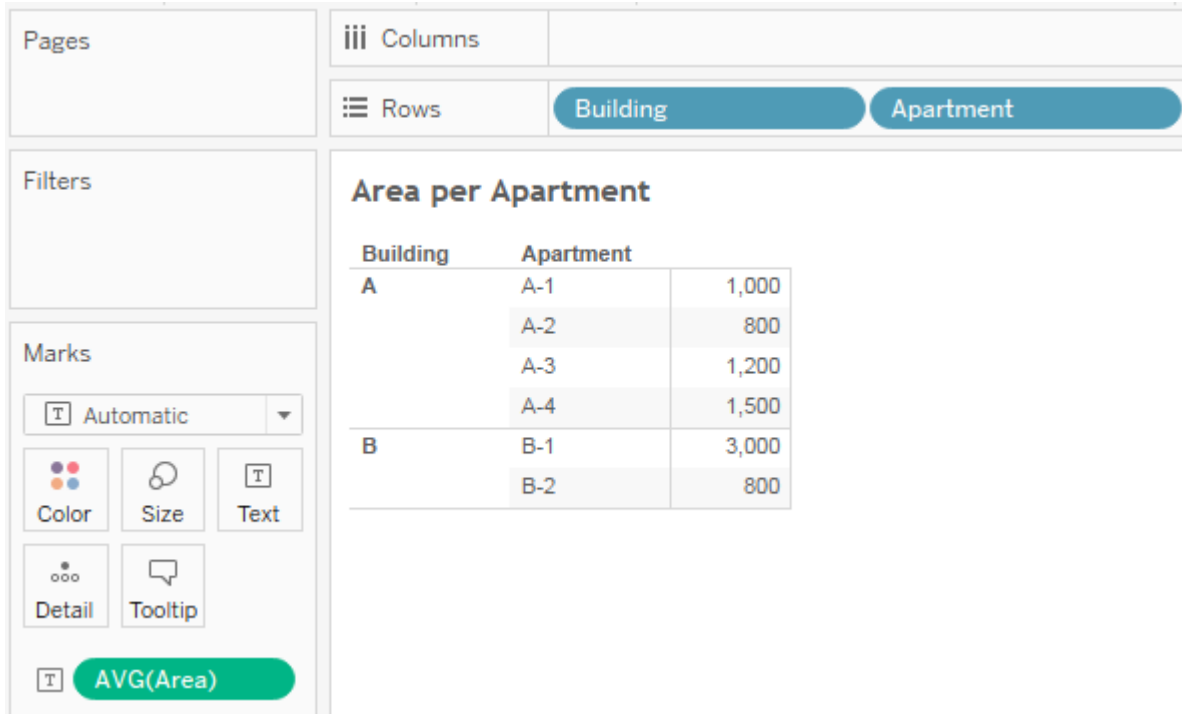
No Row Level Results

Division of Sums:

$SUM([Price]) / SUM([Area])$

$SUM([Area])$

$SUM([Price])$



Pages

Filters

Marks

Measure Values

Columns

Measure Names

Rows

Building

Apartment

Average Area per Building and Apartment

Building	Apartment	Avg. Area	Avg. Average Area (exclude apartment)
A	A-1	1,000	1,125
	A-2	800	1,125
	A-3	1,200	1,125
	A-4	1,500	1,125
B	B-1	3,000	1,900
	B-2	800	1,900

Pages

Filters

Marks

Measure Values

Columns

Measure Names

Rows

Building

Apartment

ATTR(Above or Below ..

Average Area per Building and Apartment

Building	Apartment	Above or Below Average Size?	Avg. Area	Avg. Average Area (exclude apartment)
A	A-1	Below	1,000	1,125
	A-2	Below	800	1,125
	A-3	Above	1,200	1,125
	A-4	Above	1,500	1,125
B	B-1	Above	3,000	1,900
	B-2	Below	800	1,900

Create Parameter

1

Name:

Comment >>

2

Properties

2

Data type:

3

Current value:

4

Display format:

5

Allowable values: ☐ All ☒ List ☐ Range

6

List of values

Value	Display As
1	First Option
2	Second Option
3	Third Option
Add	

7

Add from Parameter

Add from Field

Paste from Clipboard

Clear All

8

OK

Cancel

Pages

Columns

Rows

Start Date

Start Date (fi..

End Date

End Date (fix..

Filters

Automatic

Color

Size

Text

Detail

Tooltip

Fixing Dates

Start Date	Start Date (fixed)	End Date	End Date (fixed)	
Aug 01	8/1/2016	Dec 2	12/2/2016	Abc
Feb 16	2/16/2016	Mar 02	3/2/2016	Abc
Jan 18	1/18/2016	Sep 18	9/18/2016	Abc
May 01	5/1/2016	Dec 20	12/20/2016	Abc
		Dec 31	12/31/2016	Abc
May 21	5/21/2016	June 03	6/3/2016	Abc

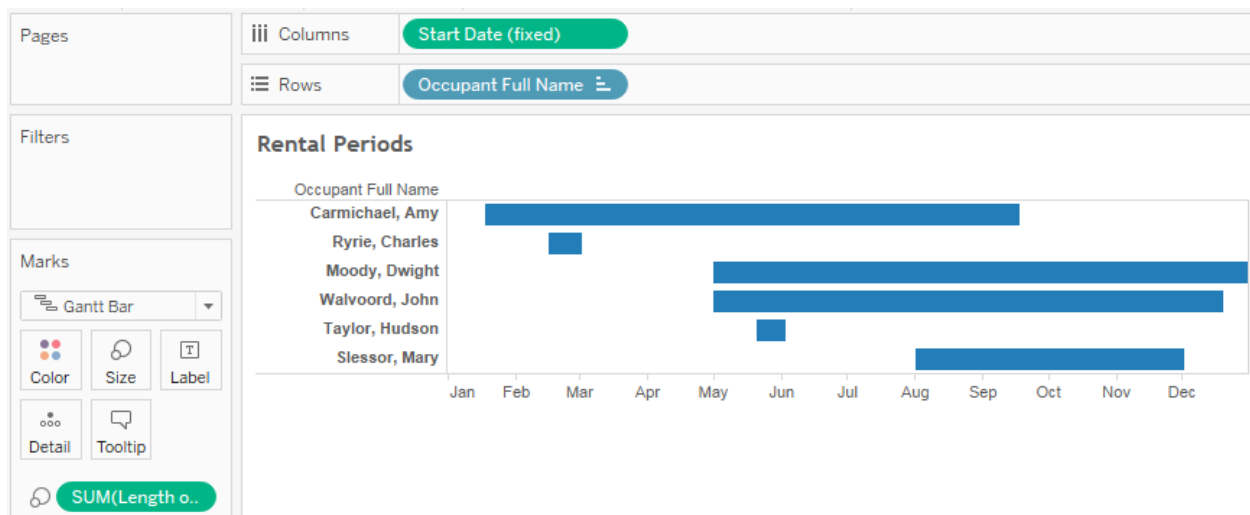
Length of Contract (days)
Rental Data

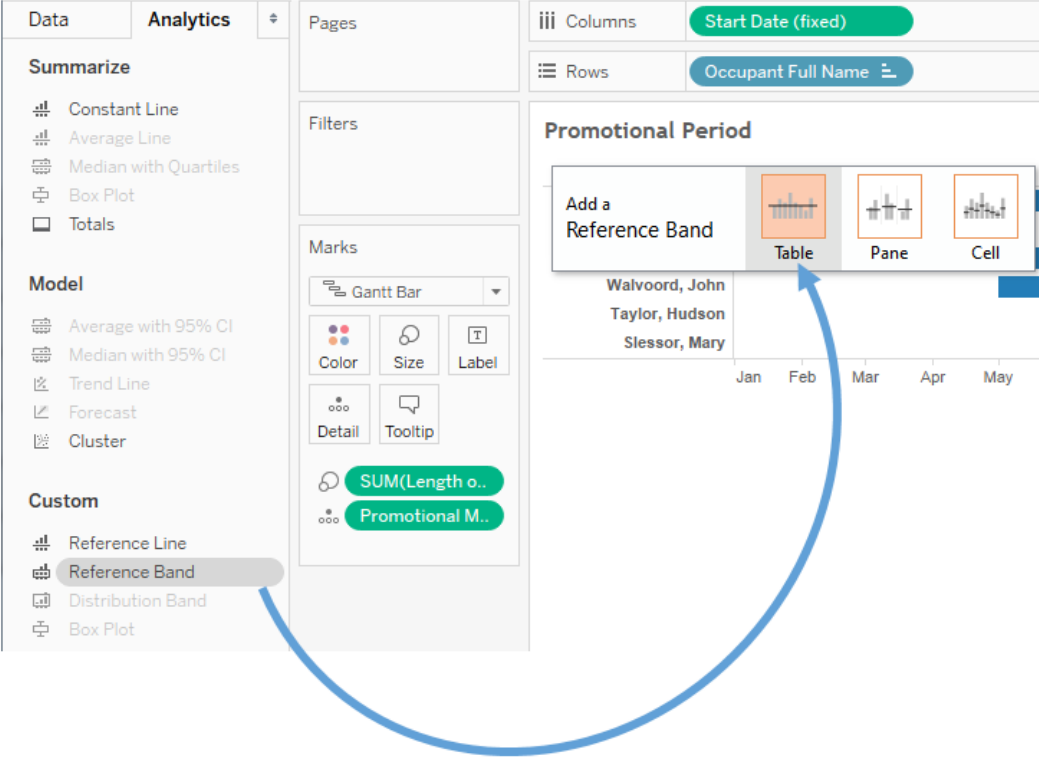
date

/ DATE
/ DATEADD
/ DATEDIFF
/ DATENAME
/ DATEPARSE
/ DATEPART
/ DATETIME
/ DATETRUNC

Apply
OK

Rental Data





Pages

Columns Measure Names

Rows Apartment Apartment

Filters

Measure Names

Marks

Automatic

Color Size Text

Detail Tooltip

Measure Values

Measure Values

SUM(Price)

SUM(Discount)

Blending

Apartment	Apartment	Price	Discount
A-1	Null	2,000	
A-2	Null	1,600	
A-3	Null	800	
A-4	Null	1,500	
B-1	Null	3,000	
B-2	Null	2,400	

Pages

Filters

Marks

Measure Values

Columns

Measure Names

Rows

Apartment

Apartment

Blending

Apartment	Apartment	Price	Discount
A-1	A1	2,000	5.00%
A-2	A2	1,600	2.00%
A-3	Null	800	
A-4	Null	1,500	
B-1	Null	3,000	
B-2	B2	2,400	1.00%

Automatic

Color

Size

Text

Detail

Tooltip

Measure Values

SUM(Price)

SUM(Discount)

Actual Price

Apartment Rentals

[Price]

 *

(1 - SUM([Discount].[Discount]))

The calculation contains errors

Apply

OK

Actual Price

Apartment Rentals

✕

$$\text{SUM}([\text{Price}]) * (1 - \text{SUM}([\text{Discount}].[Discount]))$$

The calculation is valid.

Apply

OK

Pages

Filters

Measure Names

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Measure Values

Measure Values

SUM(Price)

SUM(Discount)

AGG(Actual Price)

Columns

Measure Names

Rows

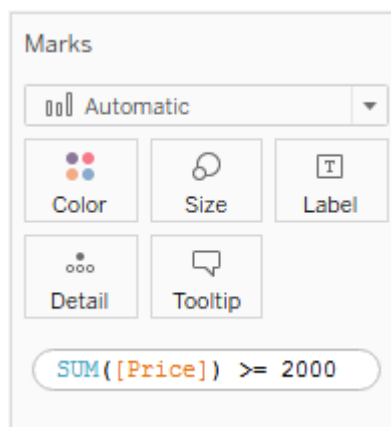
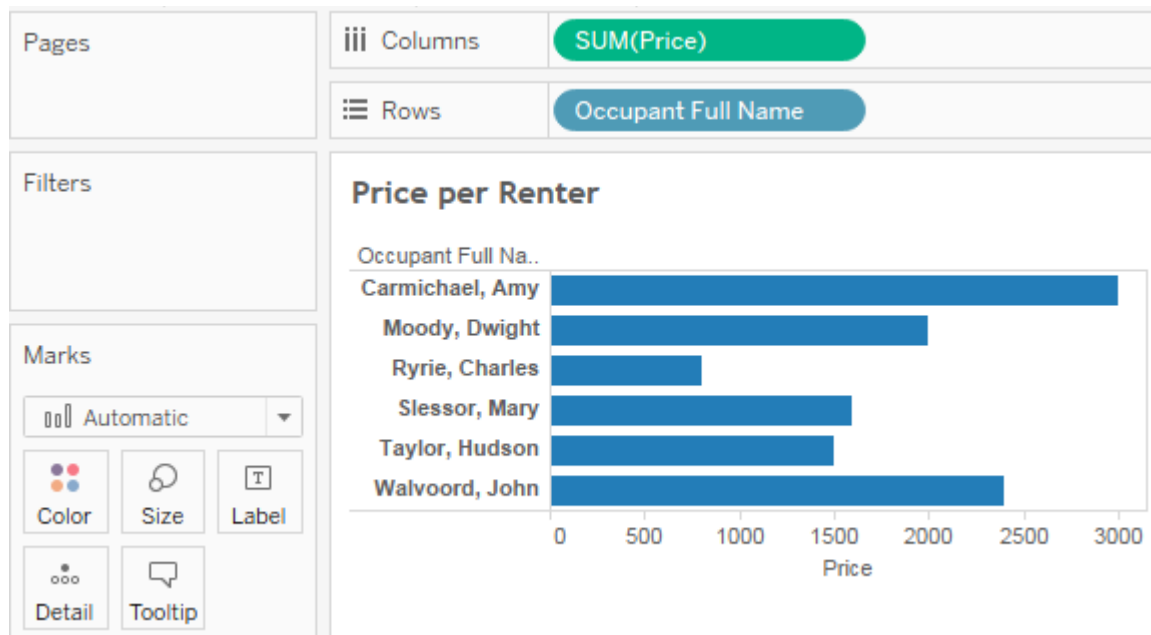
Apartment

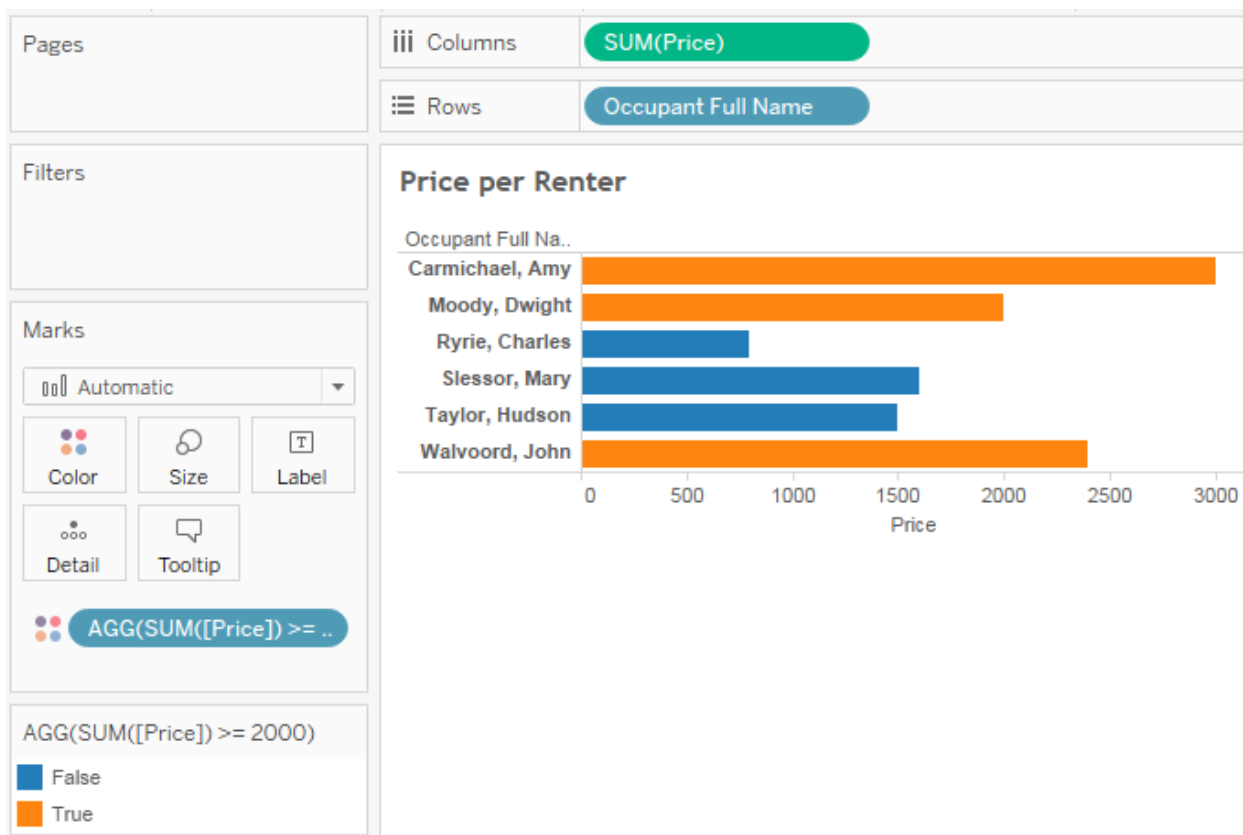
Apartment

Blending

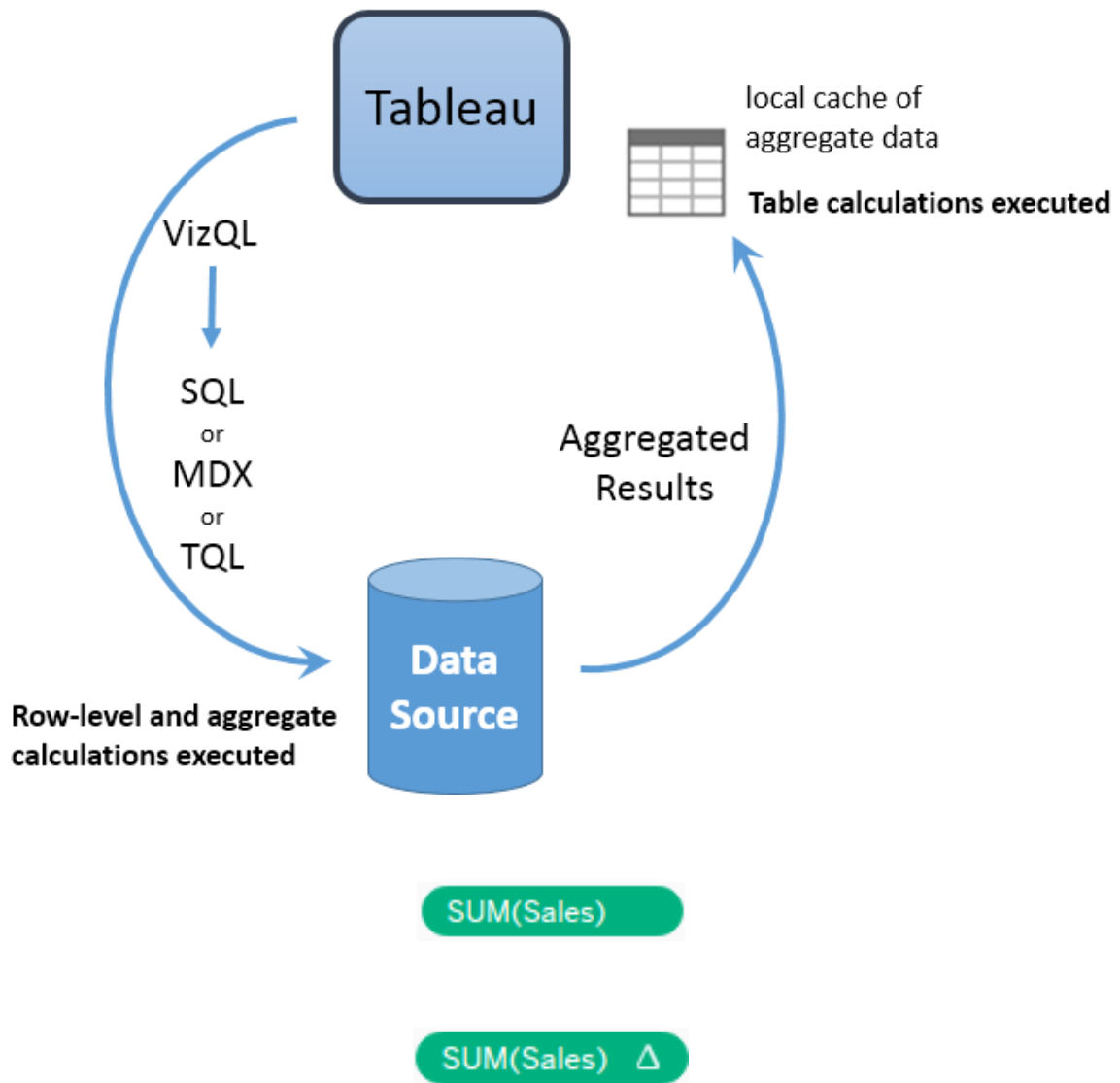
Apartment	Apartment	Price	Discount	Actual Price
A-1	A1	2,000	5.00%	1,900
A-2	A2	1,600	2.00%	1,568
A-3	Null	800		
A-4	Null	1,500		
B-1	Null	3,000		
B-2	B2	2,400	1.00%	2,376

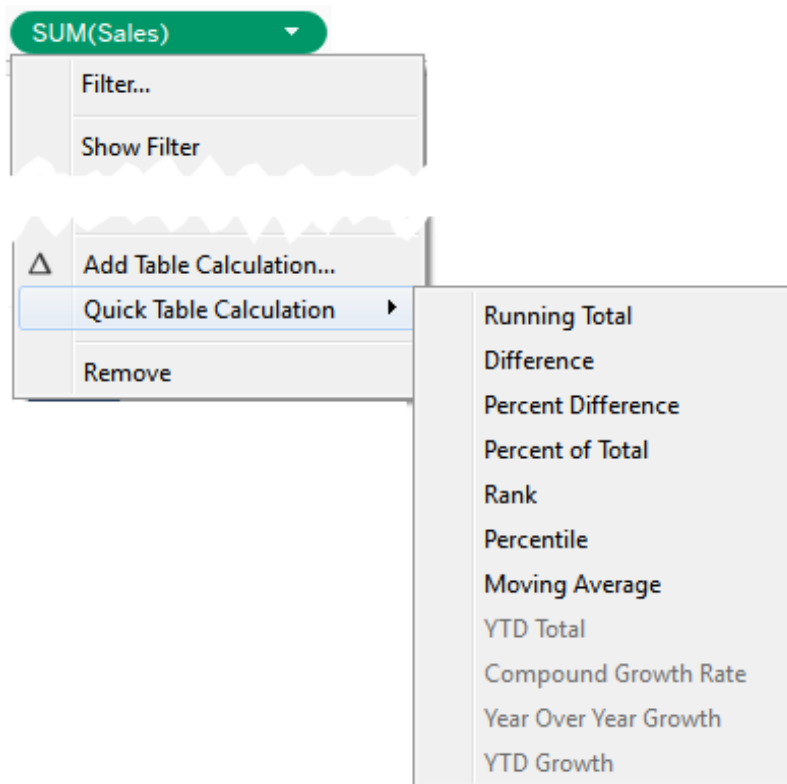
Apartment	Apartment	Price	Discount	Actual Price
A-1	A1	2,000	5.00%	1,900
A-2	A2	1,600	2.00%	1,568
A-3	Null	800		800
A-4	Null	1,500		1,500
B-1	Null	3,000		3,000
B-2	B2	2,400	1.00%	2,376

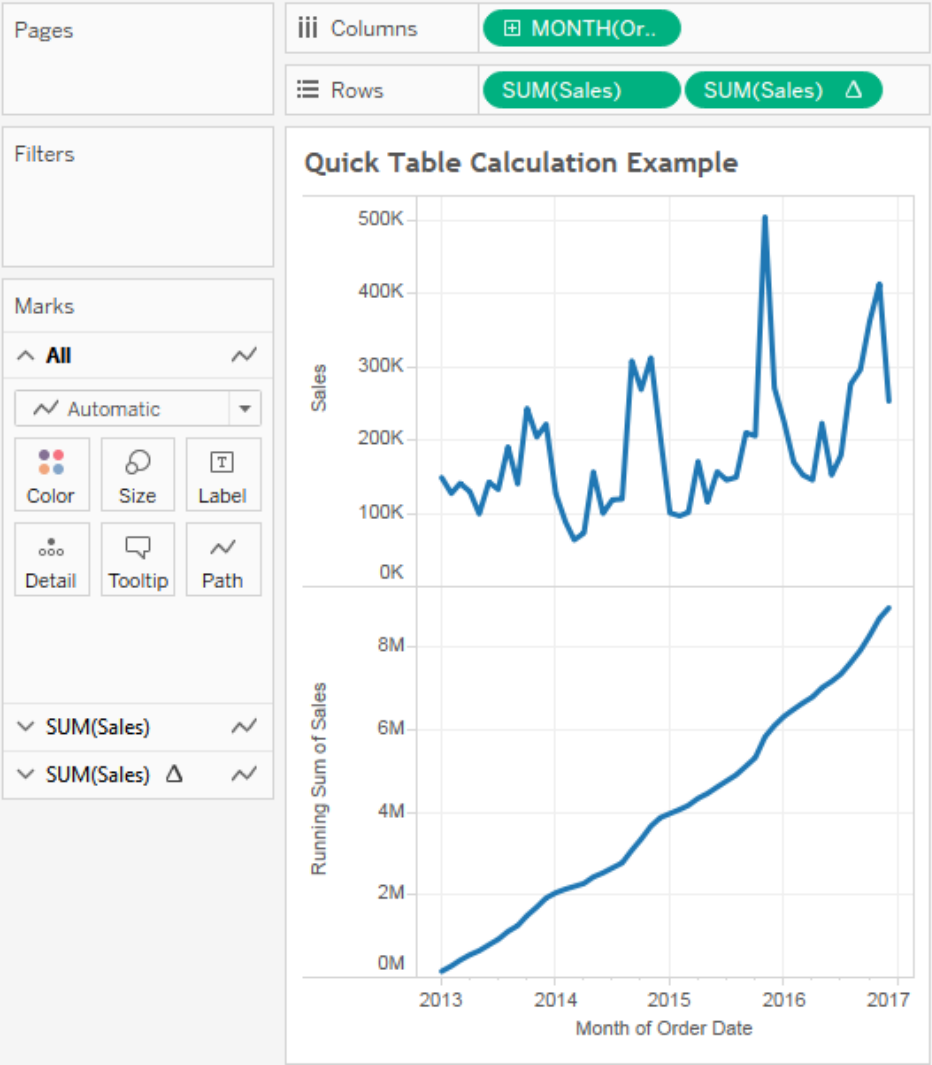




Chapter 5: Table Calculations







Pages	Columns	Region		Department	
	Rows	YEAR(Order Date)		QUARTER(Order Da..	

Filters		Region	
---------	--	--------	--

Marks		Automatic	
Color	Size	Text	
Detail	Tooltip	SUM(Sales)	

		Region / Department					
Year of Order Date	Quarter of Order Date	East			West		
		Furniture	Office Supplies	Technolo..	Furniture	Office Supplies	Technolo..
2013	Q1	103,094	21,517	47,770	41,391	6,221	24,258
	Q2	50,254	77,176	35,663	44,256	5,275	30,549
	Q3	33,016	34,014	30,213	32,794	30,200	119,668
	Q4	72,409	124,765	108,417	43,313	35,524	26,782
2014	Q1	55,241	26,176	19,534	20,296	9,793	28,652
	Q2	47,499	29,320	41,988	22,534	19,487	31,268
	Q3	102,001	44,762	81,264	46,923	15,995	74,876
	Q4	63,724	75,442	110,800	41,742	39,343	101,173
2015	Q1	33,938	20,638	23,858	14,296	17,108	13,947
	Q2	47,778	51,273	73,519	37,173	36,998	35,092
	Q3	83,456	59,039	32,302	34,504	16,305	76,077
	Q4	124,363	65,704	86,405	171,909	51,372	62,808
2016	Q1	51,050	74,600	83,149	53,471	24,272	33,619
	Q2	57,299	83,749	52,066	22,994	19,818	42,868
	Q3	92,243	51,459	70,612	56,791	62,900	66,427
	Q4	132,884	98,473	157,206	42,129	45,894	71,268

Table

Pane

Cell



		East			West		
		Furniture	Office Supplies	Technolo..	Furniture	Office Supplies	Technolo..
2015	Q1	1	2	3	4	5	6
	Q2	1	2	3	4	5	6
	Q3	1	2	3	4	5	6
	Q4	1	2	3	4	5	6
2016	Q1	1	2	3	4	5	6
	Q2	1	2	3	4	5	6
	Q3	1	2	3	4	5	6
	Q4	1	2	3	4	5	6

		East			West		
		Office			Office		
		Furniture	Supplies	Technolo..	Furniture	Supplies	Technolo..
2015	Q1	1	1	1	1	1	1
	Q2	2	2	2	2	2	2
	Q3	3	3	3	3	3	3
	Q4	4	4	4	4	4	4
2016	Q1	5	5	5	5	5	5
	Q2	6	6	6	6	6	6
	Q3	7	7	7	7	7	7
	Q4	8	8	8	8	8	8

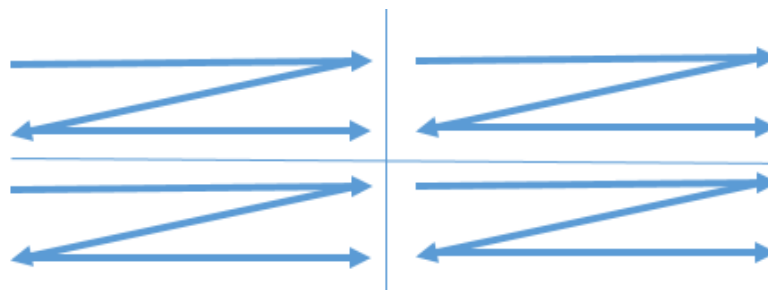


		East			West		
		Office			Office		
		Furniture	Supplies	Technolo..	Furniture	Supplies	Technolo..
2015	Q1	1	2	3	4	5	6
	Q2	7	8	9	10	11	12
	Q3	13	14	15	16	17	18
	Q4	19	20	21	22	23	24
2016	Q1	25	26	27	28	29	30
	Q2	31	32	33	34	35	36
	Q3	37	38	39	40	41	42
	Q4	43	44	45	46	47	48



		East			West		
		Office			Office		
		Furniture	Supplies	Technolo..	Furniture	Supplies	Technolo..
2015	Q1	1	2	3	1	2	3
	Q2	1	2	3	1	2	3
	Q3	1	2	3	1	2	3
	Q4	1	2	3	1	2	3
2016	Q1	1	2	3	1	2	3
	Q2	1	2	3	1	2	3
	Q3	1	2	3	1	2	3
	Q4	1	2	3	1	2	3

		East			West		
		Furniture	Office Supplies	Technolo..	Furniture	Office Supplies	Technolo..
2015	Q1	1	1	1	1	1	1
	Q2	2	2	2	2	2	2
	Q3	3	3	3	3	3	3
	Q4	4	4	4	4	4	4
2016	Q1	1	1	1	1	1	1
	Q2	2	2	2	2	2	2
	Q3	3	3	3	3	3	3
	Q4	4	4	4	4	4	4



		East			West		
		Furniture	Office Supplies	Technolo..	Furniture	Office Supplies	Technolo..
2015	Q1	1	2	3	1	2	3
	Q2	4	5	6	4	5	6
	Q3	7	8	9	7	8	9
	Q4	10	11	12	10	11	12
2016	Q1	1	2	3	1	2	3
	Q2	4	5	6	4	5	6
	Q3	7	8	9	7	8	9
	Q4	10	11	12	10	11	12

Pages

Filters

Region

YEAR(Order Date)

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Index

Columns

Region

Department

Rows

YEAR(Order Date)

QUARTER(Order Da..)

Scope and Direction

		Region / Department					
		East			West		
Year of Order Date	Quarter of Order Date	Furniture	Office Supplies	Technolo..	Furniture	Office Supplies	Technolo..
2015	Q1	1	2	3	1	2	3
	Q2	1	2	3	1	2	3
	Q3	1	2	3	1	2	3
	Q4	1	2	3	1	2	3
2016	Q1	1	2	3	1	2	3
	Q2	1	2	3	1	2	3
	Q3	1	2	3	1	2	3
	Q4	1	2	3	1	2	3

Table Calculation

[Index]

At the level

Restarting every

Compute Using

Table (across)

Table (down)

Table (across then down)

Table (down then across)

Pane (across)

Pane (down)

Pane (across then down)

Pane (down then across)

Cell

Specific Dimensions

Department

Quarter of Order Date

Region

Year of Order Date

Automatic Sort

Pages

Filters

Region

YEAR(Order Date)

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Index

Columns

YEAR(Order Date)

QUARTER(Order Da..)

Rows

Region

Department

Scope and Direction

		Order Date							
		2015				2016			
Region	Department	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
East	Furniture	1	1	1	1	1	1	1	1
	Office Supplies	2	2	2	2	2	2	2	2
	Technology	3	3	3	3	3	3	3	3
West	Furniture	1	1	1	1	1	1	1	1
	Office Supplies	2	2	2	2	2	2	2	2
	Technology	3	3	3	3	3	3	3	3

Table Calculation

[Index]

At the level

Restarting every

Compute Using

Table (across)

Table (down)

Table (across then down)

Table (down then across)

Pane (across)

Pane (down)

Pane (across then down)

Pane (down then across)

Cell

Specific Dimensions

Department

Quarter of Order Date

Region

Year of Order Date

Automatic Sort

Pages

Filters

Region

YEAR(Order Date)

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Index

Columns

Region

Department

Rows

YEAR(Order Date)

QUARTER(Order Date)

Scope and Direction

		Region / Department					
		East			West		
Year of Order Date	Quarter of Order Date	Furniture	Office Supplies	Technolo..	Furniture	Office Supplies	Technolo..
2015	Q1	1	5	9	1	5	9
	Q2	2	6	10	2	6	10
	Q3	3	7	11	3	7	11
	Q4	4	8	12	4	8	12
2016	Q1	1	5	9	1	5	9
	Q2	2	6	10	2	6	10
	Q3	3	7	11	3	7	11
	Q4	4	8	12	4	8	12

Table Calculation

[Index]

At the level

Deepest

Restarting every

None

Compute Using

Table (across)

Table (down)

Table (across then down)

Table (down then across)

Pane (across)

Pane (down)

Pane (across then down)

Pane (down then across)

Cell

Specific Dimensions

☒ Department
 ☒ Quarter of Order Date
 ☐ Region
 ☐ Year of Order Date

Automatic Sort

Pages

Filters

Region

YEAR(Order Date)

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Index

Columns

Region

Department

Rows

YEAR(Order Date)

QUARTER(Order Date)

Scope and Direction

		Region / Department					
		East			West		
Year of Order Date	Quarter of Order Date	Furniture	Office Supplies	Technolo..	Furniture	Office Supplies	Technolo..
2015	Q1	1	3	5	1	3	5
	Q2	1	3	5	1	3	5
	Q3	1	3	5	1	3	5
	Q4	1	3	5	1	3	5
2016	Q1	2	4	6	2	4	6
	Q2	2	4	6	2	4	6
	Q3	2	4	6	2	4	6
	Q4	2	4	6	2	4	6

Table Calculation

[Index]

At the level

Deepest

Restarting every

None

Compute Using

Table (across)

Table (down)

Table (across then down)

Table (down then across)

Pane (across)

Pane (down)

Pane (across then down)

Pane (down then across)

Cell

Specific Dimensions

☒ Department
 ☐ Quarter of Order Date
 ☐ Region
 ☒ Year of Order Date

Automatic Sort

Department	Category	Index	First	Last	Size
Furniture	Bookcases	1	0	3	4
	Chairs & Chairmats	2	-1	2	4
	Office Furnishings	3	-2	1	4
	Tables	4	-3	0	4
Office Supplies	Appliances	1	0	8	9
	Binders and Binder Accessori..	2	-1	7	9
	Envelopes	3	-2	6	9
	Labels	4	-3	5	9
	Paper	5	-4	4	9
	Pens & Art Supplies	6	-5	3	9
	Rubber Bands	7	-6	2	9
	Scissors, Rulers and Trimmers	8	-7	1	9
	Storage & Organization	9	-8	0	9
Technology	Computer Peripherals	1	0	3	4
	Copiers and Fax	2	-1	2	4
	Office Machines	3	-2	1	4
	Telephones and Communicati..	4	-3	0	4

Pages

Filters

Marks

Automatic

ColorSizeText

DetailTooltip

Columns

Rows

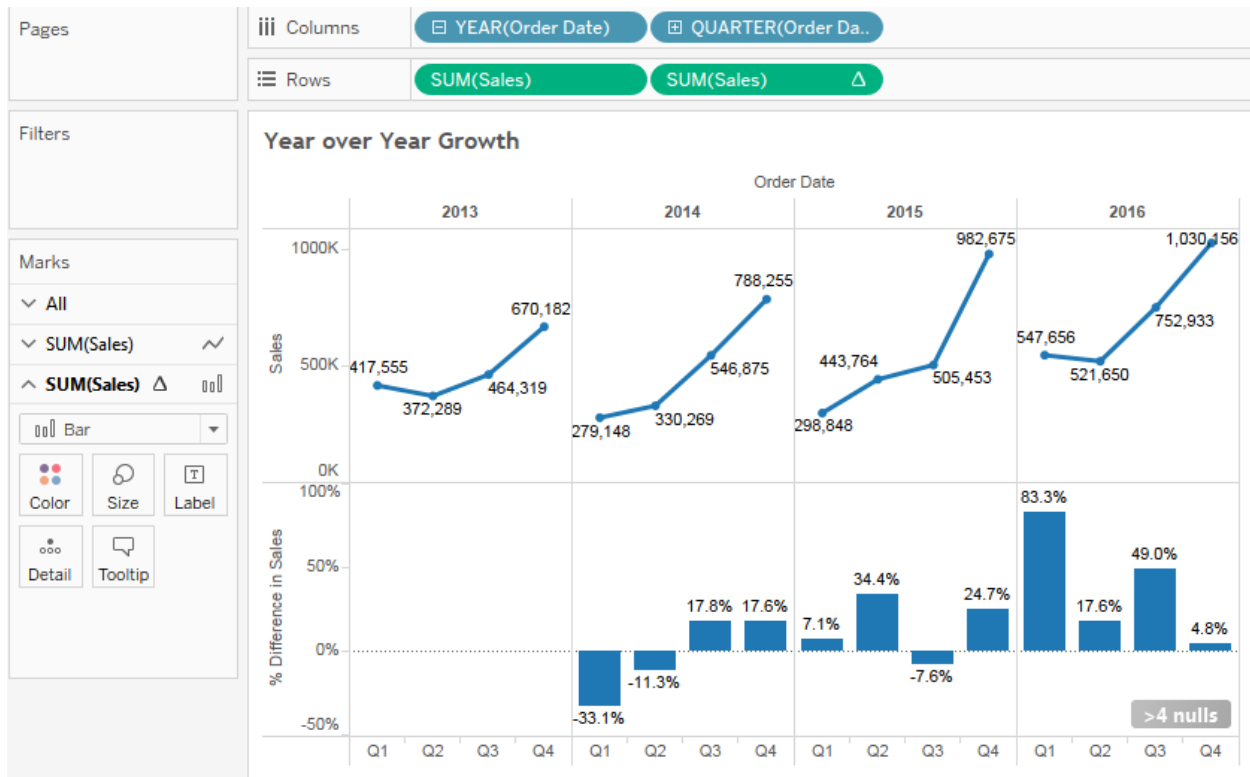
DepartmentCategoryLookupPrevious Value

Lookup and Previous Value			
Department	Category	Lookup	Previous Value
Furniture	Bookcases	Null	,Bookcases
	Chairs & Chairmats	Bookcases	,Bookcases,Chairs & Chairmats
	Office Furnishings	Chairs & Chairmats	,Bookcases,Chairs & Chairmats,Office Furnishings
	Tables	Office Furnishings	,Bookcases,Chairs & Chairmats,Office Furnishings,Tables
Office Supplies	Appliances	Null	,Appliances
	Binders and Binder Accessori..	Appliances	,Appliances,Binders and Binder Accessories
	Envelopes	Binders and Binder Accessori..	,Appliances,Binders and Binder Accessories,Envelopes
	Labels	Envelopes	,Appliances,Binders and Binder Accessories,Envelopes,Labels
	Paper	Labels	,Appliances,Binders and Binder Accessories,Envelopes,Labels,Paper
	Pens & Art Supplies	Paper	,Appliances,Binders and Binder Accessories,Envelopes,Labels,Paper,Pens & Art Supplies
	Rubber Bands	Pens & Art Supplies	,Appliances,Binders and Binder Accessories,Envelopes,Labels,Paper,Pens & Art Supplies,Rubber Bands
	Scissors, Rulers and Trimmers	Rubber Bands	,Appliances,Binders and Binder Accessories,Envelopes,Labels,Paper,Pens & Art Supplies,Rubber Bands,Scis
	Storage & Organization	Scissors, Rulers and Trimmers	,Appliances,Binders and Binder Accessories,Envelopes,Labels,Paper,Pens & Art Supplies,Rubber Bands,Scis
Technology	Computer Peripherals	Null	,Computer Peripherals
	Copiers and Fax	Computer Peripherals	,Computer Peripherals,Copiers and Fax
	Office Machines	Copiers and Fax	,Computer Peripherals,Copiers and Fax,Office Machines
	Telephones and Communicati..	Office Machines	,Computer Peripherals,Copiers and Fax,Office Machines,Telephones and Communication

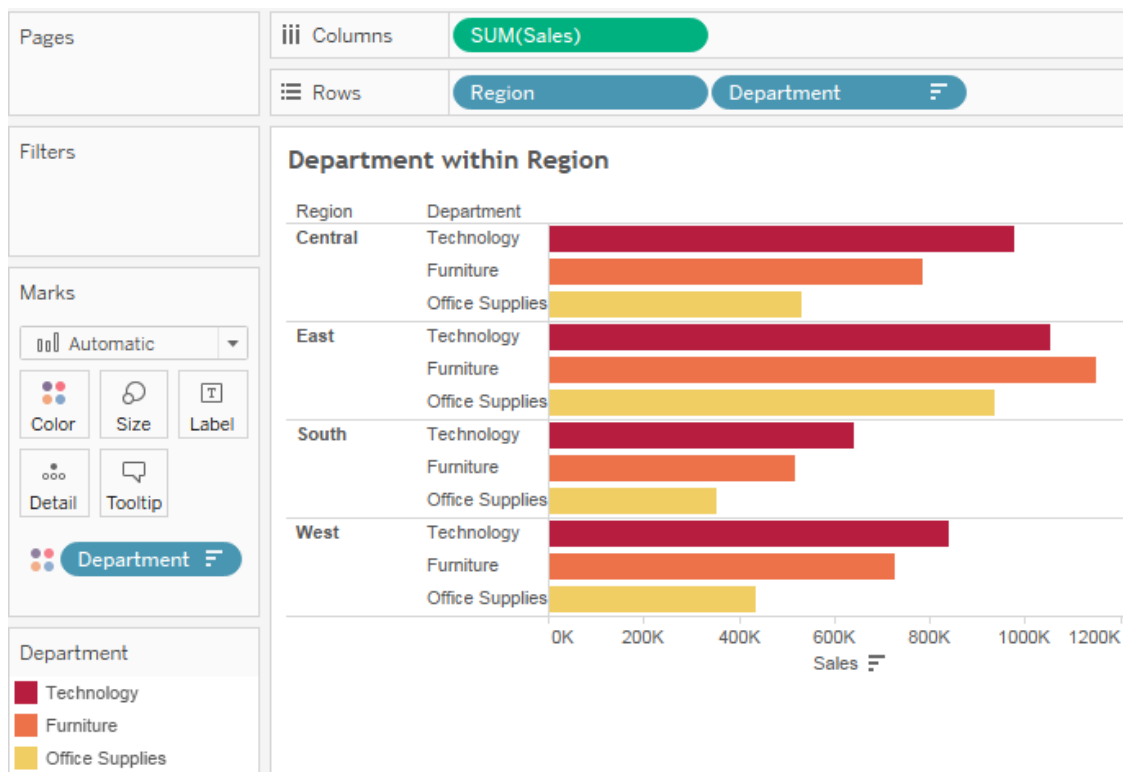
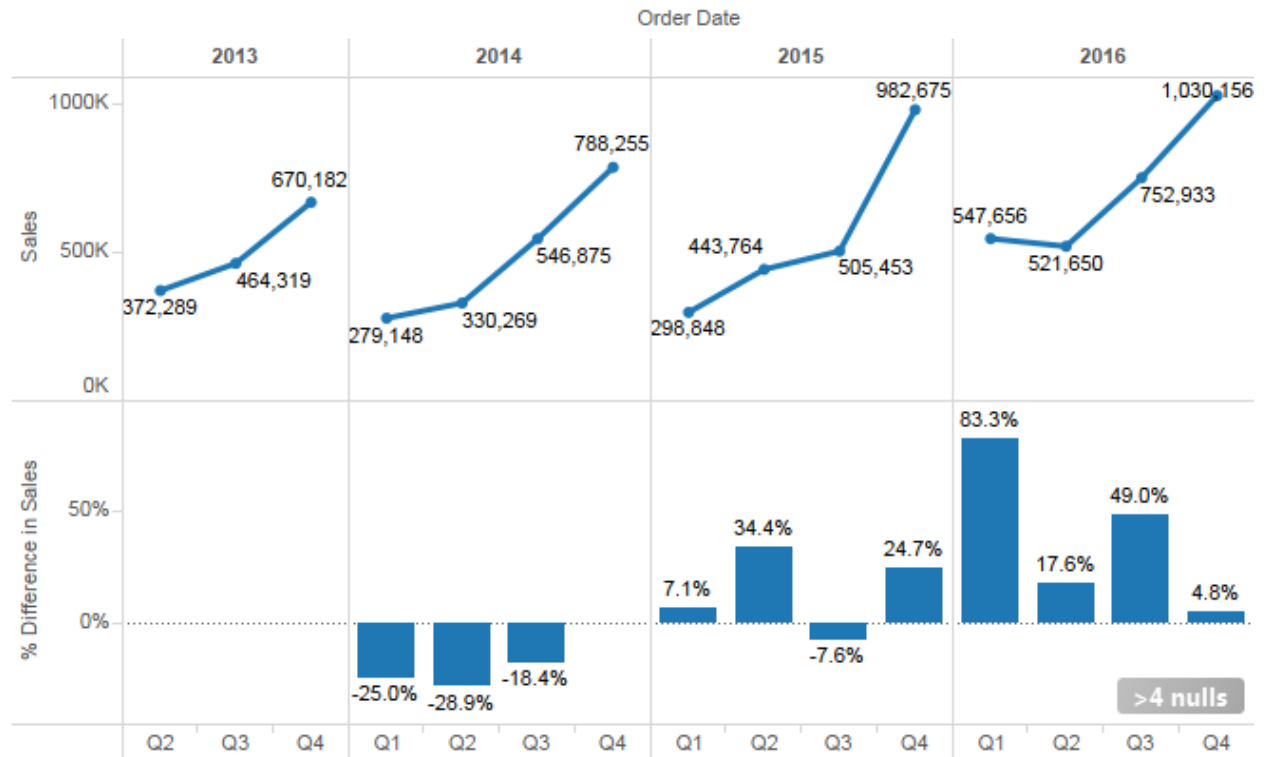
Department	Category	Sales	Running Sum of Sales	Running Minimum of Sales
Furniture	Bookcases	507,496	507,496	507,496
	Chairs & Chairmats	1,164,586	1,672,082	507,496
	Office Furnishings	444,634	2,116,716	444,634
	Tables	1,061,922	3,178,638	444,634
Office Supplies	Appliances	456,736	456,736	456,736
	Binders and Binder Accessori..	638,583	1,095,319	456,736
	Envelopes	147,915	1,243,234	147,915
	Labels	23,446	1,266,680	23,446
	Paper	253,620	1,520,300	23,446
	Pens & Art Supplies	103,265	1,623,565	23,446
	Rubber Bands	8,670	1,632,235	8,670
	Scissors, Rulers and Trimmers	40,432	1,672,667	8,670
	Storage & Organization	585,717	2,258,384	8,670
Technology	Computer Peripherals	490,851	490,851	490,851
	Copiers and Fax	661,215	1,152,066	490,851
	Office Machines	1,218,655	2,370,721	490,851
	Telephones and Communicati..	1,144,284	3,515,005	490,851

Department	Category	Sales	Window Sum	Window Max
Furniture	Bookcases	507,496	3,178,638	1,164,586
	Chairs & Chairmats	1,164,586	3,178,638	1,164,586
	Office Furnishings	444,634	3,178,638	1,164,586
	Tables	1,061,922	3,178,638	1,164,586
Office Supplies	Appliances	456,736	2,258,384	638,583
	Binders and Binder Accessori..	638,583	2,258,384	638,583
	Envelopes	147,915	2,258,384	638,583
	Labels	23,446	2,258,384	638,583
	Paper	253,620	2,258,384	638,583
	Pens & Art Supplies	103,265	2,258,384	638,583
	Rubber Bands	8,670	2,258,384	638,583
	Scissors, Rulers and Trimmers	40,432	2,258,384	638,583
	Storage & Organization	585,717	2,258,384	638,583
Technology	Computer Peripherals	490,851	3,515,005	1,218,655
	Copiers and Fax	661,215	3,515,005	1,218,655
	Office Machines	1,218,655	3,515,005	1,218,655
	Telephones and Communicati..	1,144,284	3,515,005	1,218,655

Department	Category	Sales	Rank of Sales
Furniture	Bookcases	507,496	3
	Chairs & Chairmats	1,164,586	1
	Office Furnishings	444,634	4
	Tables	1,061,922	2
Office Supplies	Appliances	456,736	3
	Binders and Binder Accessori..	638,583	1
	Envelopes	147,915	5
	Labels	23,446	8
	Paper	253,620	4
	Pens & Art Supplies	103,265	6
	Rubber Bands	8,670	9
	Scissors, Rulers and Trimmers	40,432	7
	Storage & Organization	585,717	2
Technology	Computer Peripherals	490,851	4
	Copiers and Fax	661,215	3
	Office Machines	1,218,655	1
	Telephones and Communicati..	1,144,284	2



Year over Year Growth



Columns

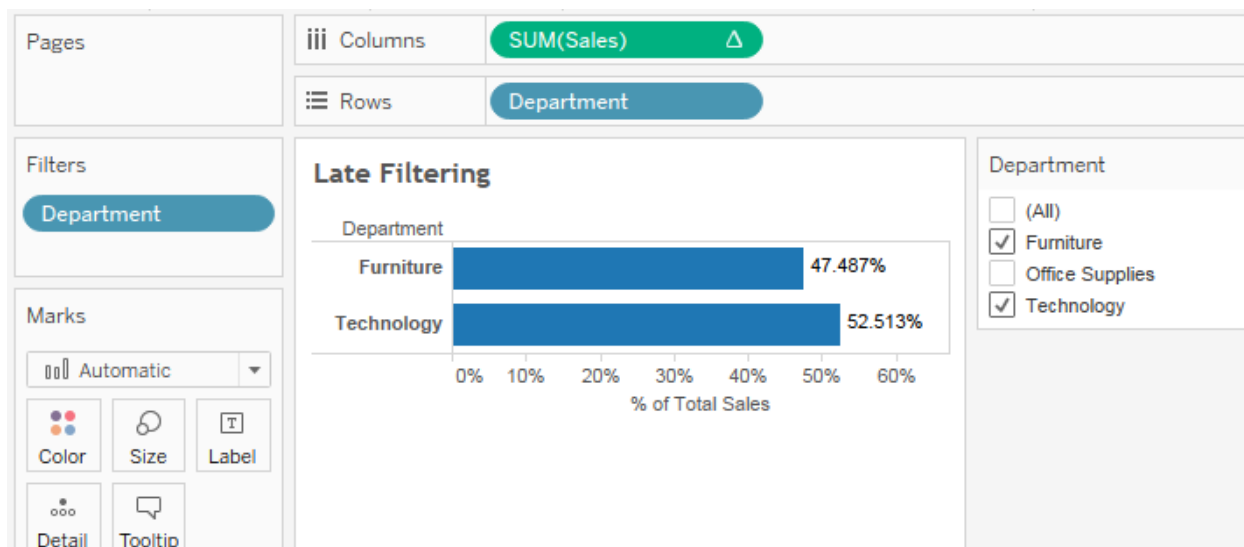
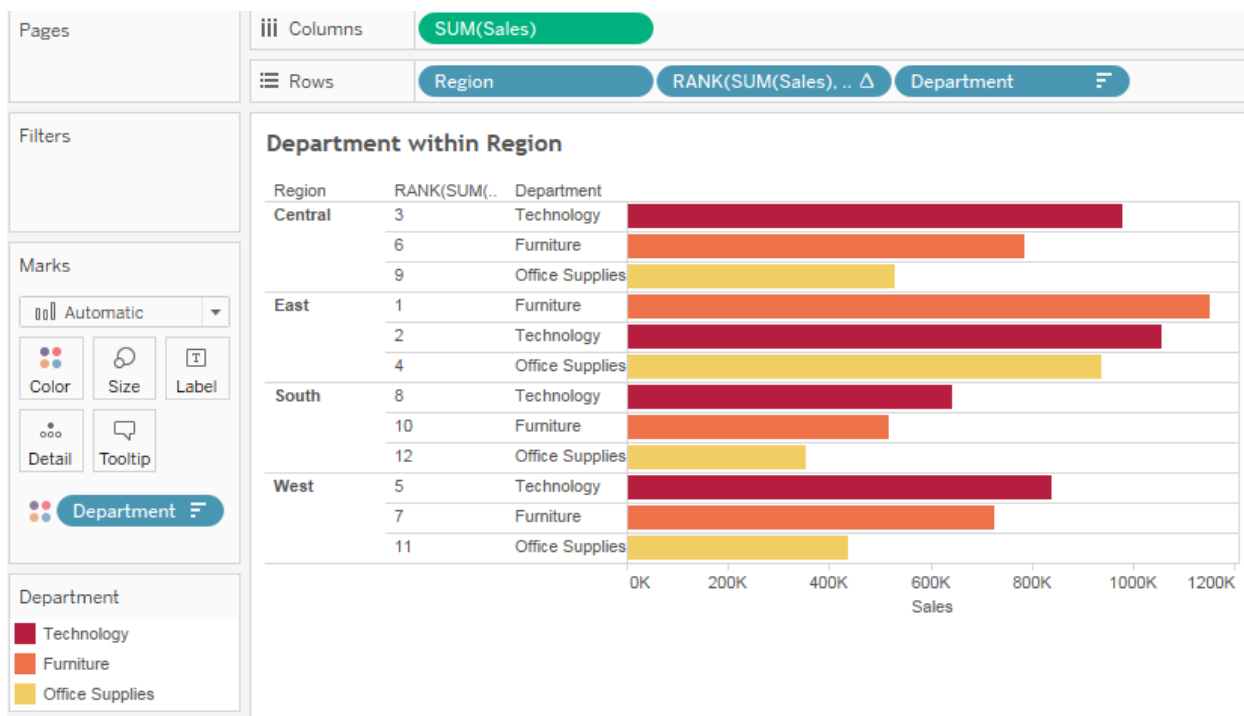
SUM(Sales)

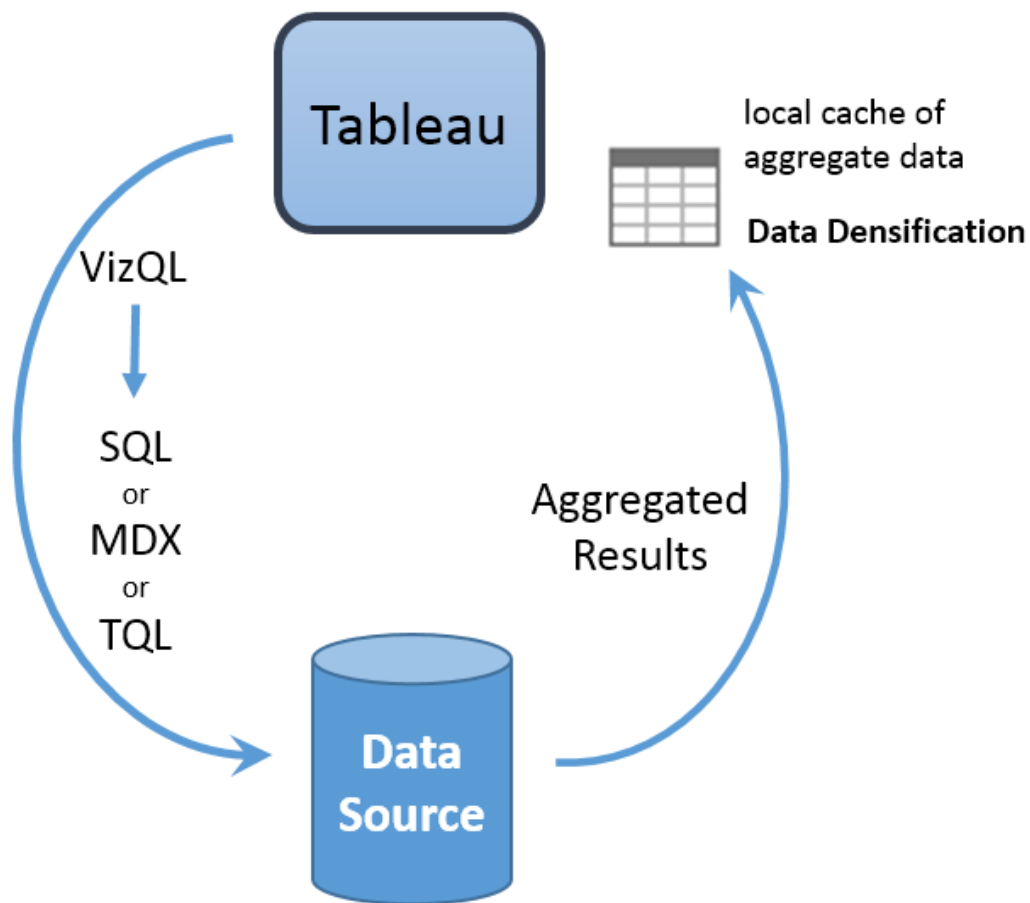
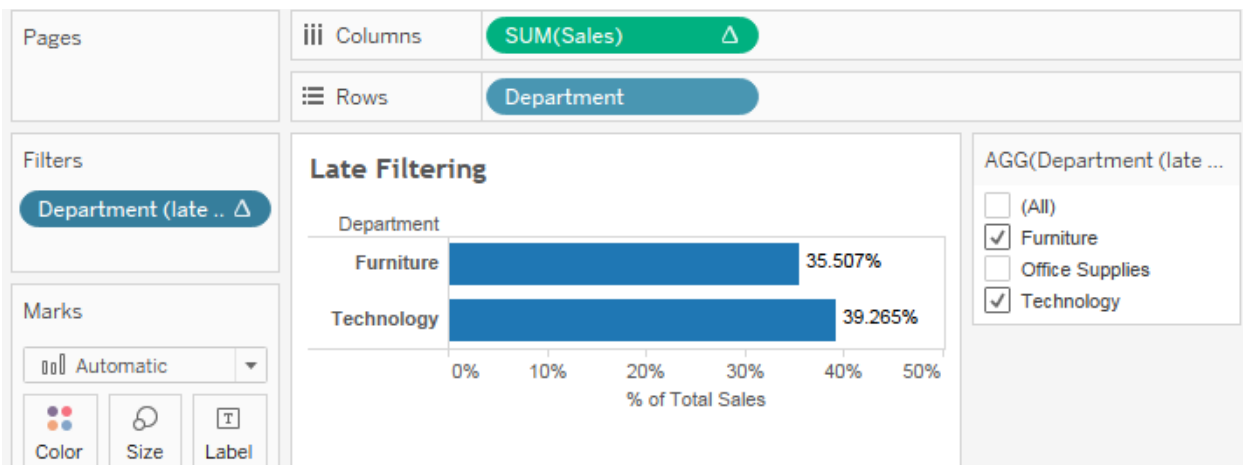
Rows

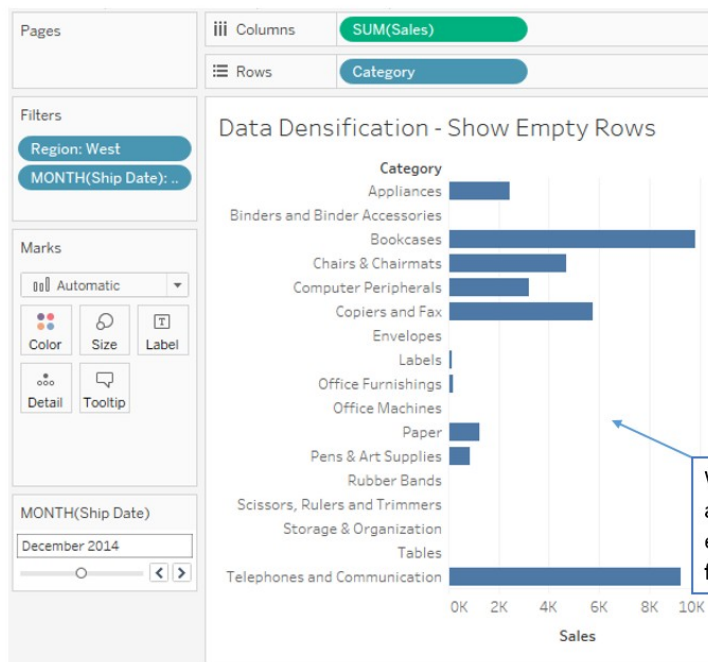
Region

Department

RANK(SUM(Sales), 'desc')







Without Show Empty Rows, only Categories with records for the filtered Region and Month are visible.

With Show Empty Rows, all Categories are shown even if there are no records for the filtered Region and Month

Pages

Columns Ship Mode

Rows Container

Filters

Marks
Automatic
Color Size Text
Detail Tooltip

Data Densification - Rows and Columns w/ Table Calculations

Container	Ship Mode		
	Delivery Truck	Express Air	Regular Air
Jumbo Box	Abc		Abc
Jumbo Drum	Abc		Abc
Large Box		Abc	Abc
Medium Box		Abc	Abc
Small Box		Abc	Abc
Small Pack		Abc	Abc
Wrap Bag		Abc	Abc

14 marks 7 rows by 3 columns

Pages

Columns Ship Mode

Rows Container

Filters

Marks

Automatic

Color Size Text

Detail Tooltip

Index()

21 marks 7 rows by 3 columns

Data Densification - Rows and Columns w/ Table Calculations

	Ship Mode		
	Delivery Truck	Express Air	Regular Air
Container			
Jumbo Box	Abc	Abc	Abc
Jumbo Drum	Abc	Abc	Abc
Large Box	Abc	Abc	Abc
Medium Box	Abc	Abc	Abc
Small Box	Abc	Abc	Abc
Small Pack	Abc	Abc	Abc
Wrap Bag	Abc	Abc	Abc

Pages

Columns ATTR(Ship Mode)

Rows Container

Filters

Marks

Text

Color Size Text

Detail Tooltip

Index()

Ship Mode

14 marks 7 rows by 3 columns

Turning off Densification based on Rows and Columns

	Ship Mode		
	Delivery Truck	Express Air	Regular Air
Container			
Jumbo Box	Abc		Abc
Jumbo Drum	Abc		Abc
Large Box		Abc	Abc
Medium Box		Abc	Abc
Small Box		Abc	Abc
Small Pack		Abc	Abc
Wrap Bag		Abc	Abc

Pages

Filters

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Action

Columns

Date

Rows

Generator

Generators

	Date						
Generator	Jan 13	Jan 22	Jan 25	Jan 27	Jan 29	Jan 30	Jan 31
A	On					Off	
B		On		Off			
C			On			Off	
D			On				Off
E					On		

9 marks

5 rows by 7 columns

Pages

Filters

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Action Value for Date

ColumnsDate

RowsGenerator

Generators - All Dates Filled

	Date																															
Generator	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31													
A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0													
B	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0													
C	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0													
D	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0													
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1													

Table Calculation



Generators Operating

Nested Calculations

Action Value for Date ▾

Compute Using

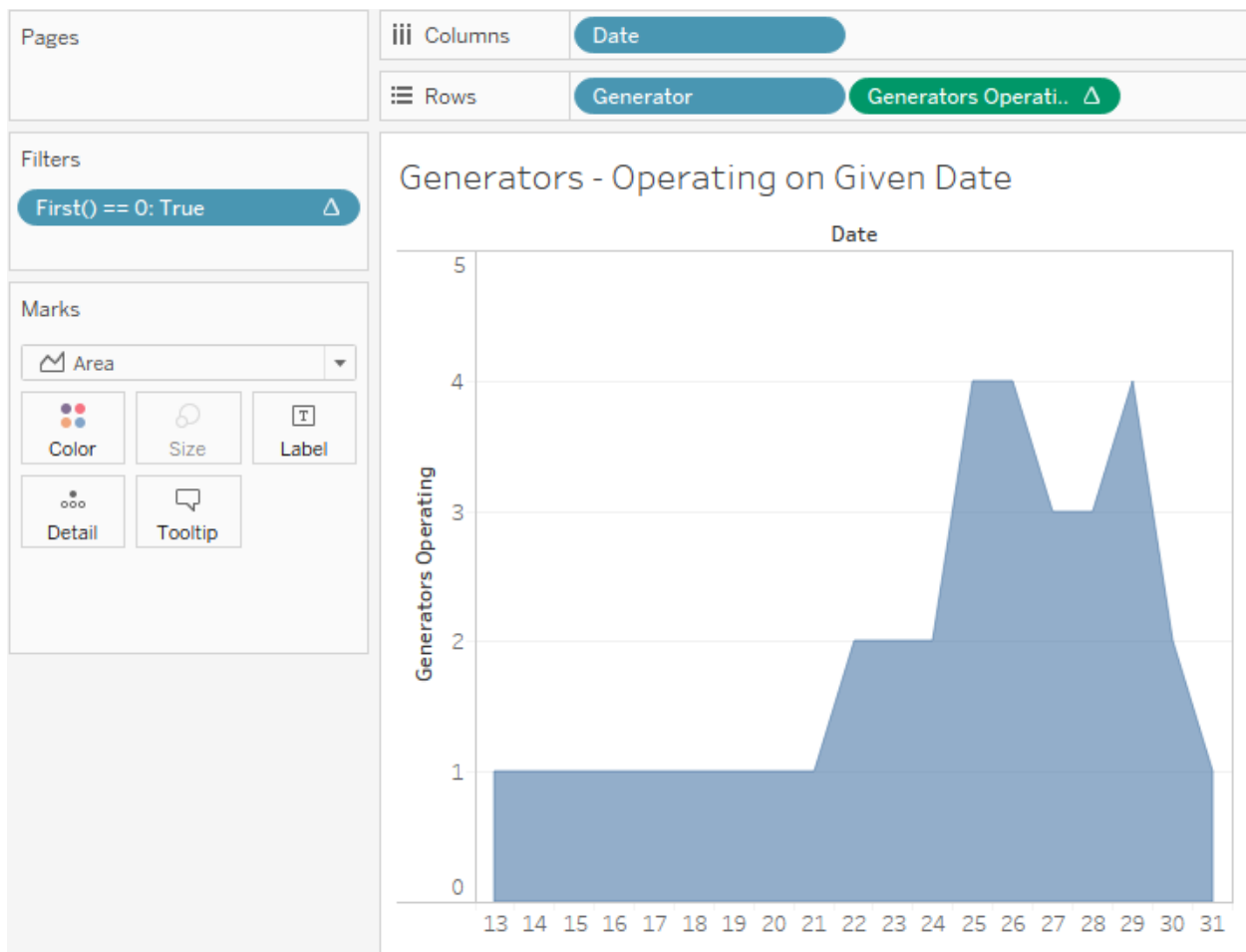
Table (across)
Table (down)
Table (across then down)
Table (down then across)
Pane (down)
Pane (across then down)
Pane (down then across)
Cell

Specific Dimensions

☒ Date
☐ Generator

At the level ▾

Restarting every ▾



Chapter 6: Formatting a Visualization to Look Great and Work Well

Workbook (global format defaults, default field formatting)

Story (format title, navigator, description)

Dashboard (title, navigator, description, parameter controls, etc...)

Sheet (View) (font, alignment, shading, border, lines, etc...)

Default field formatting overridden by **sheet level field formatting**

Sheet formatting overridden by **row and column specific formatting**

Formatting: Parts of the View

		Customer Segment				
Department	Category	Consumer	Corporate	Home Office	Small Business	Grand Total
Furniture	Bookcases	92,626	262,085	79,404	73,381	507,496
	Chairs & Chairmats	305,381	407,724	212,830	238,651	1,164,586
	Office Furnishings	69,528	115,506	197,188	62,412	444,634
	Tables	228,934	363,979	287,507	181,502	1,061,922
	Total	696,469	1,149,294	776,929	555,946	3,178,638
Office Supplies	Appliances	63,813	167,941	124,757	100,225	456,736
	Binders and Binder Accessor...	103,625	225,160	148,472	161,326	638,583
	Envelopes	37,643	44,462	22,577	43,233	147,915
	Labels	3,713	7,929	5,411	6,393	23,446
	Paper	53,004	89,312	61,123	50,181	253,620
	Pens & Art Supplies	24,027	36,004	21,765	21,469	103,265
	Rubber Bands	1,710	2,197	2,294	2,469	8,670
	Scissors, Rulers and Trimme...	14,628	9,625	12,947	3,232	40,432
	Storage & Organization	121,719	154,918	179,151	129,929	585,717
	Total	423,882	737,548	578,497	518,457	2,258,384
Technology	Computer Peripherals	80,805	224,142	110,840	75,064	490,851
	Copiers and Fax	148,504	205,639	174,718	132,354	661,215
	Office Machines	260,011	516,513	245,019	197,112	1,218,655
	Telephones and Communicat...	225,571	436,295	282,962	199,456	1,144,284
	Total	714,891	1,382,589	813,539	603,986	3,515,005
Grand Total		1,835,242	3,269,431	2,168,965	1,678,389	8,952,027

A	Font...
≡	Alignment...
◐	Shading...
▢	Borders...
≡	Lines...

Format Font ×

A ≡ ◐ ▢ ≡

Fields ▾

Sheet Rows Columns

Default

Worksheet: Tableau Book, 8pt ▾

Pane: Tableau Book, 8pt ▾

Header: Tableau Book, 8pt ▾

Tooltip: Tableau Book, 10pt ▾

Title: Tableau Light, 15pt ▾

Total

Pane: Tableau Medium, 8pt ▾

Header: Segoe UI, 8pt ▾

Grand Total

Pane: Tableau Medium, 8pt ▾

Header: Segoe UI, 8pt ▾

Clear

Format SUM(Sales)

A
≡
🗑️
📊
≡
Fields ▼

Axis
Pane

Default

Font:
Tableau Book, 8pt

Alignment:
Automatic

Numbers:
123,456

Totals

Font:
Tableau Medium, 8pt

Alignment:
Automatic

Numbers:
123,456

Grand Totals

Font:
Tableau Medium, 8pt

Alignment:
Automatic

Numbers:
123,456

Special Values (eg. NULL)

Text:
(Blank)

Marks:
Show at Indicator

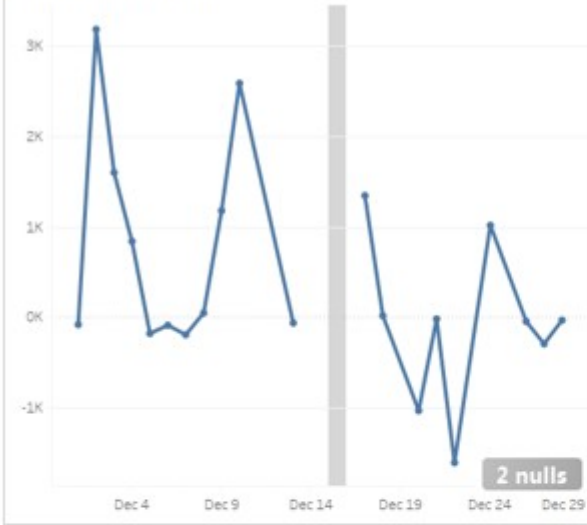
Format string	Resulting Values
#;-#	34331 and -8157
#,###.##; (#,###.##)	34,331.34 and (8,156.78)
#,###.000000; -#,###.000000	34,331.336000 and -8,156.777700
"up "#,###;"down "#,###;"same"	up 34,331 and down 8,157

Special Values (eg. NULL)

Text:
(Blank)

Marks:
Show at Indicator

Show at Indicator



Show at Default Value

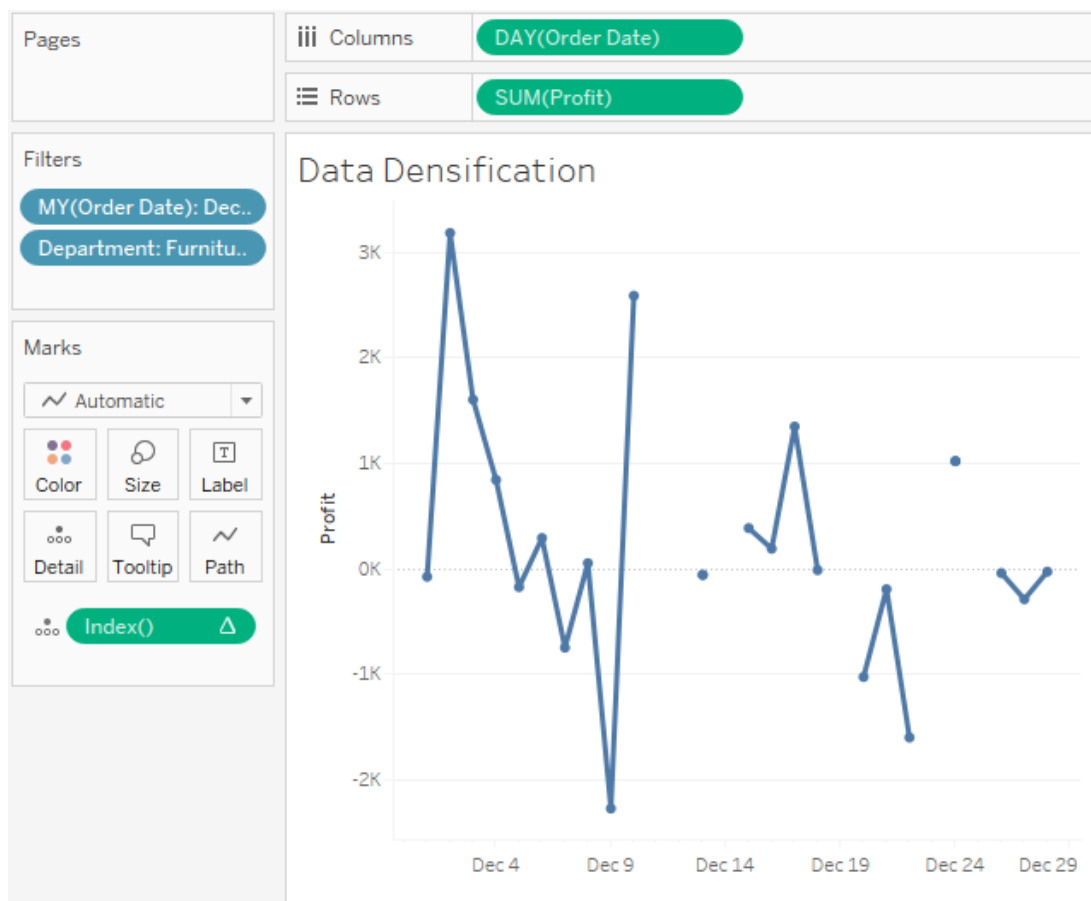
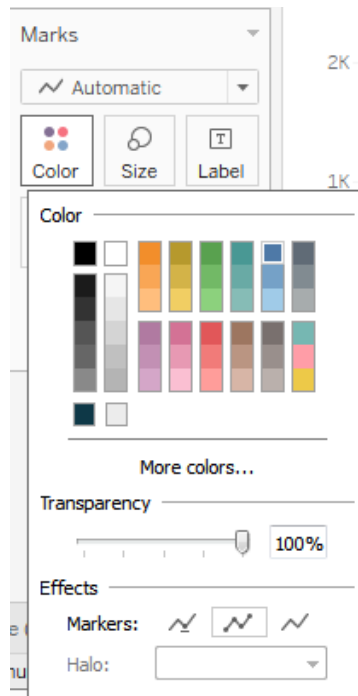


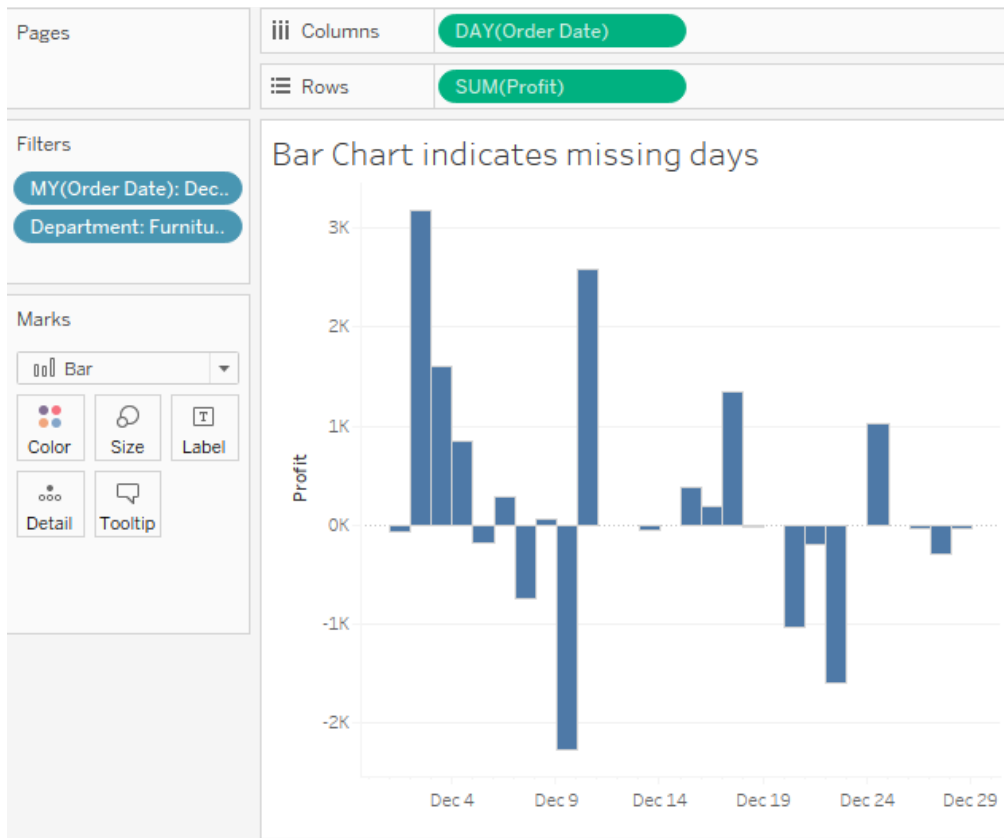
Hide (Connect Lines)



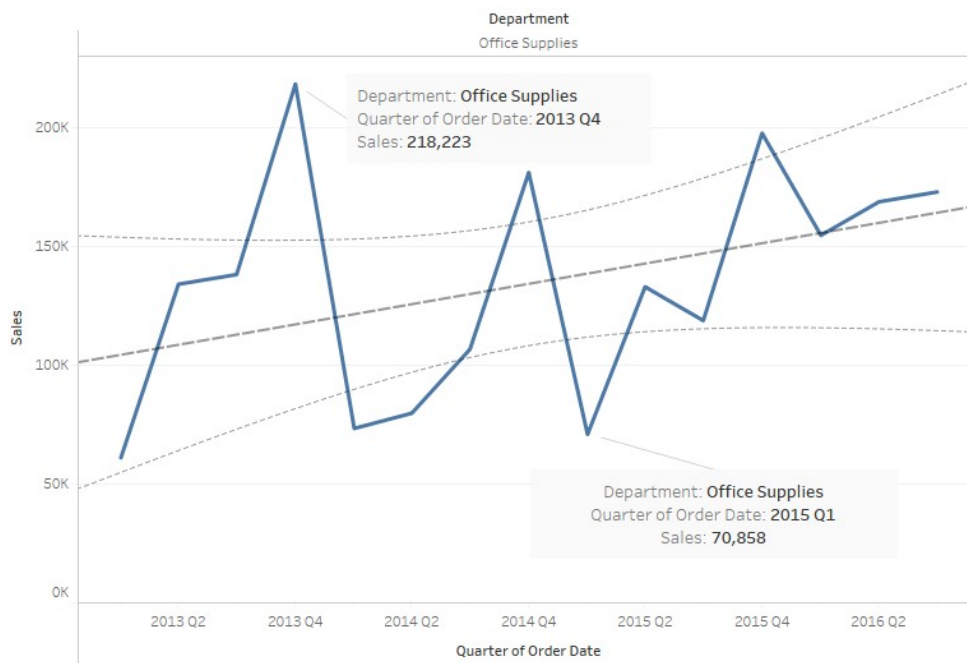
Hide (Break Lines)



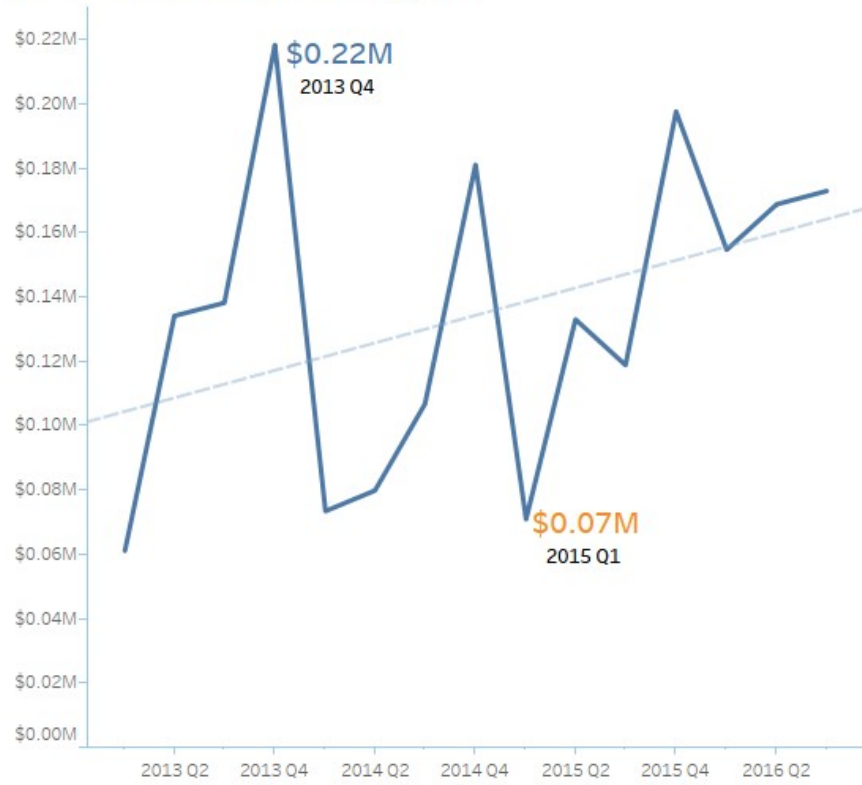




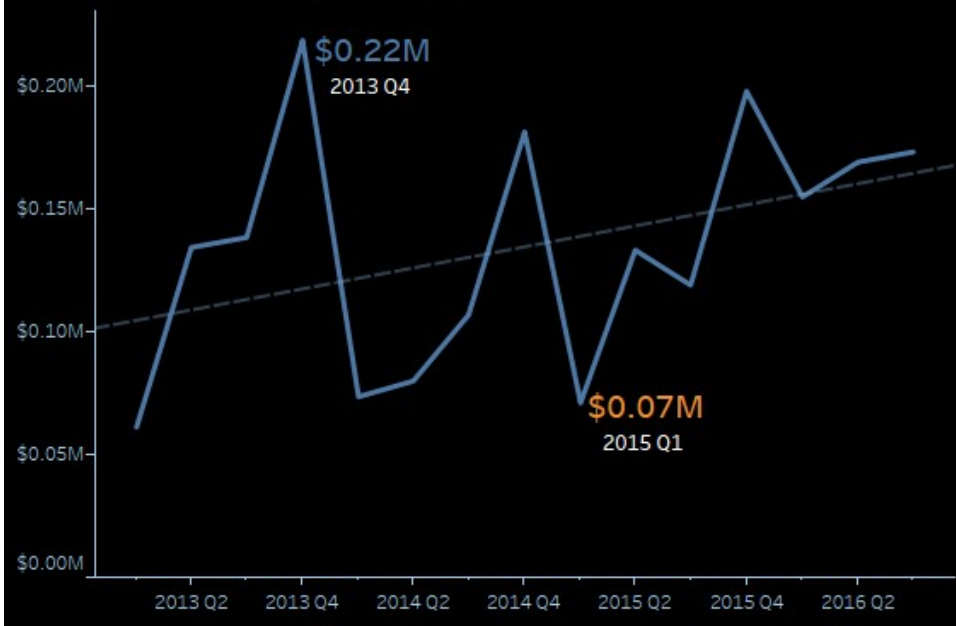
Sales Trends



Sales Trends for Office Supplies



Sales Trends for Office Supplies








✓ Keep Only ✕ Exclude 🔗 📄

Quarter of Order Date: **2016 Q1**
Sales: **\$0.15M**

Office Supplies
Sales of \$0.15M in 2016 Q1

Edit Tooltip ✕

Arial 10 **B** *I* U     Insert ✕

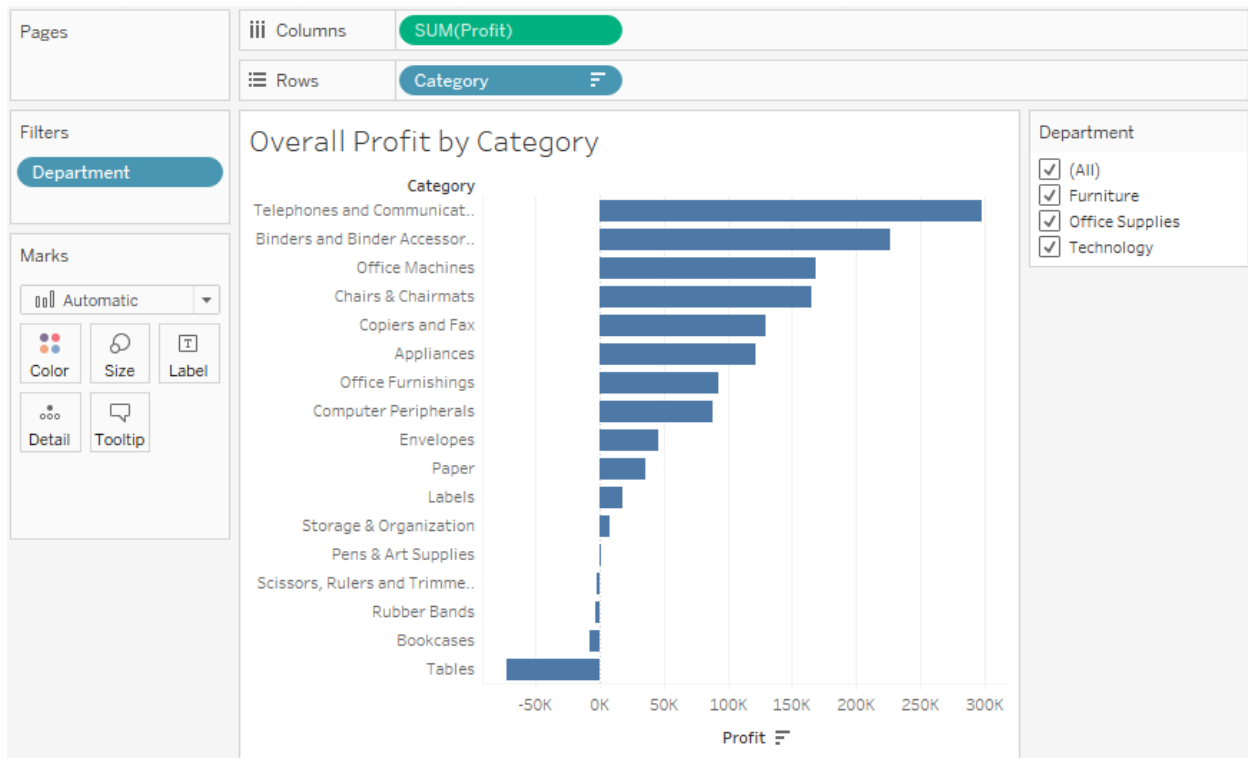
 1 2 3 4 5

<Department>
Sales of **<SUM(Sales)>** in **<QUARTER(Order Date)>**

☒ Show Tooltips Responsive - Show tooltips instantly (default) ☒ Include command buttons

Reset Preview OK Cancel

Chapter 7: Telling a Data Story with Dashboard



Filter [Item]

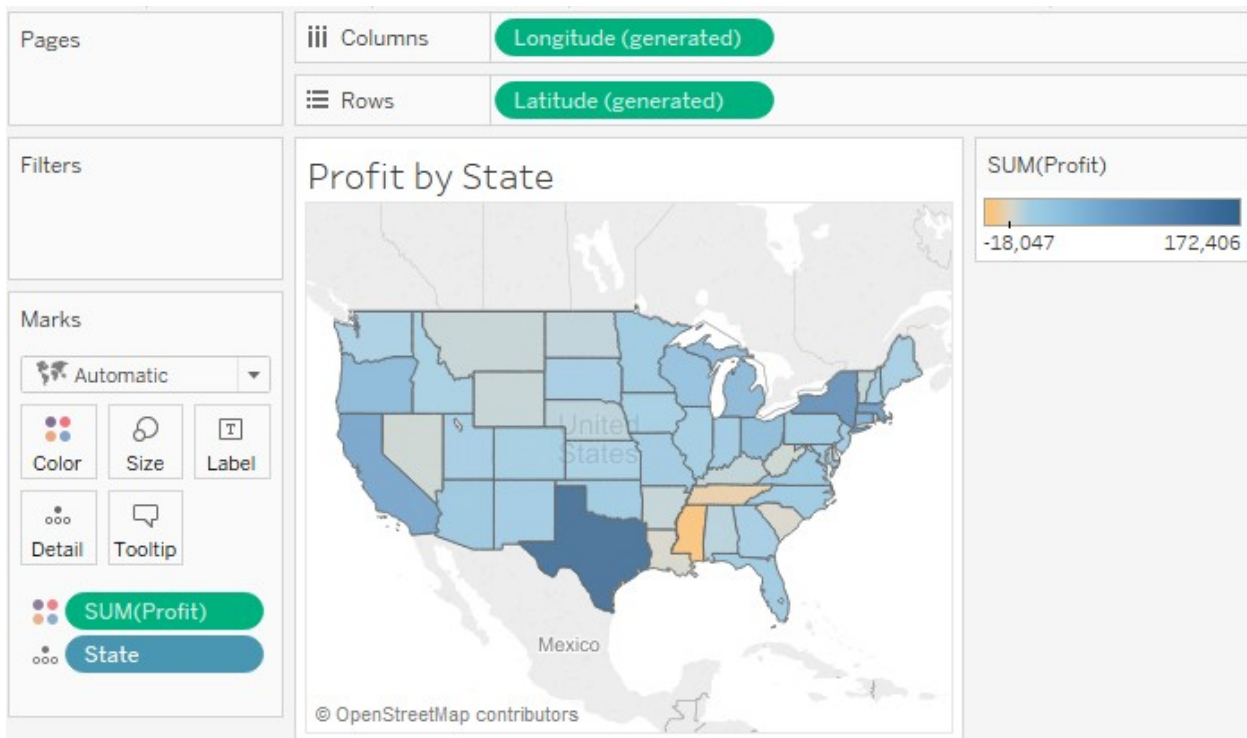
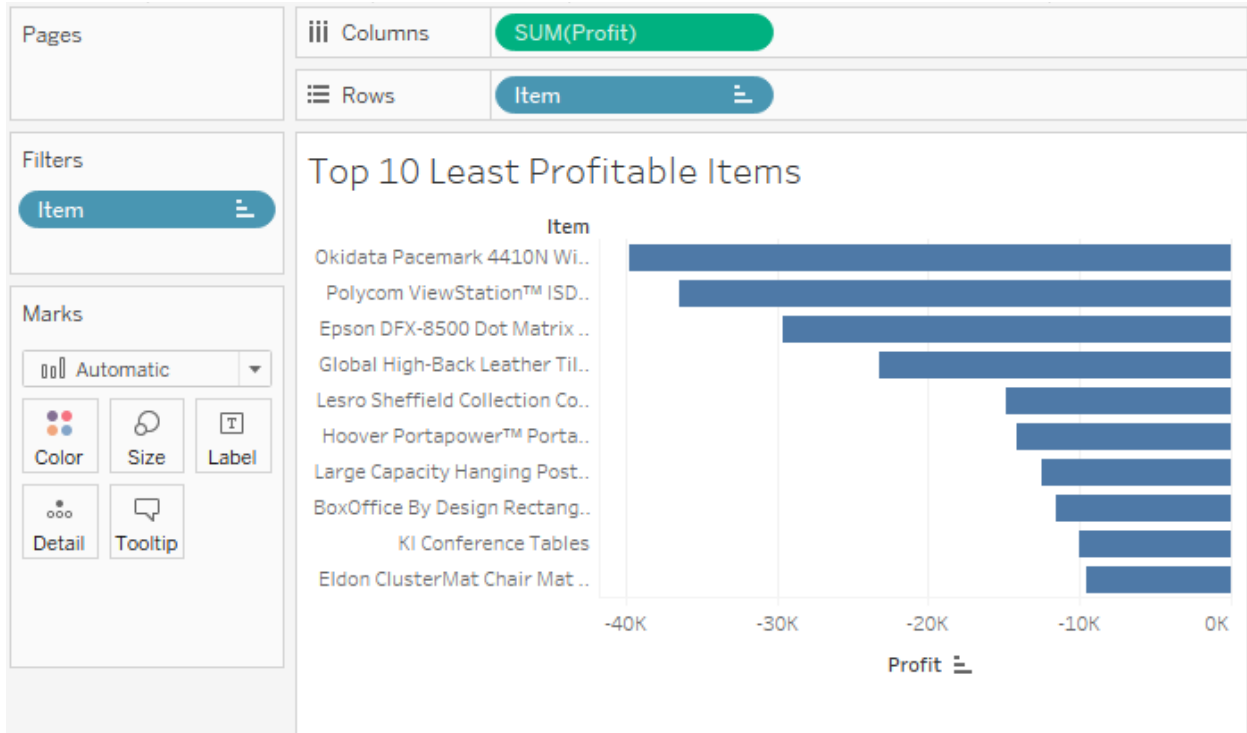
General Wildcard Condition Top

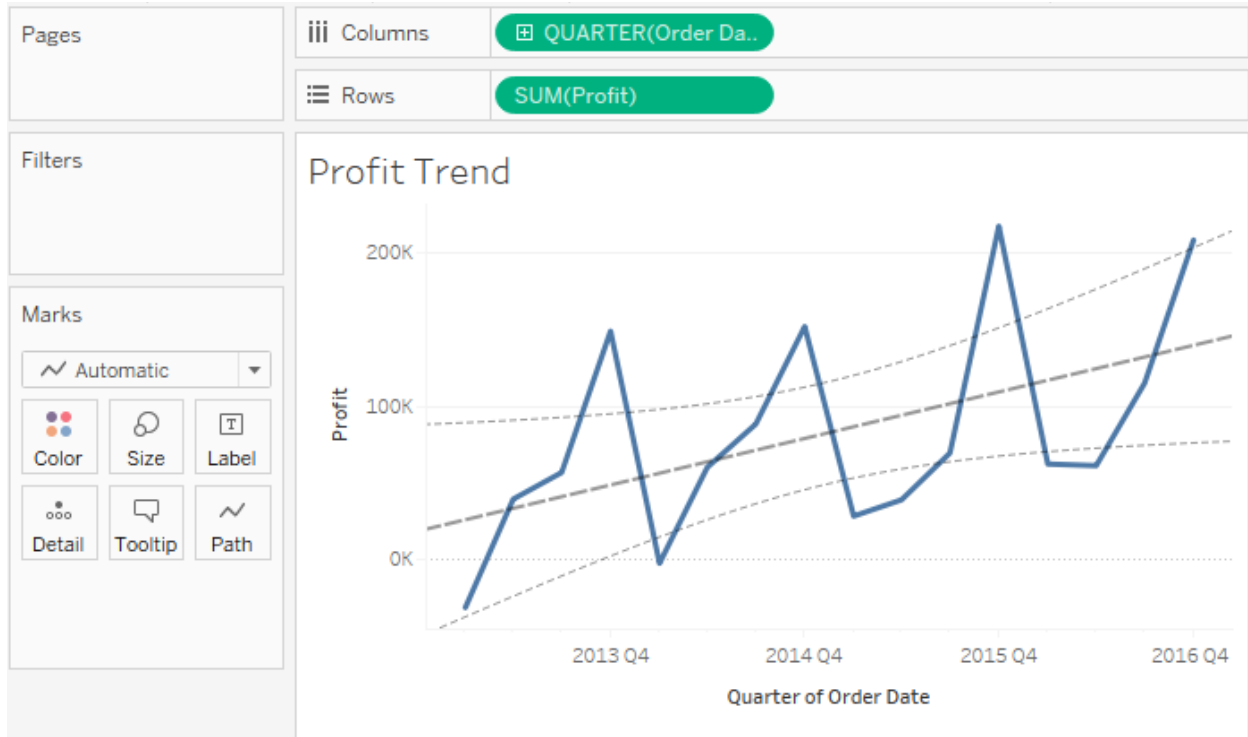
☐ None

☒ By field:

Bottom 10 by

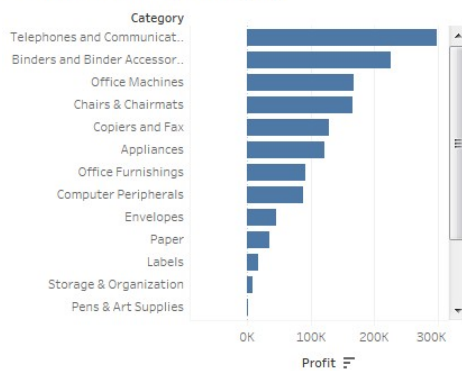
Profit Sum



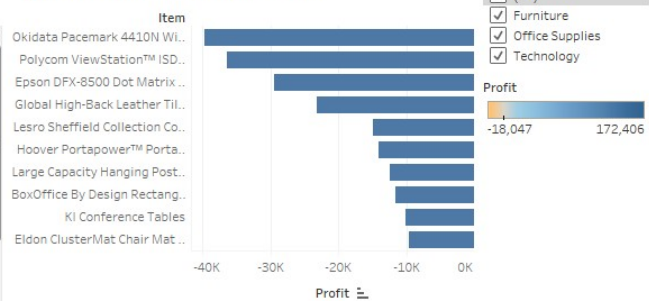


Is Least Profitable Always Unprofitable?

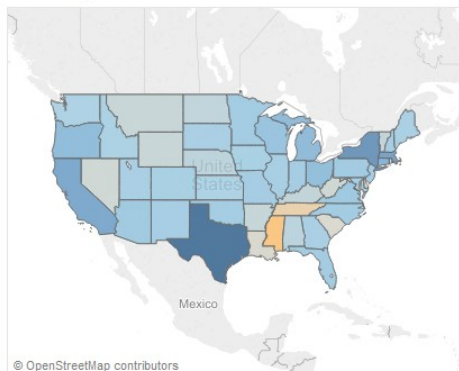
Overall Profit by Category



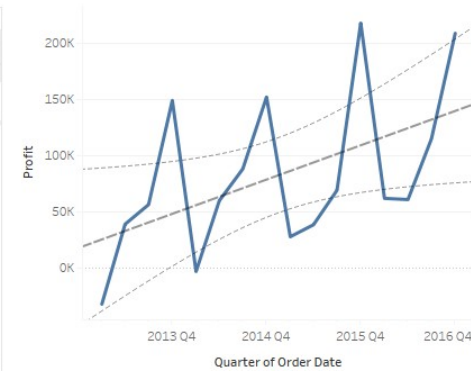
Top 10 Least Profitable Items

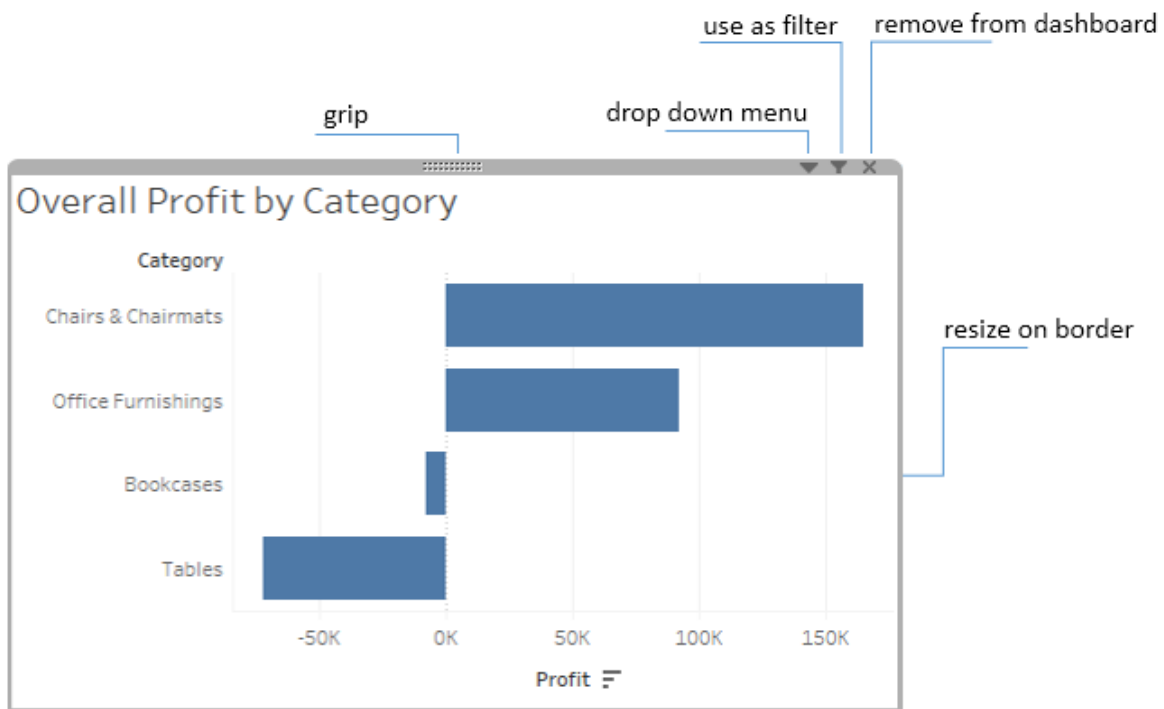


Profit by State



Profit Trend





Is Least Profitable Always Unprofitable?

Department

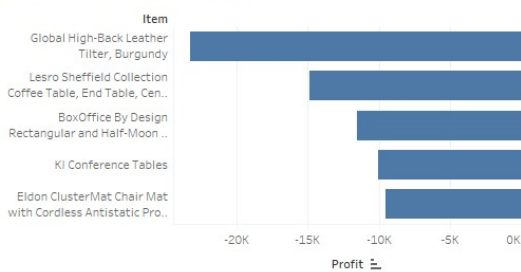
Furniture

1. Select a Department from the dropdown
2. Select a category below
3. Select an Item below

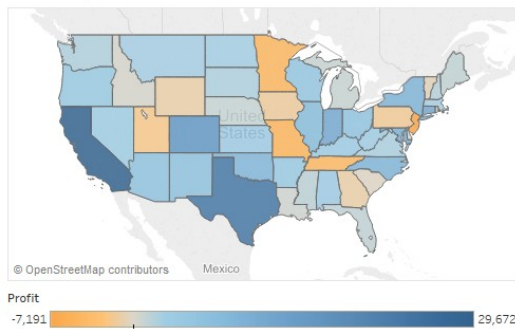
Overall Profit by Category



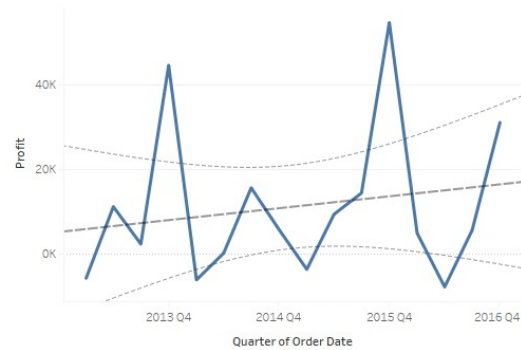
Top 10 Least Profitable Items



Profit by State



Profit Trend





Actions

Connect sheets to external web resources using URL actions, or to other sheets in the same workbook using Filter actions and Highlight actions.

Name	Run On	Source	Fields
Filter 1 (generated)	Select	Is Least Profitable Always ...	All

Add Action > Edit... Remove

☐ Show actions for all sheets in this workbook OK Cancel

Add Filter Action

Name: Filter by Item

Source Sheets:

Is Least Profitable Always Unprofitable?

Overall Profit by Category

Profit by State

Profit Trend

☒ Top 10 Least Profitable Items

Run action on:

Hover

Select

Menu

☐ Run on single select only

Target Sheets

Is Least Profitable Always Unprofitable?

Overall Profit by Category

☒ Profit by State

☒ Profit Trend

☐ Top 10 Least Profitable Items

Clearing the selection will:

☐ Leave the filter

☒ Show all values

☐ Exclude all values

Target Filters

☐ Selected Fields

☒ All Fields

Source Field	Target Field	Target Data Source

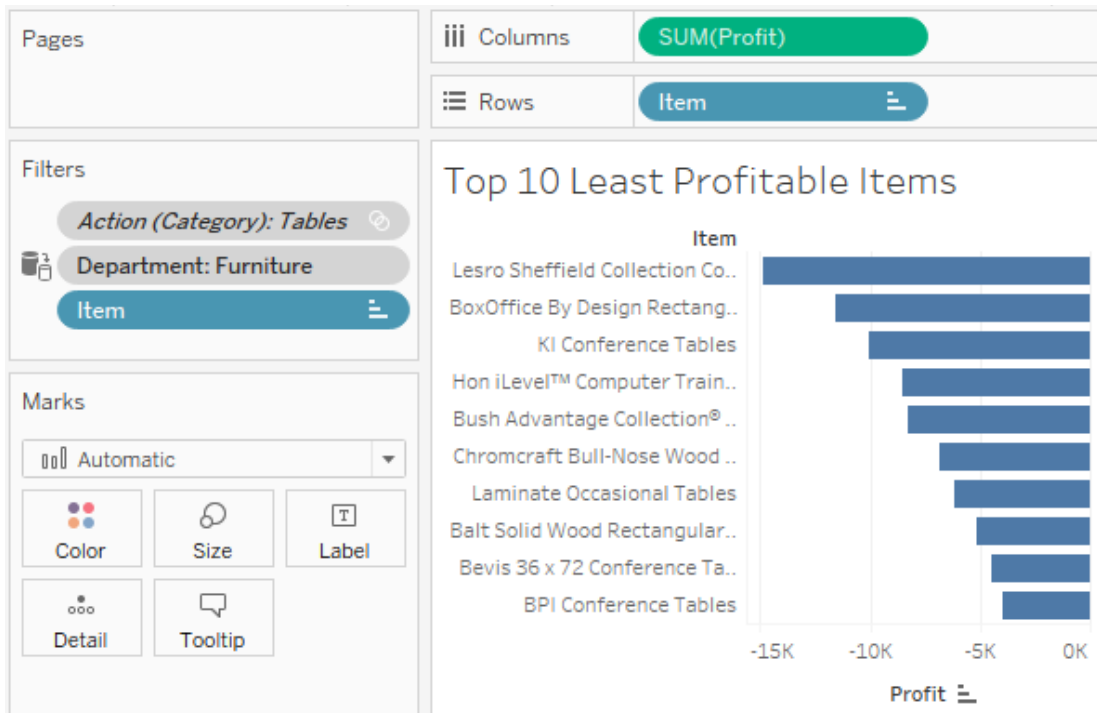
Add Filter...

Edit...

Remove

OK

Cancel



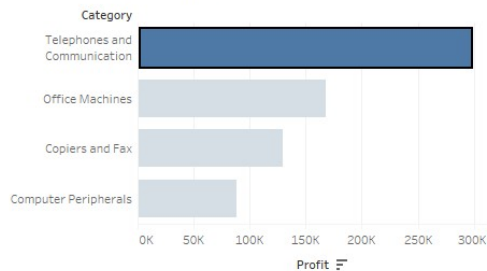
Is Least Profitable Always Unprofitable?

Department

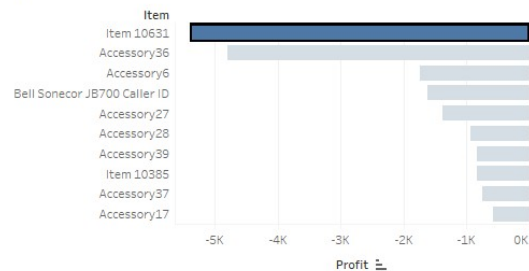
Technology

1. Select a Department from the dropdown
2. Select a category below
3. Select an Item below

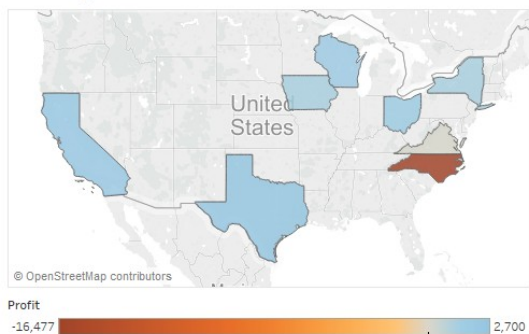
Overall Profit by Category



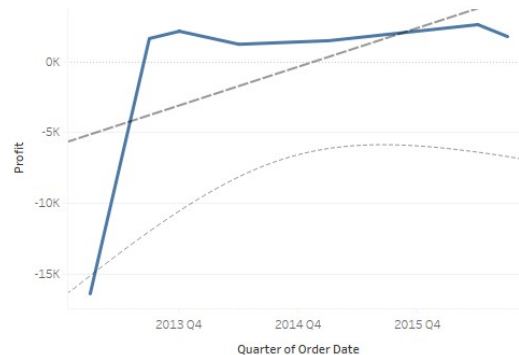
Top 10 Least Profitable Items



Profit by State



Profit Trend



Dashboard


Layout


Device Preview


Size


Desktop Browser (1000 x 800) ▾

Sheets

 Overall Profit by Category

 Profit Trend

 Profit by State

 Top 10 Least Profitable It...

Device type ▾ Tablet ▸ Model ▾ iPad (1024 x 768) ▸  ☐ Tableau Mobile app

Add Tablet Layout

Dashboard

Layout

Default

Tablet

Phone

Device Preview

Size - Tablet

☐ Default

☒ Fit all

☐ Fit width

Height

Layout - Tablet

Default

Custom

The content and layout of the dashboard on all devices will match the Default dashboard.

Click "Custom" to change how the dashboard will look for the devices.

Dashboard

Layout

Default

Tablet

Phone

Device Preview

Size - Phone

Default

Fit all

Fit width

Height1400 px

Layout - Phone

Default

Custom

Overall Profit by Category

Department

Profit Trend

Profit by State

Profit

Top 10 Least Profitable Items

1. Select a Department from t...

Is Least Profitable Always Un...

Clear all

Objects

Horizontal

Vertical

Text

Image

Web Page

Blank

Tiled

Floating

☒ Show dashboard title

Device Preview

Device typePhone

Is Least Profitable Always Unprofitable?

1. Select a Department from the dropdown
2. Select a category below
3. Select an Item below

DepartmentTechnology

Overall Profit by Category

Category

Telephones and Communicat..

Office Machines

Copiers and Fax

Computer Peripherals

0K100K200K300K

Profit

Top 10 Least Profitable Items

Item

Item 10631

Accessory36

Accessory6

Bell Sonecor JB700 Caller ID

Accessory27

Accessory28

Accessory39

Item 10385

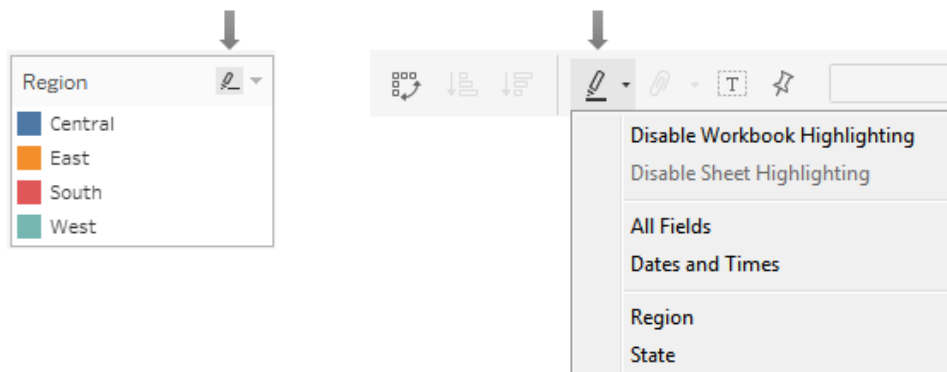
Accessory37

Accessory17

-4K-2K0K

Profit

Profit by State



Edit Filter Action

Name:

Source Sheets:

☐ Is Least Profitable Always Unprofitable?

☐ Overall Profit by Category

☐ Profit by State

☐ Profit Trend

☒ Top 10 Least Profitable Items

Run action on:

☐ Run on single select only

Target Sheets

☐ Is Least Profitable Always Unprofitable?

☐ Overall Profit by Category

☒ Profit by State

☒ Profit Trend

☐ Top 10 Least Profitable Items

Clearing the selection will:

☐ Leave the filter

☒ Show all values

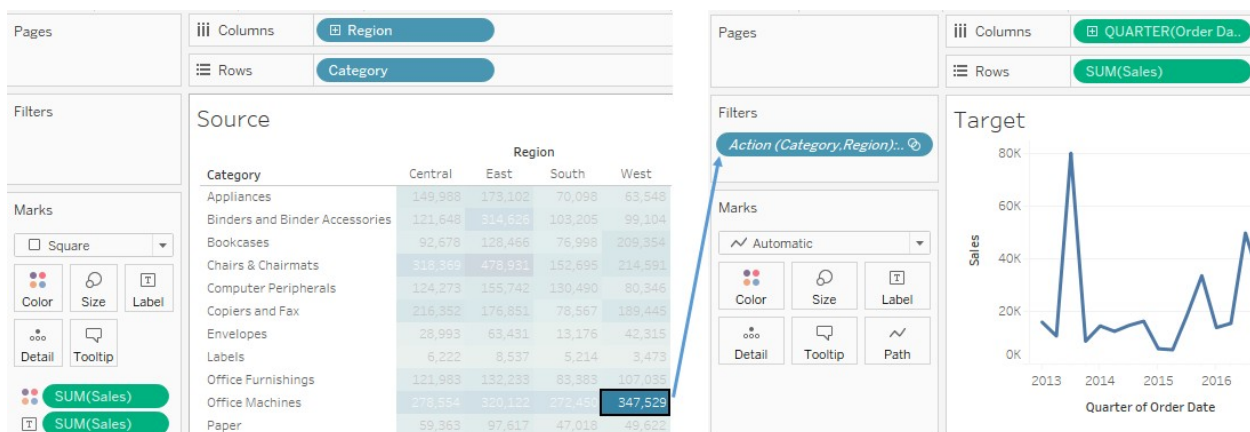
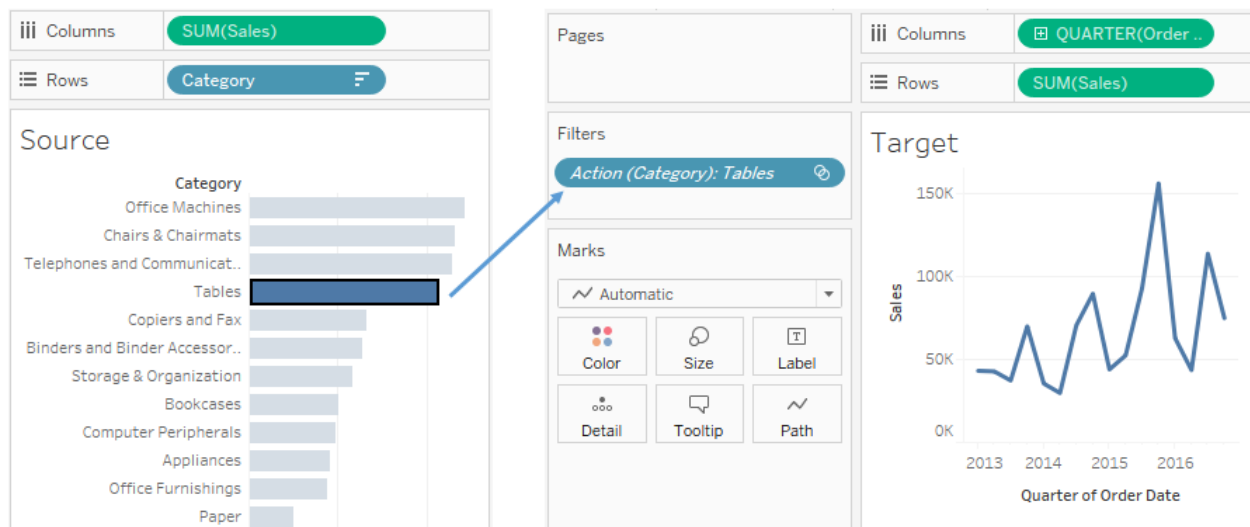
☐ Exclude all values

Target Filters

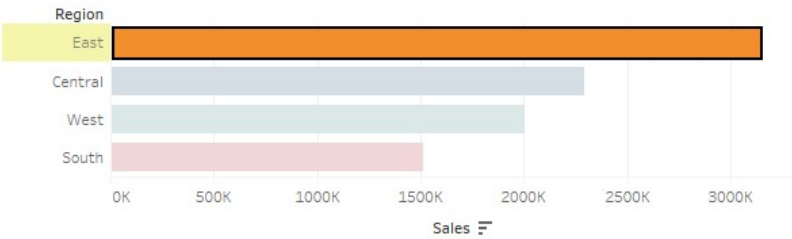
☐ Selected Fields

☒ All Fields

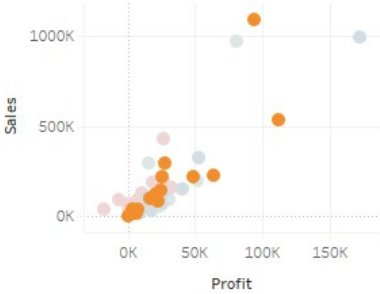
Source Field	Target Field	Target Data Source



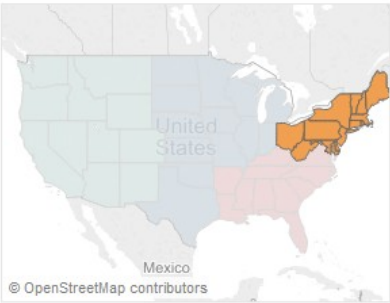
Sales by Region



Sales and Profit by State

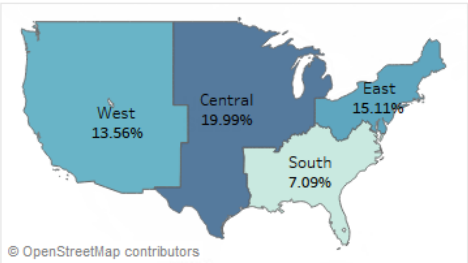


Regions



Profit Ratio KPI

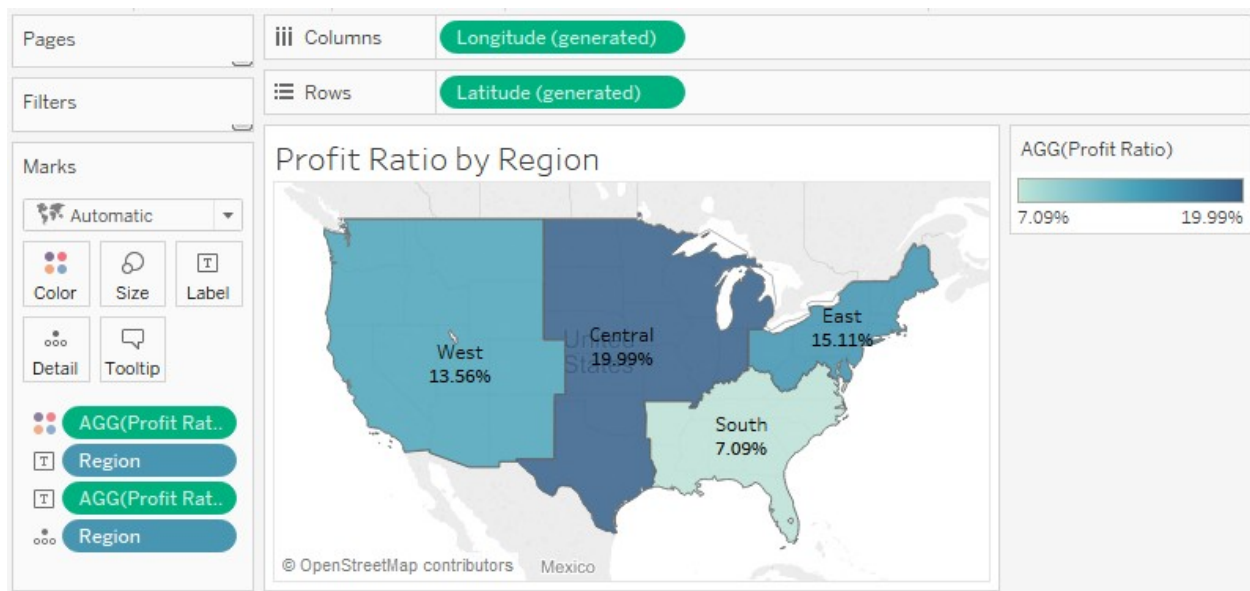
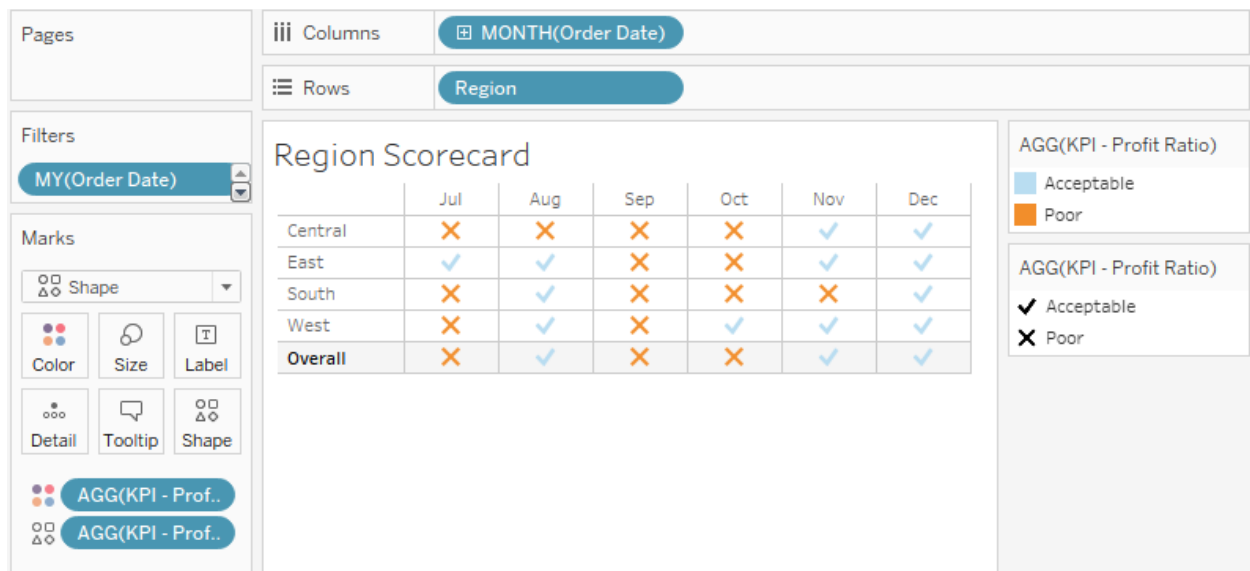
Regional Scorecard (last 6 months)

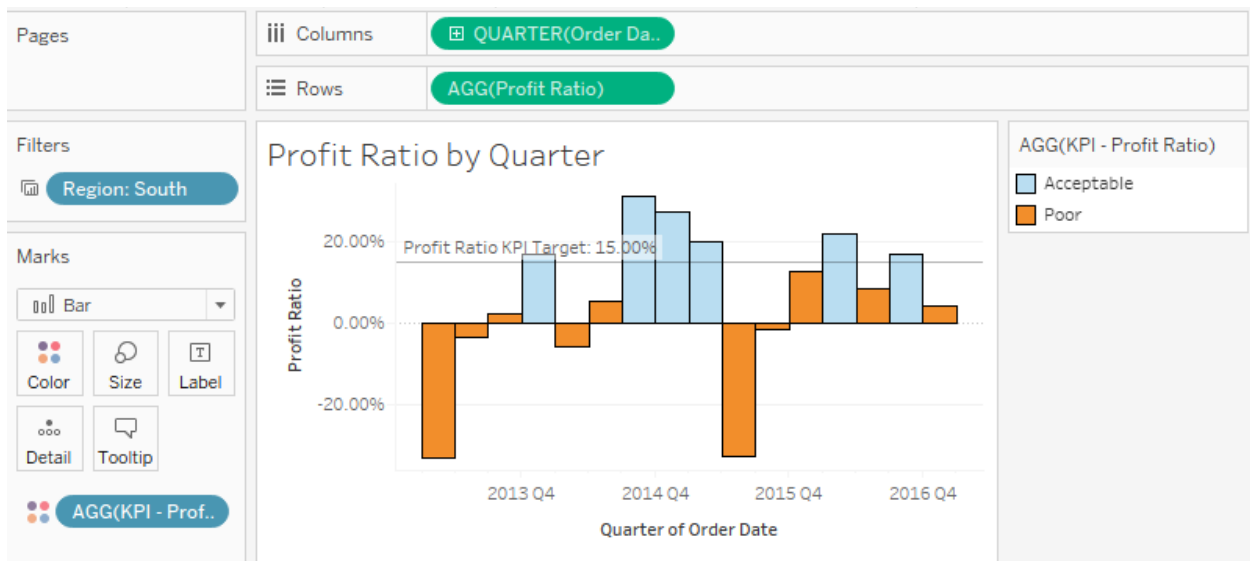
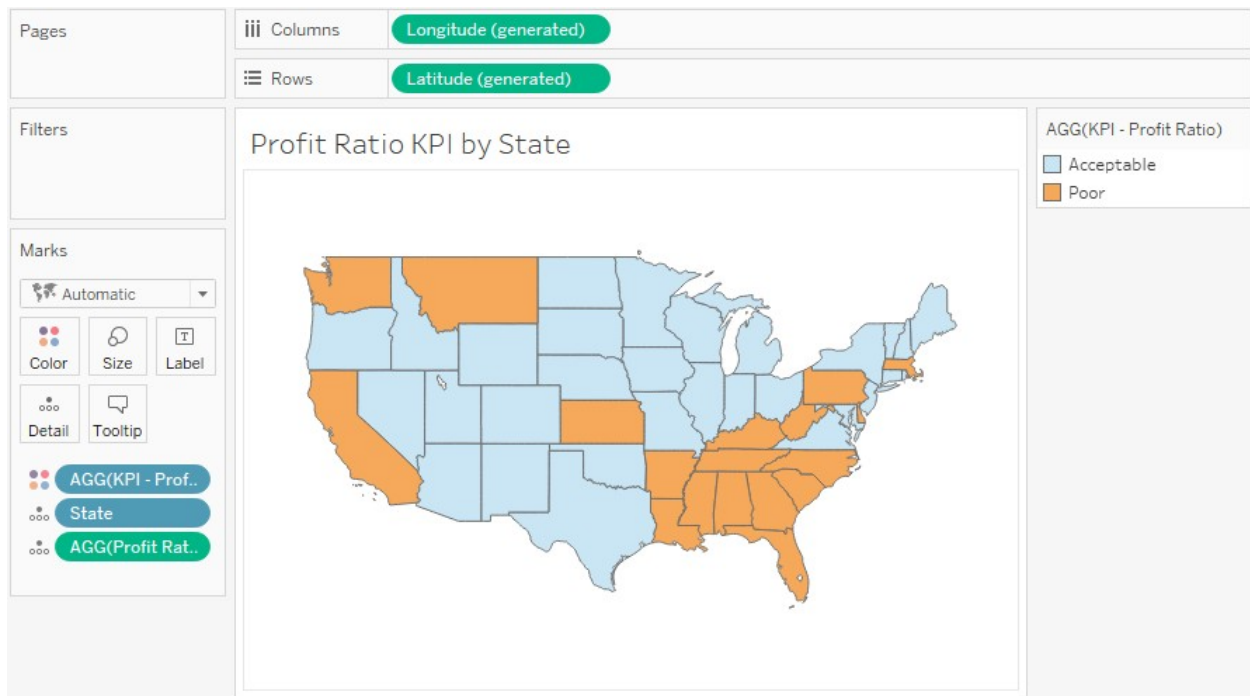


Profit Ratio KPI Target

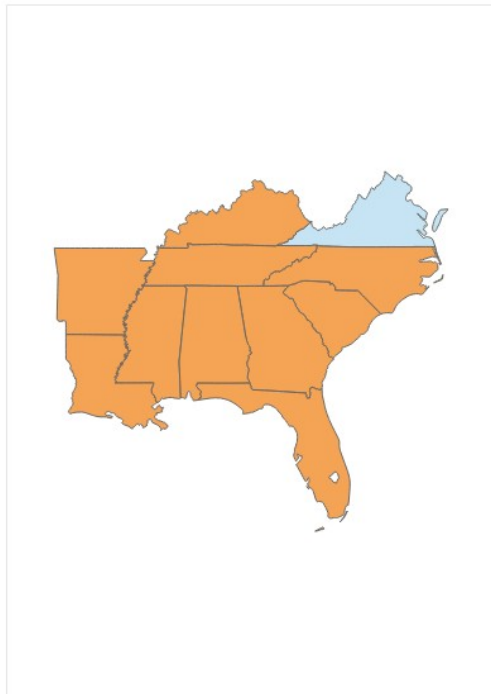
15.00%

	Jul	Aug	Sep	Oct	Nov	Dec
Central	✗	✗	✗	✗	✓	✓
East	✓	✓	✗	✗	✓	✓
South	✗	✓	✗	✗	✗	✓
West	✗	✓	✗	✓	✓	✓
Overall	✗	✓	✗	✗	✓	✓

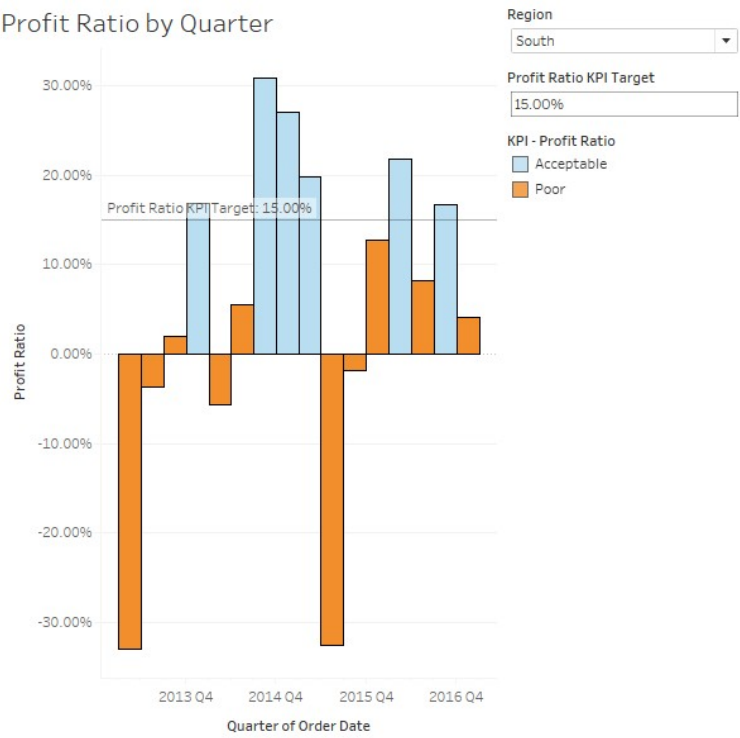




Profit Ratio KPI by State



Profit Ratio by Quarter



Story Title

Update
×

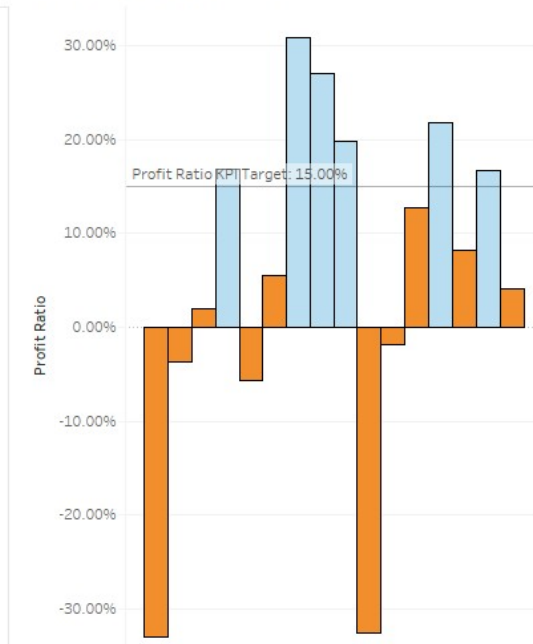
<
Story Point 1
Story Point 2
>

New Blank Point
Save as a New Point

Profit Ratio KPI by State



Profit Ratio by Quarter



South Region Analysis

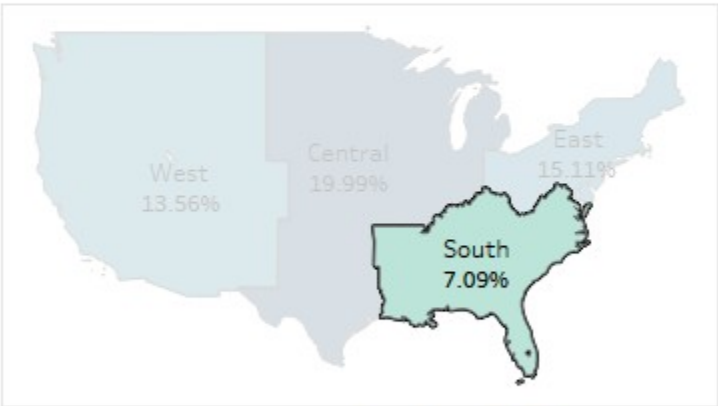
The South Region has not performed well the last 6 months.

New Blank Point

Duplicate

Profit Ratio KPI

Regional Scorecard (last 6 months)



Profit Ratio KPI Target

15.00%

	Jul	Aug	Sep	Oct	Nov	Dec
Central	✗	✗	✗	✗	✓	✓

South Region Analysis

<

The South Region has not performed well the last 6 months.

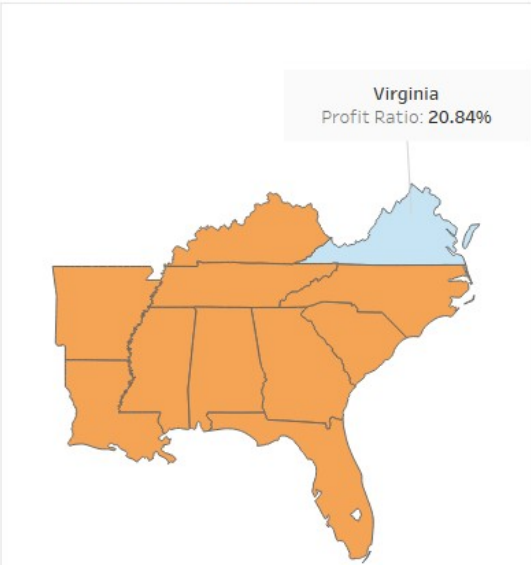
Only one state has met the 15% target overall

>

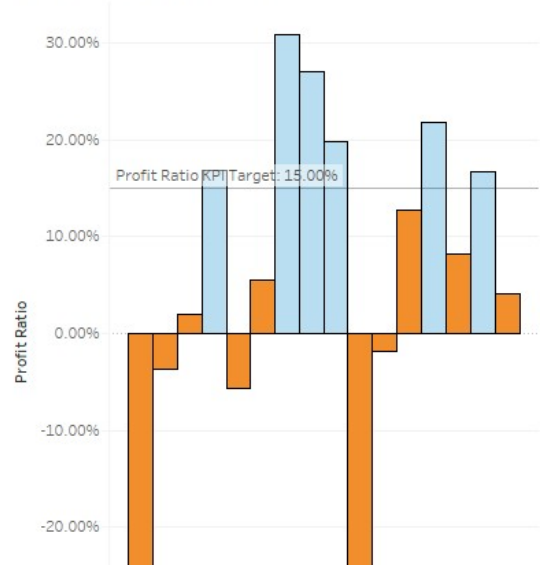
New Blank Point

Duplicate

Profit Ratio KPI by State



Profit Ratio by Quarter



South Region Analysis

<

The South Region has not performed well the last 6 months.

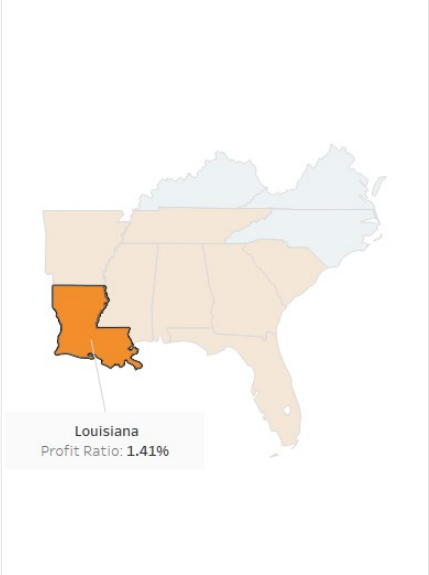
Only one state has met the 15% target overall

3 states would meet a goal of 10%

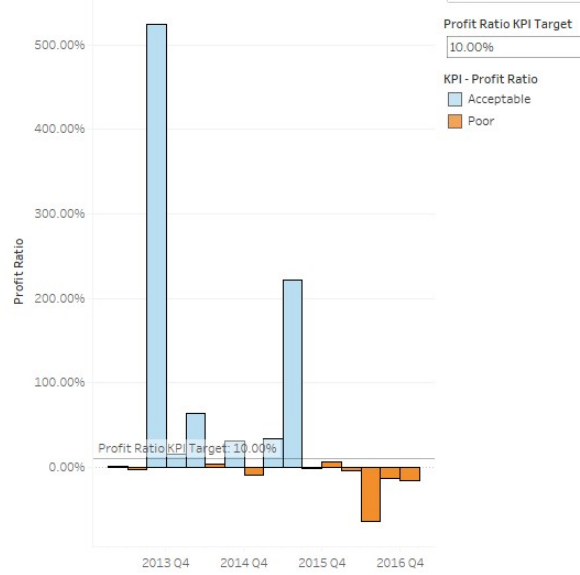
Certain states have performed well historically

>

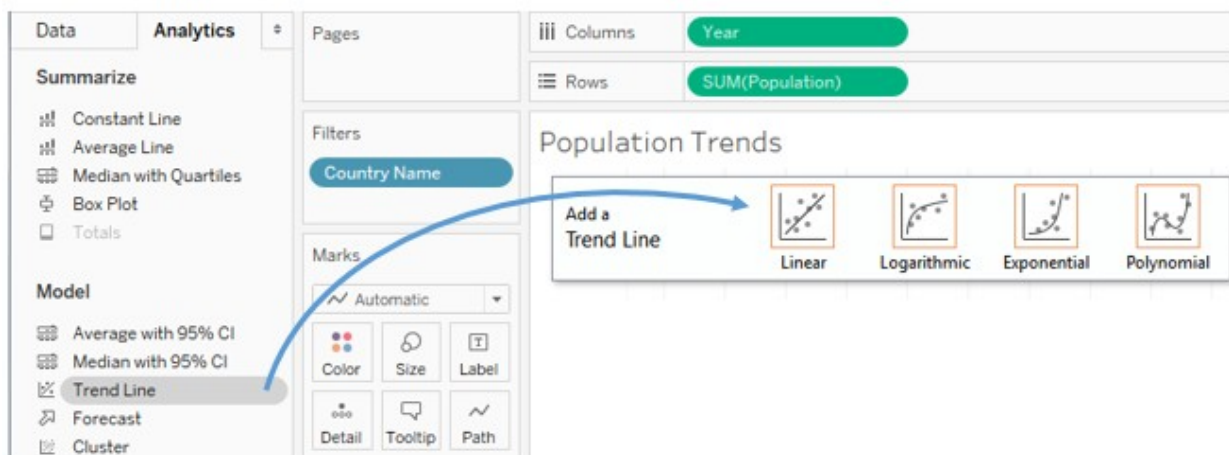
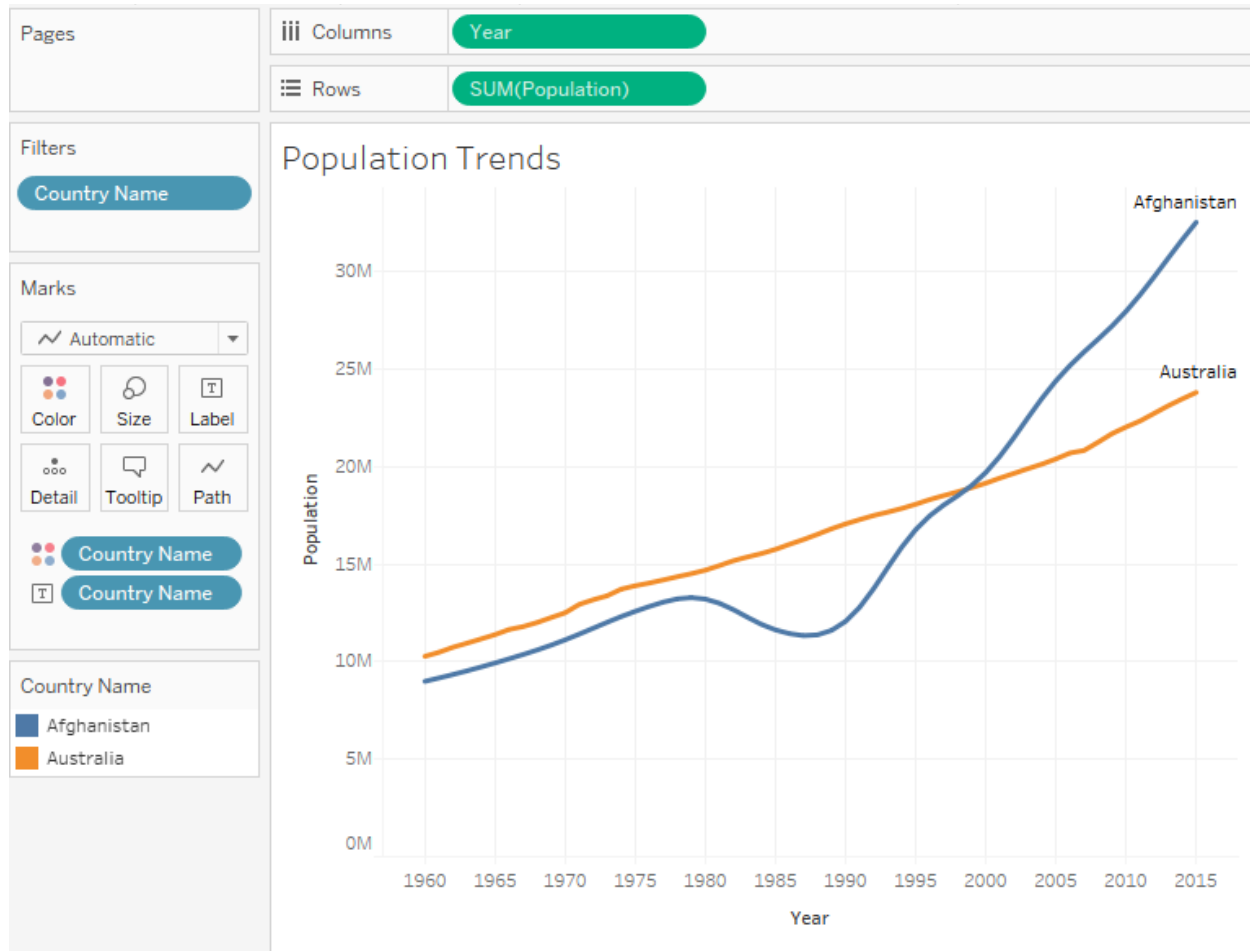
Profit Ratio KPI by State



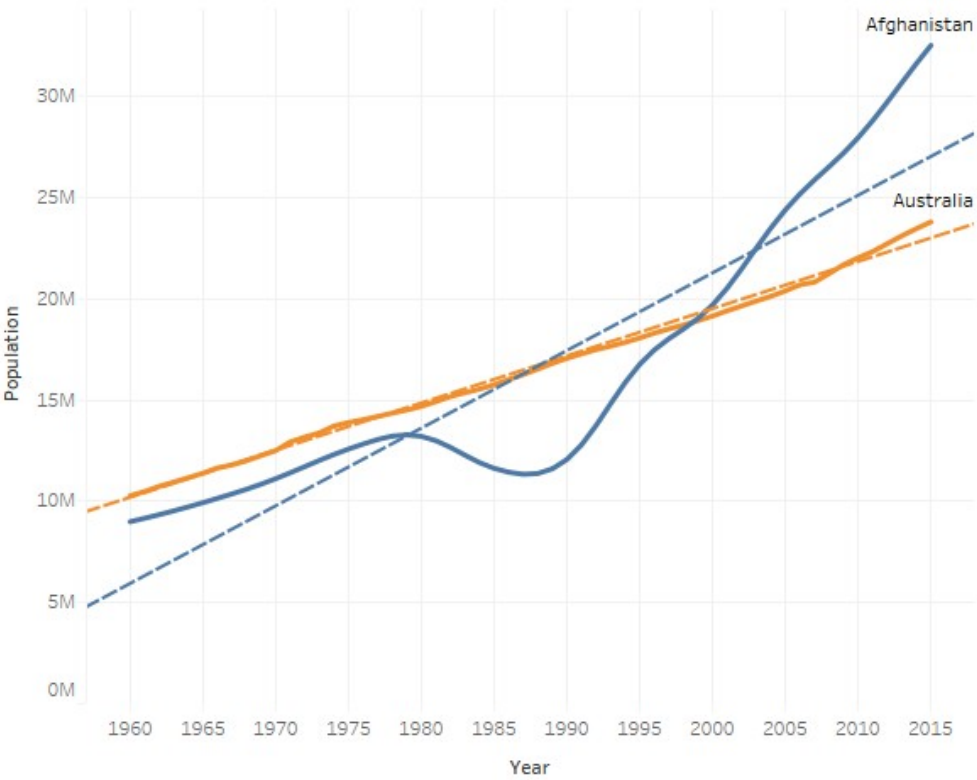
Profit Ratio by Quarter



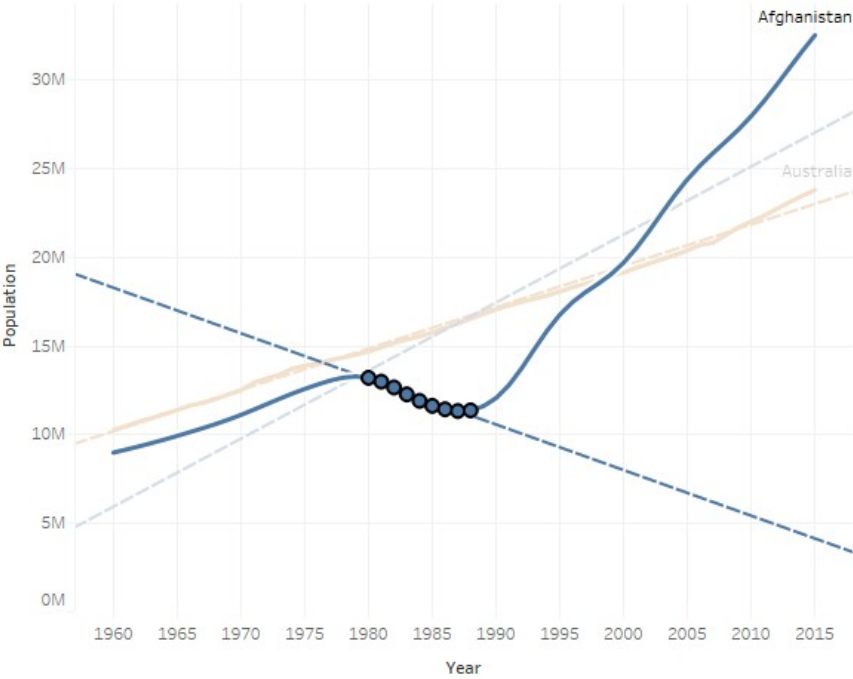
Chapter 8: Deeper Analysis – Trends, Clustering, Distributions and Forecasting

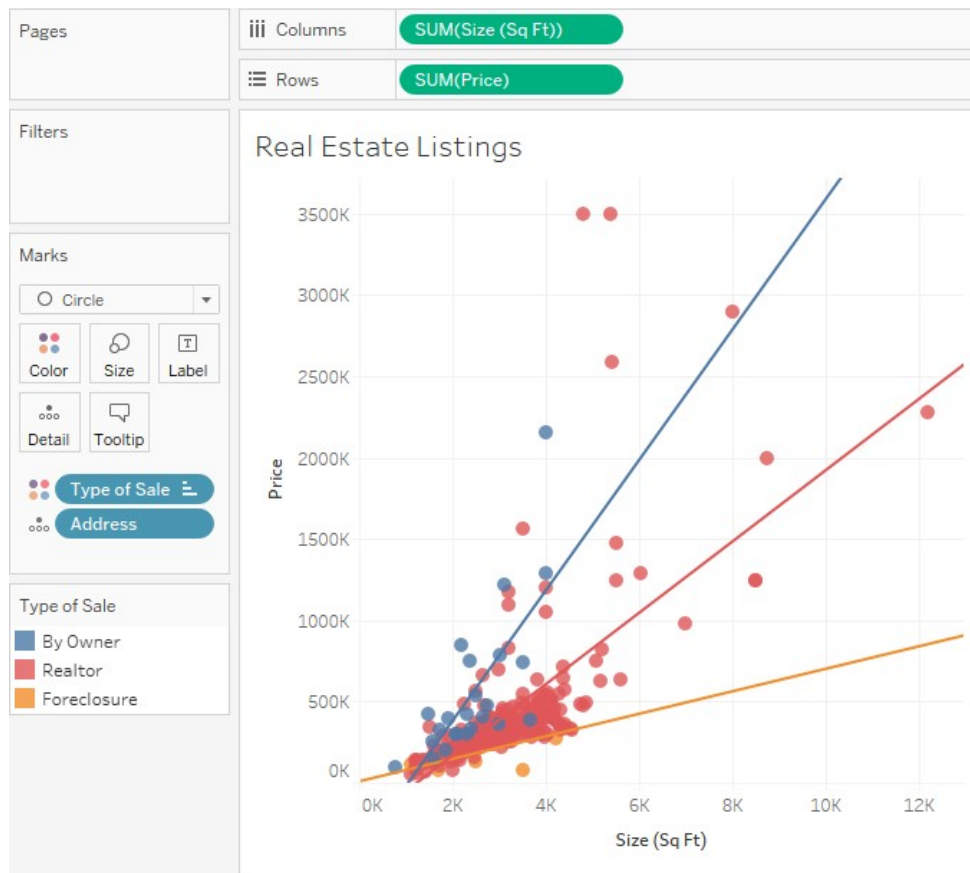
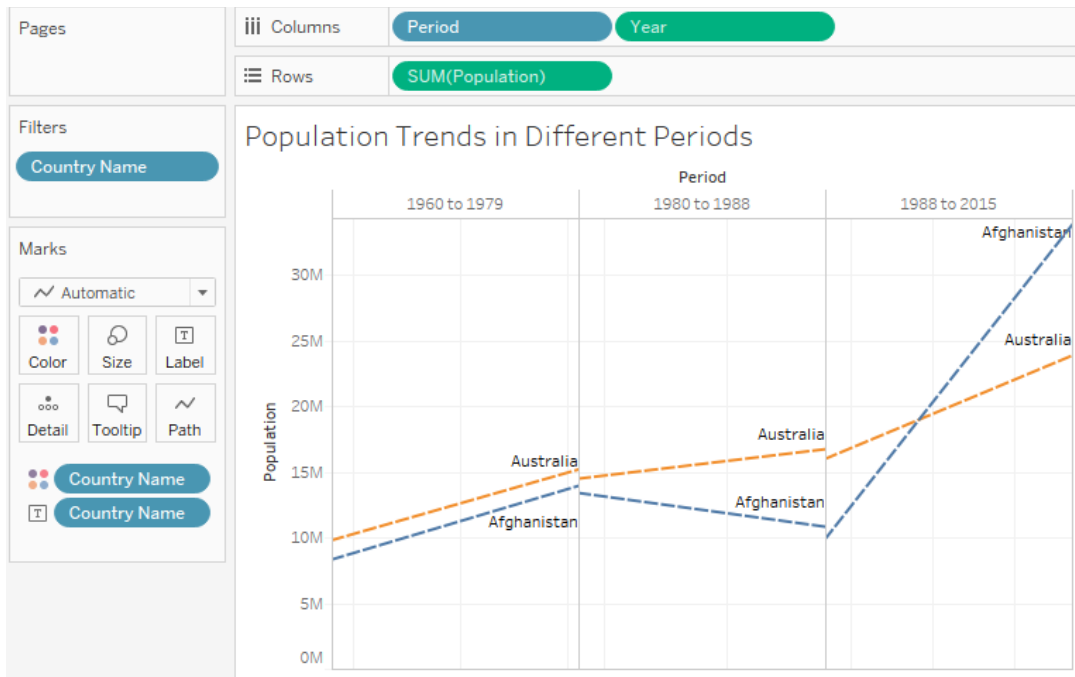


Population Trends



Population Trends





Trend Lines Options

Model type

☒ Linear
 ☐ Logarithmic
 ☐ Exponential
 ☐ Polynomial, Degree: 2

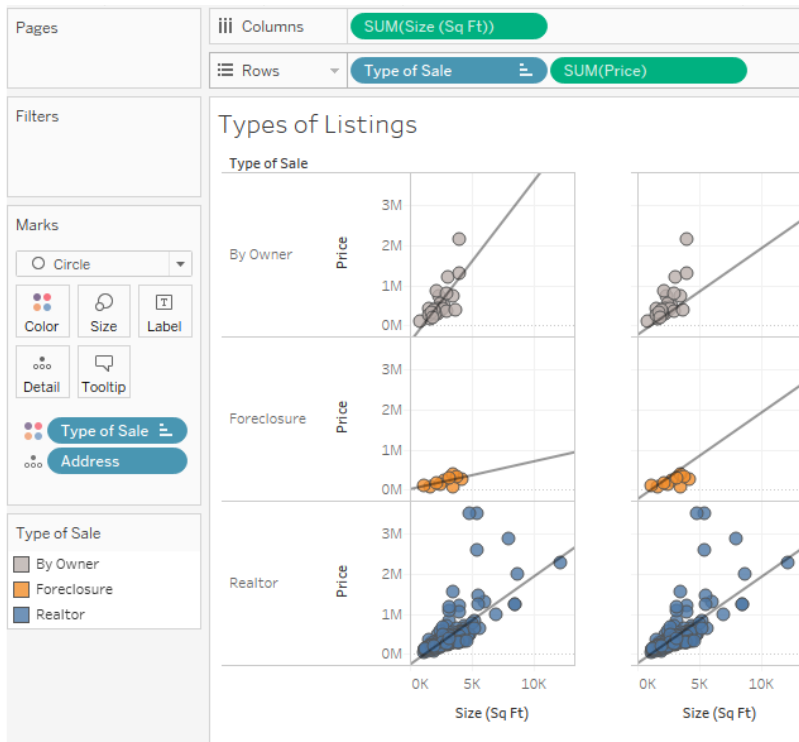
Options

Include the following fields as factors:

☒ Type of Sale

☒ Allow a trend line per color
 ☐ Show Confidence Bands
 ☐ Force y-intercept to zero
 ☒ Show recalculated line for highlighted or selected data points

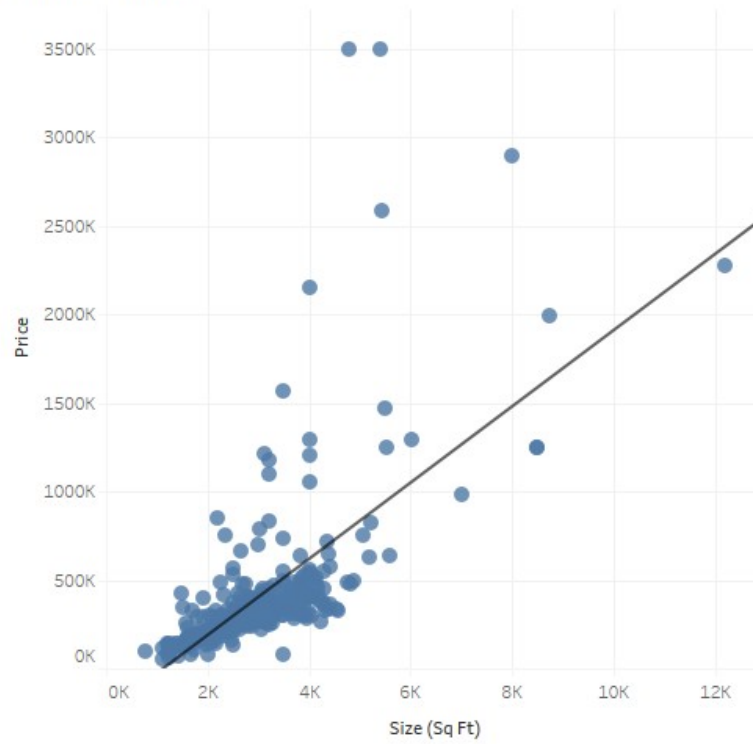
OK



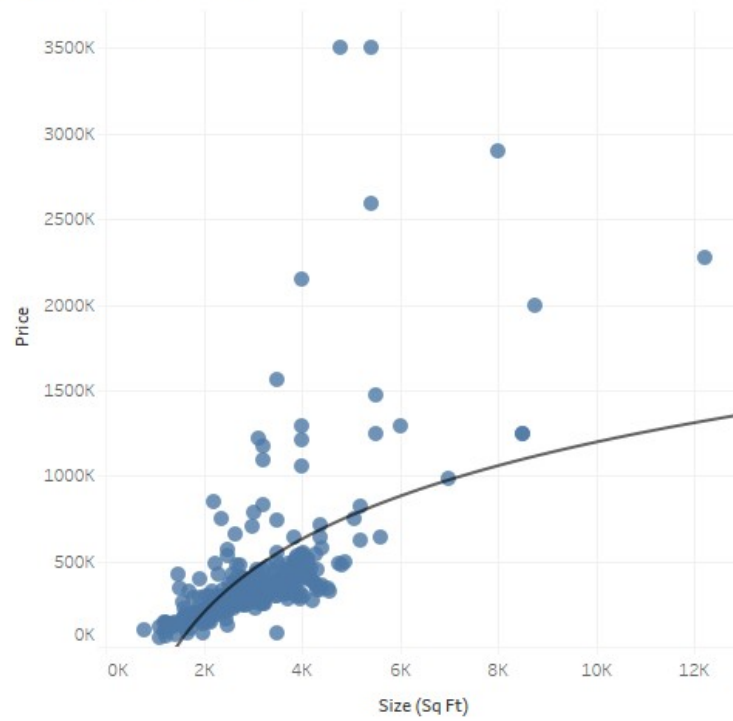
Type of Sale
as Factor

Type of Sale
not a Factor

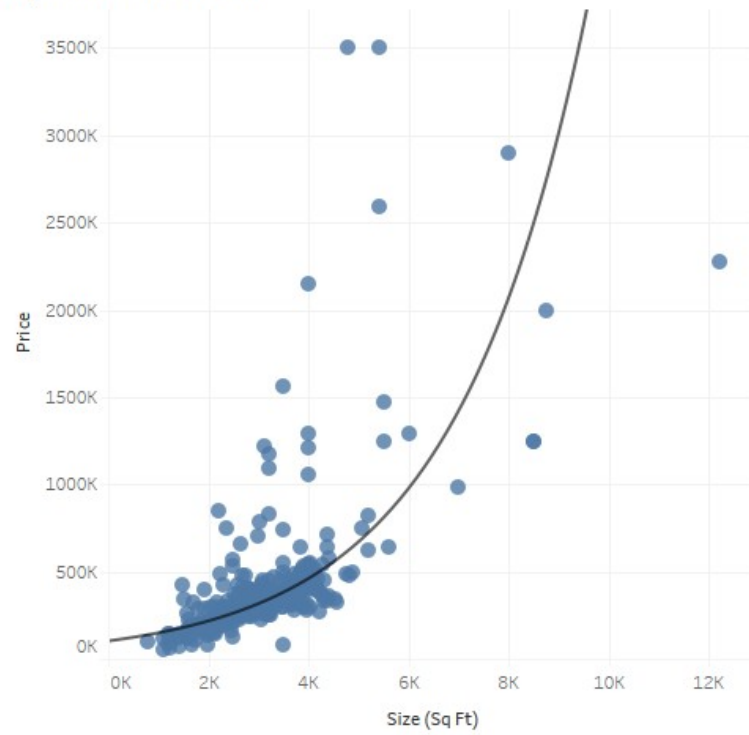
Linear Trend



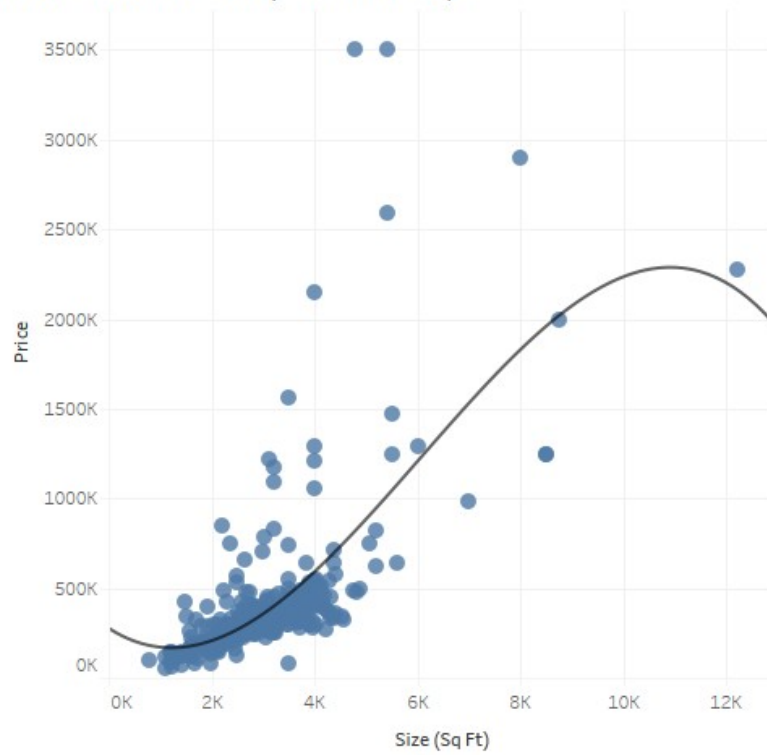
Logarithmic Trend

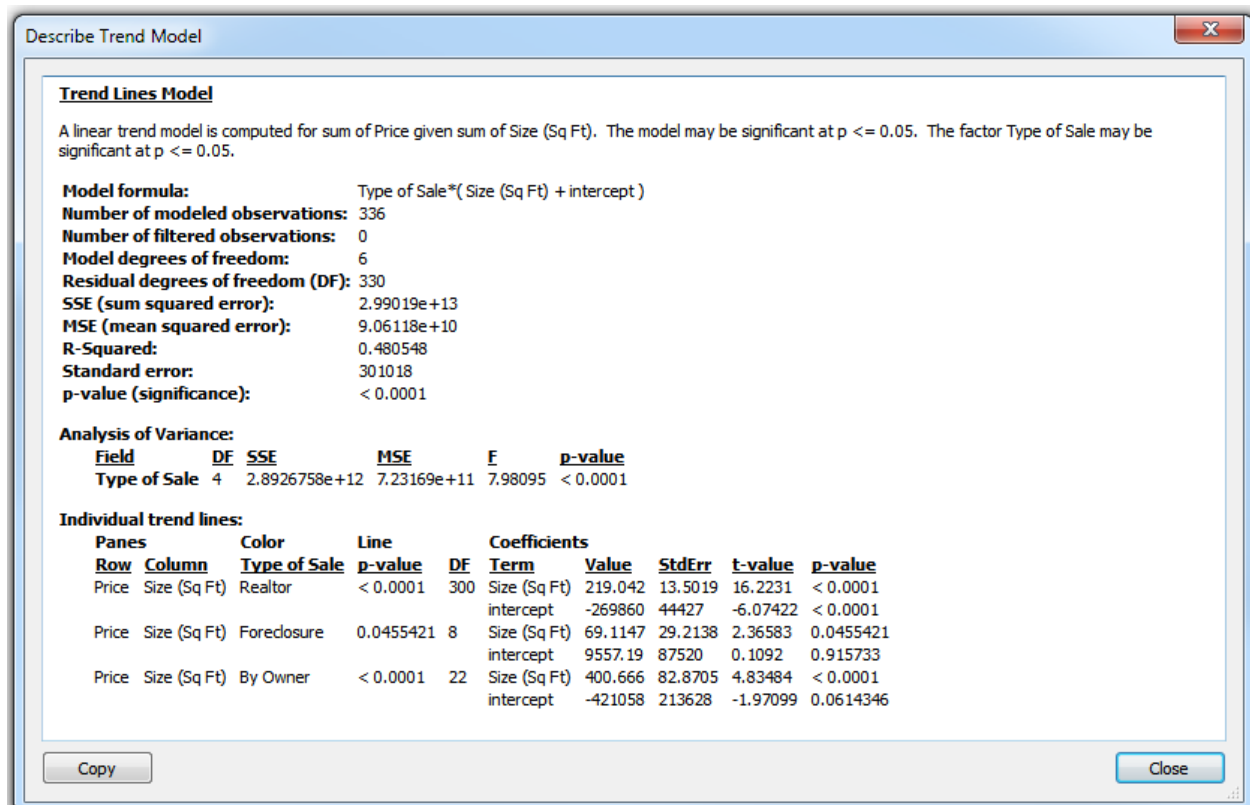
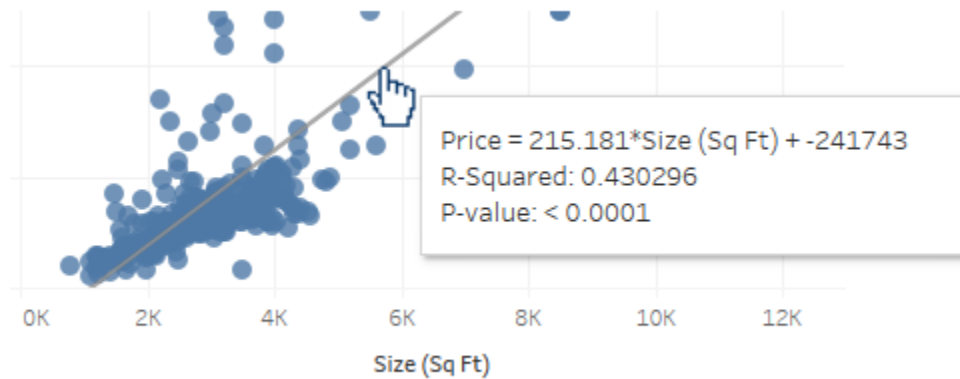


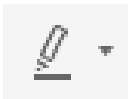
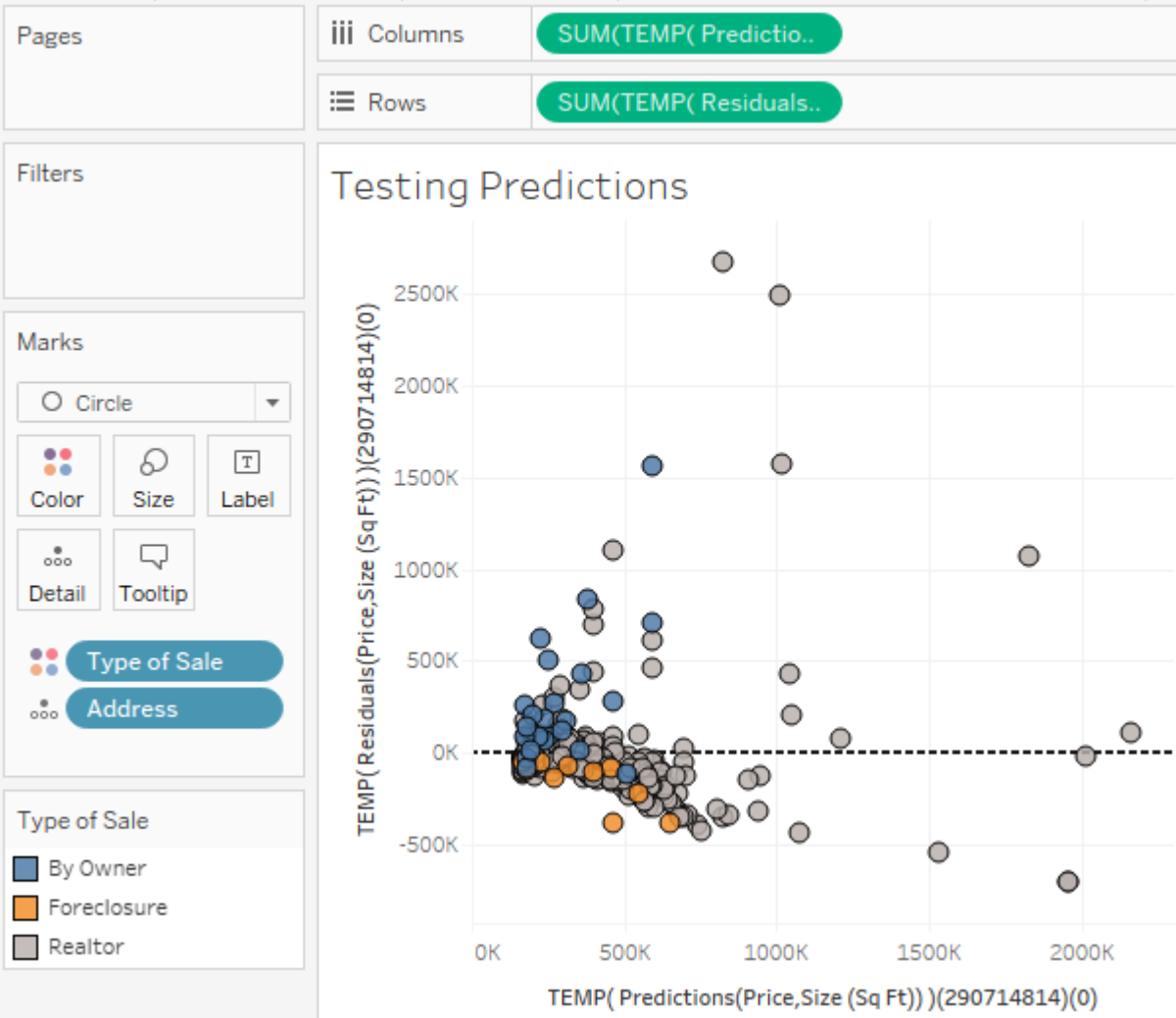
Exponential Trend



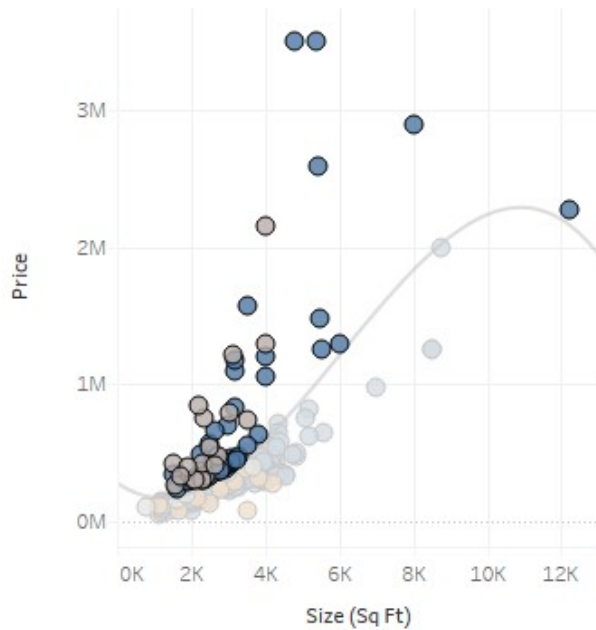
Polynomial Trend (3rd Degree)



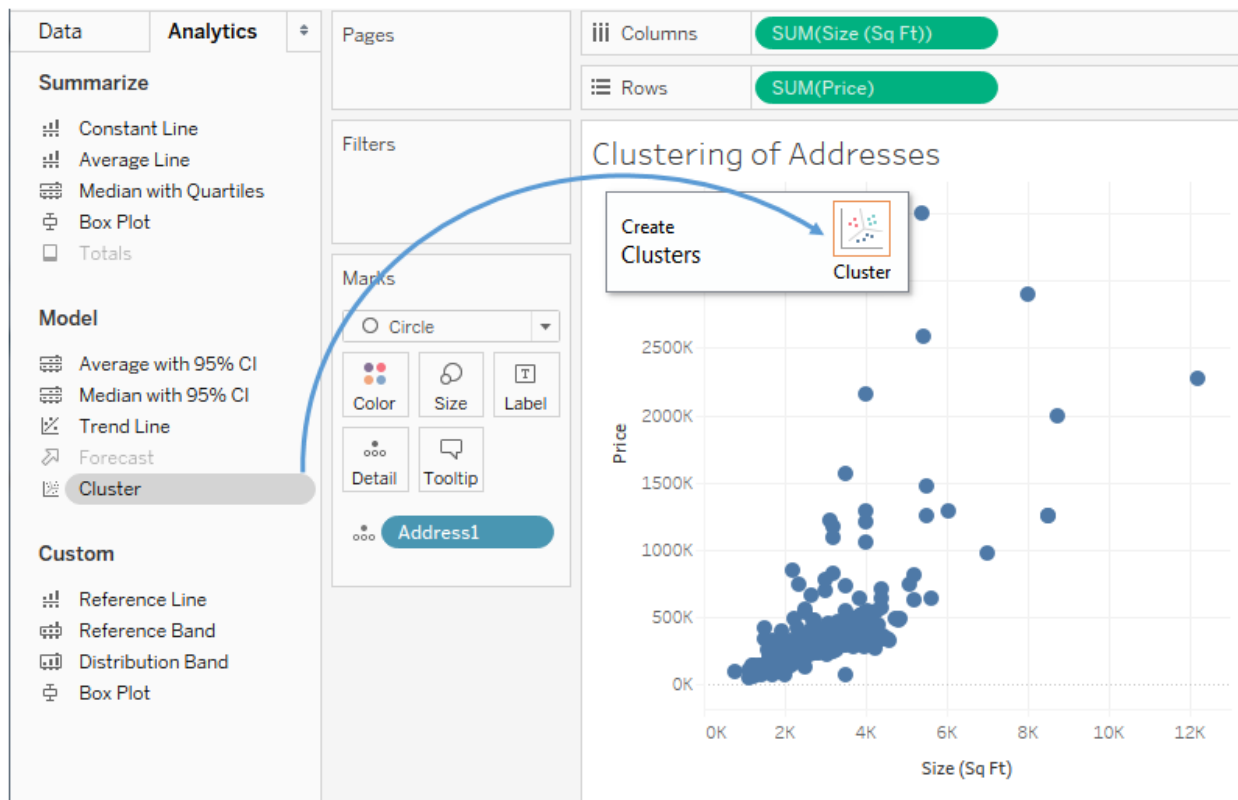
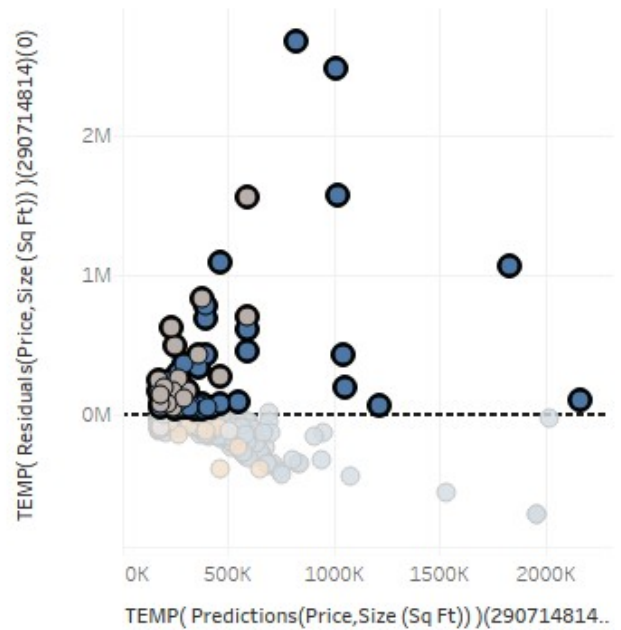


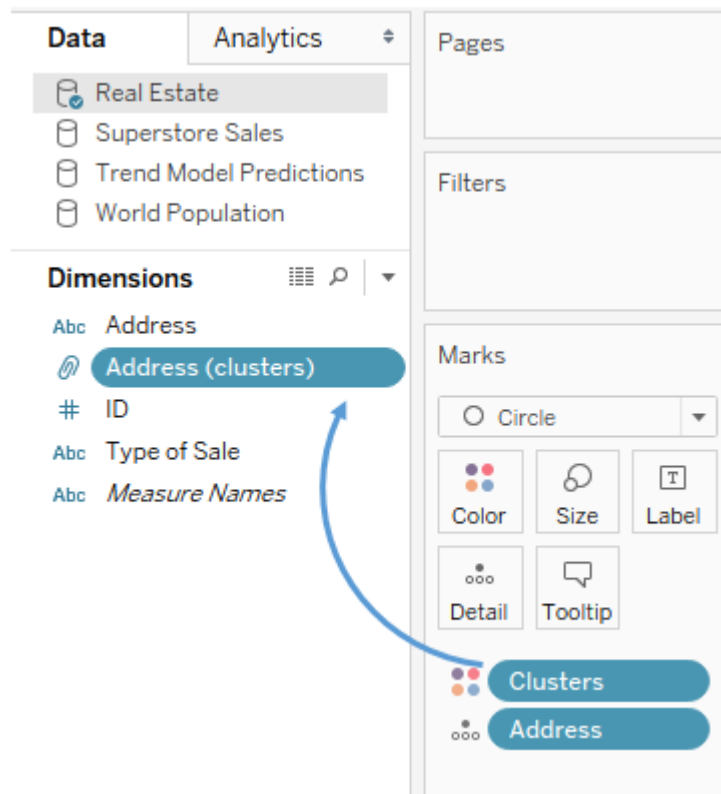
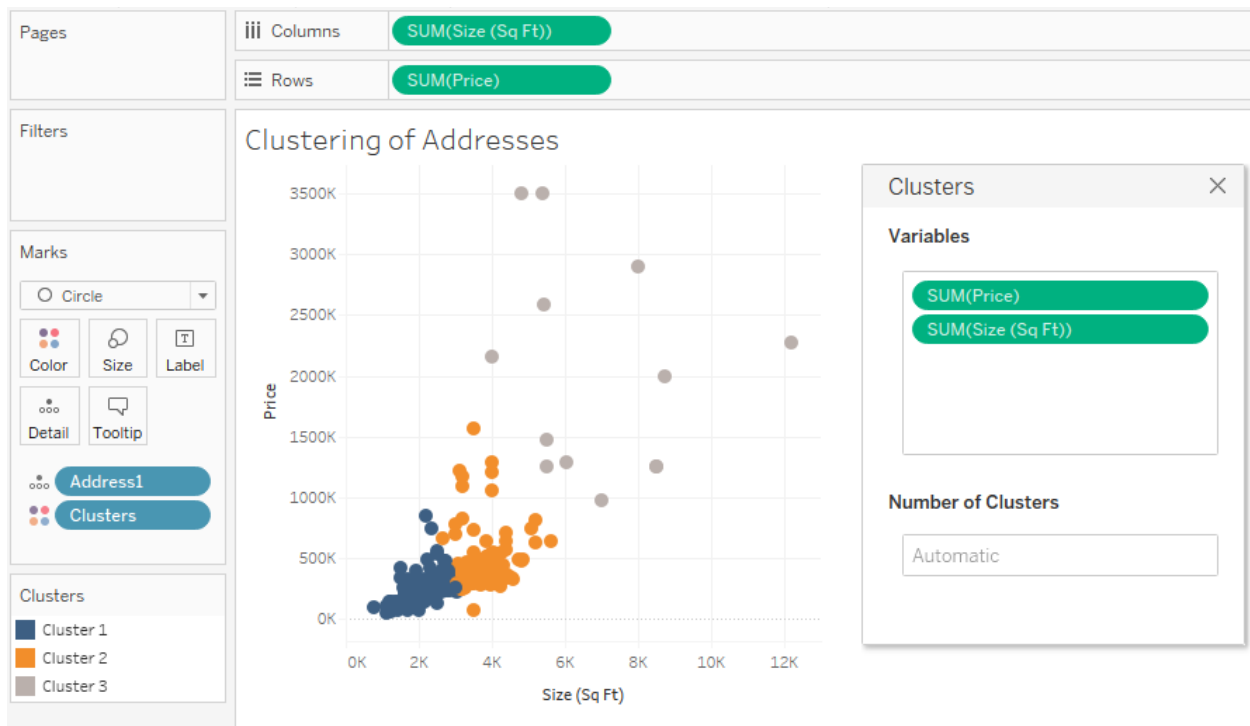


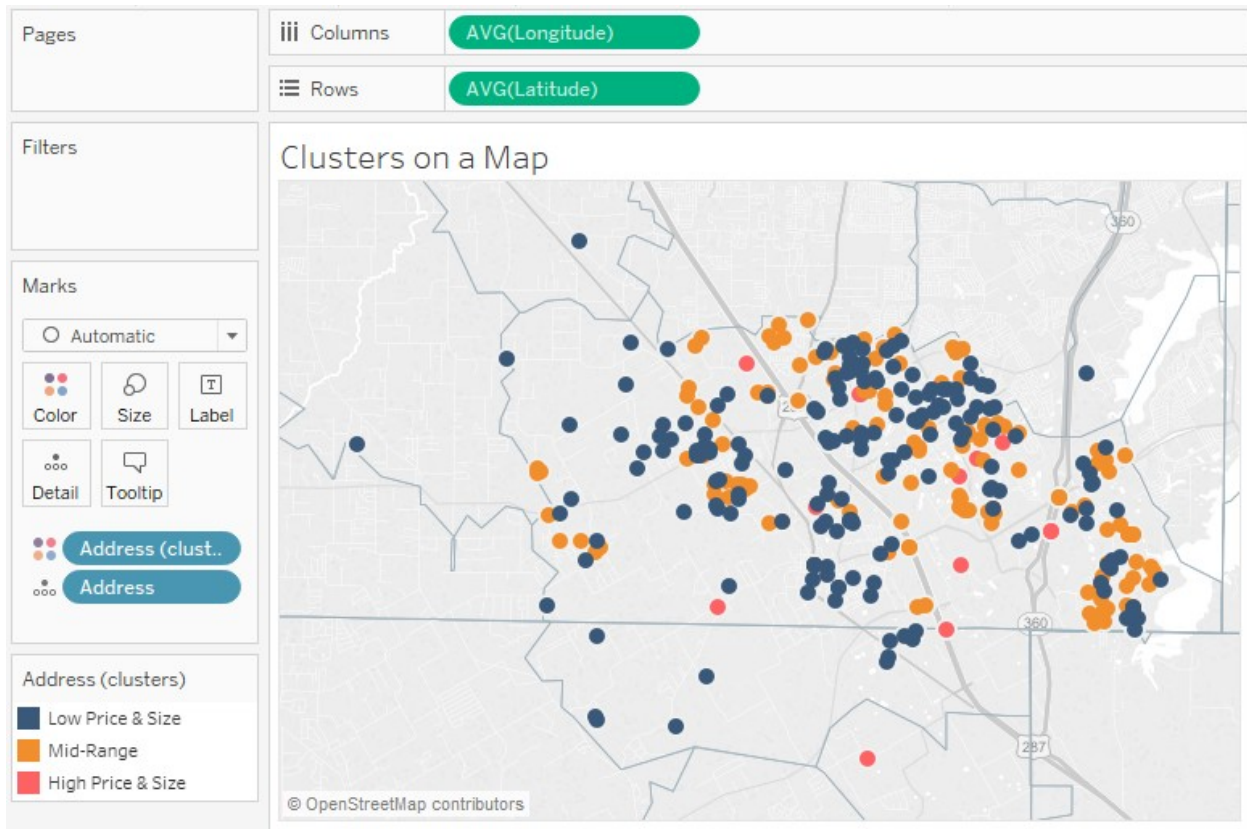
Trend Model to Test



Testing Predictions

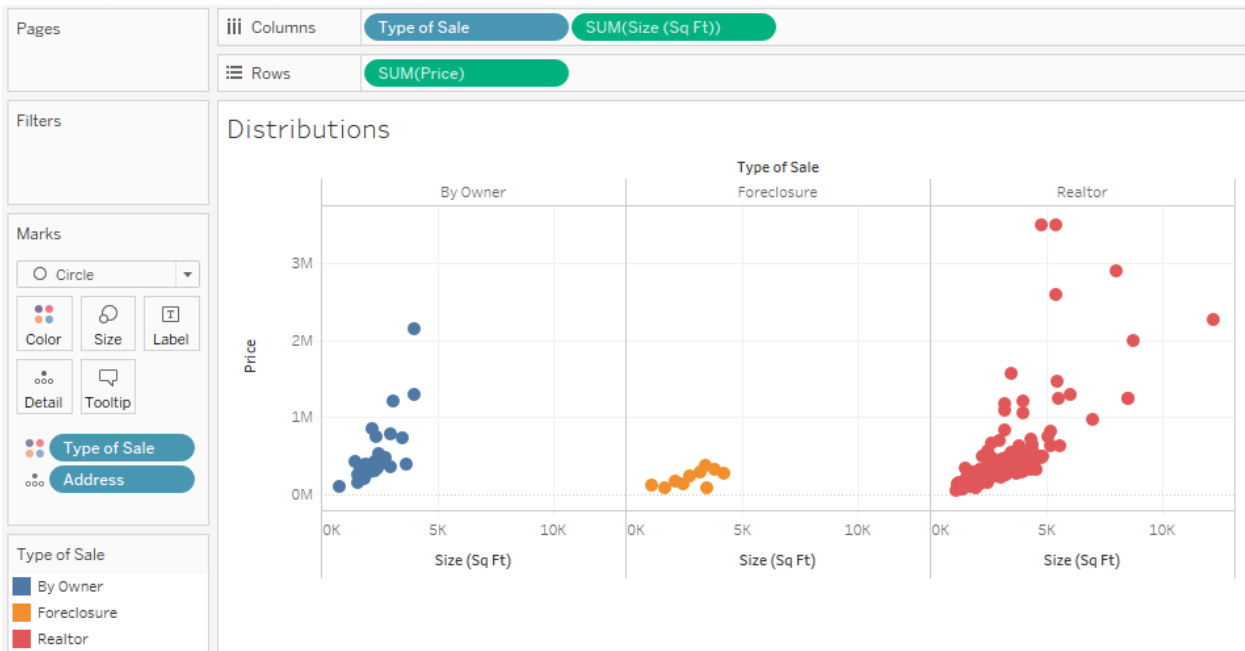






Desired Scope

Add a Distribution Band	Table	Pane	Cell	
SUM(Size (Sq Ft))	<input type="text"/>	<input type="text"/>	<input type="text"/>	<div>Add to both axes</div> <div>Add to single axis</div>
SUM(Price)	<input type="text"/>	<input type="text"/>	<input type="text"/>	



Edit Reference Line, Band, or Box

Line Band Distribution Box Plot

Scope

☐ Entire Table ☒ Per Pane ☐ Per Cell

Computation

Value: -2,-1,1,2 Standard Deviation

Label: None

Formatting

Line: Fill Above

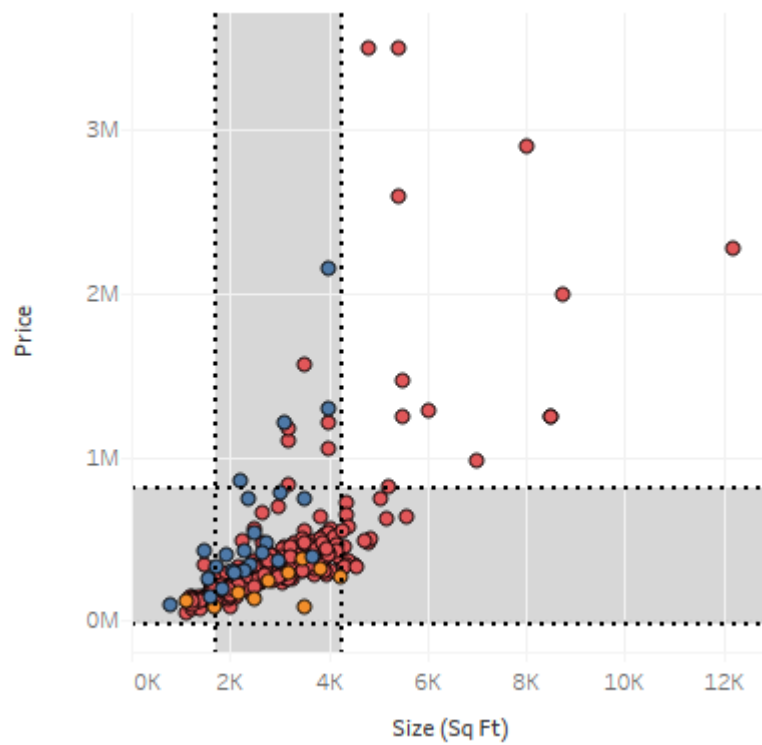
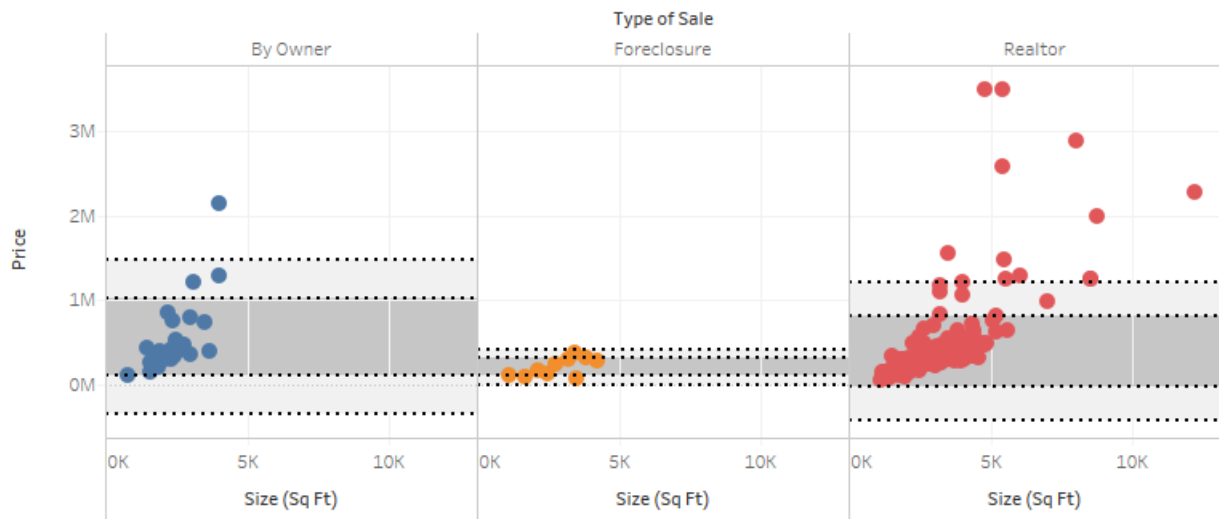
Fill: Fill Below

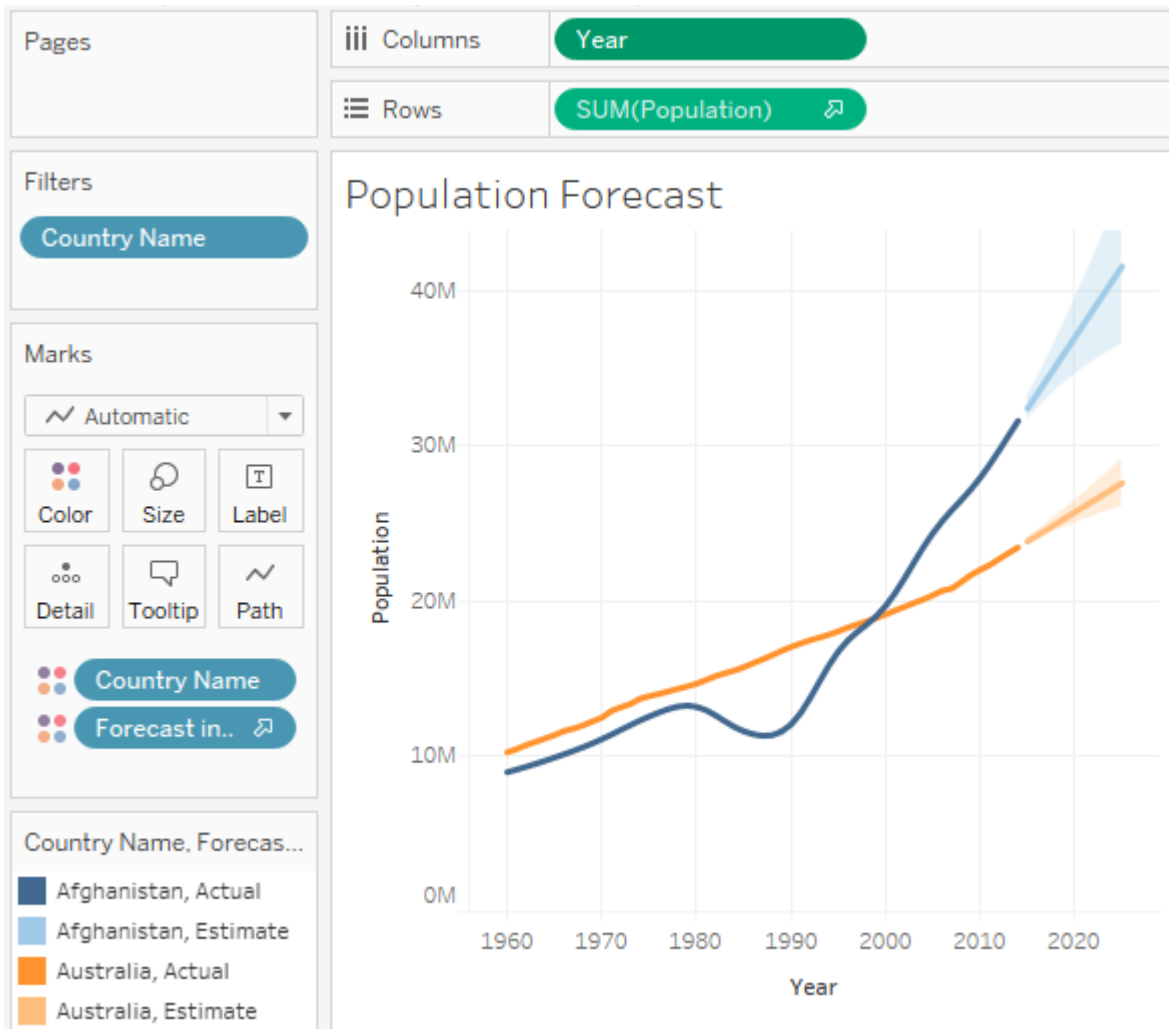
☒ Symmetric

☒ Show recalculated band for highlighted or selected data points

OK

Distributions: Standard Deviation





Forecast Options

Forecast Length

☒ Automatic

Next 11 periods

☐ Exactly

1

Periods

☐ Until

1

Periods

Source Data

Aggregate by: Periods

Ignore last:

1

 Periods

☐ Fill in missing values with zeroes

Forecast Model

Automatic

Automatically selects an exponential smoothing model for data that may have a trend and may have a seasonal pattern.

☒ Show

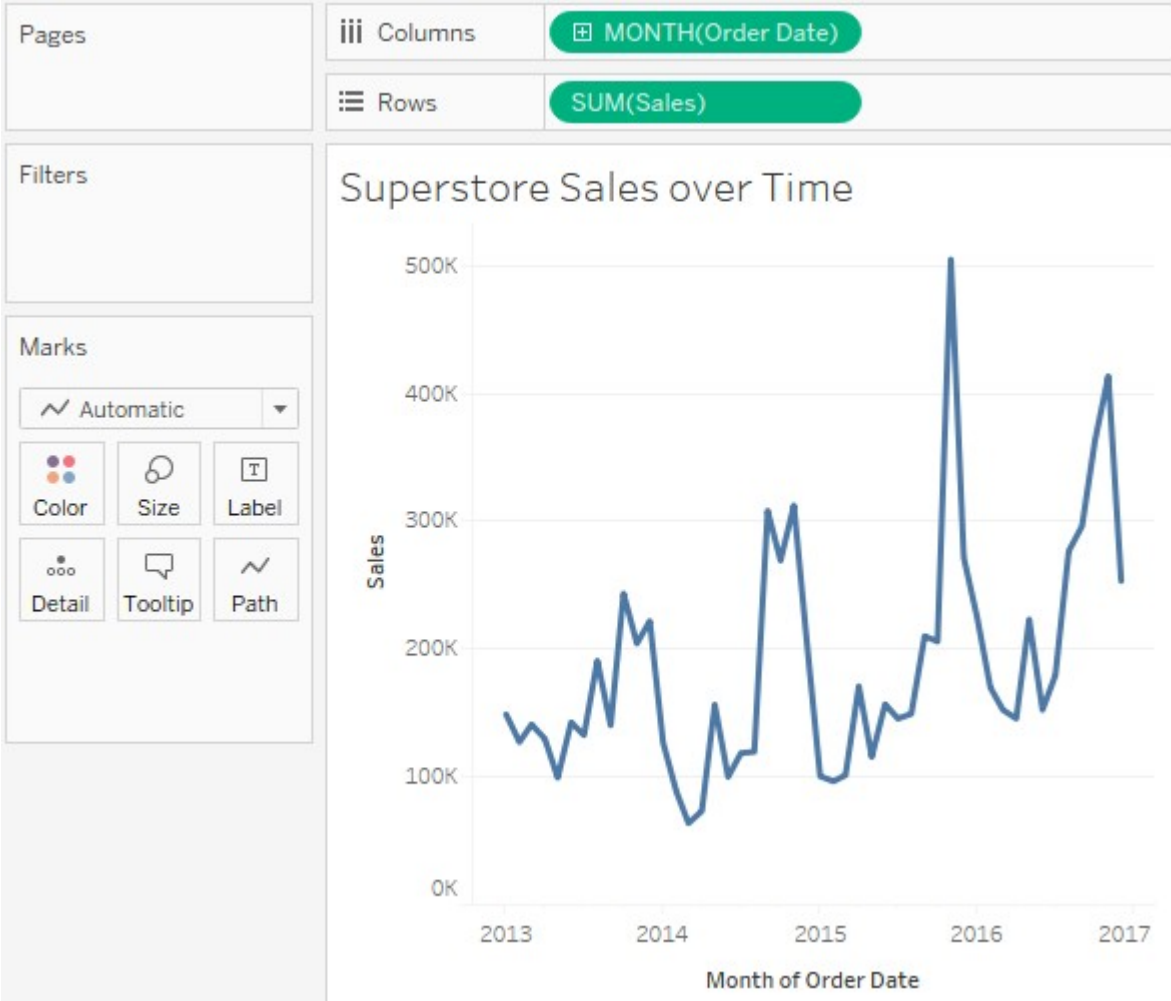
95%

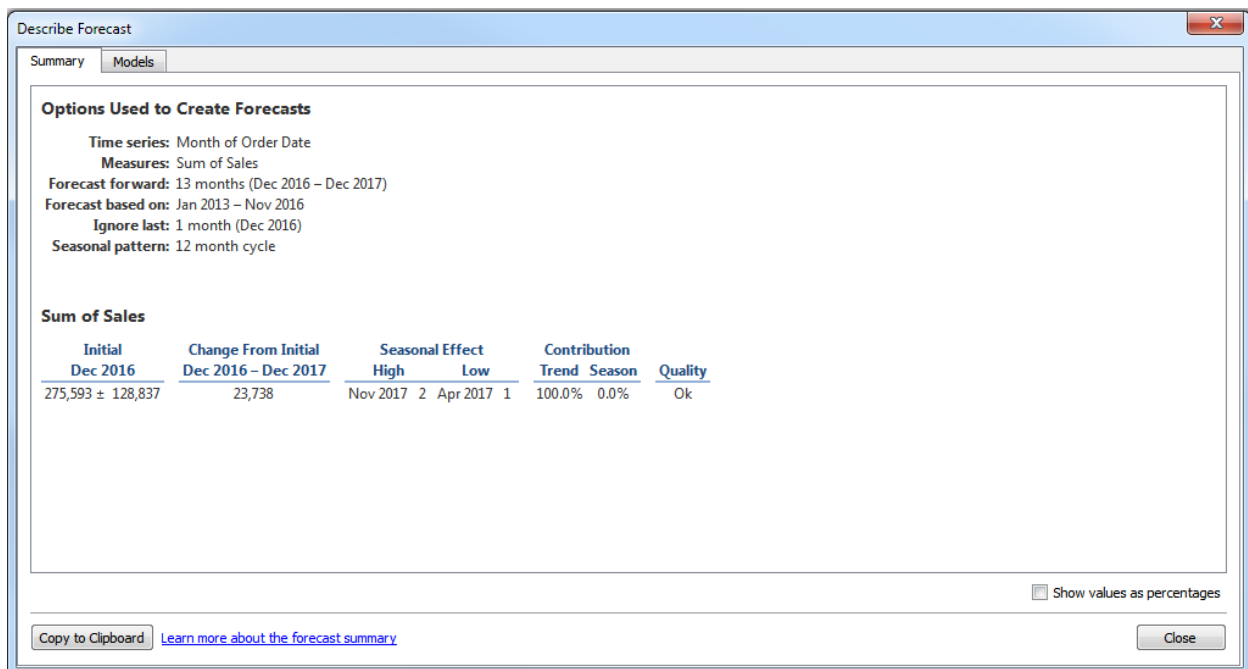
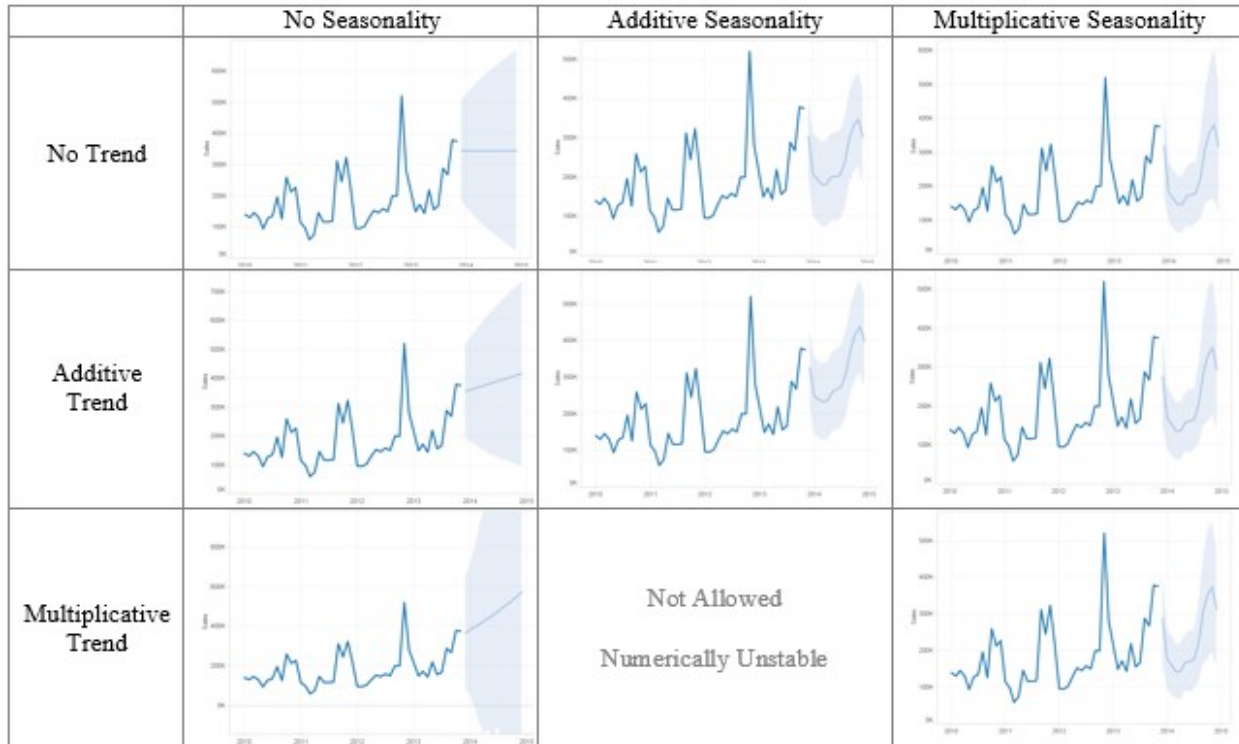
 prediction intervals

Currently using source data from 1960 to 2014 to create a forecast through 2025.

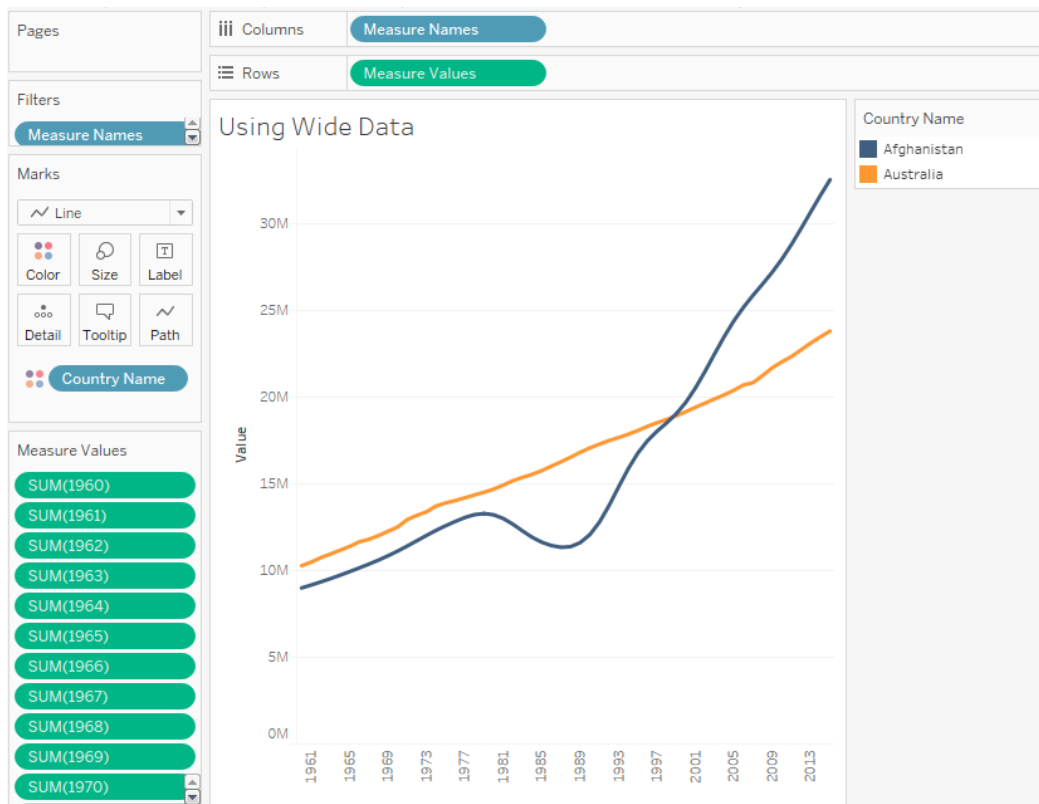
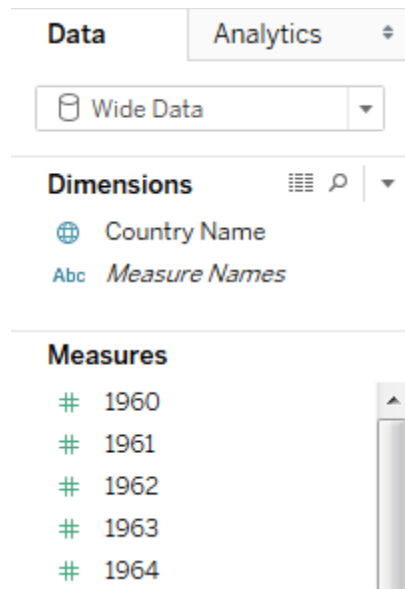
[Learn more about forecast options](#)

OK

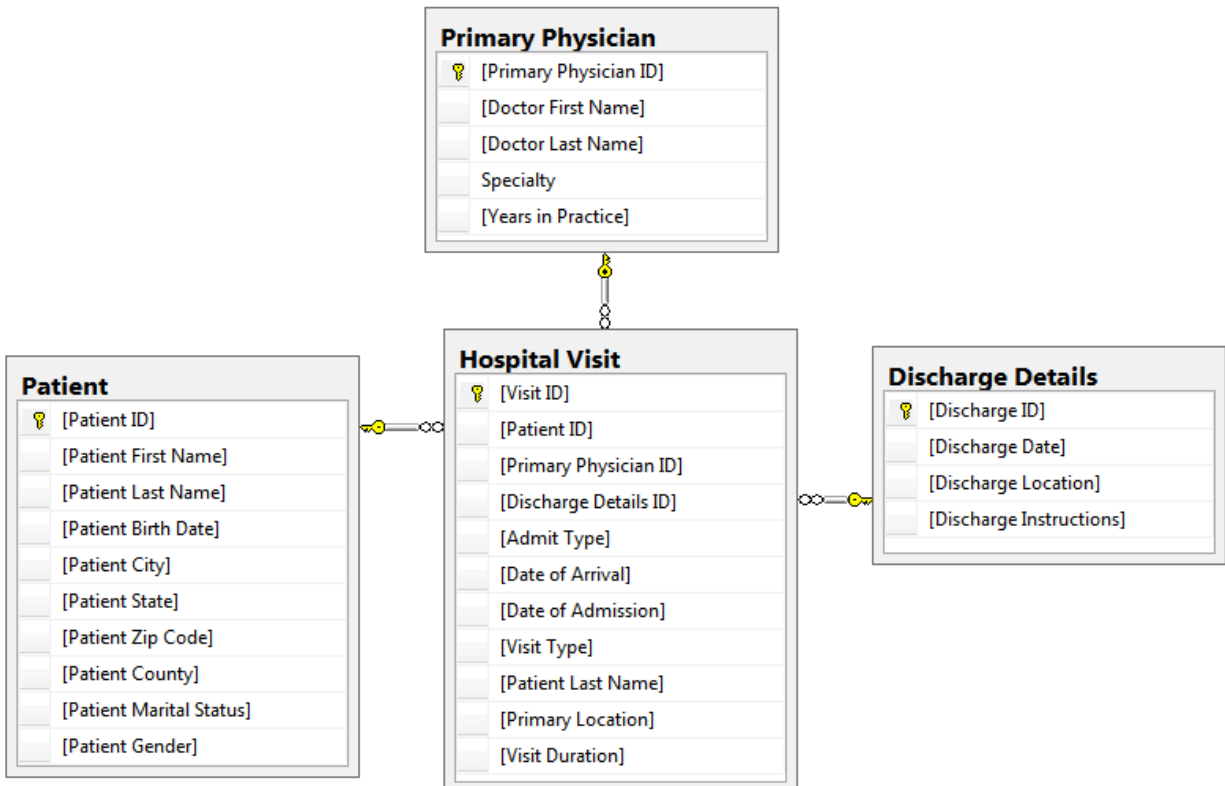


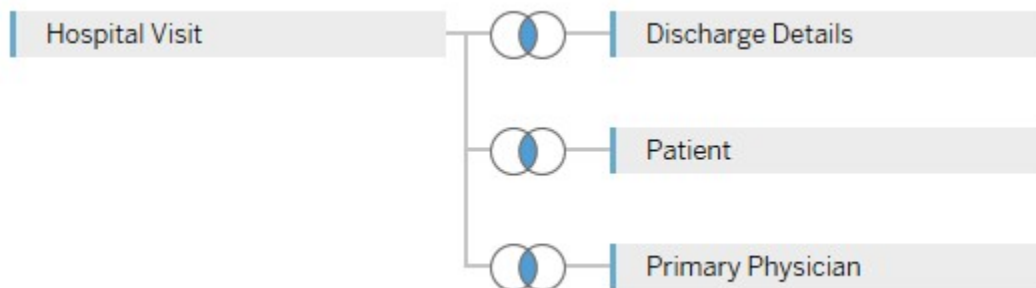


Chapter 9: Making Data Work for You



Data	Analytics
<div>Tall Data</div>	
Dimensions	
<div> <div>Country Name</div> <div>Year</div> <div>Measure Names</div> </div>	
Measures	
<div> <div>Population</div> <div>Latitude (generated)</div> <div>Longitude (generated)</div> <div>Number of Records</div> <div>Measure Values</div> </div>	





Data	Analytics
Hospital Visit+ (Hospital)	
Dimensions	
Discharge Details	
Discharge Date	
Discharge Instructions	
Discharge Location	
Hospital Visit	
Admit Type	
Date of Admission	
Date of Arrival	
Patient Last Name	
Visit Type	
Patient	
Patient Birth Date	
Patient City	
Patient First Name	
Patient Gender	
Patient State	
Patient Zip Code	
Primary Physician	
Doctor First Name	
Doctor Last Name	
Measures	
Visit Duration	
Latitude (generated)	
Longitude (generated)	
Number of Records	
Measure Values	

	A	B	C	D	E	F	G	H	I	J	K
1	World Population Data										
3	This is sample data only.										
4	Accuracy and completeness is not guaranteed.										
5											
6	Country Name and Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965	1966	1967
7	Aruba (ABW)	Population, total	SP.POP.TOTL	54208	55435	56226	56697	57029	57360	57712	58049
8	Andorra (AND)	Population, total	SP.POP.TOTL	13414	14376	15376	16410	17470	18551	19646	20755
9	Afghanistan (AFG)	Population, total	SP.POP.TOTL	8774440	8953544	9141783	9339507	9547131	9765015	9990125	10221902
10	Angola (AGO)	Population, total	SP.POP.TOTL	4965988	5056688	5150076	5245015	5339893	5433841	5526653	5619643
11	Albania (ALB)	Population, total	SP.POP.TOTL	1608800	1659800	1711319	1762621	1814135	1864791	1914573	1965598
12	United Arab Emirates (ARE)	Population, total	SP.POP.TOTL	89608	97727	108774	121574	134411	146341	156890	167360
13	Argentina (ARG)	Population, total	SP.POP.TOTL	20623998	20959241	21295290	21630854	21963952	22293817	22618887	22941477
14	Armenia (ARM)	Population, total	SP.POP.TOTL	1867396	1934239	2002170	2070427	2138133	2204650	2269475	2332624
15	American Samoa (ASM)	Population, total	SP.POP.TOTL	20012	20478	21118	21883	22701	23518	24320	25116
16	Antigua and Barbuda (ATG)	Population, total	SP.POP.TOTL	54681	55403	56311	57368	58500	59653	60818	62002
17	Australia (AUS)	Population, total	SP.POP.TOTL	10276477	10483000	10742000	10950000	11167000	11388000	11651000	11799000
18	Austria (AUT)	Population, total	SP.POP.TOTL	7047539	7086299	7129864	7175811	7223801	7270889	7322066	7376998
19	Azerbaijan (AZE)	Population, total	SP.POP.TOTL	3897889	4030130	4167558	4307315	4445653	4579759	4708485	4832098

Data (World P...

Connection

☒ Live
☐ Extract

Filters
0 | [Add](#)

Connections
Add

World Po...ion Data
Excel

Sheets

☐ Use Data Interpreter


Data Interpreter might be able to clean your Excel workbook.

☒ Data

☐ New Union



Abc	Abc	Abc	#	#	#	#
Data	Data	Data	Data	Data	Data	Data
F1	F2	F3	F4	F5	F6	F
World Population Data	null	null	null	null	null	
This is sample data o...	null	null	null	null	null	
Country Name and Co...	Indicator Name	Indicator Co...	1,960	1,961	1,962	
Aruba (ABW)	Population, tot...	SP.POP.TOTL	54,208	55,435	56,226	
Andorra (AND)	Population, tot...	SP.POP.TOTL	13,414	14,376	15,376	
Afghanistan (AFG)	Population, tot...	SP.POP.TOTL	8,774,440	8,953,544	9,141,783	
Angola (AGO)	Population, tot...	SP.POP.TOTL	4,965,988	5,056,688	5,150,076	


Sort fields
Data source orc
☐ Show aliases
☐ Show hidden fie...
239 rows



 Data	Abc	Abc	#	#	#	#	#	#
Country Name and ...	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965
Aruba (ABW)	Population, total	SP.POP.TOTL	54,208	55,435	56,226	56,697	57,029	57,360
Andorra (AND)	Population, total	SP.POP.TOTL	13,414	14,376	15,376	16,410	17,470	18,551
Afghanistan (AFG)	Population, total	SP.POP.TOTL	8,774,440	8,953,544	9,141,783	9,339,507	9,547,131	9,765,015
Angola (AGO)	Population, total	SP.POP.TOTL	4,965,988	5,056,688	5,150,076	5,245,015	5,339,893	5,433,841
Albania (ALB)	Population, total	SP.POP.TOTL	1,608,800	1,659,800	1,711,319	1,762,621	1,814,135	1,864,791
United Arab Emirates (...)	Population, total	SP.POP.TOTL	89,608	97,727	108,774	121,574	134,411	146,341

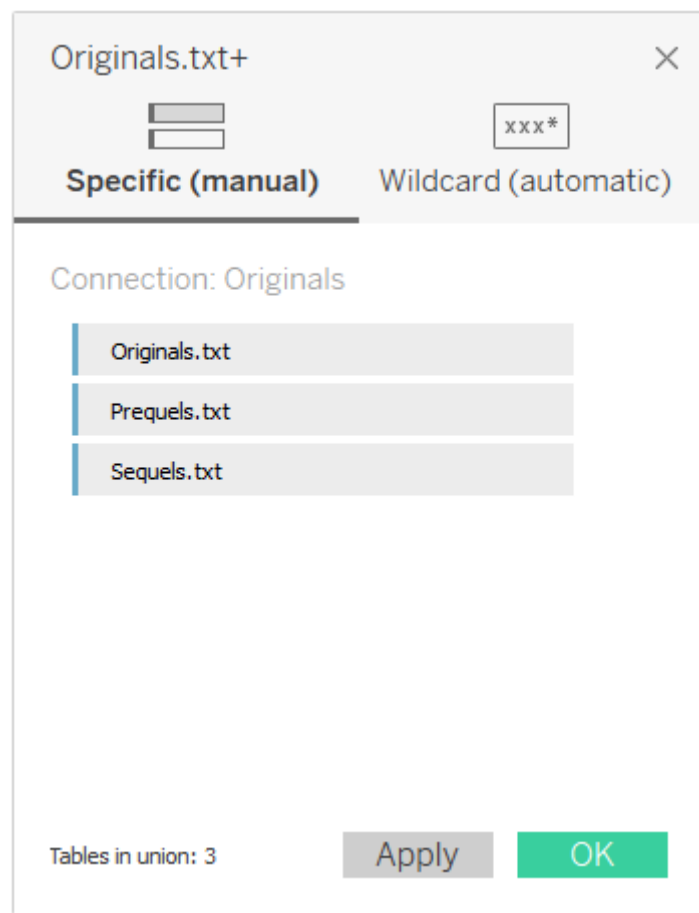
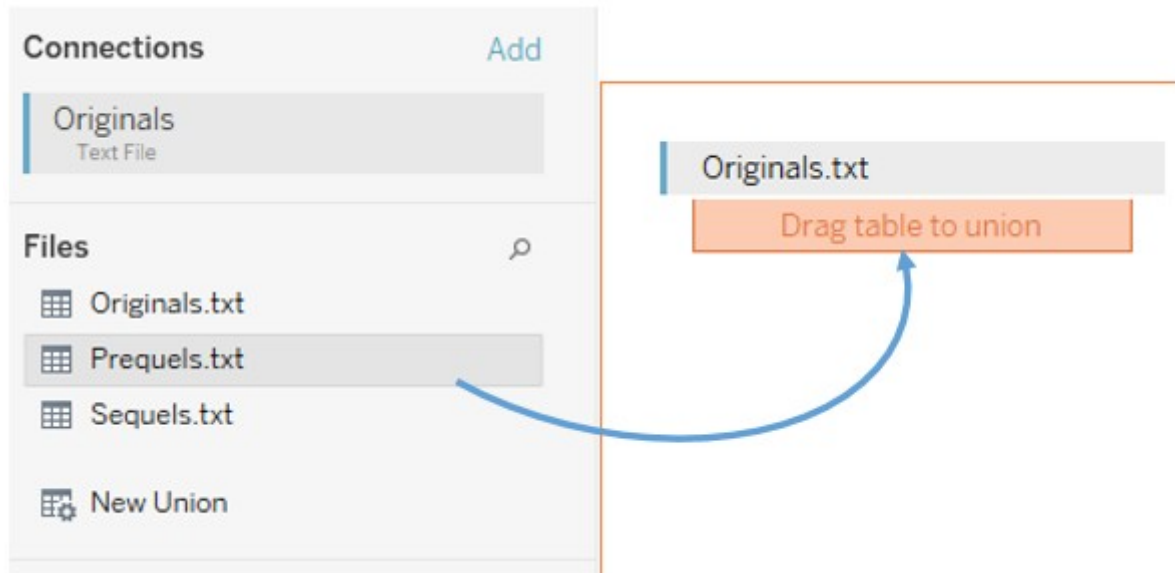
Abc	Abc	#
Indicator Name		
Population, total		
Population, total		
Population, total		
Population, total		
Population, total		
Population, total		

Rename
Copy
Hide
Aliases...
Create Calculated Field...
Create Group...
Split
Custom Split...

 Calculation	 Calculation	#	#	#	#	#	#
Country Name	Country Code	1961	1962	1963	1964	1965	1966
Aruba	ABW	55,435	56,226	56,697	57,029	57,360	57,712
Andorra	AND	14,376	15,376	16,410	17,470	18,551	19,646
Afghanistan	AFG	8,953,544	9,141,783	9,339,507	9,547,131	9,765,015	9,990,125
Angola	AGO	5,056,688	5,150,076	5,245,015	5,339,893	5,433,841	5,526,653
Albania	ALB	1,659,800	1,711,319	1,762,621	1,814,135	1,864,791	1,914,573
United Arab Emirates	ARE	97,727	108,774	121,574	134,411	146,341	156,890

	Abc	#
Calculation		
Country Code		Number (decimal)
ABW		Number (whole)
AND		Date & Time
AFG		Date
AGO		String
ALB		Boolean
		Default
		Geographic Role ▶

		#	#
Calculation	Calculation	Pivot	Pivot
Country Name	Country Code	Year	Population
Aruba	ABW	1961	55,435
Andorra	AND	1961	14,376
Afghanistan	AFG	1961	8,953,544
Angola	AGO	1961	5,056,688
Albania	ALB	1961	1,659,800
United Arab Emirates	ARE	1961	97,727
Argentina	ARG	1961	20,959,241
Armenia	ARM	1961	1,934,239
American Samoa	ASM	1961	20,478
Antigua and Barbuda	ATG	1961	55,403
Australia	AUS	1961	10,483,000



Abc Originals+ Name	Abc Originals+ Occupation	Abc Originals+ Job	Abc	Abc
Luke	Farmer	<i>null</i>		
Leia	Princess	<i>null</i>		
Han	Smuggler	<i>null</i>		
Watto	<i>null</i>	Junk Dealer		
Darth Maul	<i>null</i>	Face Painter	Prequels	Prequels
Jar Jar	<i>null</i>	Sith Lord	Prequels	Prequels
Rey	Scavenger	<i>null</i>	Sequels	Sequels
Poe	Pilot	<i>null</i>	Sequels	Sequels
Kylo	Unemployed	<i>null</i>	Sequels	Sequels

- Rename
- Copy
- Hide
- Create Calculated Field...
- Pivot
- Merge Mismatched Fields

Patient ID	Patient Name	Admit Date	Discharge Date
1	David	12/1/2016	12/20/2016
2	Solomon	12/3/2016	12/7/2016
3	Asa	12/5/2016	12/22/2016
4	Jehoshaphat	12/5/2016	12/6/2016
5	Joash	12/9/2016	12/16/2016
6	Amaziah	12/10/2016	12/14/2016
7	Uzziah	12/12/2016	12/24/2016
8	Jotham	12/16/2016	12/29/2016
9	Hezekiah	12/18/2016	12/22/2016
10	Josiah	12/22/2016	12/23/2016

	A	B
1	Date	Join
2	12/1/2016	1
3	12/2/2016	1
4	12/3/2016	1
5	12/4/2016	1
6	12/5/2016	1
7	12/6/2016	1
8	12/7/2016	1
9	12/8/2016	1
10	12/9/2016	1
26	12/25/2016	1
27	12/26/2016	1
28	12/27/2016	1
29	12/28/2016	1
30	12/29/2016	1
31	12/30/2016	1
32	12/31/2016	1

Convert to Custom SQL

```

SELECT [Patient Visit].[Patient ID] AS [Patient ID],
[Patient Visit].[Patient Name] AS [Patient Name],
[Patient Visit].[Admit Date] AS [Admit Date],
[Patient Visit].[Discharge Date] AS [Discharge Date],
1 AS [Join]
FROM [dbo].[Patient Visit] [Patient Visit]

```

Preview Results...

Insert Parameter ▼

OK

Cancel

Custom SQL Query

Dates

Join

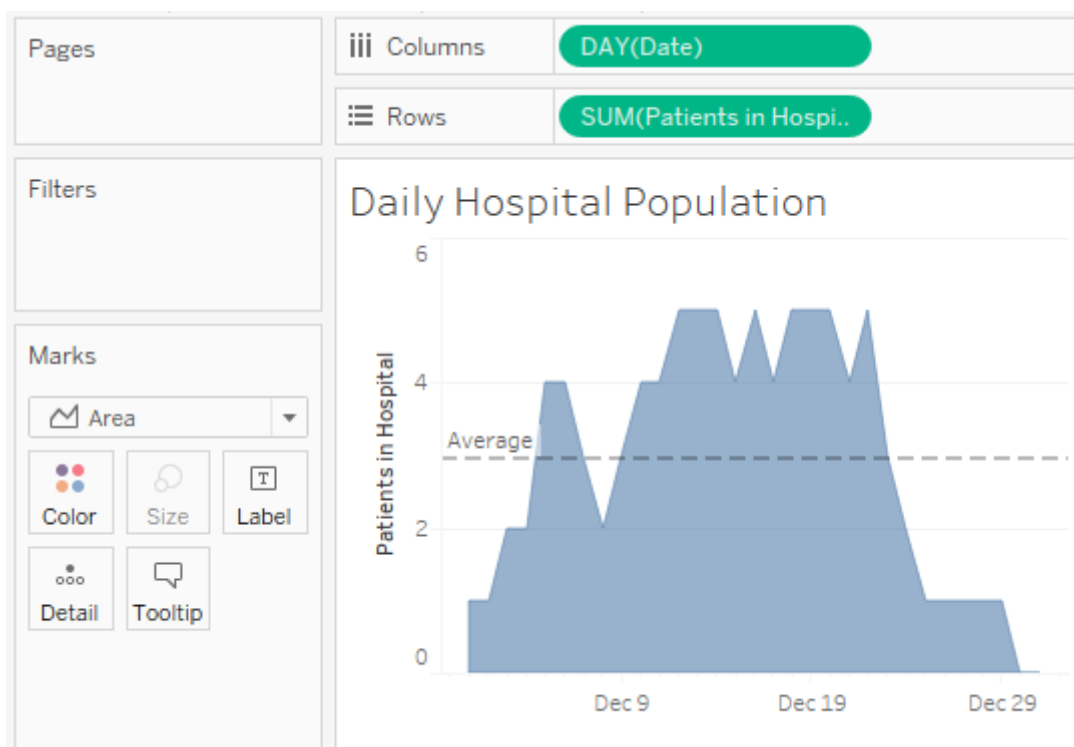
Inner

Left

Right

Full Outer

Data Source		Dates
Join	=	Join (Dates)



Apartment	Month of Month	Rent Collected	Size (Sq Ft)
A	January	\$0	900
	February	\$0	900
	March	\$0	900
	April	\$0	900
	May	\$0	900
	June	\$1,500	900
	July	\$1,500	900
	August	\$1,500	900
	September	\$1,500	900
	October	\$1,500	900
	November	\$1,500	900
	December	\$1,500	900
B	January	\$1,200	750
	February	\$1,200	750
	March	\$1,200	750
	April	\$1,200	750
	May	\$1,200	750
	June	\$1,200	750
	July	\$0	750
	August	\$0	750
	September	\$0	750
	October	\$0	750
	November	\$0	750
	December	\$0	750

Pages

Filters

Measure Names

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Measure Values

Measure Values

SUM(Rent Collected)

SUM(Square Feet)

AVG(Square Feet)

MIN(Square Feet)

MAX(Square Feet)

Columns

Measure Names

Rows

Apartment

Measures per Apartment

Apartment	Rent Collected	Sum of Square Feet	Avg. Square Feet	Min. Square Feet	Max. Square Feet
A	\$10,500	10,800	900	900	900
B	\$7,200	9,000	750	750	750

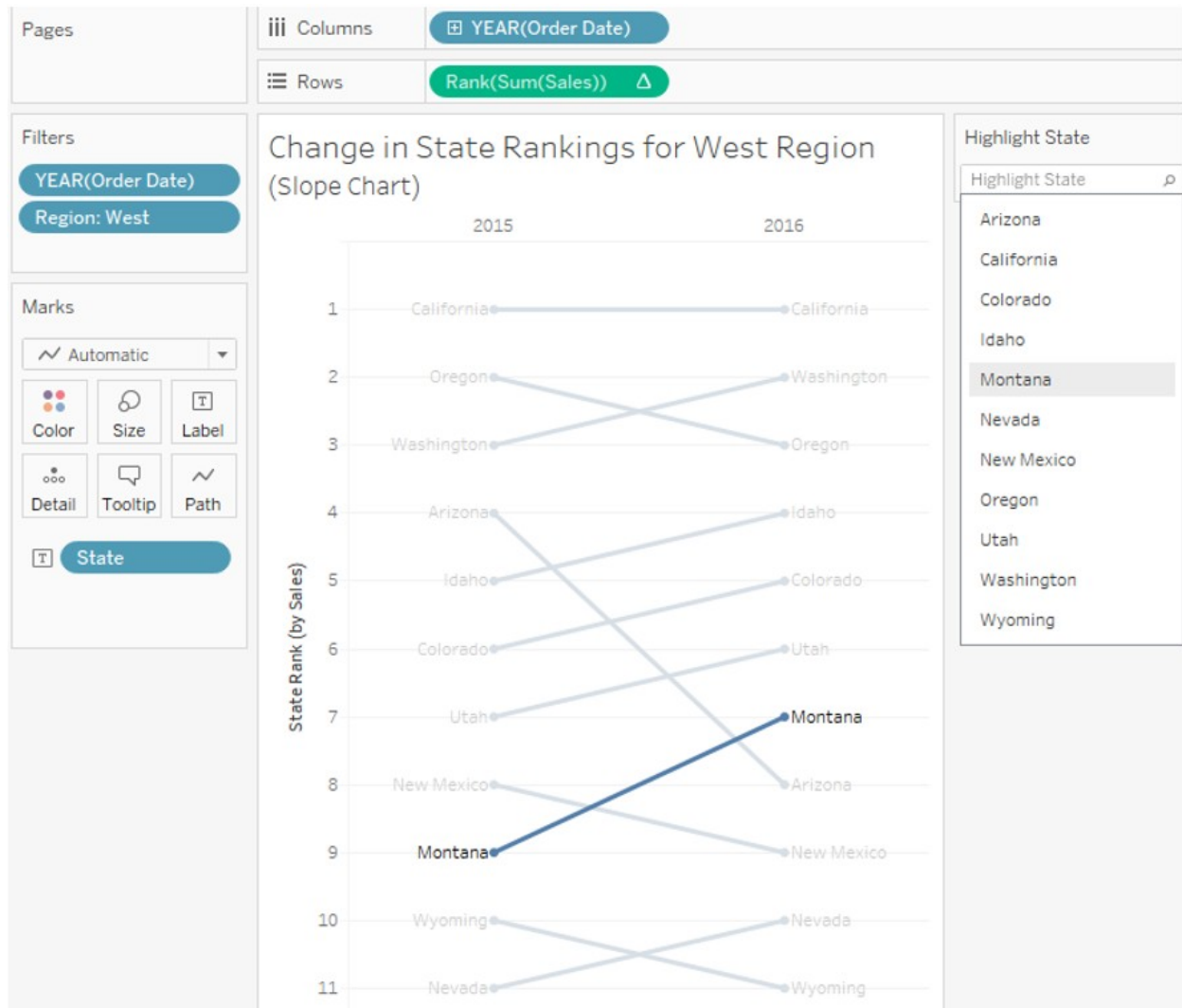
Apartment	Rent Collected	Sum of Square Feet	Avg. Square Feet	Min. Square Feet	Max. Square Feet
A	\$10,500	10,800	900	900	900
B	\$7,200	9,000	750	750	750
Grand Total	\$17,700	19,800	825	750	900

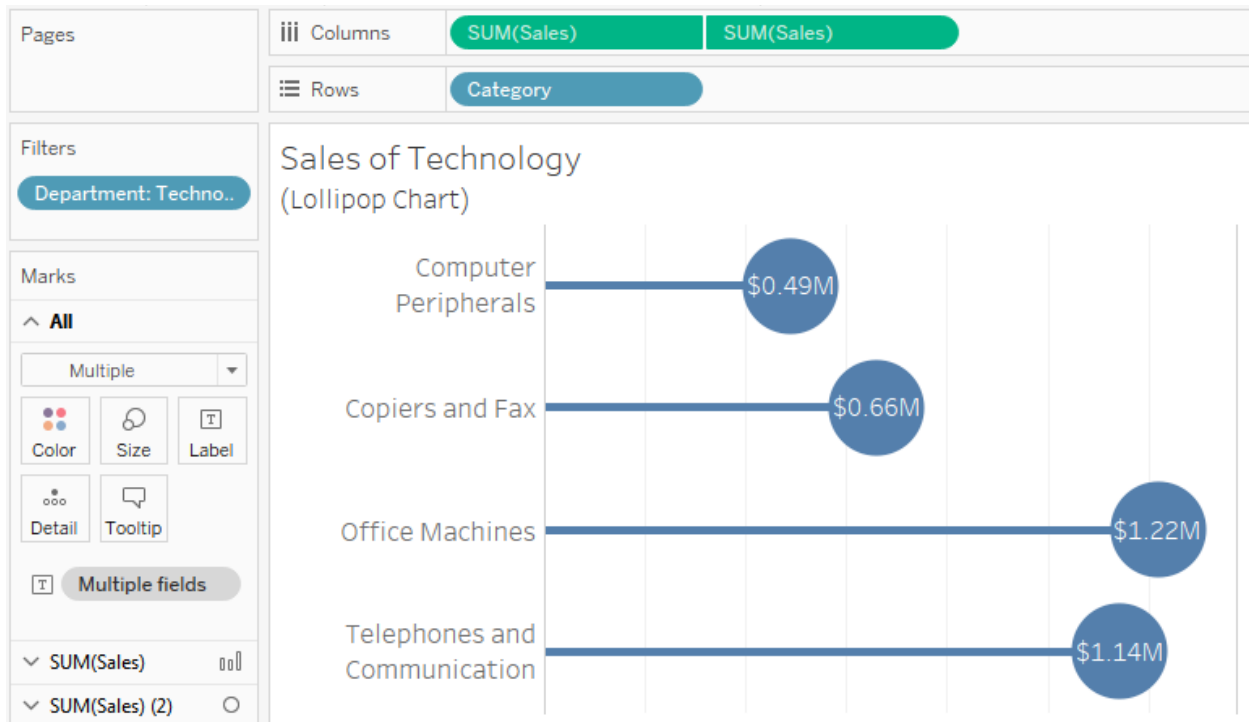
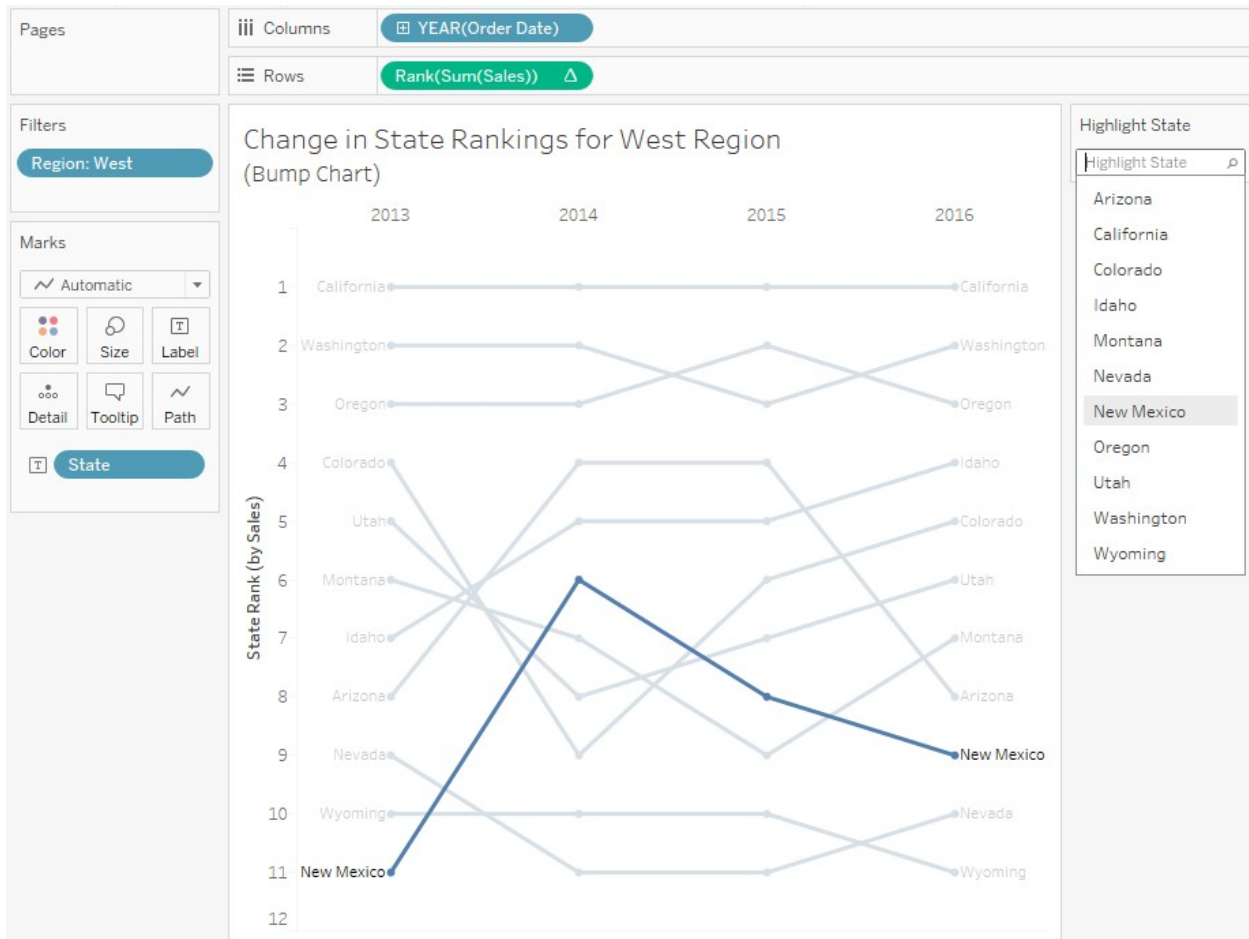
Apartment	Rent Collected	Square Feet per Apartment
A	\$10,500	900
B	\$7,200	750
Grand Total	\$17,700	1,650

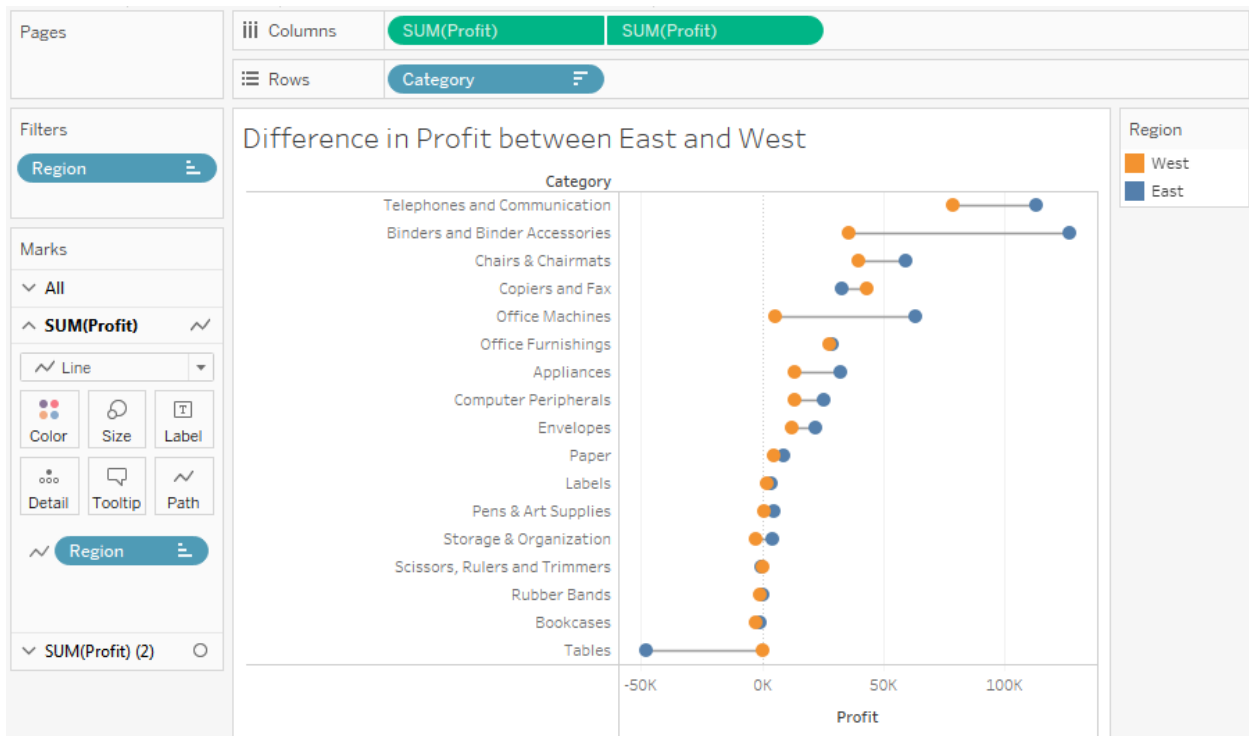
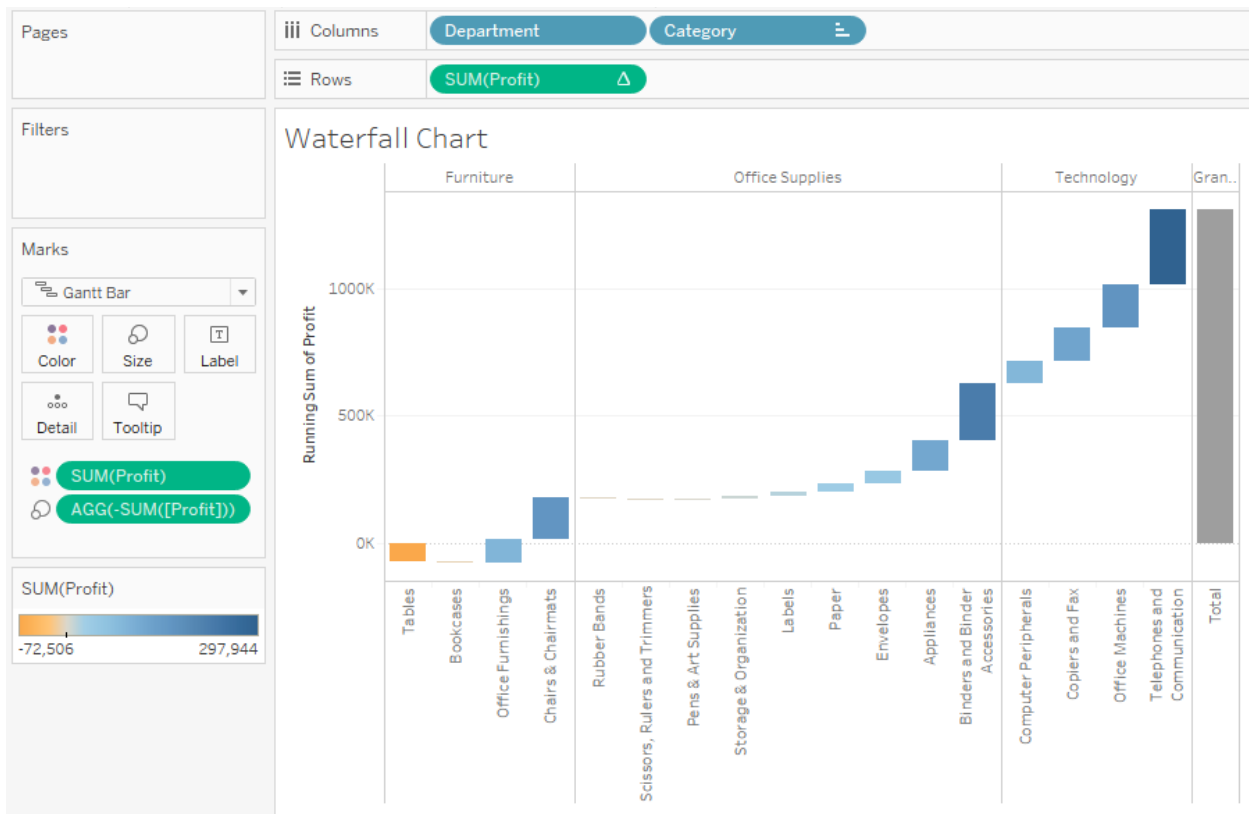
Pages	Columns	Measure Names
Filters	Rows	Apartment
Marks	Rent Collected per Square Foot	
Automatic		
Color		
Size		
Text		
Detail		
Tooltip		
Measure Values		
SUM(Rent Collected)		
SUM(Square Feet pe..)		
AGG(Rent Collected ..)		

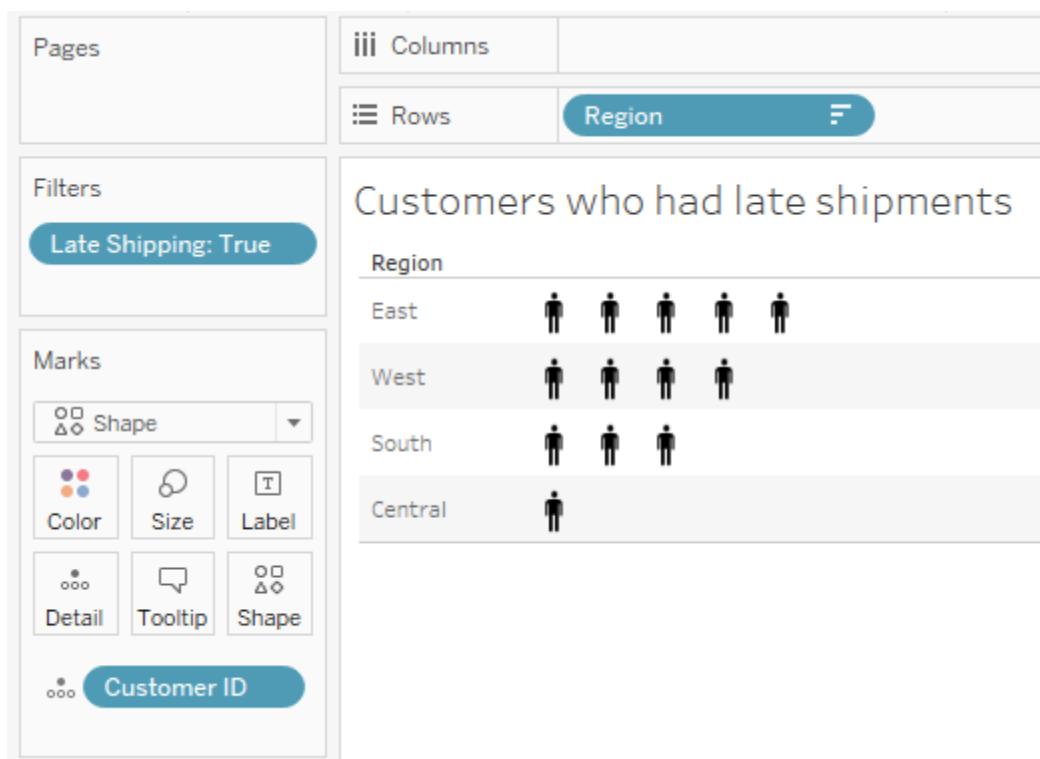
Apartment	Rent Collected	Square Feet per Apartment	Rent Collected per Square Foot
A	\$10,500	900	\$11.67
B	\$7,200	750	\$9.60
Grand Total	\$17,700	1,650	\$10.73

Chapter 10: Advanced Visualizations, Techniques, Tips, and Tricks









Marks

Shape

Color

Size

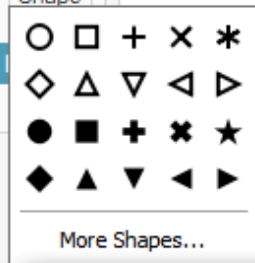
Label

Detail

Tooltip

Shape

Customer



Edit Shape

Select Data Item:

Select Shape Palette:

Gender

Assign Palette

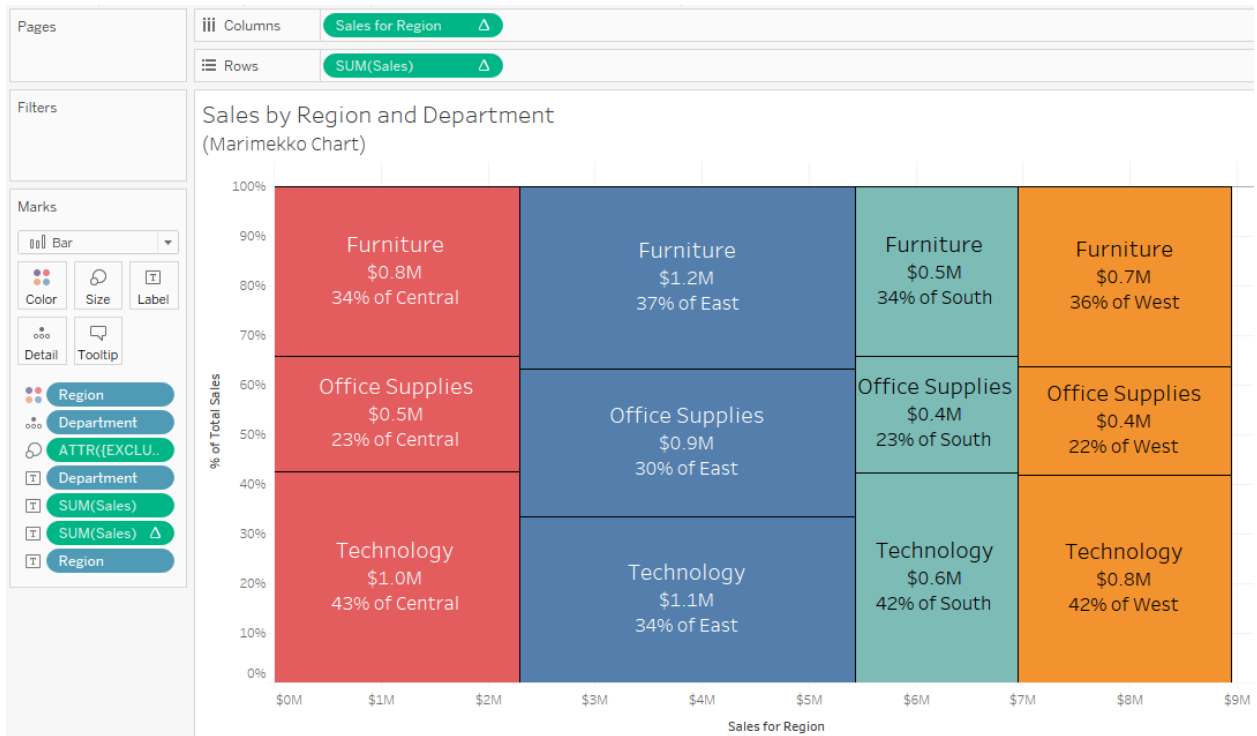
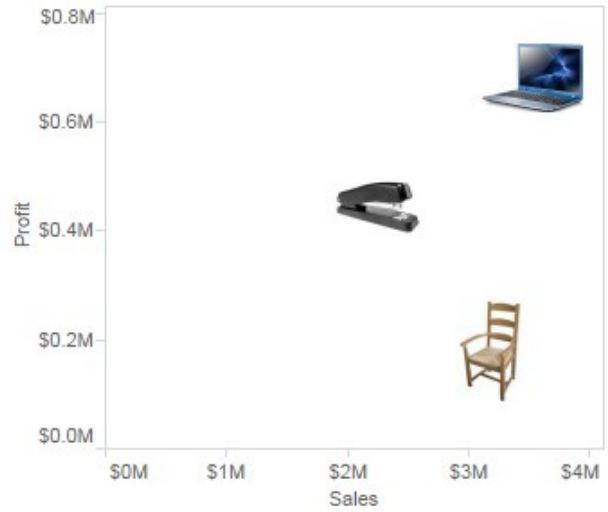
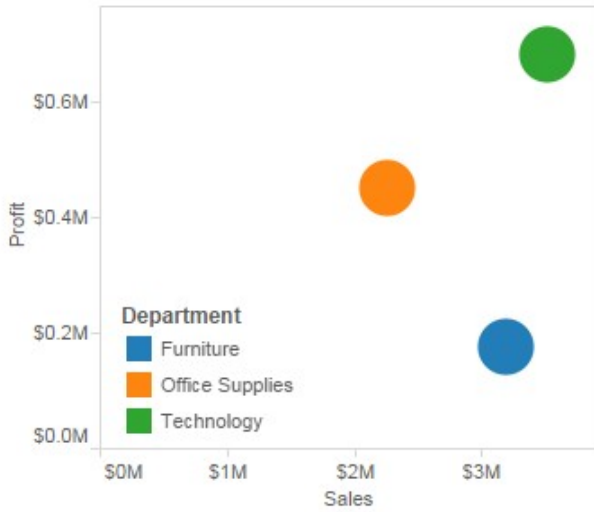
Reload Shapes

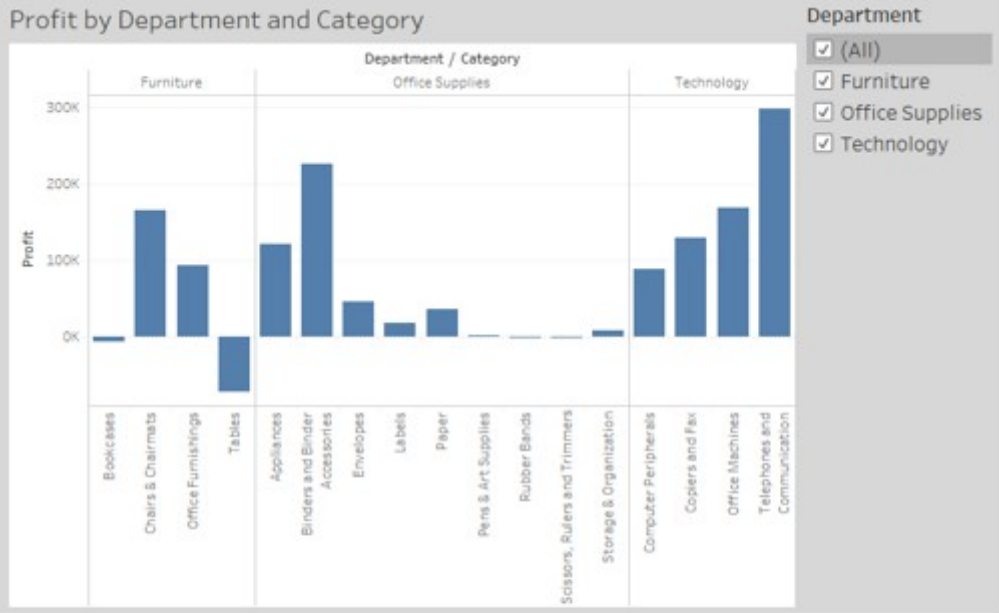
Reset

OK

Cancel

Apply





Create Parameter

Name: Show Sheet

Comment >>

Properties

Data type: String

Current value: Bar Chart

Display format:

Allowable values: ☐ All ☒ List ☐ Range

List of values

Value	Display As
Bar Chart	Bar Chart
Map	Map
Add	

Add from Parameter

Add from Field

Paste from Clipboard

Clear All

OK

Cancel

Create Parameter

Name: Show Sheet

Comment >>

Properties

Data type: String

Current value: Bar Chart

Display format:

Allowable values: ☐ All ☒ List ☐ Range

List of values

Value	Display As
Bar Chart	Bar Chart
Map	Map
Add	

Add from Parameter

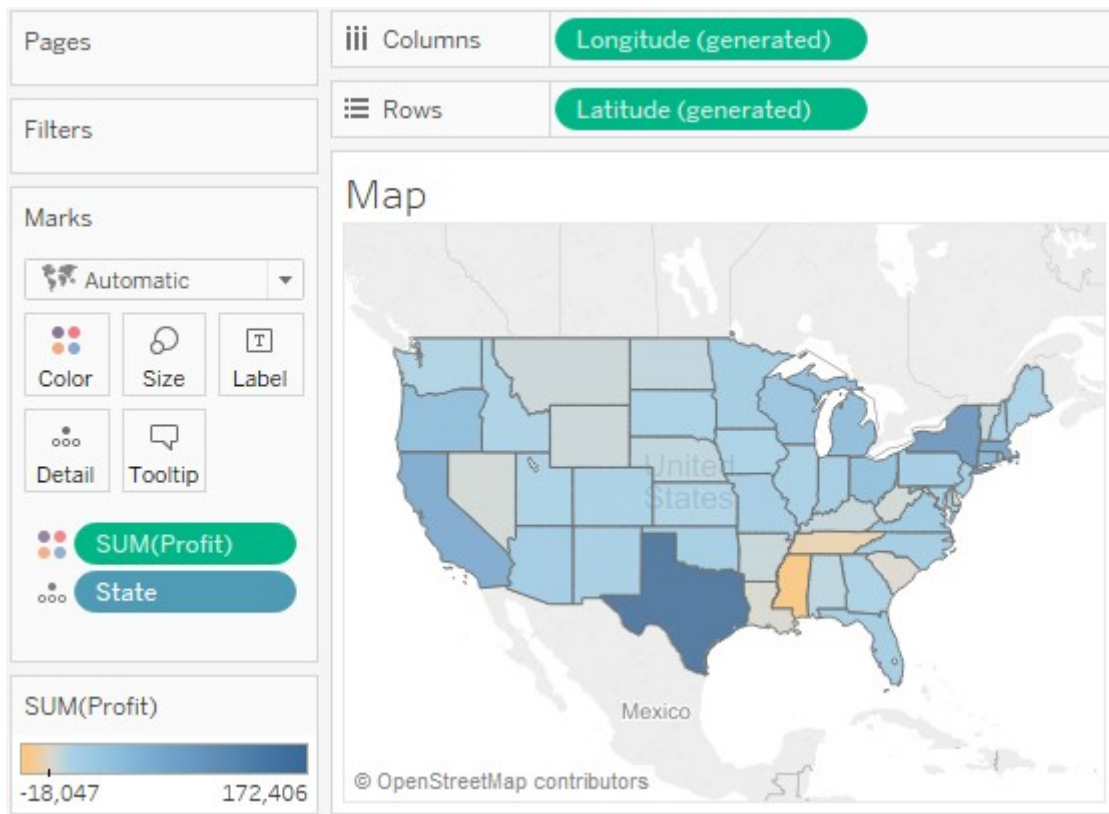
Add from Field

Paste from Clipboard

Clear All

OK

Cancel



Objects



Horizontal



Vertical



Text



Image



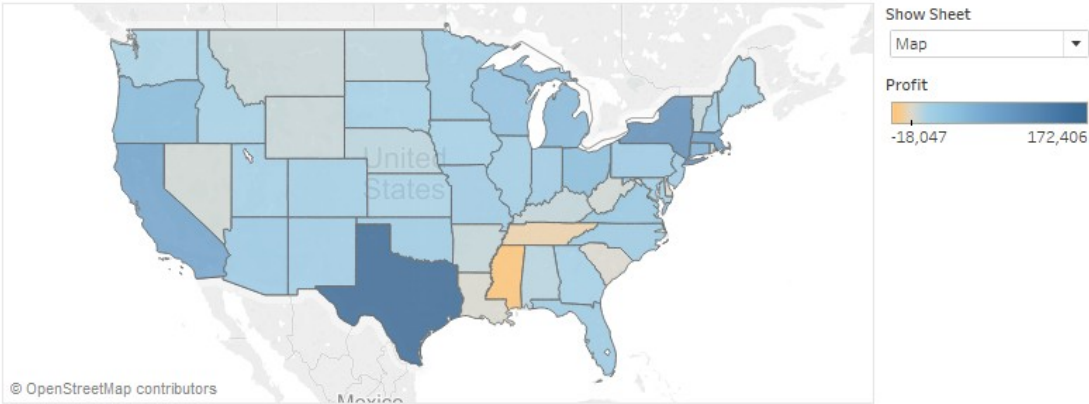
Web Page



Blank

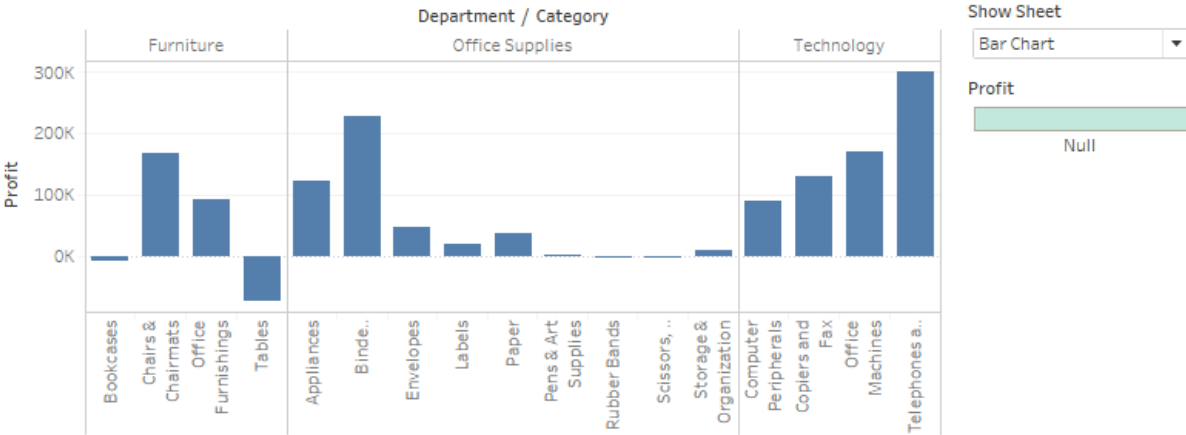
Bar Chart collapsed

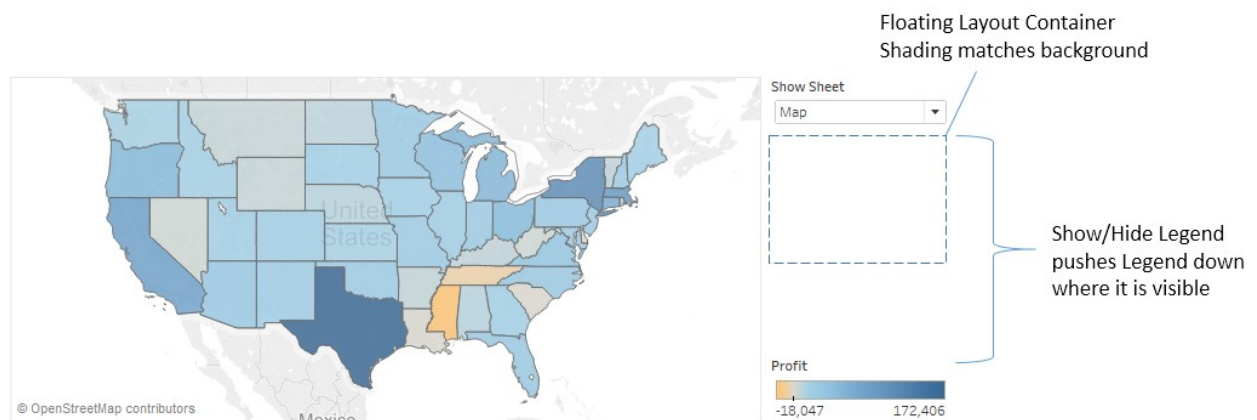
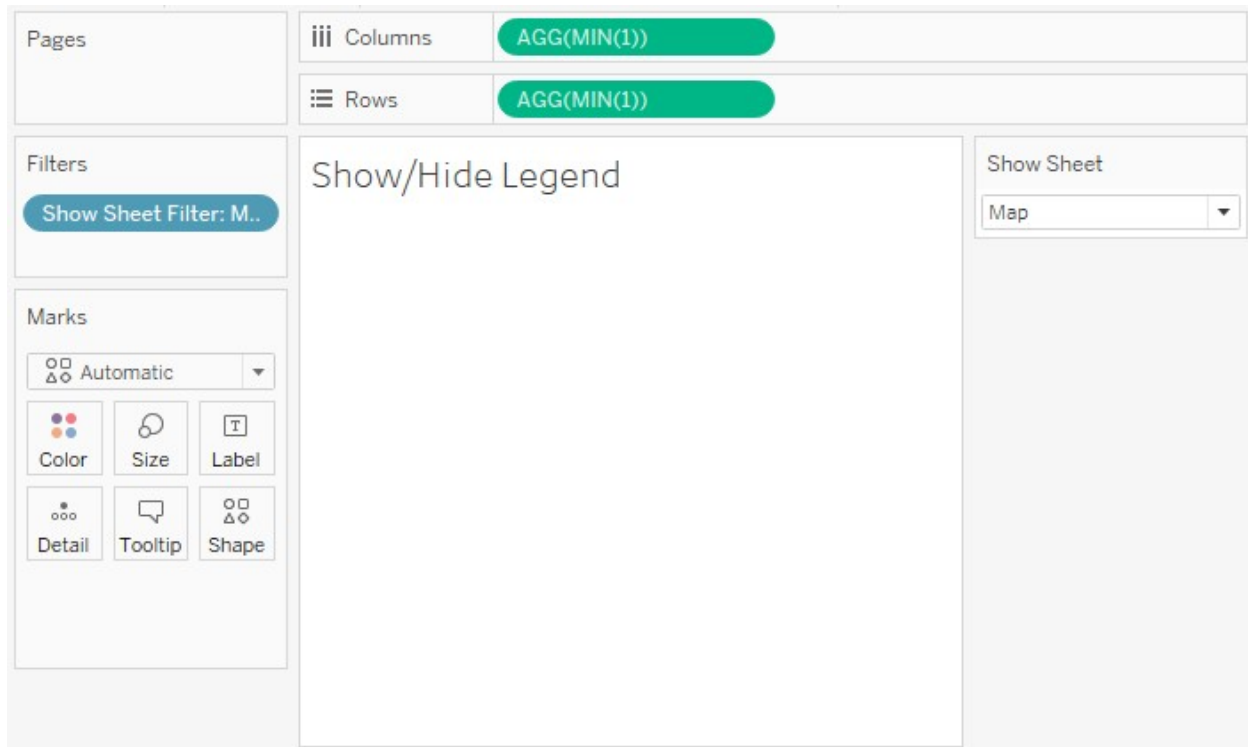
Map visible

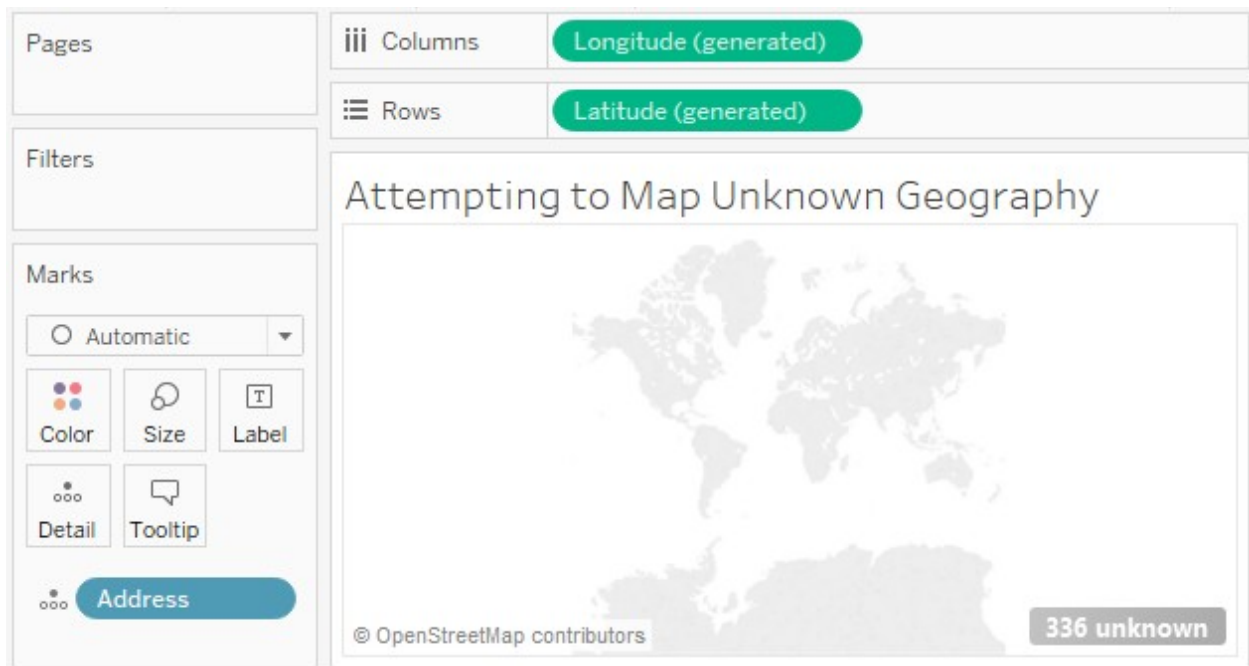
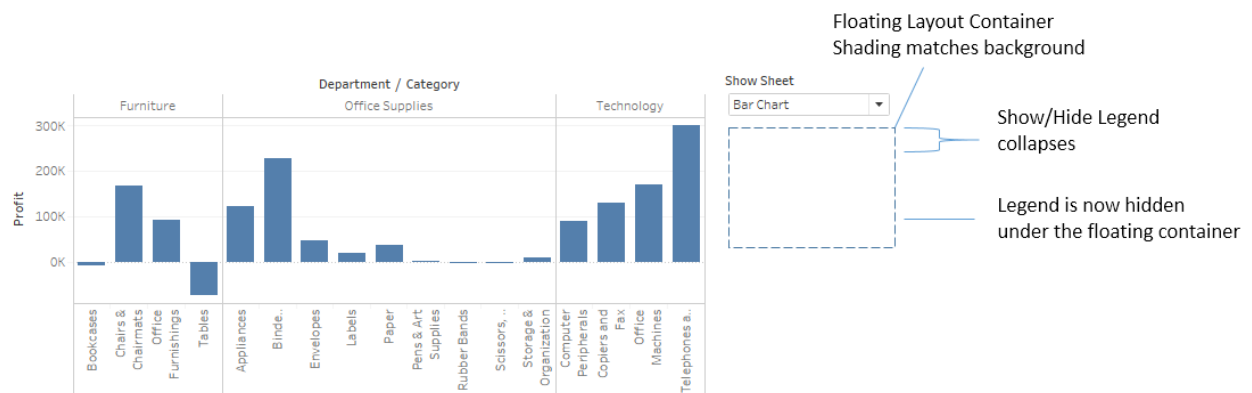


Bar Chart visible

Map collapsed







Edit Locations




Geographic roles


Country:

State:

County:

 117 issues

Match values to locations

 County

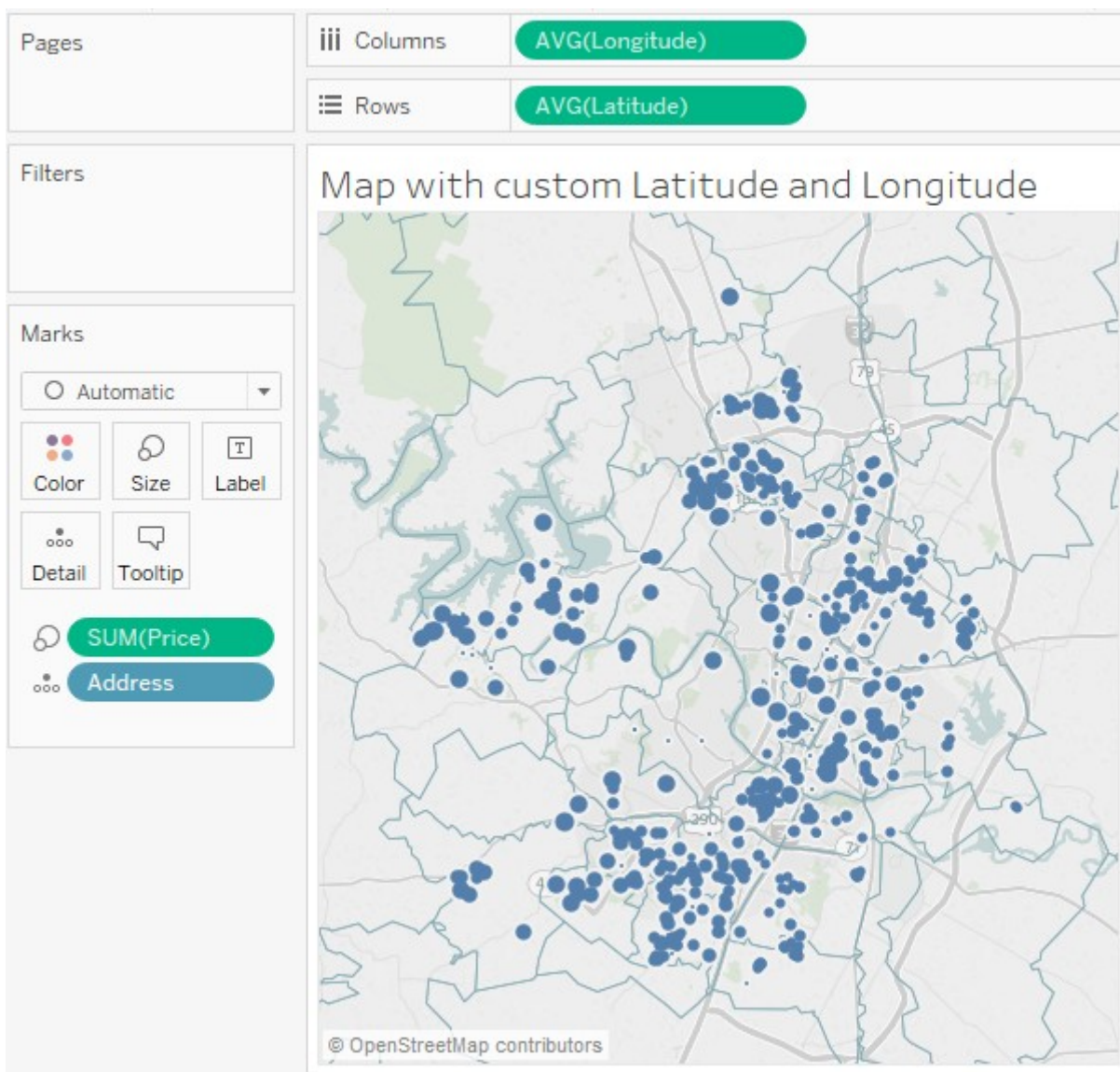
Your Data	Matching Location
12375 Stoepele St	Unrecognized
12385 E Horton Rd	Unrecognized
12455 Berkey Hwy	Unrecognized
12457 The Bend Rd	Unrecognized
12515 Frankfort Rd	Unrecognized
12700 Airport Rd	Unrecognized
12721 Lagoon Dr	Unrecognized
12755 Angola Rd	Unrecognized
12816 River Dance Dr	Unrecognized

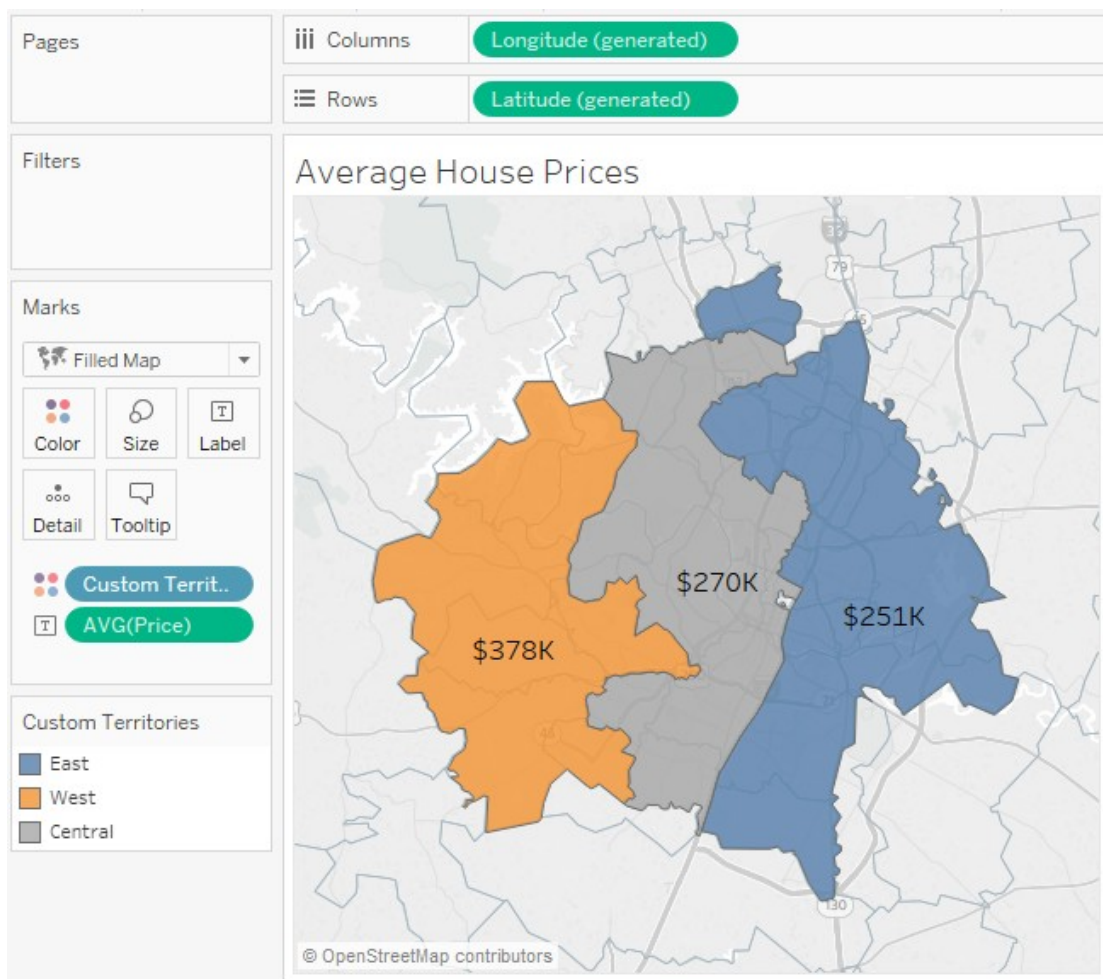
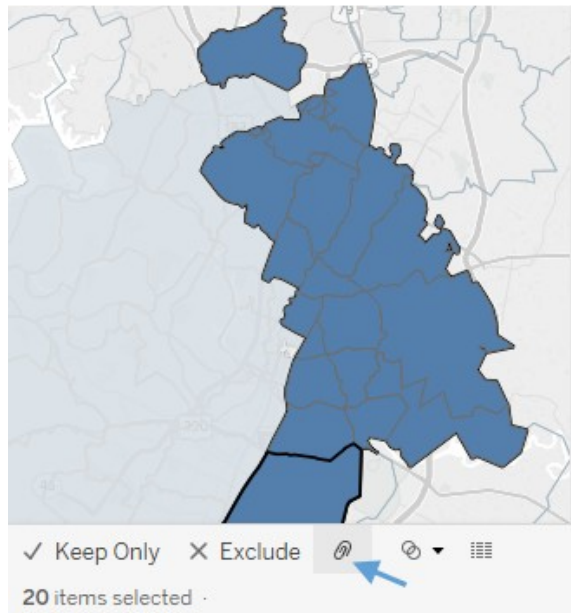
☐ Show only unmatched location in drop down list

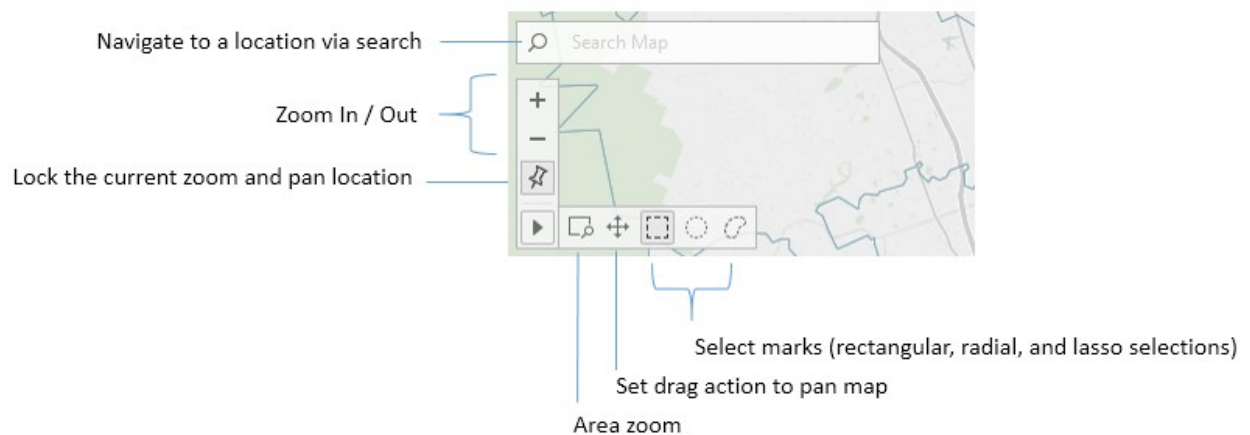
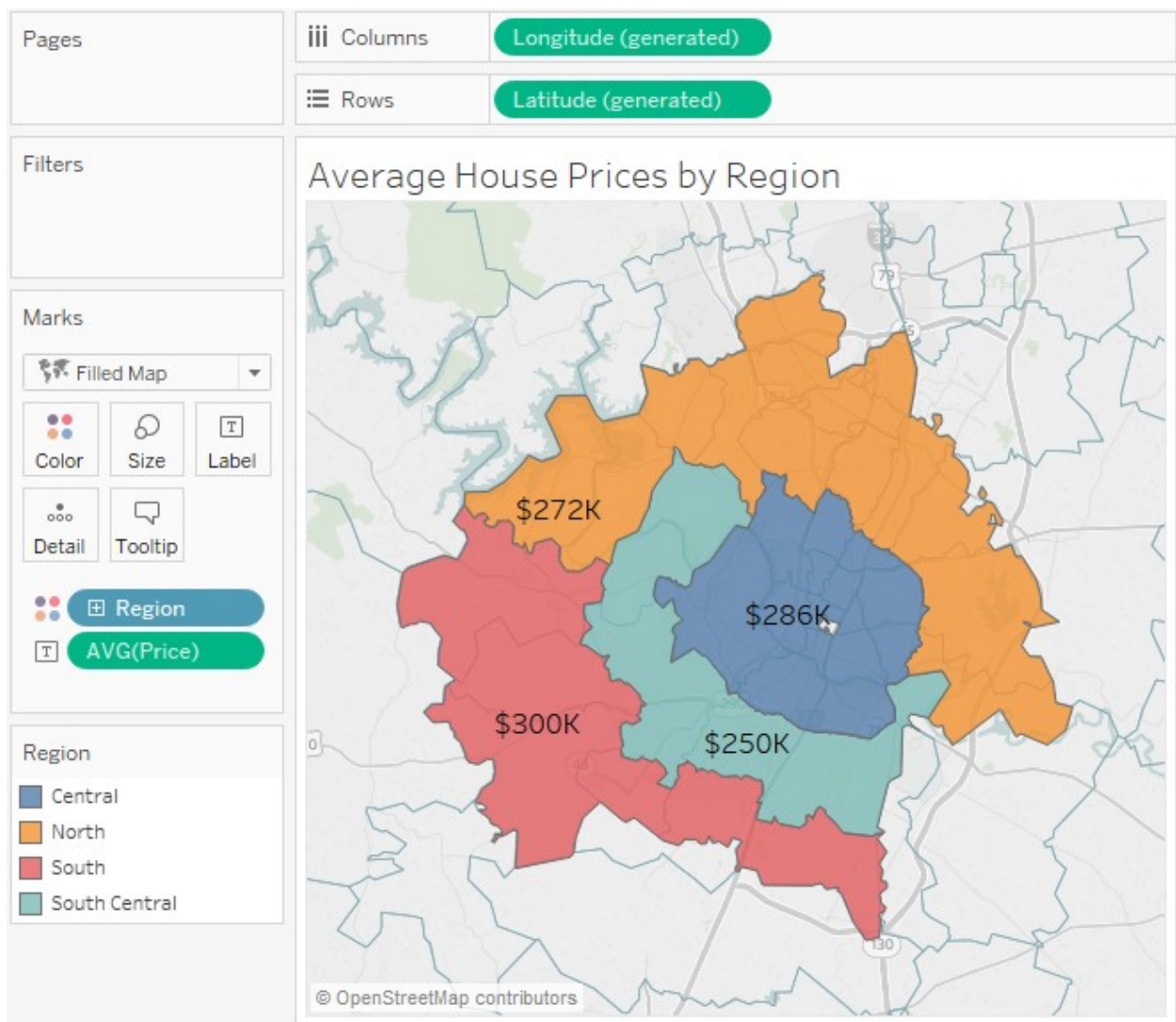
Reset Matches

OK

Cancel







Map Options

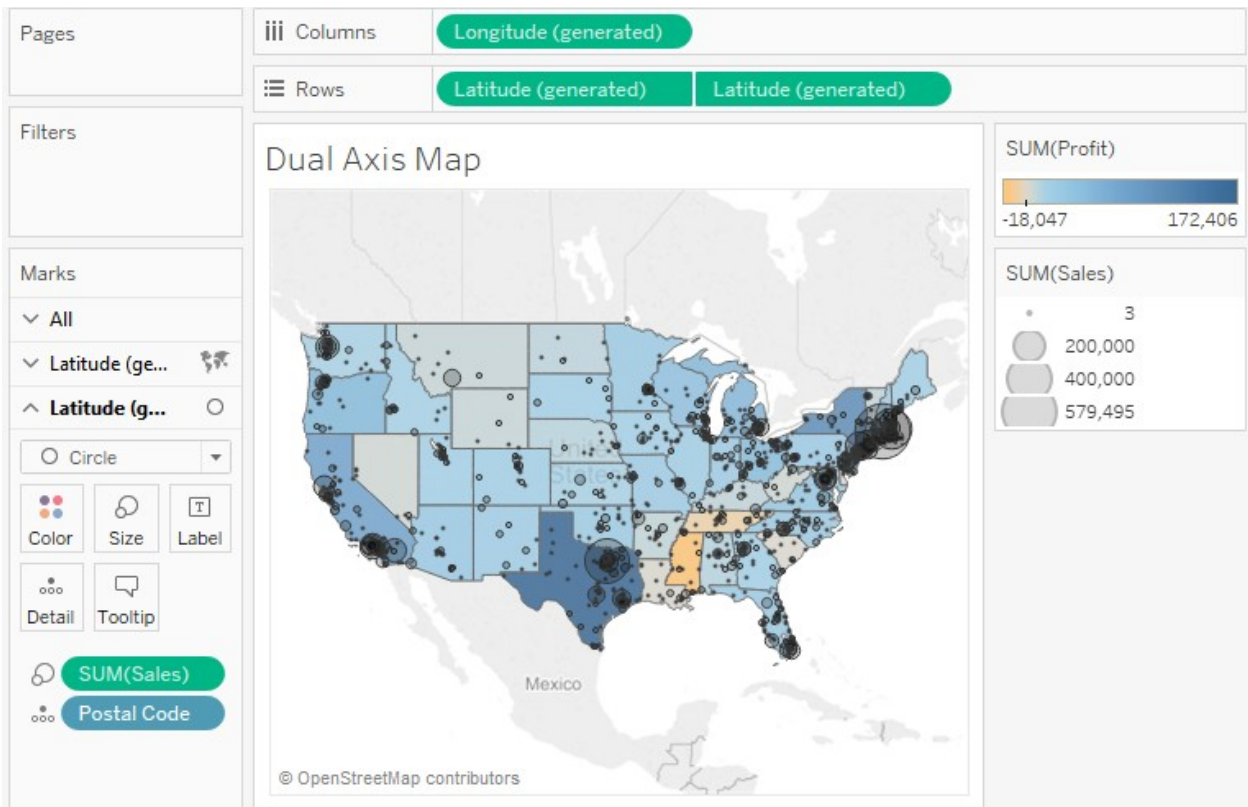
☒ Allow Pan and Zoom

☒ Show Map Search

☒ Show View Toolbar

Units:

Automatic



Columns

Longitude (generated)

Rows

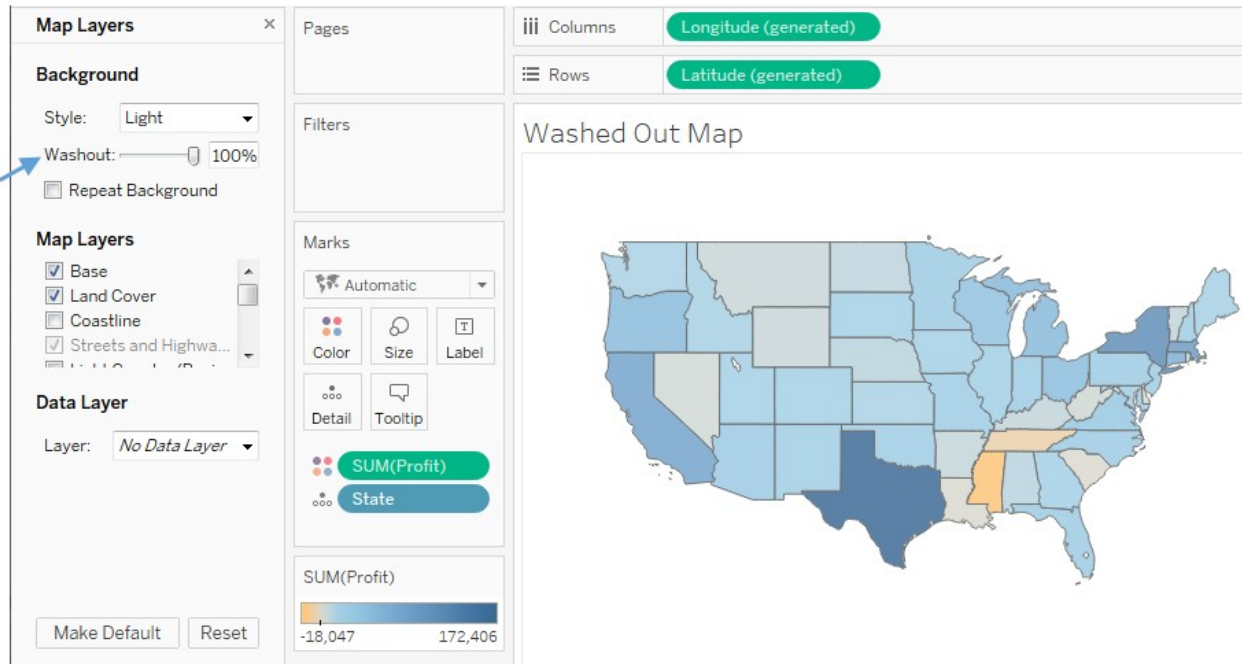
Latitude (generated)

Latitude (generated)

Dual Axis Map



© OpenStreetMap contributors



Add Background Image

Name: **Hospital - Ground Floor**

Image **Options**

File or URL: **%20Tableau/Chapter%2010/Hospital%20-%20Ground%20Floor.png** **Browse...**

X Field

X

Left: **0**

Right: **800**

Y Field

Y

Bottom: **700**

Top: **0**

Ground Floor

Washout: **0**

OK **Cancel** **Apply**

Edit Background Image

X

Name: Hospital - Ground Floor

Image

Options

Image Options

☒ Lock Aspect Ratio

☒ Always Show Entire Image

Only Show When

Floor: Ground Floor

Add...

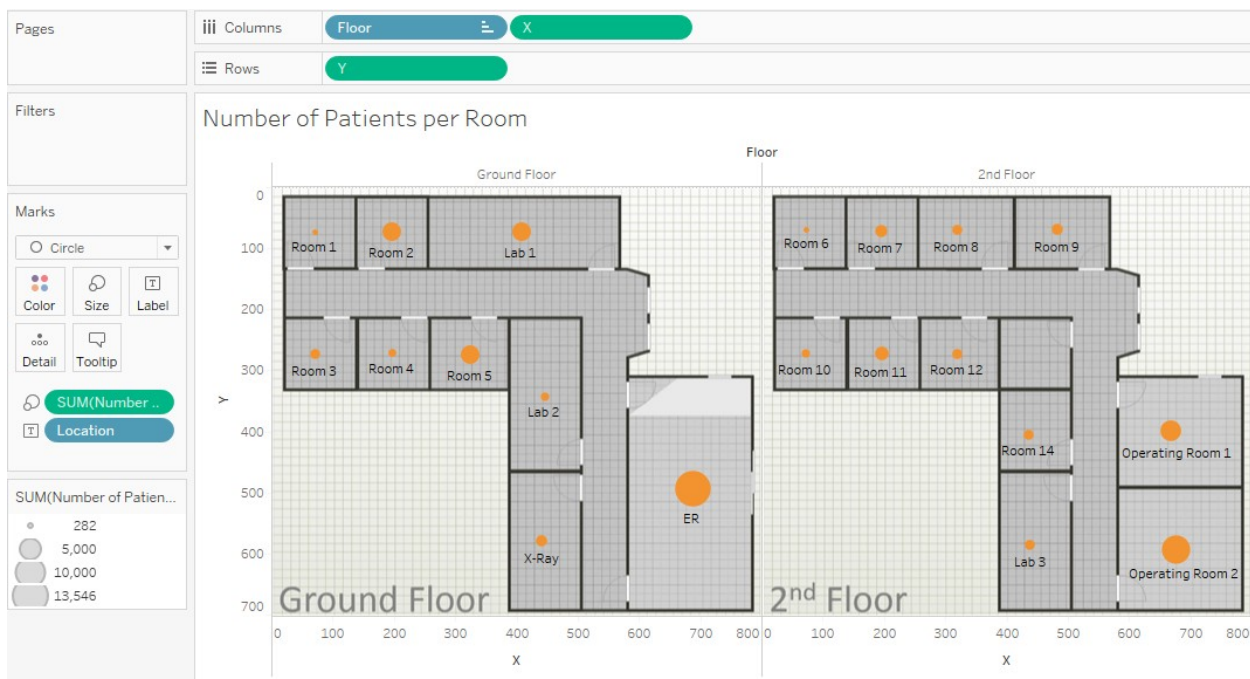
Edit...

Remove

OK

Cancel

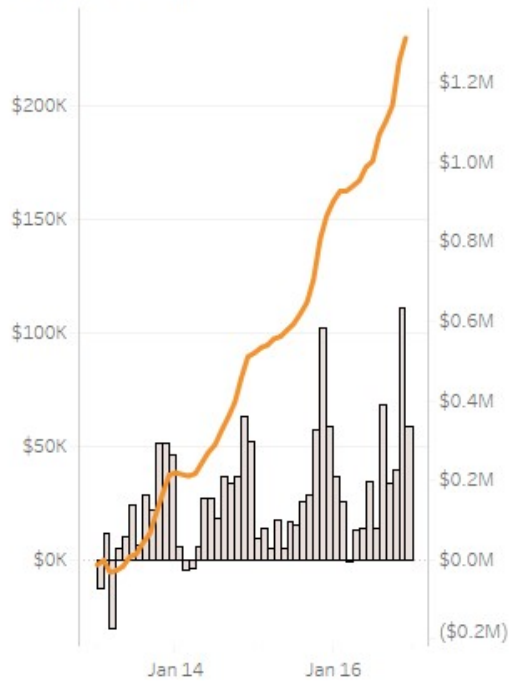
Apply



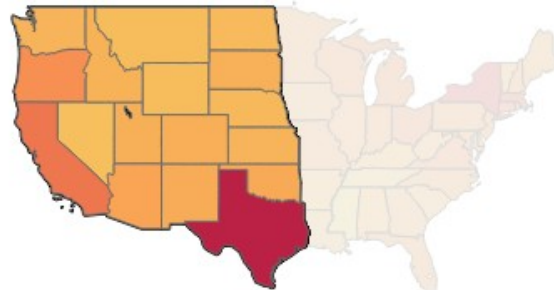
Chapter 11: Sharing Your Data Story

Profit Analysis

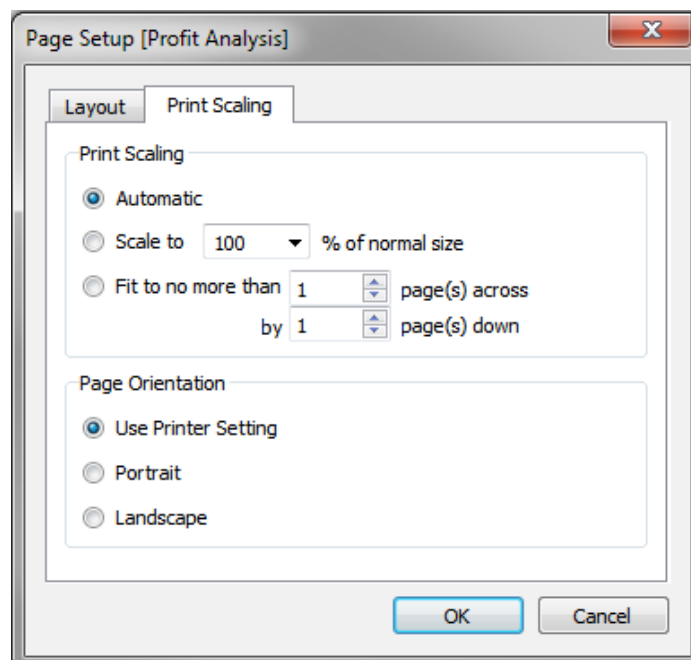
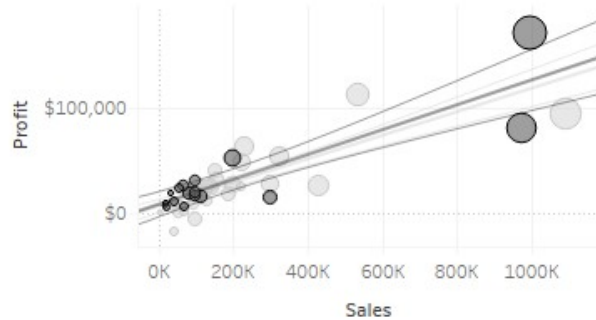
Profit over Time

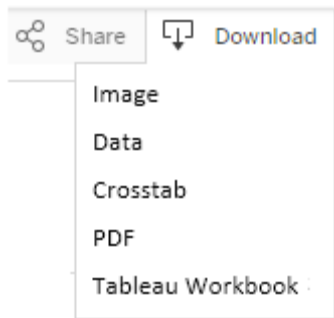


Profit by State



Profit and Sales Correlation (State)





Sign in to Tableau Online

jmilligan@teknionusa.com

.....

☐ Remember me

Sign In

Publish Workbook to Tableau Online

×

Project

Default

Name

Engage

Description

Tags

Add

Sheets

All Edit

Permissions

Same as project (Default) Edit

Data Sources

1 embedded in workbook Edit

More Options

☐ Show sheets as tabs

☒ Show selections

Publish

← Undo


→ Redo

|← Revert

 Refresh

 Pause

 Original View

 Subscribe

 Edit

 Share

 Download

Embed Code

```
<script type='text/javascript' src='ht
```

Link

```
https://10ay.online.tableau.com/t/ci
```

Email Link