Reports in Power BI

Table of Content

1. Power BI Reports

Course pre-requisites

- Data Visualization in Power BI

- Intermediate DAX in Power BI

Dashboards versus reports

Dashboard

- Tells us about critical business or operational metrics, often in real time

- Lacks interactivity
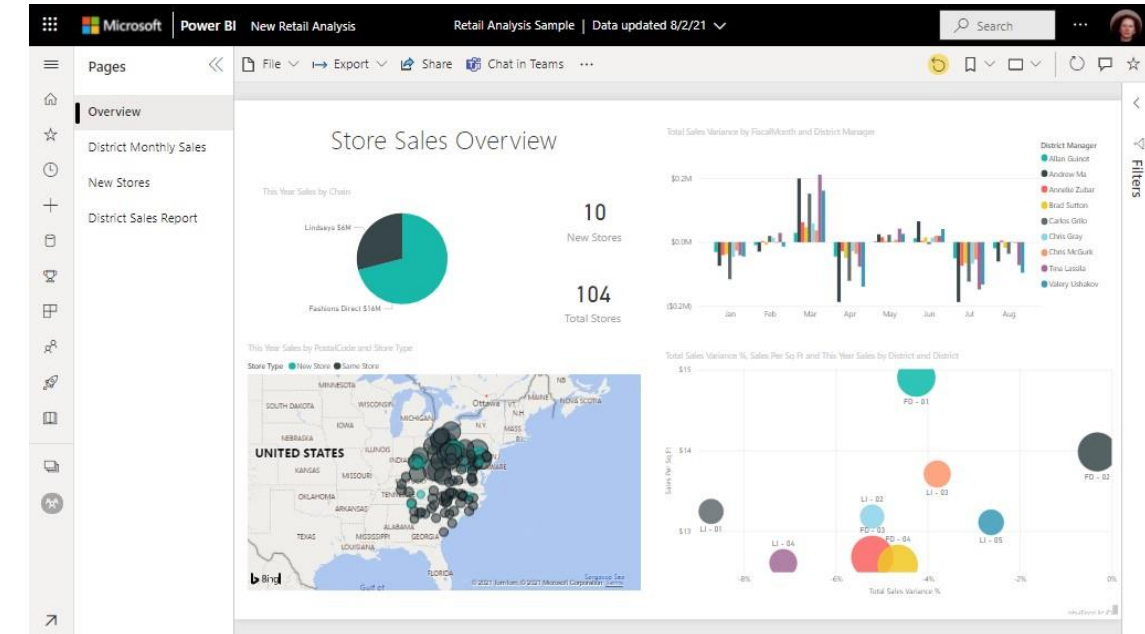
- Single-view

Reports

- Provides an application-like experience for users

- Multiple pages and interactive functionality

- The focus of this course

Choosing between dashboards and reports

Choose a dashboard if...   Choose a report if...

- You need rapid analysis

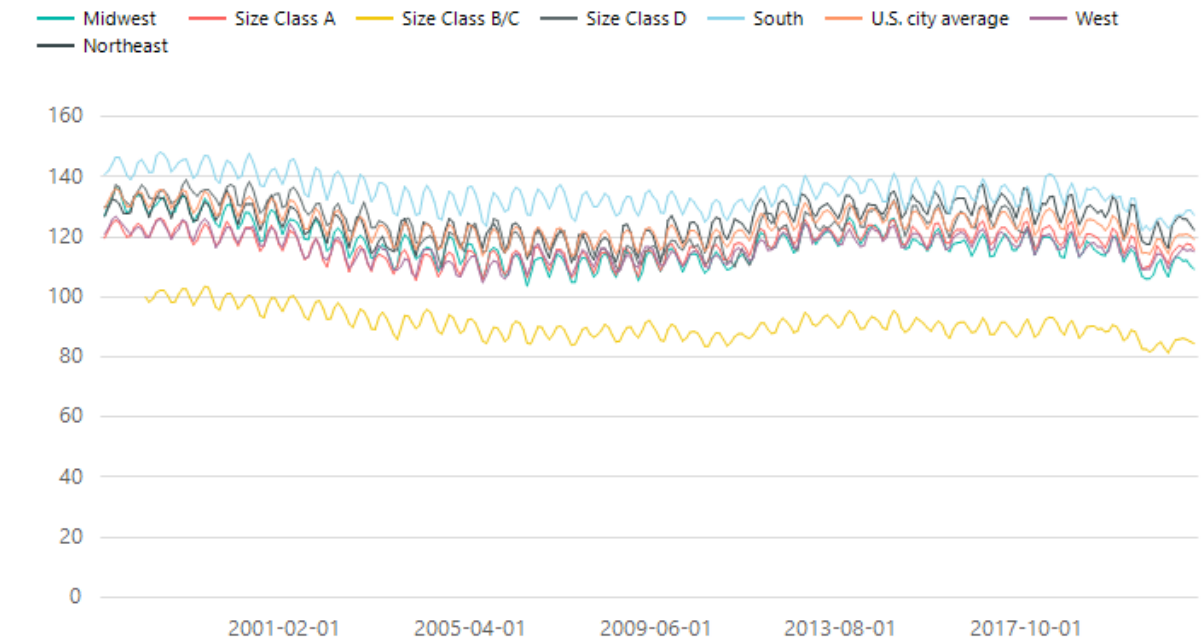- Users have limited engagement opportunities

- You need detailed analysis

- Users are primarily on PC and have a keyboard, mouse, and large screen

Paginated reports

- "Pixel-perfect" report intended for the written page

- Created in the Power BI Report Builder

Tracking CPI of Apparel by region over time

— Midwest — Size Class A — Size Class B/C — Size Class D — South — U.S. city average — West
— Northeast

Date	Midwest	Northeast	Size Class A	Size Class B/C	Size Class D	South	U.S. city average	West
1997-01-01	127.00	126.90	119.60		130.10	140.80	129.60	121.00
1997-02-01	130.70	129.80	122.20		129.80	141.90	131.90	122.80
1997-03-01	133.30	132.50	124.50		132.30	144.10	134.50	125.70
1997-04-01	136.40	132.10	125.50		137.30	146.60	136.10	126.80
1997-05-01	135.70	130.90	124.80		136.50	146.40	135.30	125.40
1997-06-01	131.40	128.00	122.00		132.60	143.70	132.40	123.90
1997-07-01	127.70	127.70	120.00		131.40	140.50	130.20	122.40
1997-08-01	129.20	128.10	120.30		130.40	139.10	130.00	120.80
1997-09-01	133.10	133.30	123.20		133.40	140.90	133.00	122.30
1997-10-01	133.80	134.60	124.40		135.20	144.80	134.90	123.30

The end goal

- Multiple pages with drillthroughs, bookmarks, and navigation buttons

- Interactive design: animations, highlighting and states

- Question and Answer capabilities

Wake County watchdog data

- Part of Wake County Open Data

- Tracks budgets and expenditures for Wake County, North Carolina

- Includes fiscal years 2017-2019
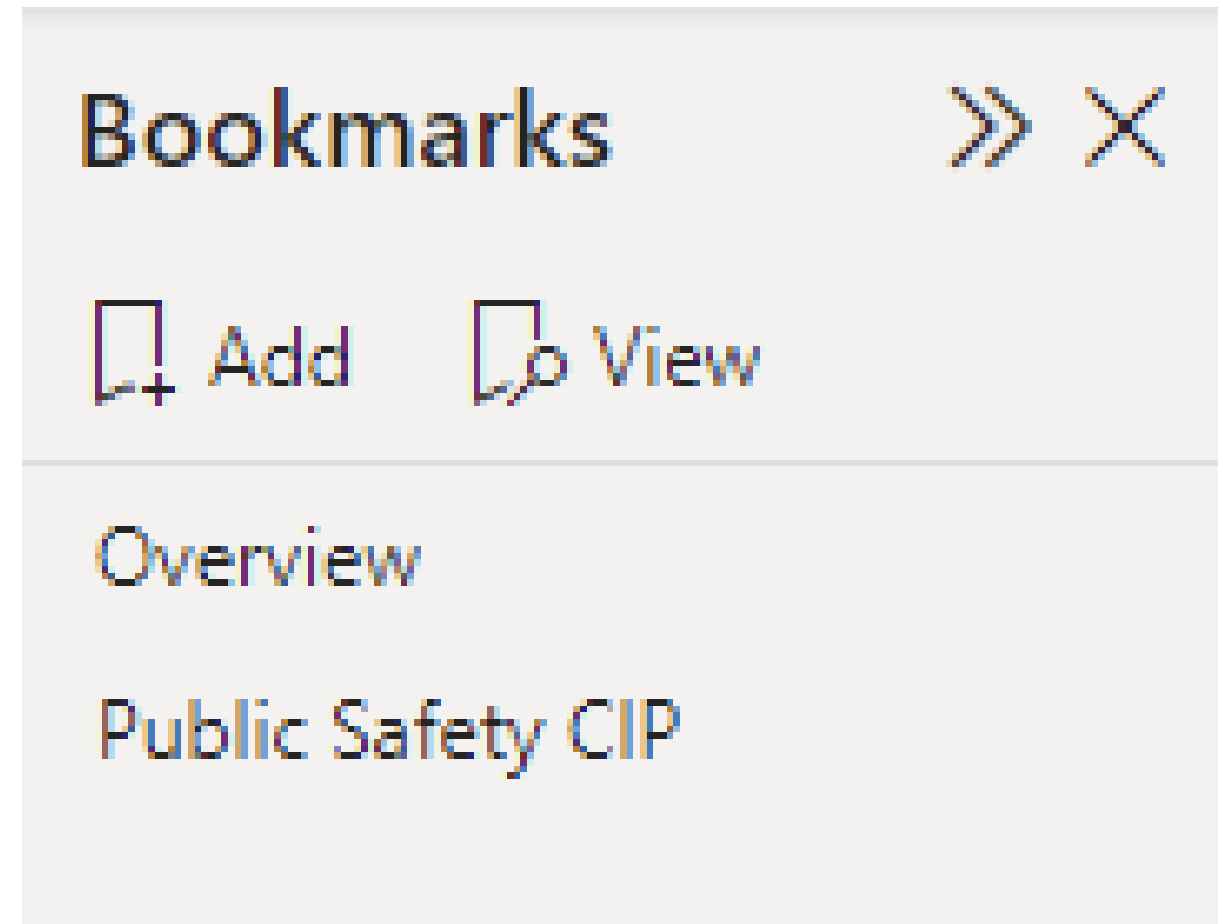 - July 1st - June 30th
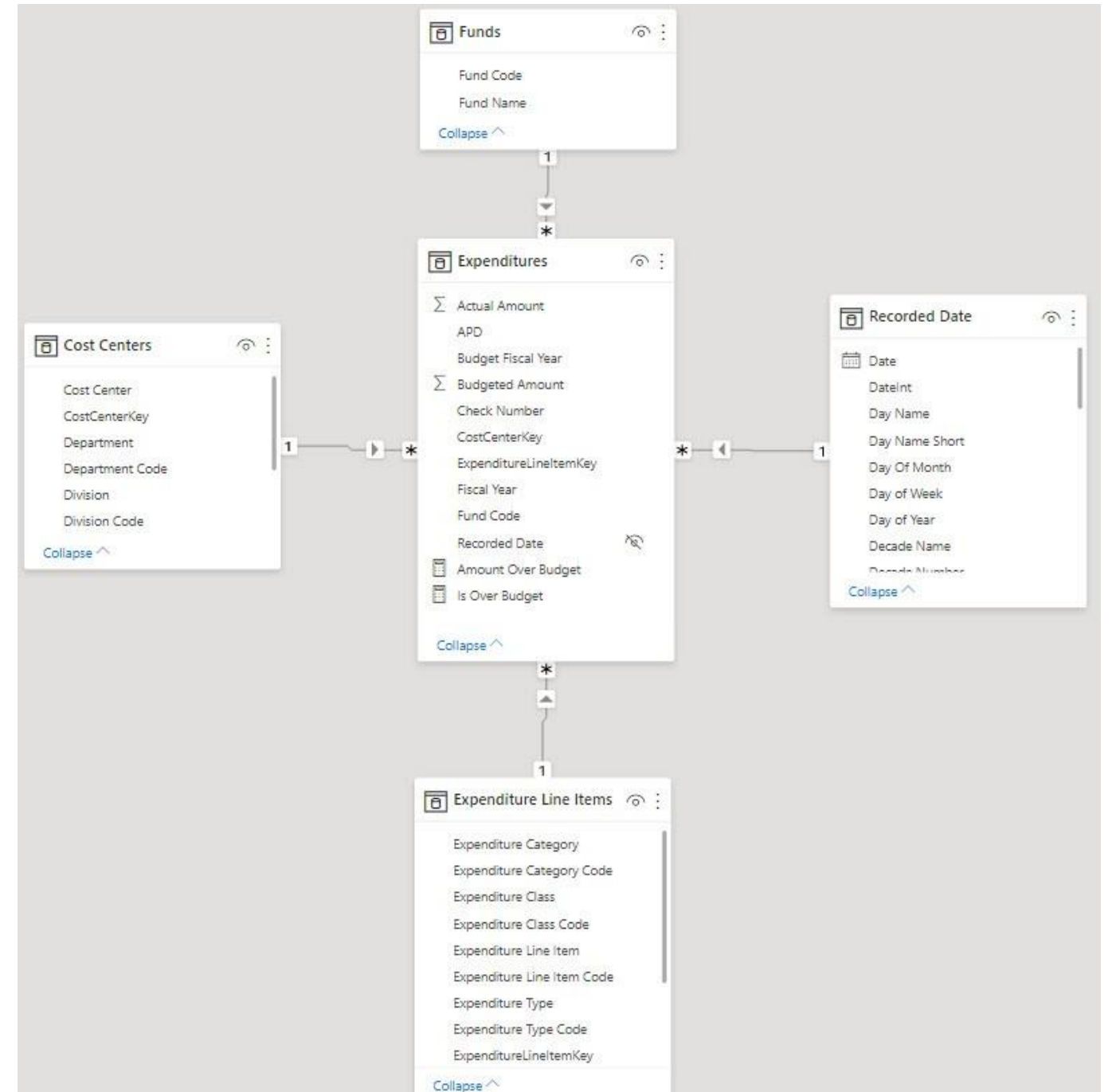
Demo

2. Bookmarks, Buttons and Navigation

Navigation and stories

- Stories benefit from structure

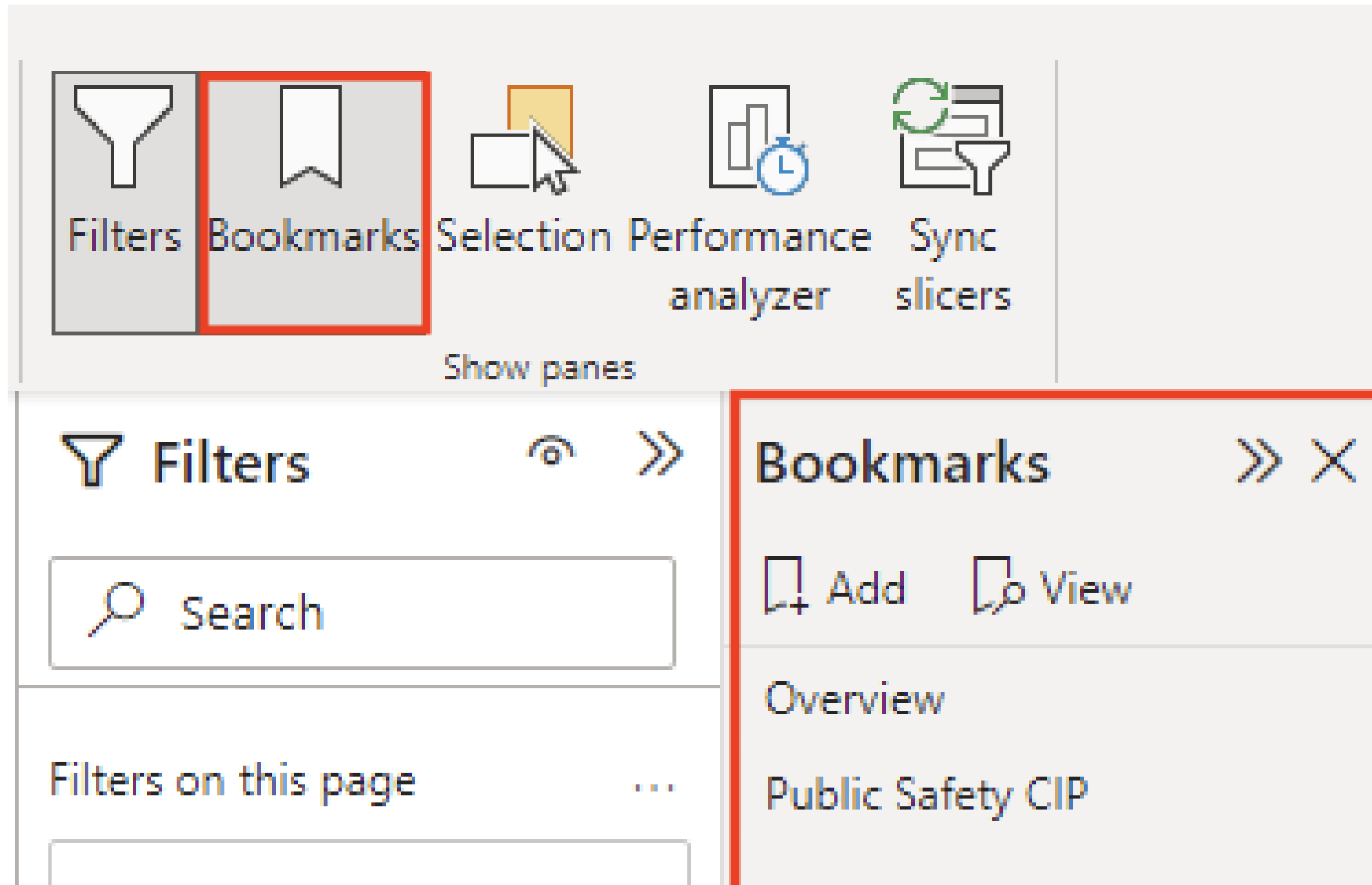- Structured navigation helps tell the story for reports

Bookmarks

- A way of capturing pre-defined state in Power BI

- Similar to browser bookmarks...

- ...but not the same as browser bookmarks
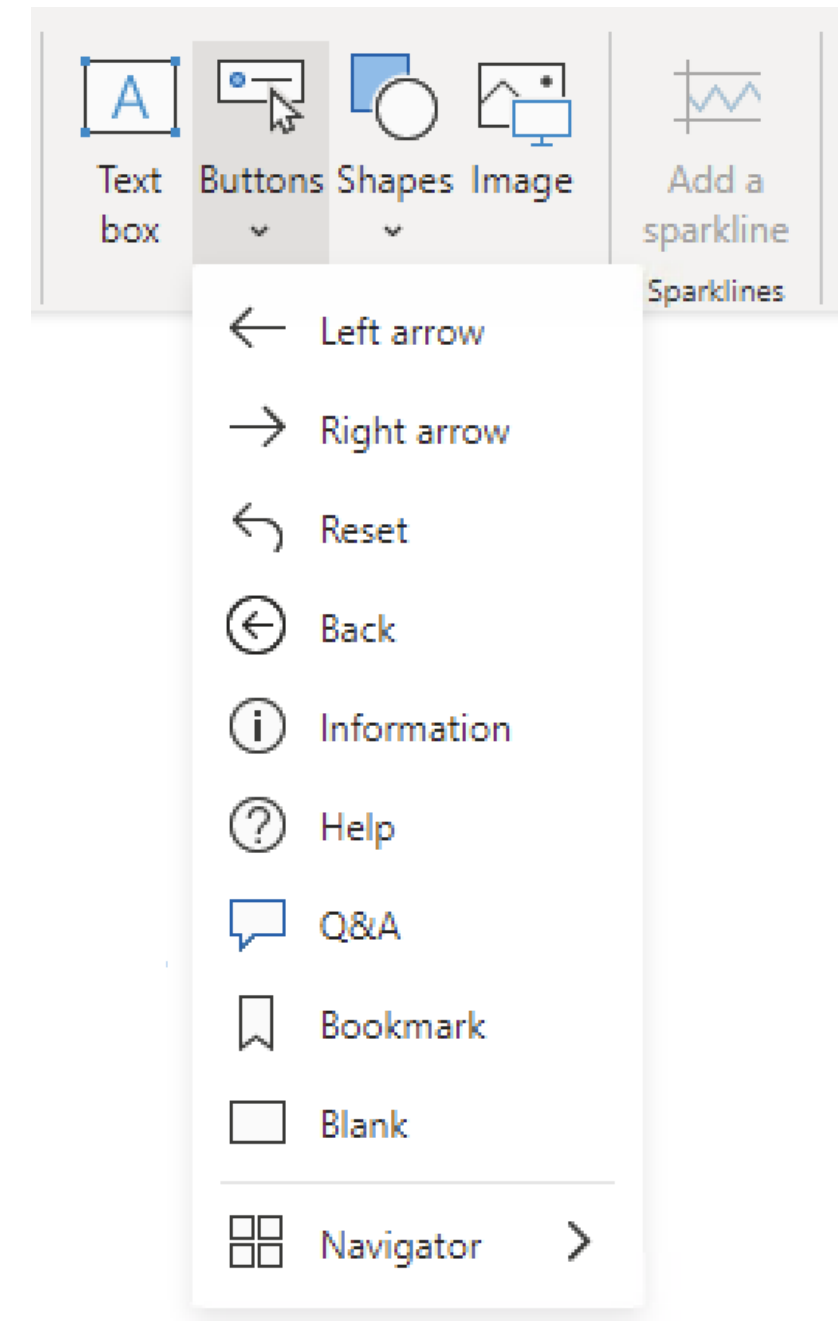
Bookmarks and state

- Currently selected page

- Filter settings

- Slicer selections

- Visual selection state

- Sort order

- Drill location

- Visibility of objects

The bookmark navigator

But ons

- Perform actions on pages

- Drill through to a new page

- Navigate to a specific page

- Select a bookmark Navigate

  to a web URL

Navigator

- Built-in capability
- Automatically create a navigation based of:

    Bookmarks

    ° Pages (including hidden and tooltips)

    Page navigator automatically syncs with
- your report pages

    Titles match page display name

    ° Matches the order you define Selected

    ° button is the current page

    ° Automatically updates as you update
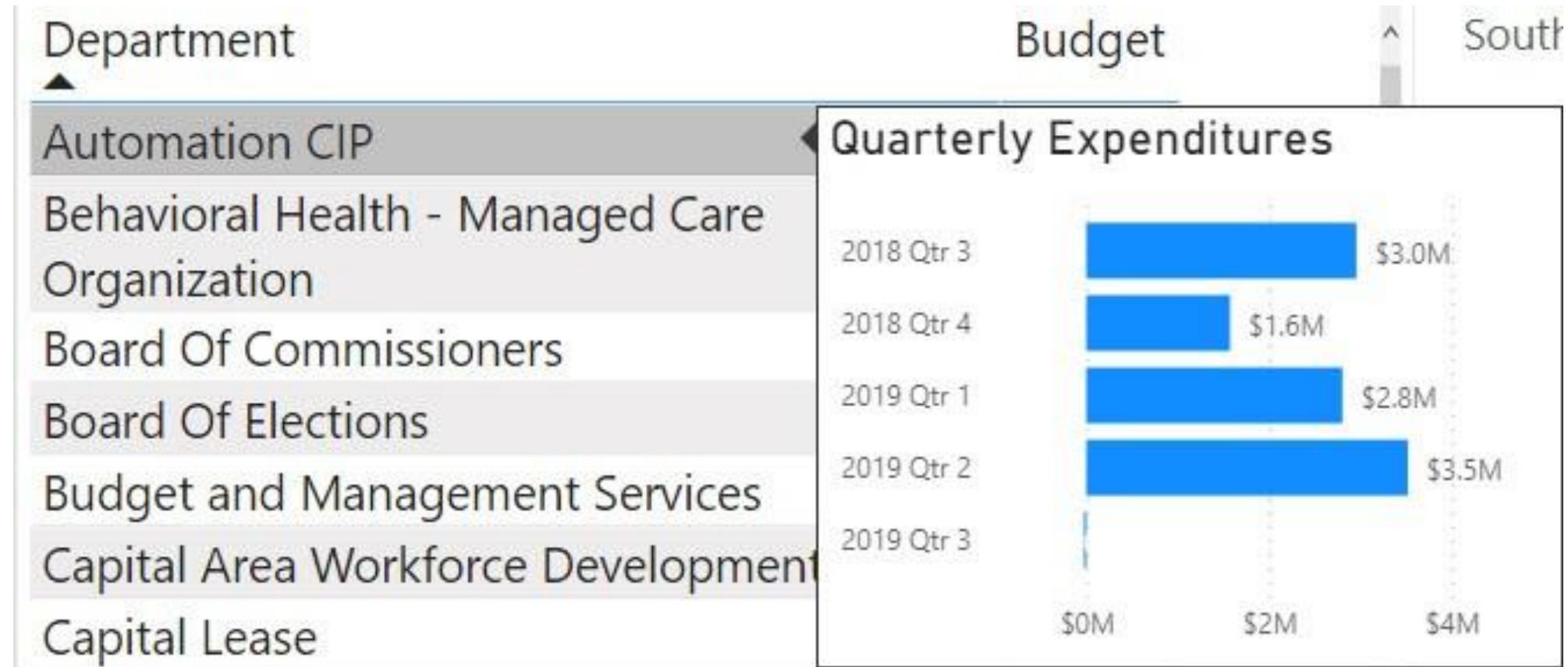   °
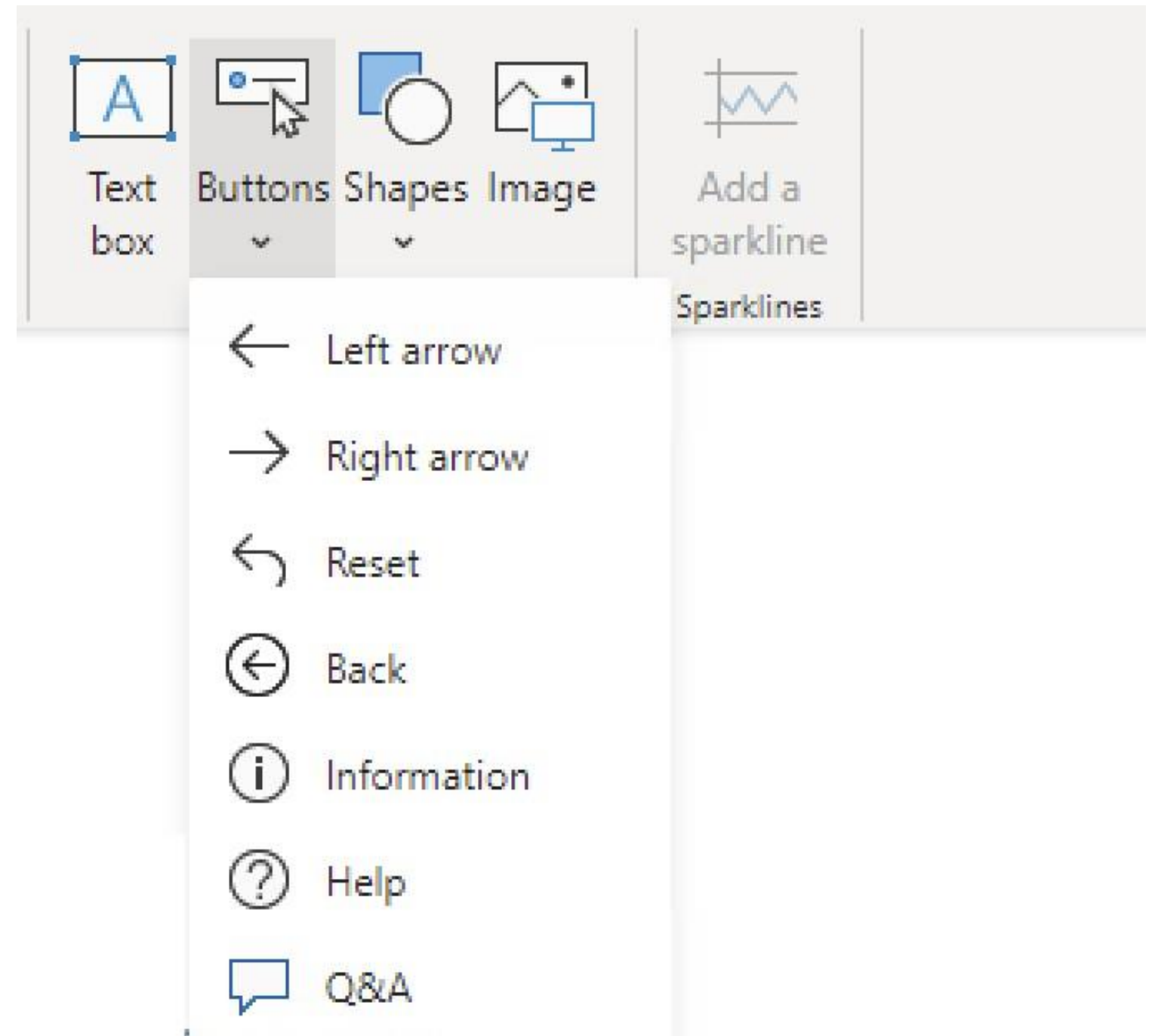
Demo

3. Customizing the Experience

But on states and styles

- Four states for buttons: default, on hover, on press, disabled

- Can style button text, icon, outline, and fill based on state

- State does not matter for elements like visual header and action

Format button		>

Search

∨ General

∨ Button T...   On ———●

∨ Icon   On ———●

∨ Outline   On ———●

∨ Fill   On ———●

∨ Title   On ———●

∨ Backgro...   On ———●

Custom tooltips

- Power BI page which appears on mouse-over

- Two types: tooltip on item or help tooltip

- NOT interactive

Unicode symbols and emoji

Department	Budget
CIP	
Program Wide Projects	
Public Libraries CIP	🚫
Public Safety CIP	🚫
Public Safety Communications	💵
Quasi-Governmental	💵
Register Of Deeds	💵
Revenue Department	💵
Sheriff	💵
Solid Waste Enterprise Capital Projects	🚫 ⚠
Transfers	
Wake County Public School System	🚫
Wake Technical Community College	💵

Conditional format ing on tables

Conditional formatting options:

- Background color

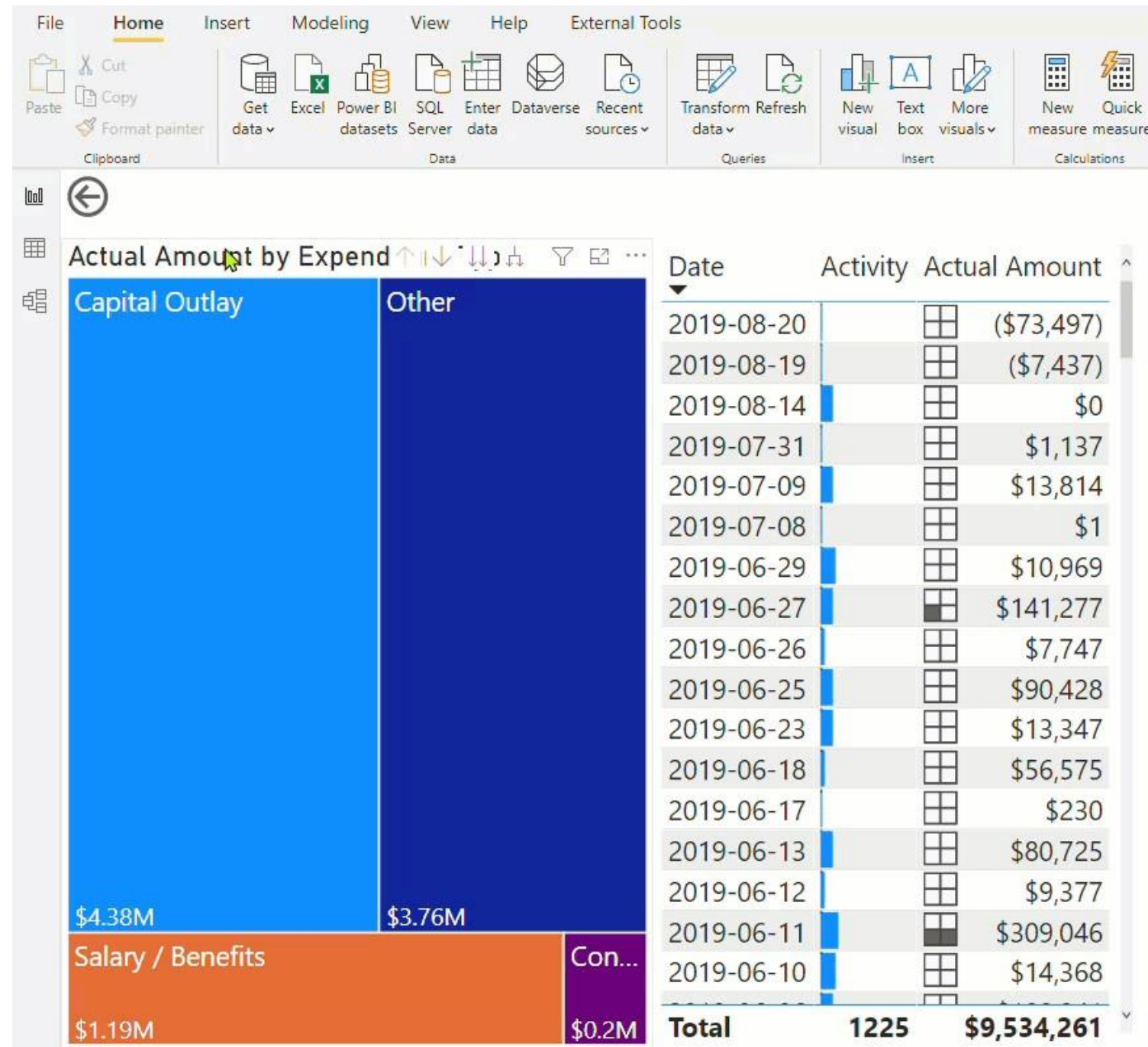- Font color

- Data bars

- Icons

- Web URL

| Date	Activity	Actual Amount
2018-06-30		
2018-07-02		
2018-07-10		($1,640,021)
2018-07-15		
2018-07-25		$3,019,417
2018-07-26		($1,648,442)
2018-07-30		$8,836,800
2018-07-31		$87
2018-08-01		
2018-08-02		
2018-08-05		($101)

Edit interactions
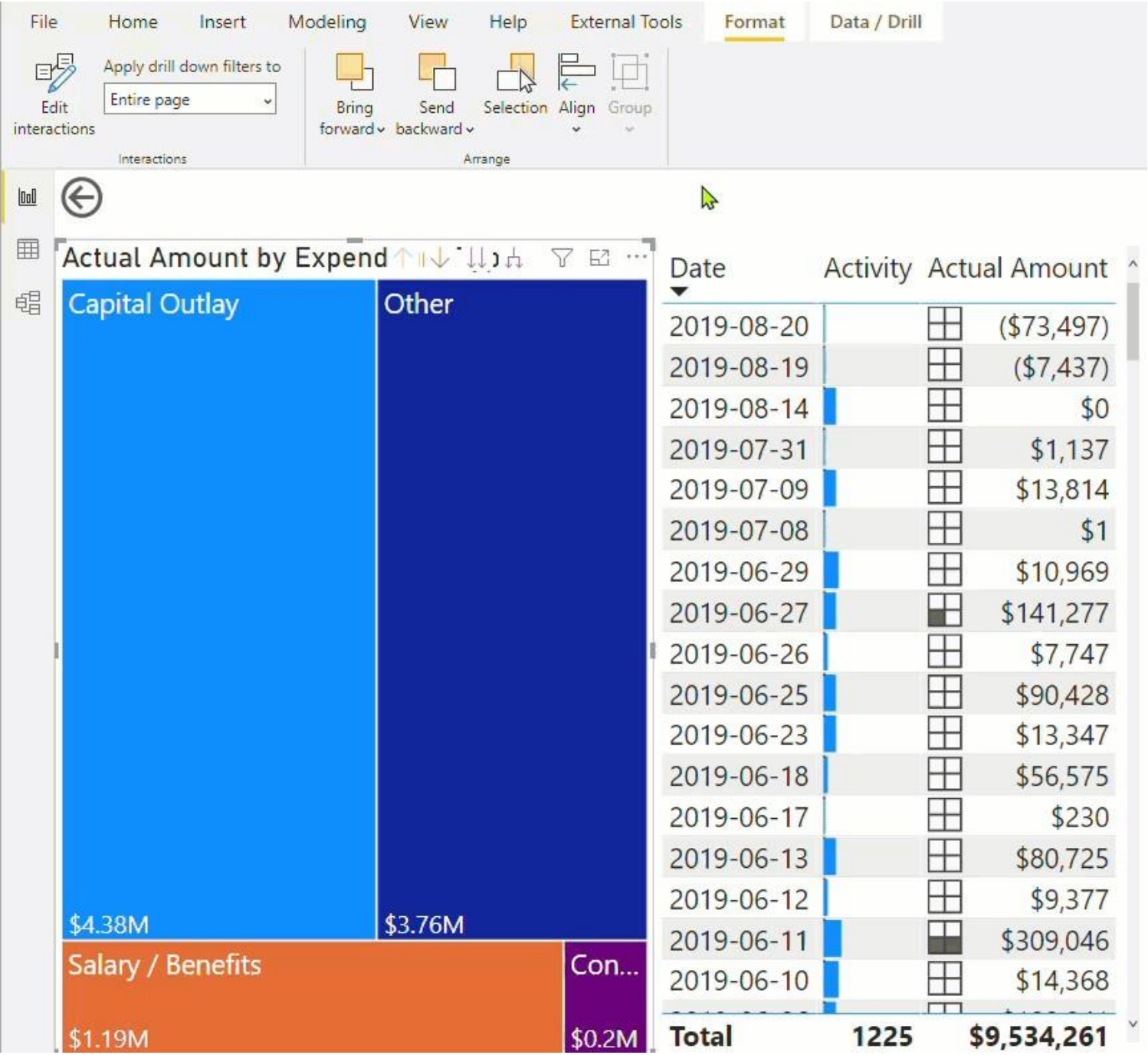
- Enable or disable cross-filtering between specific visuals

- Filter or highlight certain visuals

Edit interactions

- Allow a treemap to drill down for the entire page or just its own visual

- Prevent "totals" cards from updating as a result of slicers or cross-filters
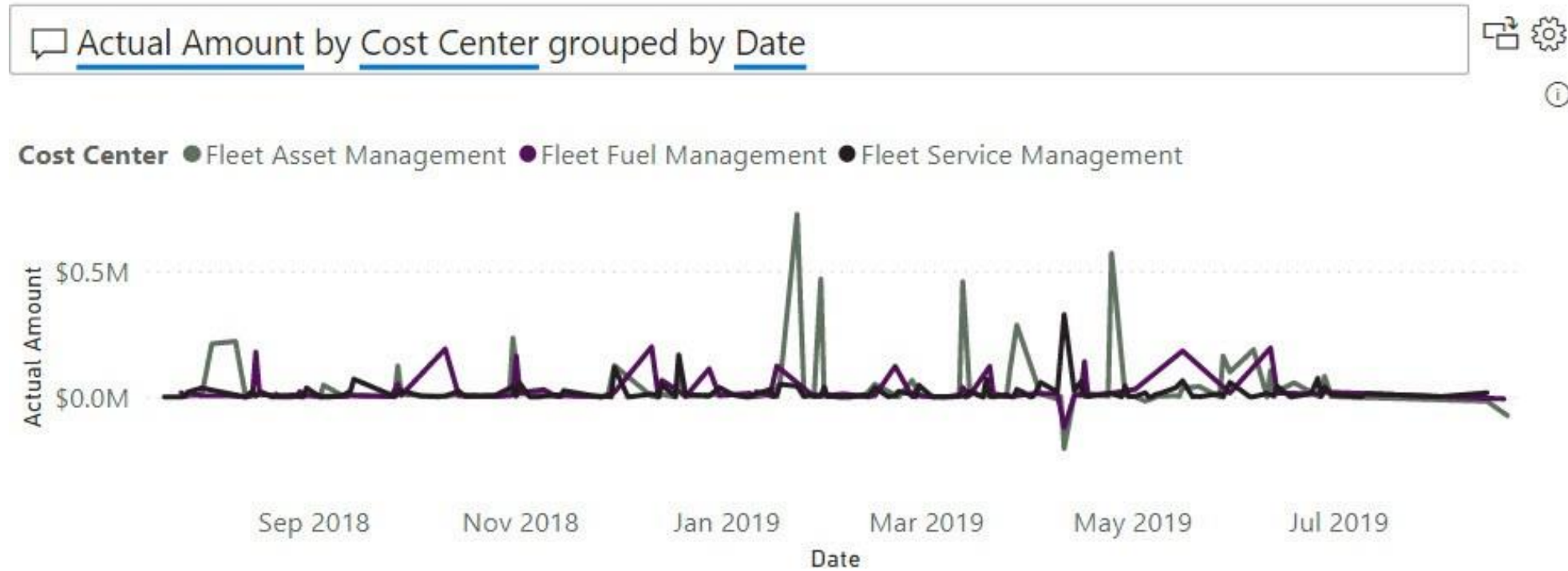
Filter or highlight?
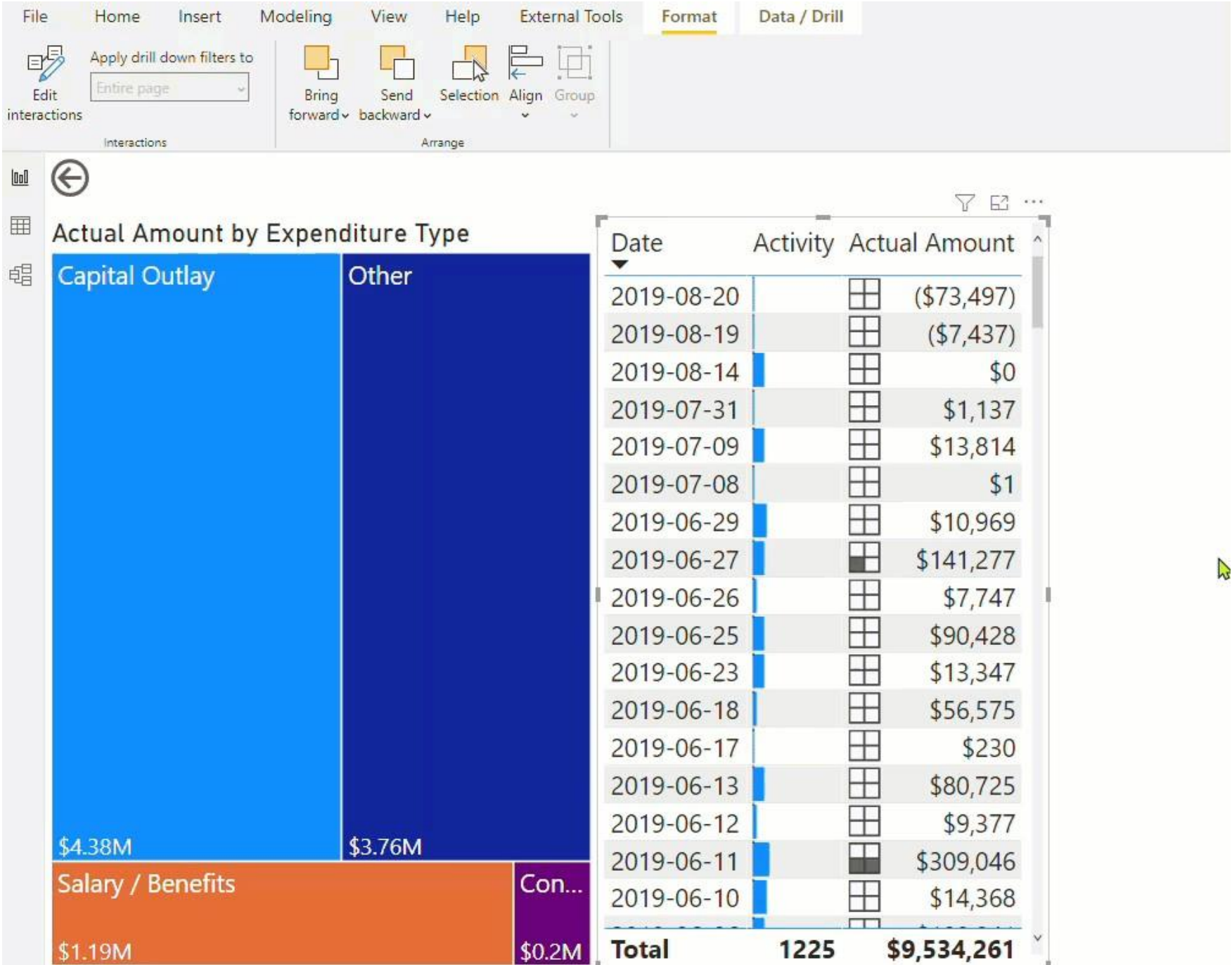
Demo

4. Customize a Report with Q&A

Q&A Capabilities

- Natural language queries (English)

- Auto-complete

- Spelling corrections

- Preview answers

- See words Q&A doesn't understand

How it works

- Ask for a column or measure by name: `Actual Amount`, `Cost Center`, `Number of Expenditures`

- Filtering and grouping with prepositions like `for`, `by`, `grouped by`, and `where`

- Example query: `Actual Amount by Cost Center grouped by Date`

- Natural language processing reads the query and decides on the proper visual

Requesting a specific visual
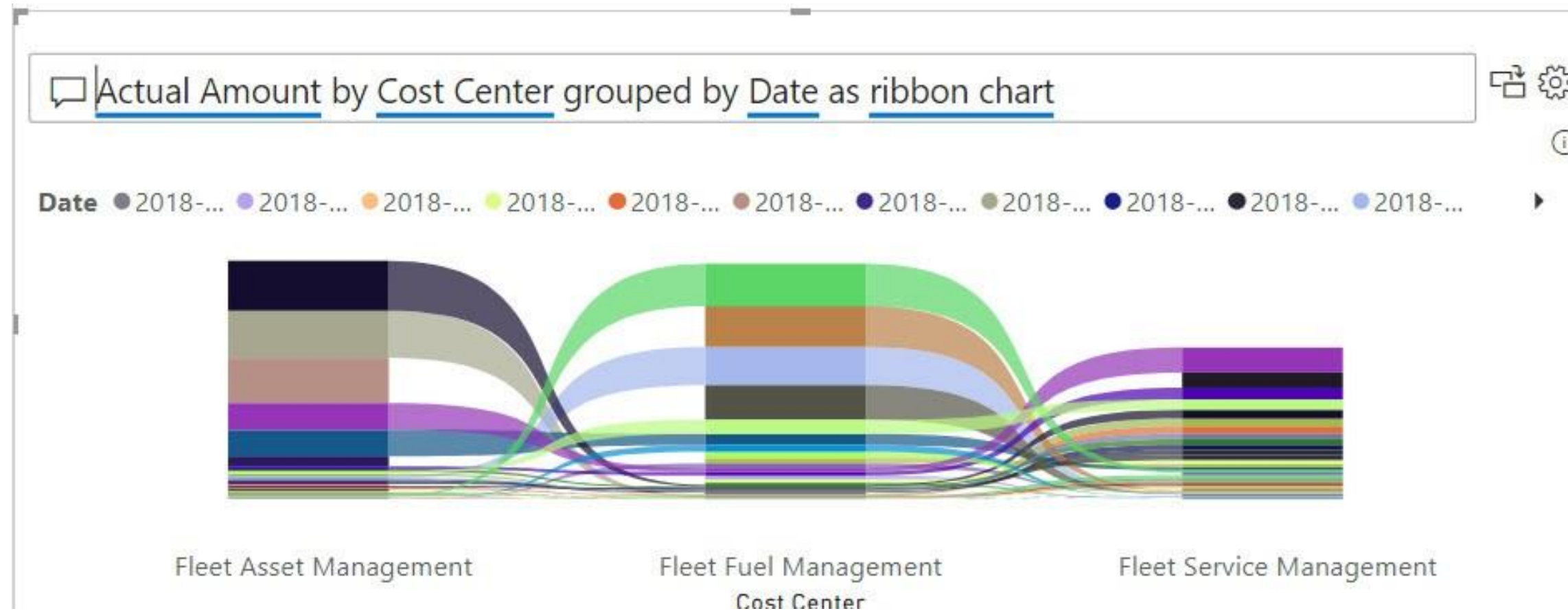
- Use `as {visual name}` to specify a visual

- `as table`, `as treemap`, `as pie chart`

- Limited control over the visual!

- Can convert from Q&A to the visual

Synonyms

Field synonyms

Add terms people might use as synonyms for the fields and tables in your data.

			cost center interpretation + ×	+5	
Department	department ×	dept ×	Add +	subdivision + ×	unit + ×	section + ×
				branch + ×	sector + ×	+5
Department Code	department code	Add +	department id + ×	department key + ×	
Division	division	Add +	separation + ×	dissection + ×	
			detachment + ×	disunion + ×	
			partition + ×	+5	

- Multiple terms for the same column

- Use suggested values or define your own

- Treat these like actual column names

- Warning: don't overlap synonyms!

Managing terms with Teach Q&A

- Nouns: fields in the data

- Adjectives: filters for the data

Make Q&A work bet er

- Name columns and measures in a business-friendly manner: `Actual Amount` versus `amt_act`

- Create terms and synonyms as needed

- Provide sample questions for your data (using the Power BI Online service)

Demo

Congratulations!

Reports in Power BI

Chapter 1

- Reports vs. Dashboards vs. Paginated reports

- Increasing report interaction

Chapter 2

- Bookmarks and buttons

- Improve navigation

Chapter 3

- Button customization

- Advanced tooltips

Chapter 4

- Customizing Q&A visual

- Creating Decomposition Trees & Key Influencers visual