

Power BI Introduction

Crime Data Analyst Svetlana Gubin,
Oakland PD

International Association Crime Analysts
June 21, 2023

INSTRUCTOR



Svetlana Gubin, Oakland PD (510) 238-2017

Sgubin@OaklandCA.gov

CONTENTS

Introduction to Power BI

- ✓ What is Power BI
- ✓ Why should we use Power BI
- ✓ Examples
- ✓ Where to start

Additional Information

Conclusion and QA

WHAT IS POWER BI

Power BI is a unified, scalable platform for self-service and enterprise *business intelligence* (BI).

IT HELPS TO:

Connect to

and

visualize any data,

and

seamlessly infuse the visuals into the apps you use every day.

WHAT IS POWER BI

DESKTOP

Users can download an application for Windows 10, called Power BI Desktop, and native mobile apps for Windows, Android, and iOS devices.

DESKTOP FOR SERVICE

There is also Power BI Report Server for companies that must maintain their data and report on-premises. That version of Power BI requires a particular version of the desktop app -- aptly called Power BI Desktop for Power BI Report Server.

https://www.techtarget.com/searchcontentmanagement/definition/Microsoft-Power-BI

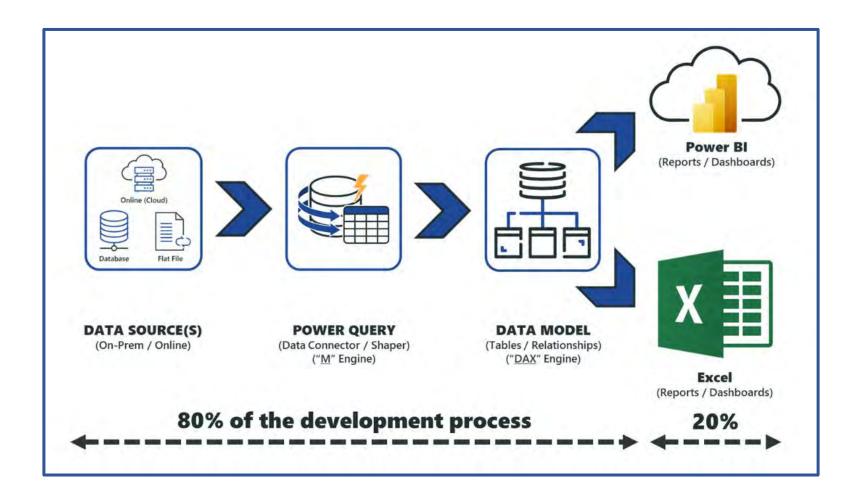
POWER BI UPDATES OVER TIME

Project Crescent July, 2011

> Power BI part of Office 365 September, 2013

> > Power BI July, 2015

WHAT IS POWER BI



Source: https://www.havensconsulting.net/power-bi-vs-excel

POWER BI - PRODUCT PORTFOLIO

Author	Share and collaborate	Large scale deployments	Share and collaborate	App dev	
			2		
Power Bl Desktop	Power Bl service	Power BI Premium	Power BI Report Server	Power BI Embedded	
Free data analysis and report authoring tool	Cloud-based modern business analytics solution	Dedicated capacity for increased performance	On-premises report server (updated 3x per year)	Visual analytics embedded in your applications	

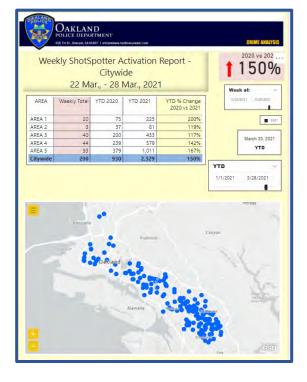
POWER BI - PRODUCT PORTFOLIO

Some Key Components

- ✓ Power BI Desktop
- ✓ Power BI Service
- ✓ Power BI Mobile Apps
- ✓ Power BI Embedded
- ✓ Power BI Report Server
- ✓ Power BI Premium
- ✓ Power BI Visuals Marketplace

WHY SHOULD WE USE POWER BI

- ✓ Store large amounts of data
- ✓ Works for visualizations and online features
- ✓ Ideal for dashboards, KPI (key performance indicator), and alerts



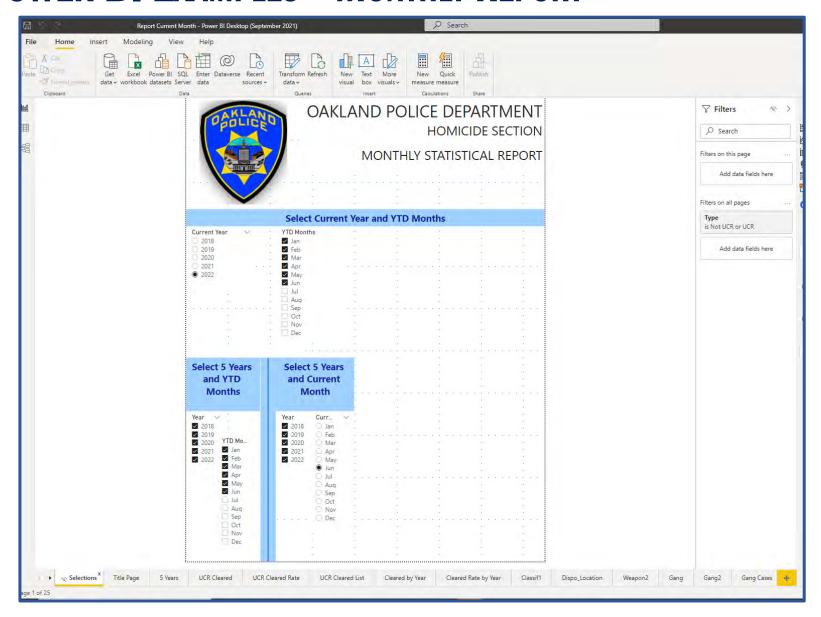


WHY SHOULD WE USE POWER BI

The data models created from Power BI can be used for:

- ✓ telling stories through charts and data visualizations
- ✓ examining "what if" scenarios within the data
- ✓ creating reports that can answer questions in real-time
- ✓ help with forecasting to make sure departments meet specific metrics.

POWER BI EXAMPLES – MONTHLY REPORT



POWER BI EXAMPLES - MONTHLY REPORT (PDF)

OAKLAND POLICE DEPARTMENT HOMICIDE SECTION

MONTHLY STATISTICAL REPORT



January to May 2022

Prepared by: Crime Analyst Svetlana Gubin

YTD 2022

46

2021 YTD: 57 (-19.3%)

5/31/2022

BFO1: YTD 2022

21

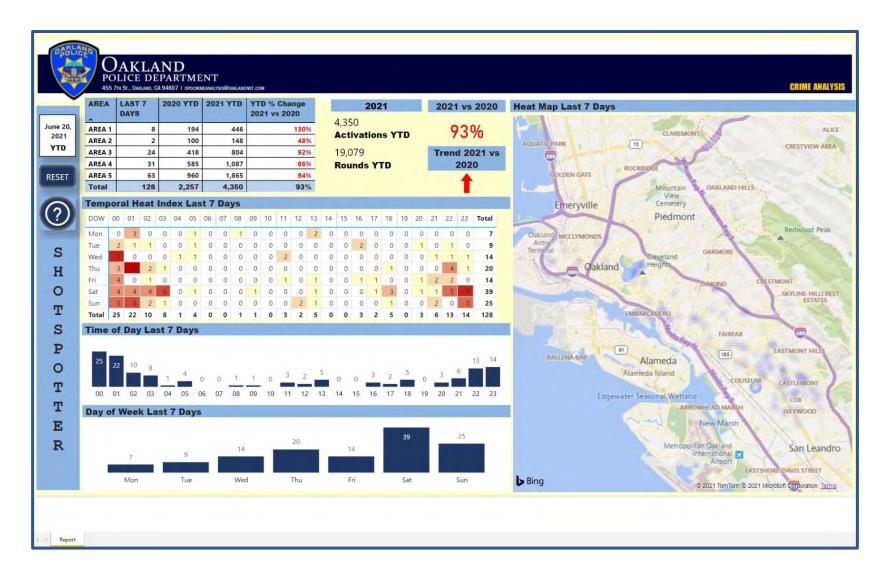
2021 YTD: 18 (+16.67%)

BFO2: YTD 2022

25

2021 YTD: 39 (-35.9%)

POWER BI EXAMPLES - DASHBOARD ONE PAGE



POWER BI EXAMPLES - DASHBOARD MULTIPLE PAGES



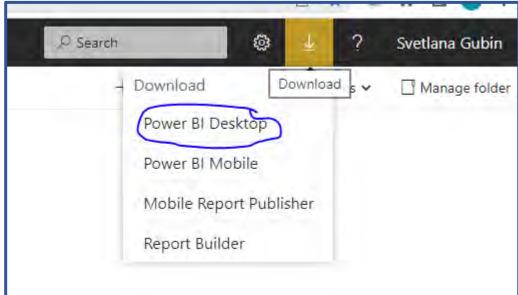
WARNING: This document contains confidential intelligence information. It is intended for law enforcement only. The information should not be released to the media or the general public. Further dissemination of this document should be done on a need to know basis. If you are not the intended recipient you are hereby notified that any use, review, dissemination, or copying of this document is strictly prohibited. THIS INFORMATION IS PROTECTED AS CONFIDENTIAL LAW ENFORCEMENT INVESTIGATION MATERIAL UNDER EVIDENCE CODE SECTIONS 1040, ET SEQ, AND IS NOT SUBJECT TO DISCOVERY.

https://www.microsoft.com/en-us/download/details.aspx?id=58494

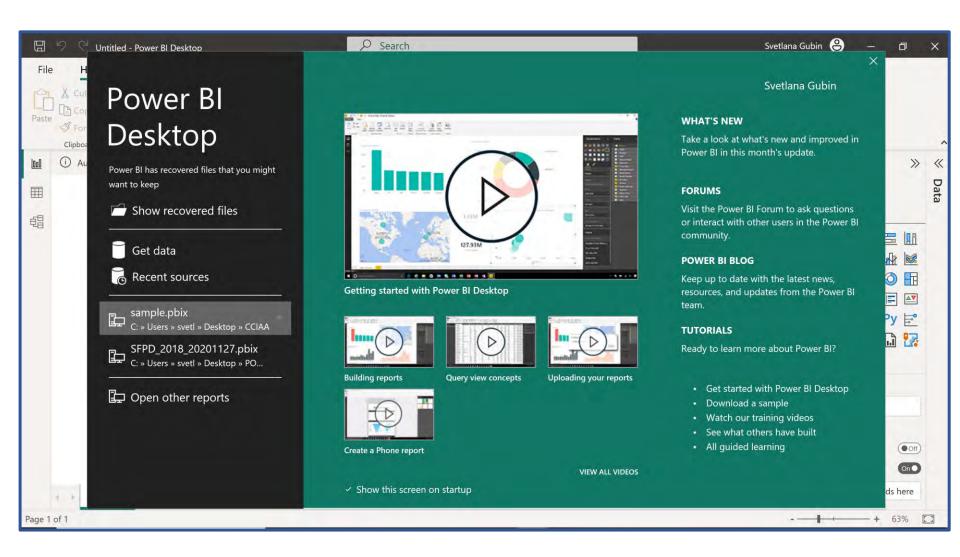
Microsoft Power BI Desktop



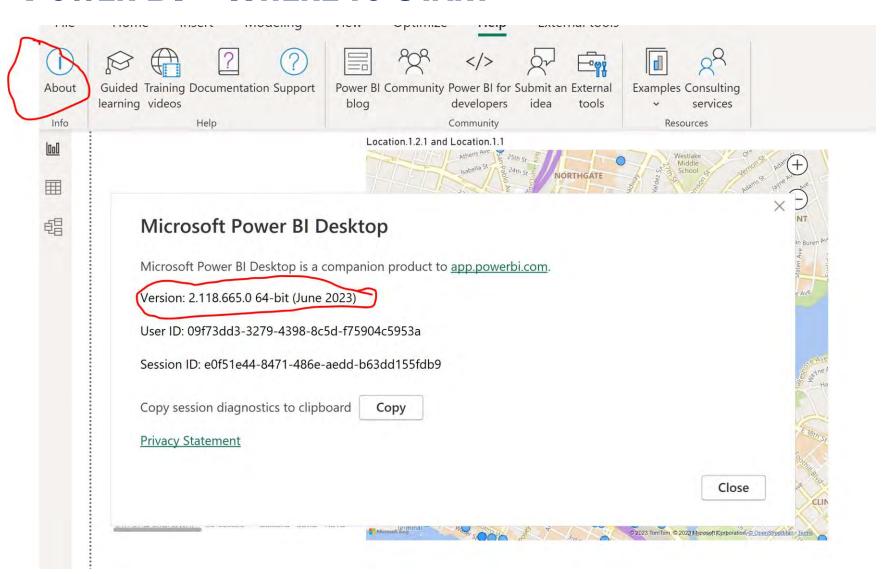
https://www.microsoft.com/en-us/download/details.aspx?id=56722



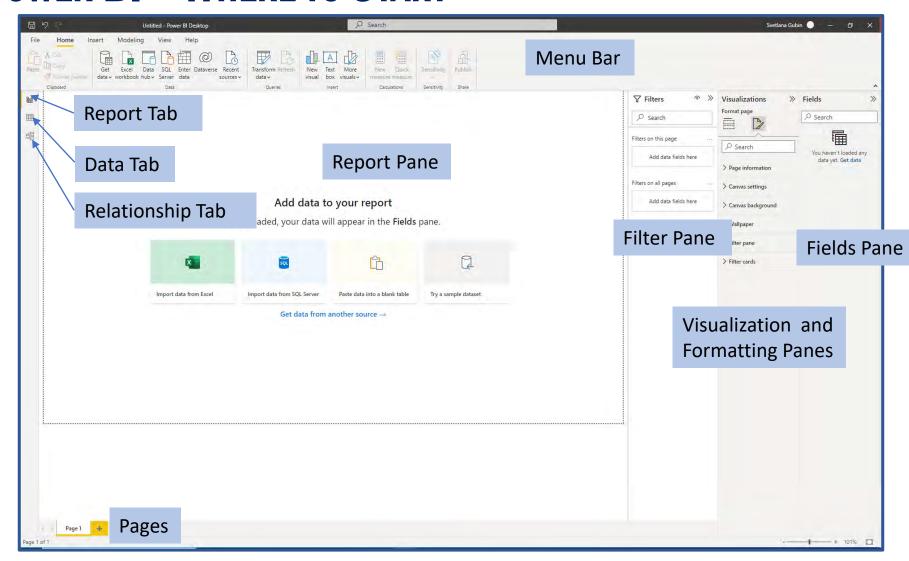
DOWNLOADING



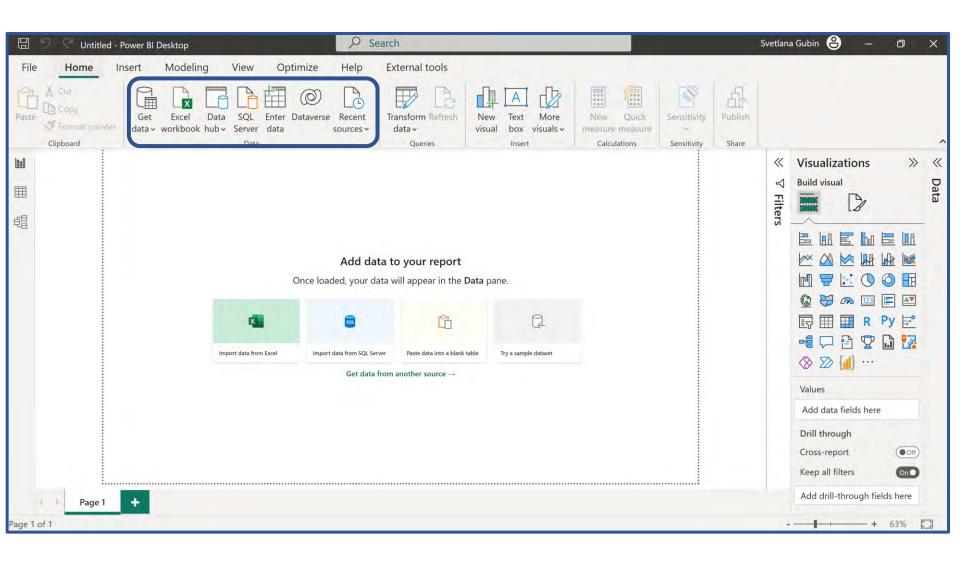




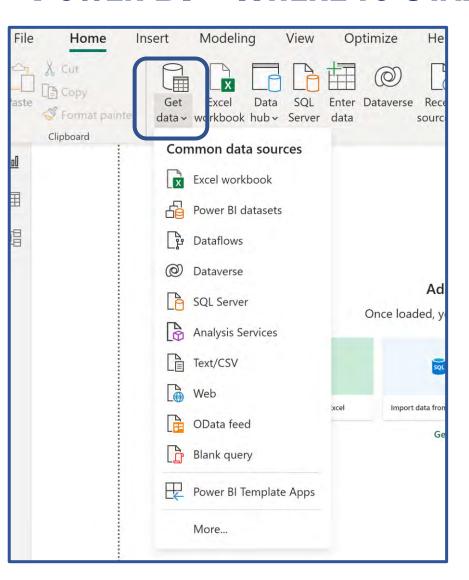


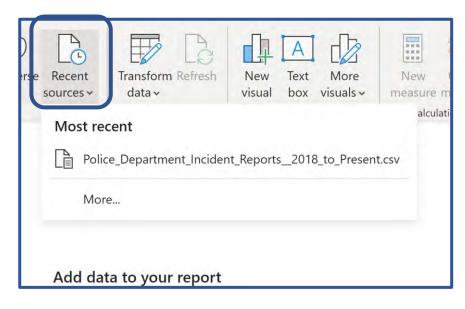


MAIN PAGE

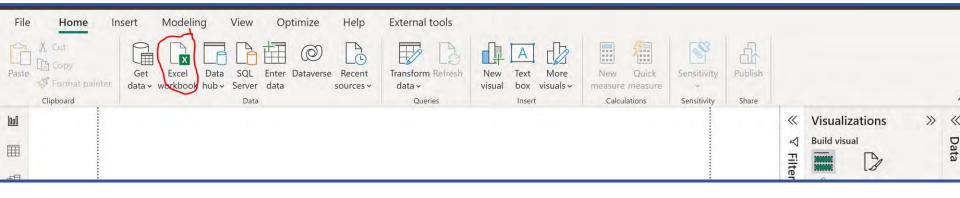


LET'S START

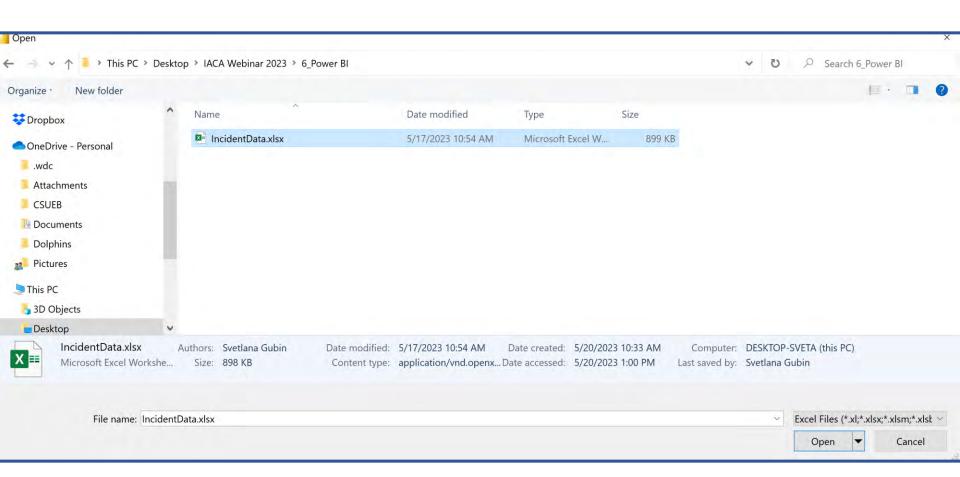




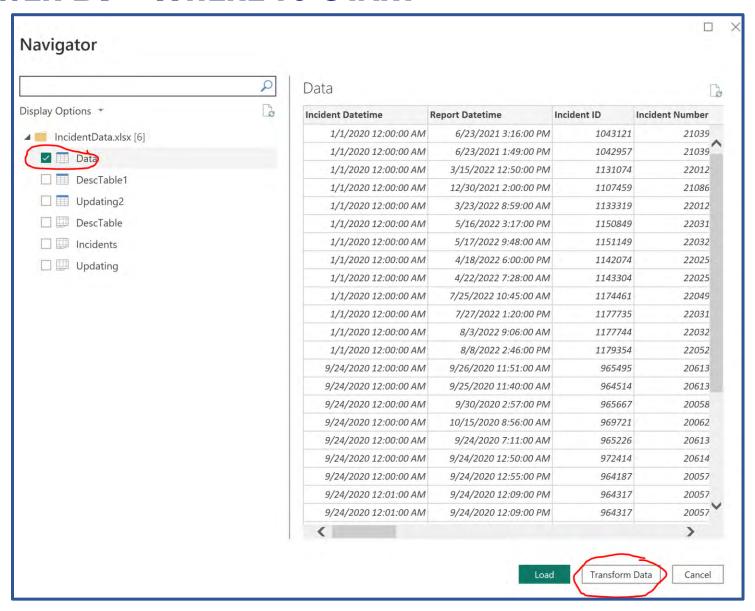
Sources



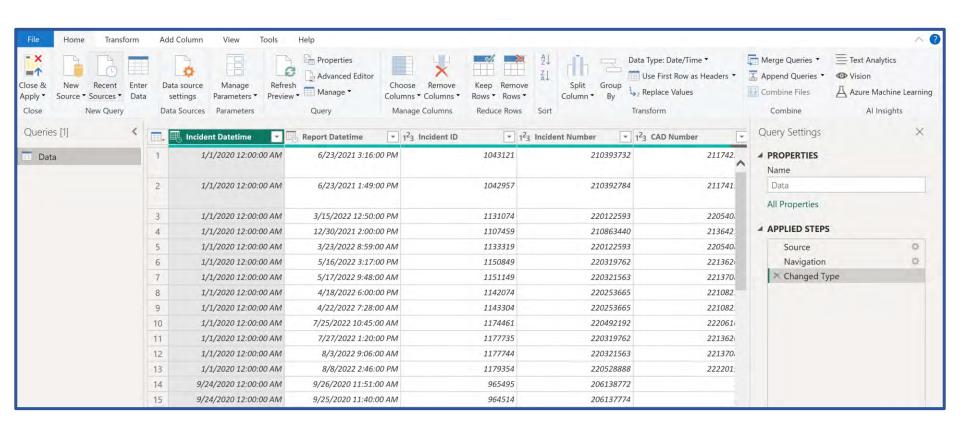
CONNECT EXCEL



CONNECT EXCEL FILE

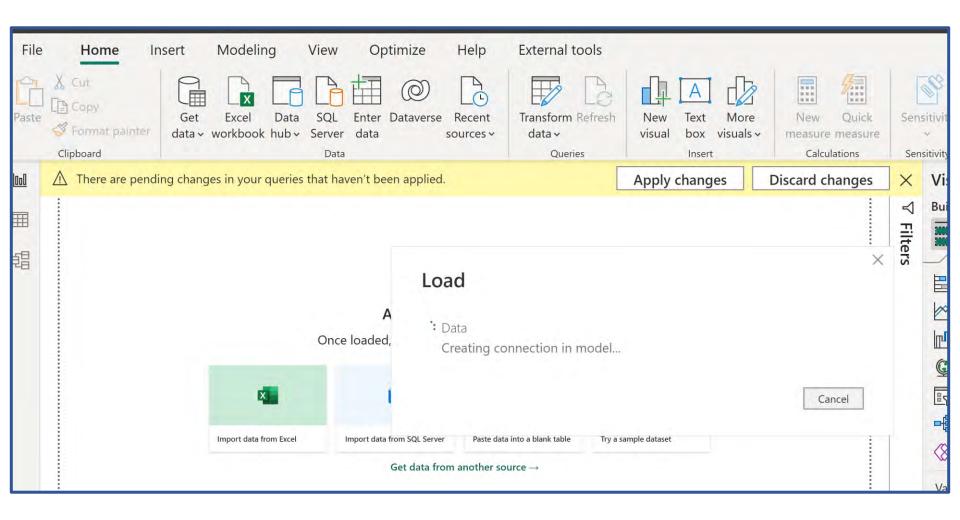


SELECT DATA

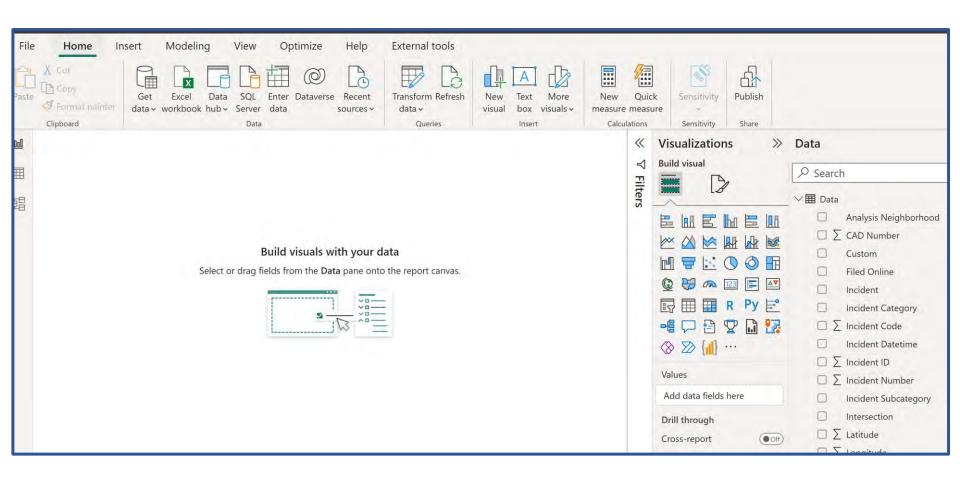


Power Query Editor

Power BI – Where to Start



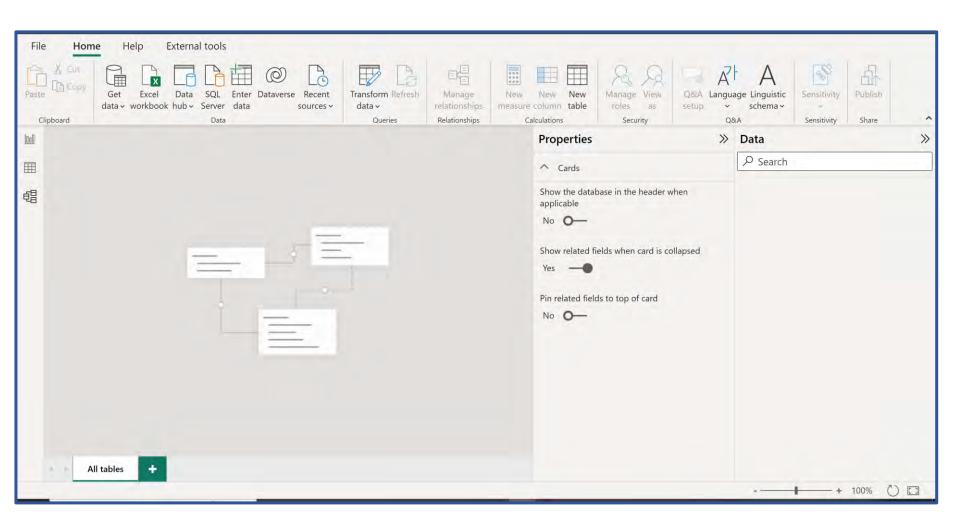
APPLY CHANGES



REPORT VIEW

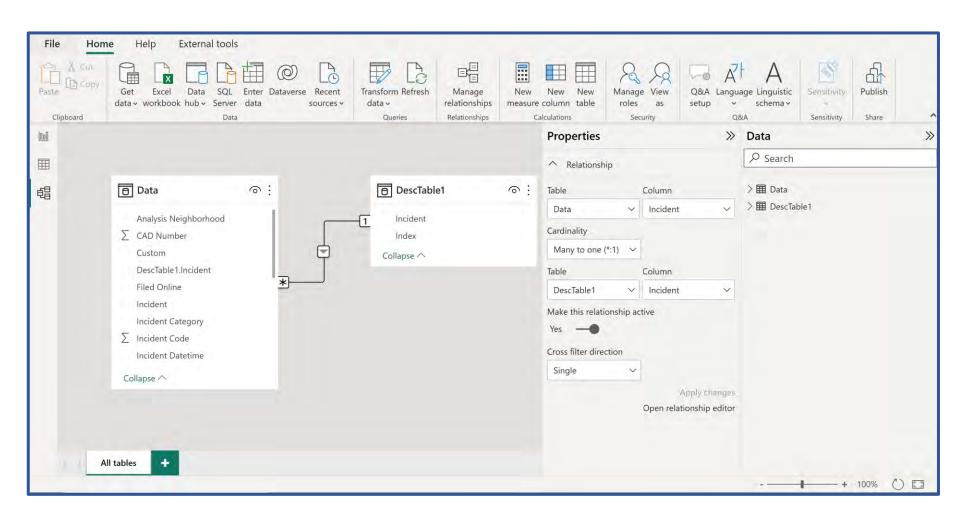
Ø N	Jame Data Structure	Mark as date table ~	Manage relationships Relationships	New measur	Quick New New re measure column tab						^
oll	× ✓									Data	>>
		Report Datetim	e T Incide	nt ID 🕝	Incident Number	CAD Number	Report Type Code	Report Type Description	Filed Online		
	Thursday, September 24, 2020			965495	206138772		II	Coplogic Initial	^	∠ Search	
誯	Thursday, September 24, 2020			964514	206137774		11	Coplogic Initial	- 1	> Ⅲ Data	
	Thursday, September 24, 2020	9/24/2020 7:11:0	00 AM	965226	206138421		II.	Coplogic Initial		/ III Data	
	Thursday, September 24, 2020	9/24/2020 12:50:	00 AM	972414	206148618		11	Coplogic Initial			
	Thursday, September 24, 2020	9/24/2020 2:13:	00 PM	964235	206137257		11.	Coplogic Initial			
	Thursday, September 24, 2020	9/25/2020 10:20:	00 AM	964494	206137718		11	Coplogic Initial			
	Thursday, September 24, 2020	9/24/2020 5:12:	00 PM	964210	206137188		II	Coplogic Initial			
	Thursday, September 24, 2020	9/24/2020 3:22:0	00 AM	963962	200571023		VS	Vehicle Supplement			
	Thursday, September 24, 2020	9/24/2020 5:55:	00 PM	964485	206137655		11.	Coplogic Initial			
	Thursday, September 24, 2020	9/24/2020 7:45:	00 AM	963975	200574986		VS	Vehicle Supplement			
	Thursday, September 24, 2020	9/26/2020 12:04:	00 PM	964734	206137984		11	Coplogic Initial			
	Thursday, September 24, 2020	9/24/2020 9:00:0	00 AM	964102	200566591		IS	Initial Supplement			
	Thursday, September 24, 2020	9/24/2020 9:43:0	00 AM	965223	206138299		D	Coplogic Initial			
	Thursday, September 24, 2020	9/24/2020 9:37:0	00 AM	964215	206137304		II.	Coplogic Initial			
	Thursday, September 24, 2020	9/24/2020 9:00:	00 AM	964102	200566591		IS	Initial Supplement			
	Thursday, September 24, 2020	9/24/2020 9:24:	00 AM	964021	200569868		VS	Vehicle Supplement			
	Thursday, September 24, 2020	9/24/2020 4:37:	00 PM	965540	206138998		II .	Coplogic Initial			



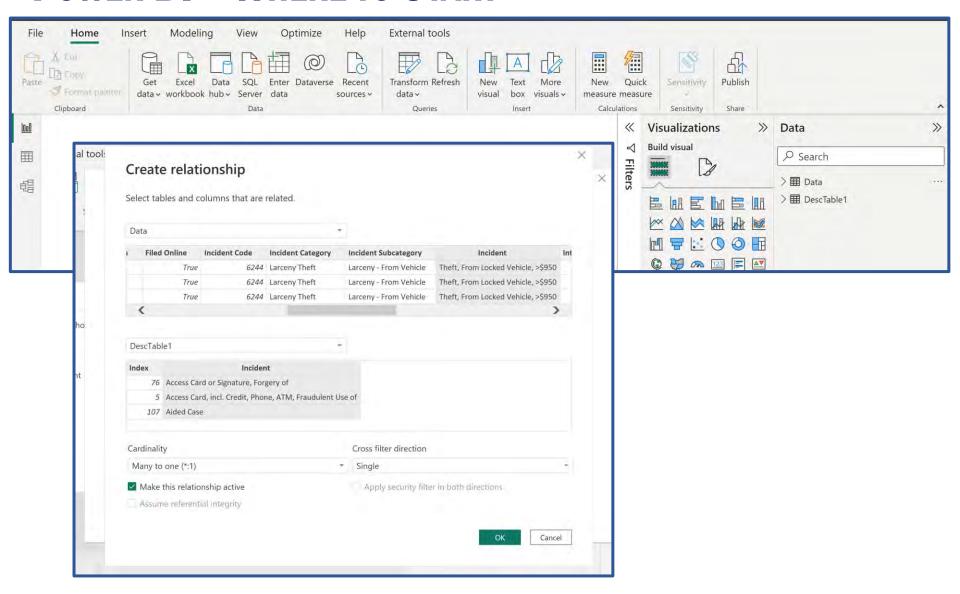


ENTRY PAGE

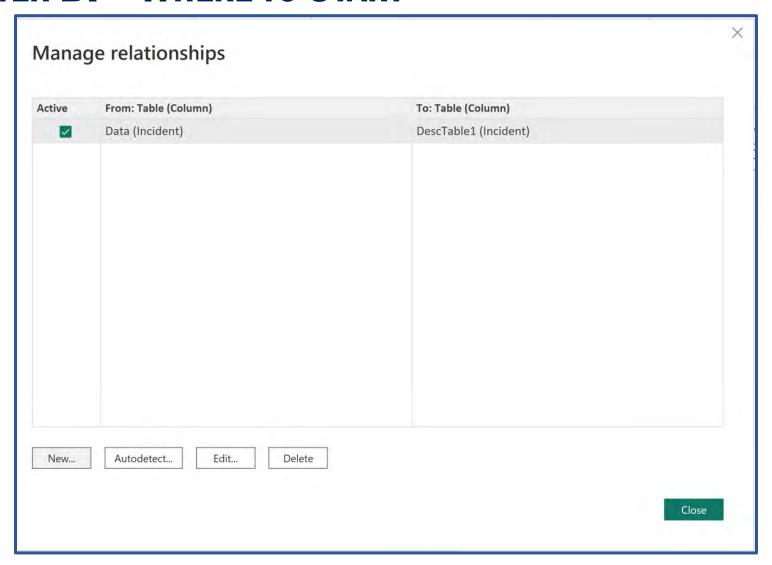
Power BI – Where to Start



MODEL VIEW

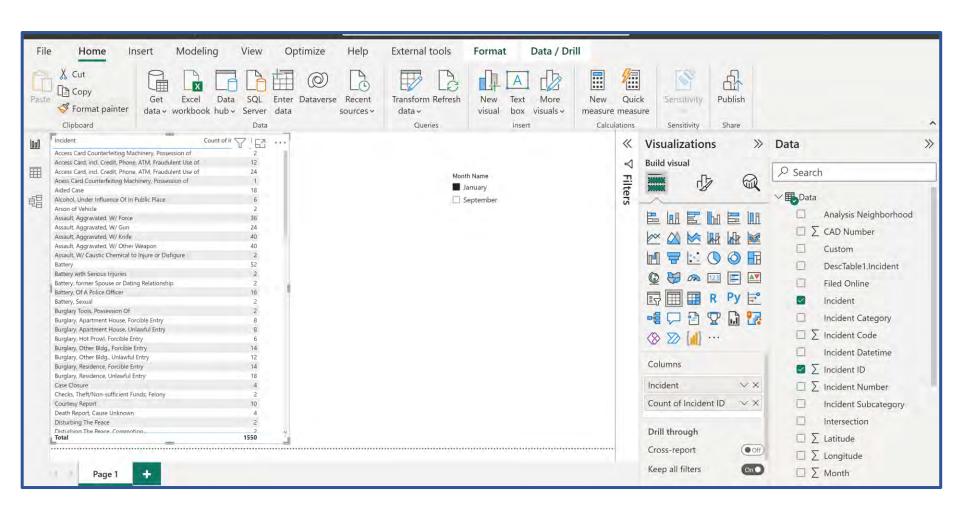


MODEL VIEW

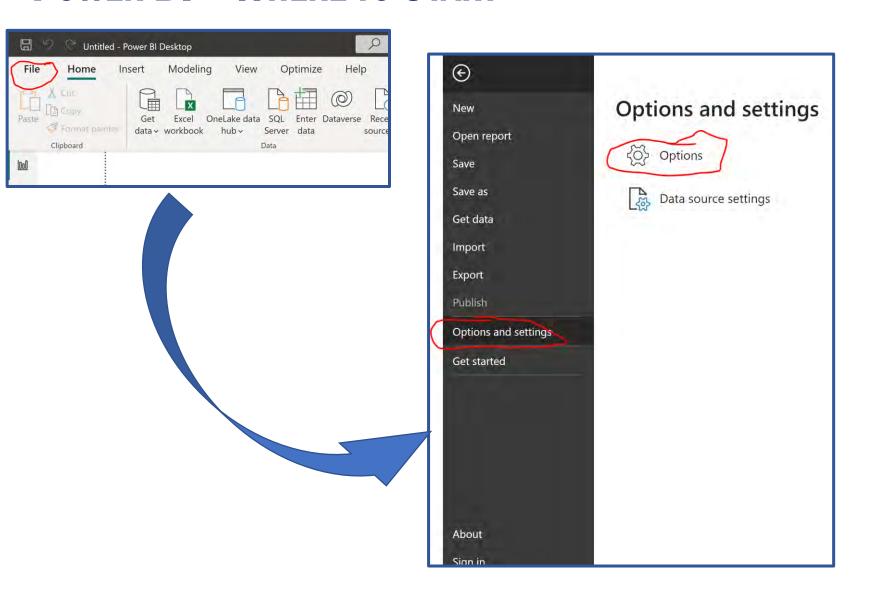


Model View

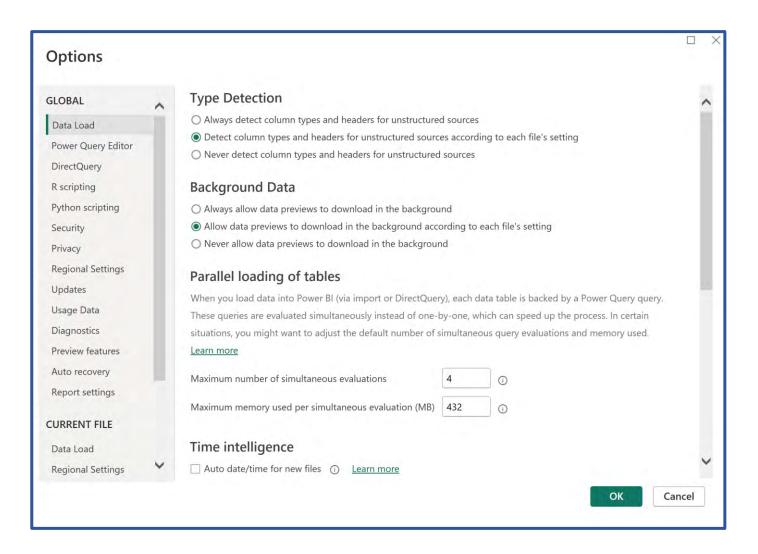
Power BI – Where to Start



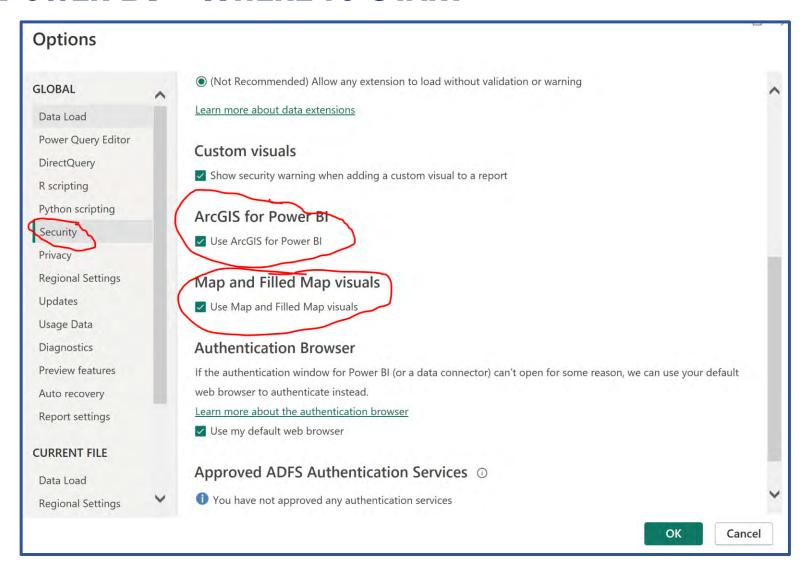
MATRIX AND SLICER



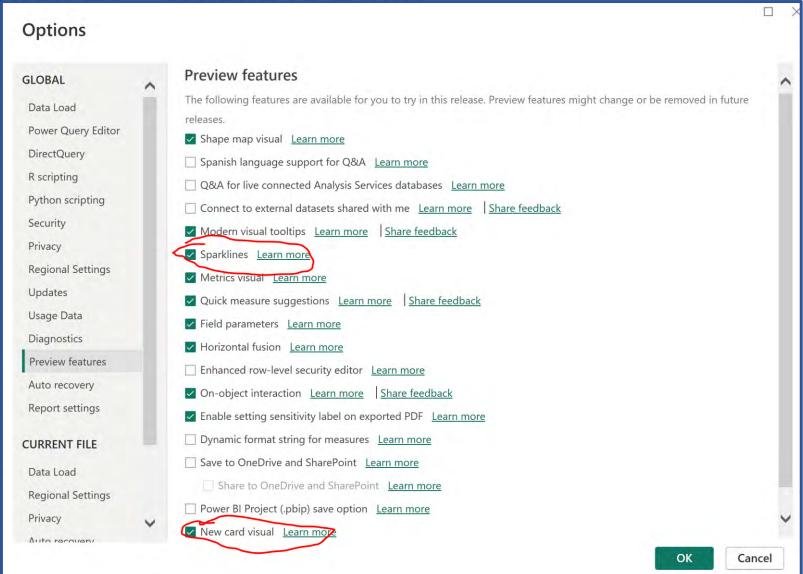
OPTIONS AND SETTINGS



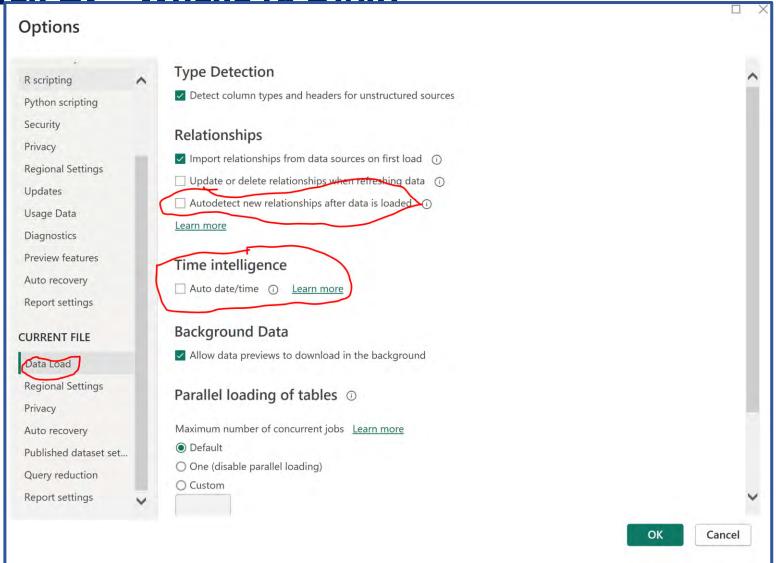




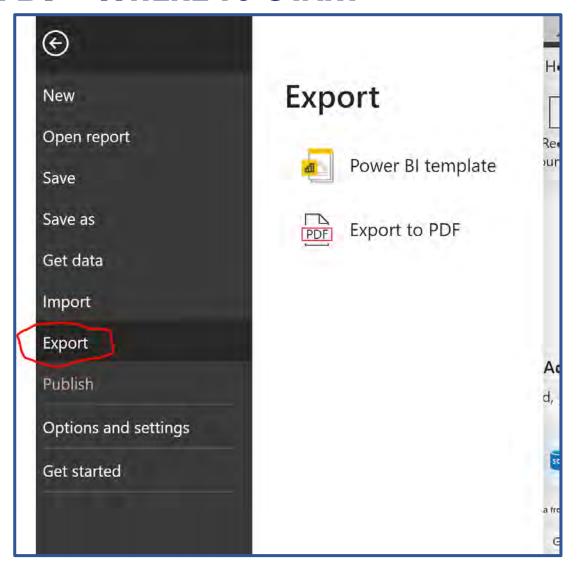
OPTIONS - SECURITY



OPTIONS – PREVIEW FEATURES



OPTIONS - DATA LOAD



EXPORT REPORT TO PDF

ADDITIONAL INFORMATION (BOOKS)

✓ Power Query

✓ Collect, Combine, and Transform Data Using Power Query in Excel and Power BI (2018) by Gil Raviv

✓ Entry Level

- ✓ Learn Power BI: Step by Step Guide to Building Your Own Reports (2022) by Derek Wilson
- ✓ Power BI Business Intelligence Clinic: Create and Learn Paperback (2018) by Roger F. Silva
- ✓ Microsoft Power BI Dashboards Step by Step (2018) by Errin O'Connor

✓ Advance Level

- ✓ Analyzing Data with Power BI and Power Pivot for Excel (2017), Marco Russo and Alberto Ferrari
- ✓ The Definitive Guide to DAX: Business Intelligence for Microsoft Power BI, SQL Server Analysis Services, and Excel (2019) by Marco Russo and Alberto Ferrari

ADDITIONAL INFORMATION (LINKS)

- ✓ Websites, Blogs, and YouTube channels
 - ✓ Power Query documentation https://docs.microsoft.com/en-us/power-query
 - ✓ Power BI documentation https://docs.microsoft.com/en-us/power-bi/
 - ✓ Power BI Tips https://powerbi.tips/
 - ✓ RADACAD https://radacad.com/
 - ✓ SQLBI https://www.sqlbi.com/
 - ✓ Guy in a Cube https://guyinacube.com/
 - ✓ Curbal https://www.youtube.com/channel/UCJ7UhloHSA4wAqPzyi6TOkw

NEXT WEBINAR

Simple visualizations in Power BI

- ✓ Bar charts
- ✓ Pie charts
- ✓ Graphs

CONCLUSIONS & QUESTIONS

Svetlana Gubin, Oakland PD

Sgubin@OaklandCA.gov











