



BUS 5100 -Term Project Tutor



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Lab Tutorial

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Crime Data Analysis using SAC

Objective: By analyzing crime data, type of offense, time of day, area concentration/region, and victim demographics, we will provide the police department with information on how to better serve the citizens and where to concentrate resources. Based on the findings, we will analyze the crime descriptions and suggest new training/strategies for the police department. We believe this data is essential to allocate resources appropriately based on need. Police departments should focus on identifying high-crime areas and allocate resources accordingly. Police departments can use predictive analytics to forecast future crime trends and adjust their resources accordingly. In addition, analysis of this data is conducted using Excel and SAC, depicting visuals such as charts, timelines, and maps of crime in the City of Los Angeles from 2020 through March 1, 2023.

Activities

- Import and prepare data.
- Apply Data algorithms.
- Compare models.
- Analyze and interpret output from the regression models.
- Use the model to forecast crime.

Software

- SAP Analytics Cloud
- Microsoft Excel

Data Set

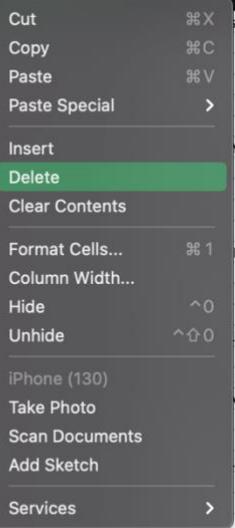
2022 Crime Data.xlsx

Crime is one of the most important problems in our country, affecting child development and public safety. Understanding the high influencers that have higher crime rate is critical for the police department in their efforts to reduce crime and improve the public's quality of life.

Step 1: Download Crime Data and Create Dataset

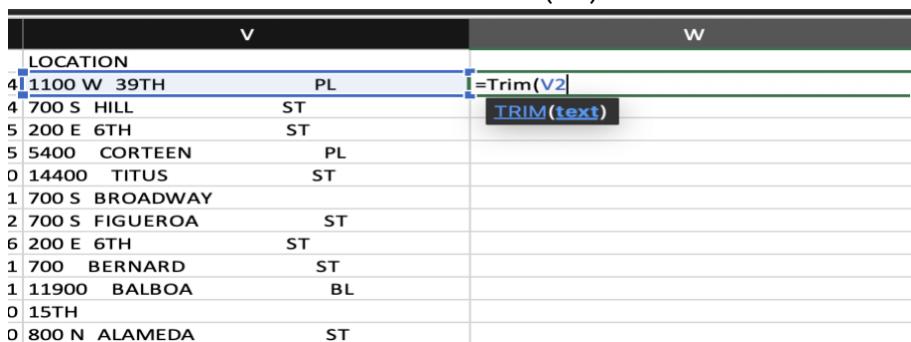
[Source of file] <https://catalog.data.gov/dataset/crime-data-from-2020-to-present>

1. Cleaning the data set in preparation for Analysis
 - a. Download the data set from the link above.
 - b. Open using Excel.
 - c. Right click row 1 and freeze panel.
 - d. Remove the following columns Crm Cd2, Crm Cd3 and Crm Cd4 by right clicking and selecting delete.



T	U	V	W	X	Y	Z
Status Desc	Crm Cd 1	Crm Cd 2	Crm Cd 3	Crm Cd 4	Address	Street
Adult Other	624					
Invest Cont	624					
Adult Arrest	845					
Invest Cont	745	998				
Invest Cont	740					
Invest Cont	121	998				
Invest Cont	442	998				
Invest Cont	946	998				
Invest Cont	341	998				
Adult Other	341					
Invest Cont	330					
Invest Cont	930					
Adult Arrest	341					
Invest Cont	648	998				
Invest Cont	442					
Invest Cont	626					
Adult Other	626					
Invest Cont	440	624				
Invest Cont	354					
Invest Cont	210					
Invest Cont	354					
Invest Cont	341					
Invest Cont	442	998				
Invest Cont	354					
Adult Other	230				600 SAN JULIAN	
Invest Cont	354				18600 COLLINS	

- e. Next, we will be removing the space in the middle of the samples in the column in Location.
- f. Utilize the formula "=trim (V2)" this will minimize the space between



	V	W
LOCATION		
4	1100 W 39TH	PL
4	700 S HILL	ST
5	200 E 6TH	ST
5	5400 CORTEEN	PL
0	14400 TITUS	ST
1	700 S BROADWAY	
2	700 S FIGUEROA	ST
6	200 E 6TH	ST
1	700 BERNARD	ST
1	11900 BALBOA	BL
0	15TH	
0	800 N ALAMEDA	ST

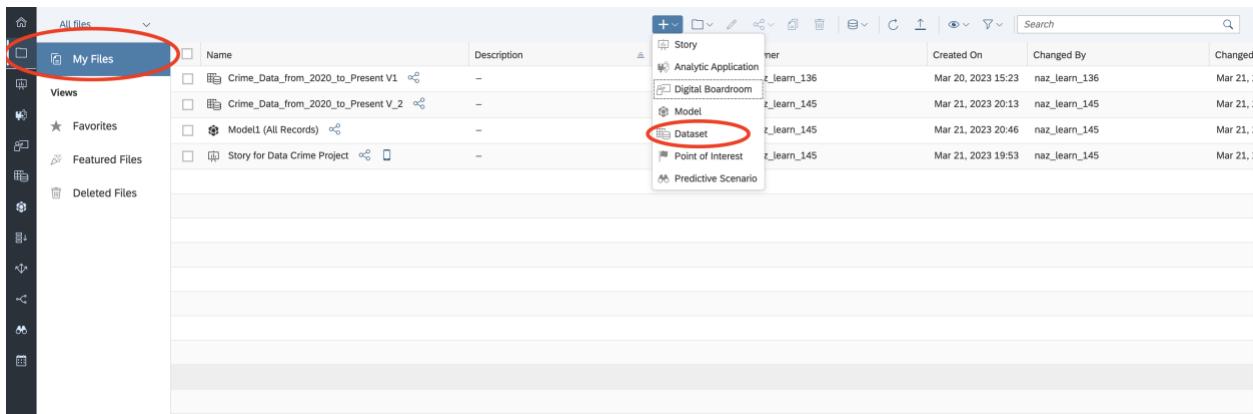
- g. Drag the formula down to the last sample and add Location as the title for the column

- h. Right click and create a new column next to "Time OCC" titled Date and Military Time.
- i. You will be fusing Date OCC and TIME OCC by inputting the following formula C2&" "&D2 and drag it down collecting all samples.

E	F	G	H
Date & Military Time	AREA	AREA NAME	Rpt Dist No
1/8/20 22:00	3	Southwest	377
1/1/20 9:00	1	Central	163
2/13/20 12:00	1	Central	155
1/1/20 17:00	15	N Hollywood	1543
1/1/20 17:00	19	Mission	1998
1/1/20 6:00	1	Central	163
1/2/20 13:00	1	Central	161
1/4/20 16:00	1	Central	155
1/4/20 20:00	1	Central	101
5/26/20 19:00	17	Devonshire	1708
1/1/20 22:00	1	Central	102

The Data set is now ready to be uploaded.

The first step is uploading your csv file to a dataset. To do this, click on the folder icon on the far left to access your files. Then click on the plus sign to expose a drop-down menu and select dataset.



Click on CSV file then locate your csv.

Welcome to Datasets

Prepare your raw data using a flexible table format and get started with your scenario analysis. [Learn More...](#)

Create New

From a CSV or Excel File

From a Data Source

Recent Files (0)

Name	Description	Created By	Created On	Changed By	Changed On
No recent files yet. Open a file and it will show up here.					

Search In: Recent Files

Make sure Use first row as column headers is selected and import.

Create Dataset From File

Select Source File 2.csv

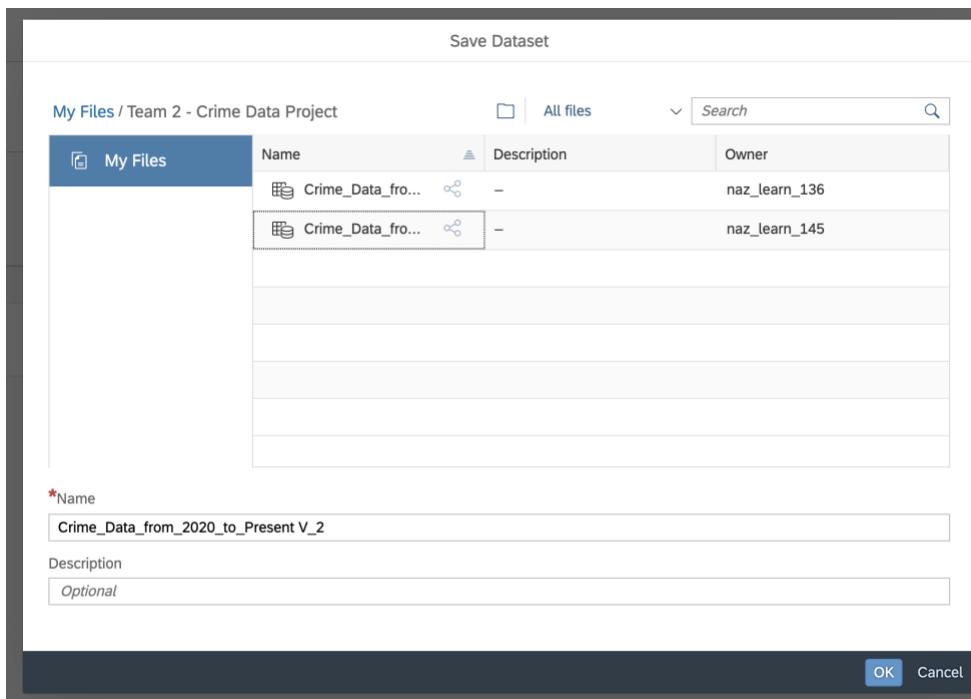
Use first row as column headers

CSV Delimiter

Auto-detect

Import Cancel

Enter the name of your dataset then click on OK. It may take a few minutes for the file to load.



After load is complete, the data should look like the screenshot below. Make sure to save now and throughout your work.

Dataset Overview

TimeSeries 2000 rows 27 columns

Output Columns

Measures (10)

- AREA SUM
- Rpt Dist No SUM
- Part 1-2 SUM
- Crm Cd SUM
- Vict Age SUM
- Premis Cd SUM
- Crm Cd 1 SUM
- Crm Cd 2 SUM
- LAT SUM
- LON SUM

Dimensions (17)

- Date Rptd
- DATE OCC
- TIME OCC
- Time
- Date &am...
- Date &m...
- z2 AREA
- z2 AREA NA...
- z2 Rpt Dist No
- z2 Part 1-2
- 1/8/20 10:30:00 PM 10:00:00 PM 1/8/20 22:00 1/8/20 22:00 3 Southwest 377 2
- 1/2/20 9:30:00 AM 9:00:00 AM 1/1/20 9:00 1/1/20 9:00 1 Central 163 2
- 4/14/20 12:00:00 PM 12:00:00 PM 2/13/20 12:00 2/13/20 12:00 1 Central 155 2
- 1/1/20 5:30:00 PM 5:00:00 PM 1/1/20 17:00 1/1/20 17:00 15 N Hollywood 1543 2
- 1/1/20 5:15:00 PM 5:00:00 PM 1/1/20 17:00 1/1/20 17:00 19 Mission 1998 2
- 1/2/20 6:30:00 AM 6:00:00 AM 1/1/20 6:00 1/1/20 6:00 1 Central 163 1
- 1/2/20 1:15:00 PM 1:00:00 PM 1/2/20 13:00 1/2/20 13:00 1 Central 161 1
- 1/4/20 4:40:00 PM 4:00:00 PM 1/4/20 16:00 1/4/20 16:00 1 Central 155 2
- 1/4/20 8:00:00 PM 8:00:00 PM 1/4/20 20:00 1/4/20 20:00 1 Central 101 1
- 6/19/20 7:25:00 PM 7:00:00 PM 5/26/20 19:00 5/26/20 19:00 17 Devonshire 1708 1
- 1/4/20 10:00:00 PM 10:00:00 PM 1/4/20 22:00 1/4/20 22:00 1 Central 192 1
- 1/5/20 11:55:00 PM 11:00:00 PM 1/5/20 23:00 1/5/20 23:00 1 Central 111 2
- 1/5/20 1:55:00 PM 1:00:00 PM 1/5/20 13:00 1/5/20 13:00 1 Central 162 1
- 1/7/20 4:38:00 PM 4:00:00 PM 1/7/20 16:00 1/7/20 16:00 1 Central 162 1
- 1/8/20 6:05:00 PM 6:00:00 PM 1/8/20 18:00 1/8/20 18:00 1 Central 128 1
- 11/26/21 1:30:00 AM 1:00:00 AM 11/30/20 1:00 11/30/20 1:00 19 Mission 1916 2
- 11/29/20 8:18:00 PM 8:00:00 PM 11/28/20 20:00 11/28/20 20:00 11 Northeast 1124 2
- 2/22/20 7:00:00 PM 2/22/20 19:00 2/22/20 19:00 11/28/20 19:00 5 Harbor 511 1
- 11/22/21 12:00:00 PM 12:00:00 PM 11/19/20 12:00 11/19/20 12:00 9 Van Nuys 932 2
- 1/14/20 1:30:00 PM 1:00:00 PM 1/14/20 13:00 1/14/20 13:00 1 Central 152 1
- 9/10/20 5:35:00 PM 5:00:00 PM 9/9/20 17:00 9/9/20 17:00 9 Van Nuys 909 2
- 1/14/20 5:30:00 PM 5:00:00 PM 1/14/20 17:00 1/14/20 17:00 1 Central 162 1
- 1/15/20 2:45:00 PM 2:00:00 PM 1/15/20 14:00 1/15/20 14:00 1 Central 162 1
- 11/18/21 12:01:00 AM 12:00:00 AM 12/28/20 0:00 12/28/20 0:00 10 West Valley 1045 2
- 1/15/20 10:00:00 PM 10:00:00 PM 1/15/20 22:00 1/15/20 22:00 1 Central 166 1

Validate Full Dataset

Step 2.1: Create Chart: Top 10 Police Stations with Highest Crime

Chart: Crimes reported by Police Department in Los Angeles 20-23

1. Upload the data as previously mentioned above. Once uploaded open the data following the steps below.

- a. Open Story in SAP by selecting the icon to the left of the screen titled “stories”.
- b. Select “responsive” story, then “Classic Design Experience”.
- c. Make sure to select the data set previously mentioned.

Classic Design Experience

The Classic Design mode provides all the existing features and functionality you may have already used in SAP Analytics Cloud.

Create

2. Create a Donut chart indicating the crime for each police department.
 - a. Select insert at the top and select the data set previously mentioned.
 - b. In designer, select the donut chart with measurement as Crime CD and Dimension as Area Name.
 - c. Select the value to “10” in order to populate the top 10 data.

The screenshot shows the SAP Analytics Cloud Builder interface. At the top, there's a blue header bar with the 'Builder' logo and a search icon. Below the header, a toolbar has a 'Create' button. The main area is divided into sections: 'Currently Selected Chart' (which is empty), 'Available Objects' (containing a search bar and a list of objects categorized under 'Calculated Dimensions', 'Dimension Input Control', and 'Dimensions'). A sidebar on the right lists 'Calculated Dimensions' (including 'AREA NAME' with a checked checkbox) and 'Dimensions'.

- d. Once the Donut chart populates make sure to rank it based on the top 10.
- e. To do so right click the chart and select “rank” then “Top N Options”. Refer to the picture below.

Top N Options

Dimensions

All Dimensions

Mode
 Top Bottom

Value

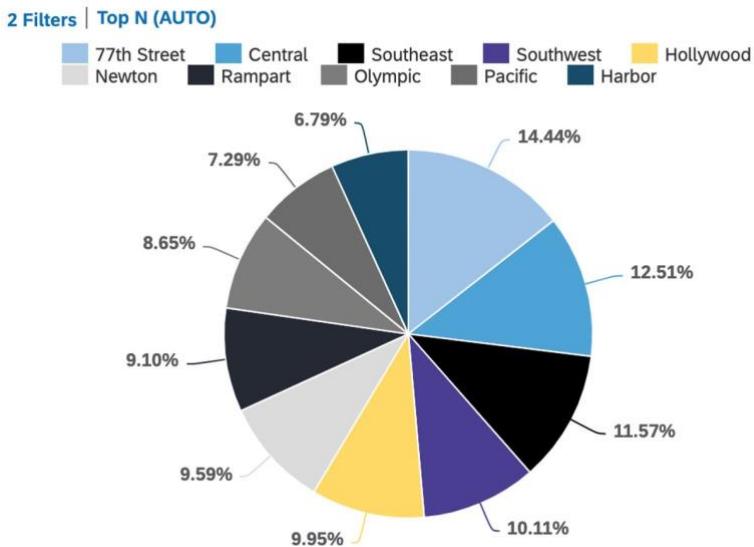
Measure

Crm Cd

3. Finishing touches to the data

- a. Once you've completed the steps above, go ahead and title your chart “Top 10 Police Stations w/ the highest Crime.”
- b. Your data should look like the example below.

Top 10 Police Stations w/ Highest Crime



Step 3: Regression Analysis

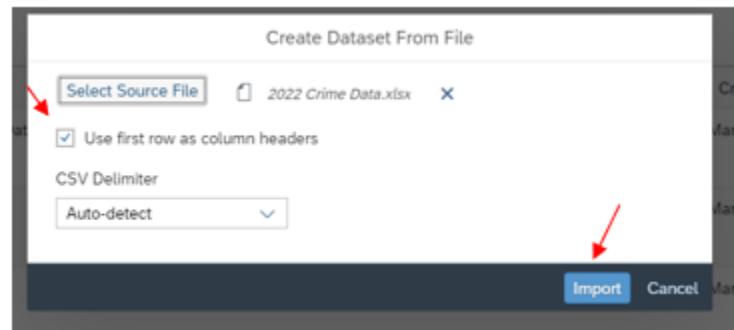
The regression analysis model was used to supply necessary information about crime count occurrence in a specific Area within LA Cities and the Month to determine resource expansion needs. The Police Department will be able to use the regression models to find how many resources each police station will need for a particular Month and Area.

Step 3.1: Acquire the Data

Use data file in SAP Analytics Cloud (SAC) Predictive Scenarios, the file must be saved in SAC Dataset. File Clean-up and checking data should be done.

1. Log in SAP Analytics Cloud (SAC)
2. Download the file, " **2022 Crime Data**" to computer from
3. Create Dataset.
 - a. Select the menu Data Set.
 - b. Select: Create New (from a csv or Excel file) > select source file
 - c. Select: **2022 Crime Data.xlsx**.
-use first row as column headers should be selected as default.
 - d. Import.

- e. Folder location: My files / Team 2
– Crime Data Project
- f. Choose a Name, "**2022 Crime Data**"
- g. Description: "Crime Data 2022"
- h. Ok.

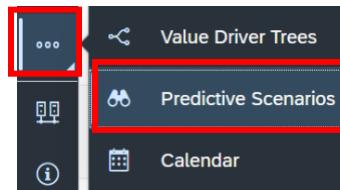


- a. It will take longer than usual to prepare the data import and upload.
 - b. The dataset will be stored in your file folder.
- i. Save the data set in the top left menu.

The screenshot shows the SAP Datasets interface. At the top, there's a header with the SAP logo and 'Datasets'. Below it, a 'Welcome to Datasets' message and a note about preparing raw data. Under 'Create New', there are two options: 'From a CSV or Excel File' and 'From a Data Source'. A 'Recent Files (8)' section lists several files, including 'GlobalBikeSales.xlsx' and 'HR_Flight_Risk_Train_Data'. A modal dialog box is open in the center, titled 'Loading', with the message 'Please wait while the data is importing, and ensure session stays active during the import. 422000 records imported.' It includes a progress bar and a 'Cancel' button.

Step 3.2: Create the Regression Analysis Model

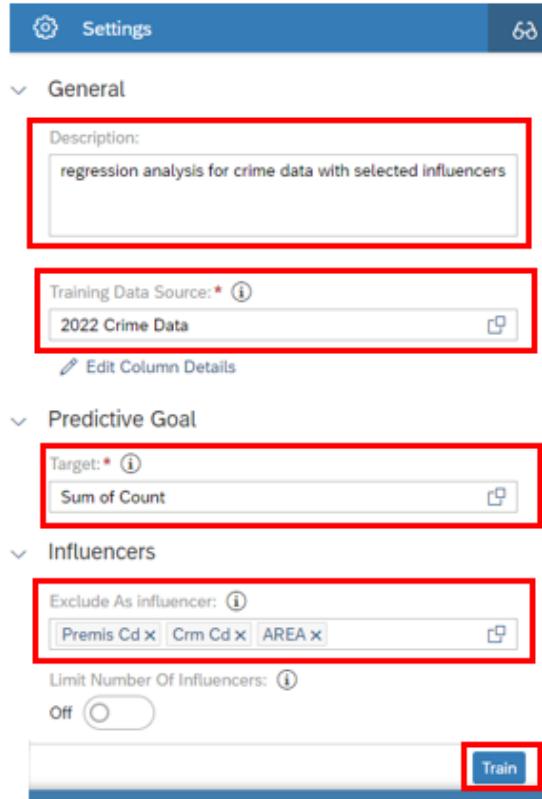
1. Create a **Predictive Scenario** for crime data and select regression. You will find this image in the menu bar in the left and select Predictive Scenario. See Fig below:



2. Select Regression. See Figure below:

The screenshot shows the SAP Predictive Scenarios interface. The title bar says 'SAP Predictive Scenarios'. On the left is a sidebar with icons for Home, Create New, and Predictive Scenarios. The main area has a 'Welcome to Predictive Scenarios' message and a 'Create New' section. It shows three options: 'Classification' (with a tree icon), 'Regression' (with a scatter plot icon, which is highlighted with a red box), and 'Time Series Forecast' (with a line graph icon). Below the 'Regression' icon is its description: 'Regression'.

3. Select **OK**.
4. Choose the file folder in which to save the model, "Crime_Data_2022PredictiveScenario".
5. Enter a Description: regression analysis of crime data with selected influencers.
6. Select Dataset "**Crime Data 2022**" from "Training Data Source" in the settings shown below:



7. **Predictive Target**, Label: Sum of Count
8. **Exclude as influencers**: Premis Cd, Crm Cd, AREA
9. Select **Train** to load the test data set. During this process, the SAC Model will part the data into a Training Set and validation set. The influencers will be evaluated as to how they contribute to the data.

Step 3.3: Examining the Results

1. You will see two tabs, the Overview, and Influencer Contributions.

This step is important because it helps us determine whether our model is a good prediction and that our margin of error is not high.

The RMSE is 2.2 and our prediction confidence of 99.08% is close to 1. Meaning our prediction confidence measures the capacity of getting an accurate result when using another dataset.

Global Performance Indicators

Root Mean Square Error (RMSE)	Prediction Confidence
2.2	99.08%

Target Statistics

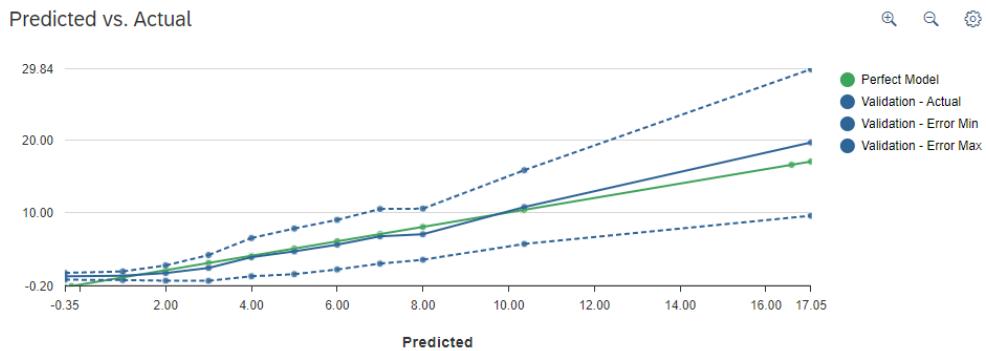
Data Partition	Minimum	Maximum	Mean	Standard Deviation
Training	1	74	2.56	3.98
Validation	1	80	2.64	4.22

Influencer Contributions

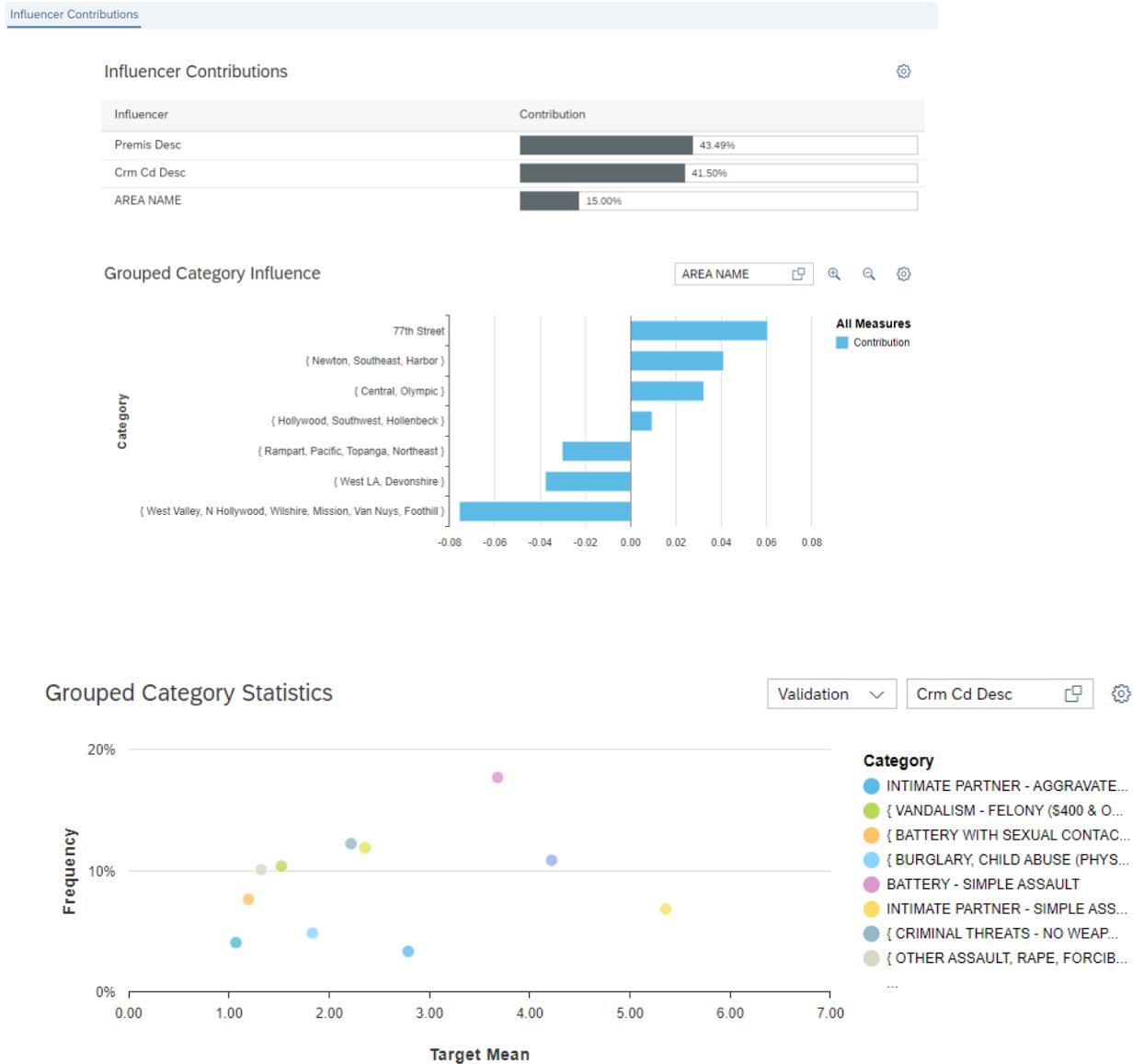
Influencer	Contribution
Premis Desc	43.49%
Crm Cd Desc	41.50%
AREA NAME	15.00%

By examining the graphs, we can see that the Influencer or variable that contributes the most:
Premis Desc

The actual validation line:

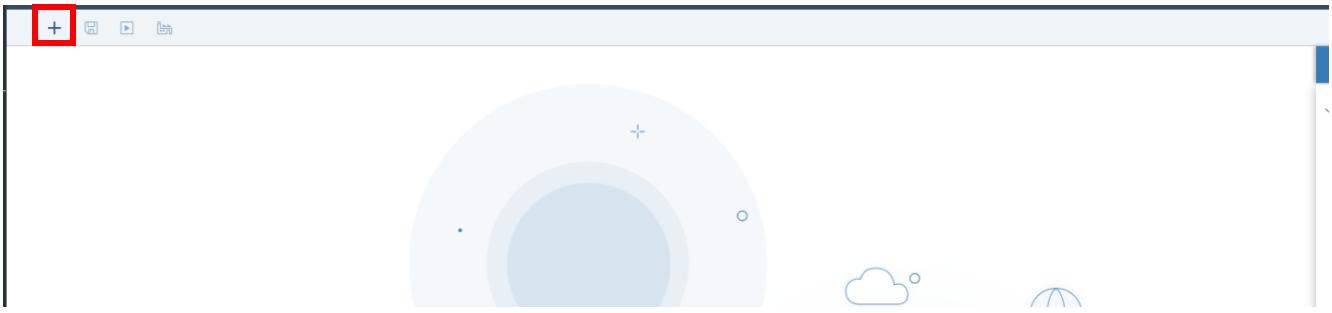


The predicted vs actual graph shows the green line representing a Perfect Model. The Solid blue line which lies close to the perfect model indicates our model is good. The closer to the Perfect Model the better our model is.



Step 3.4 Continue the Analysis

1. Create another predictive model (Model 2) by clicking at the + found in the top left. See below:



a. Enter the following in **Settings** using the same dataset from model 1:

(1) Description: regression analysis of crime data without choosing the influencers.

Settings

Name: Model 2

Type: Regression

Description:
regression analysis of crime data without choosing influencers

Training Data Source: * [\(i\)](#)
2022 Crime Data [Edit Column Details](#)

Predictive Goal

Target: * [\(i\)](#)
Sum of Count

Influencers

Exclude As influencer: [\(i\)](#)
No Column

Limit Number Of Influencers: [\(i\)](#)
On Maximum Number of Influencers: 10

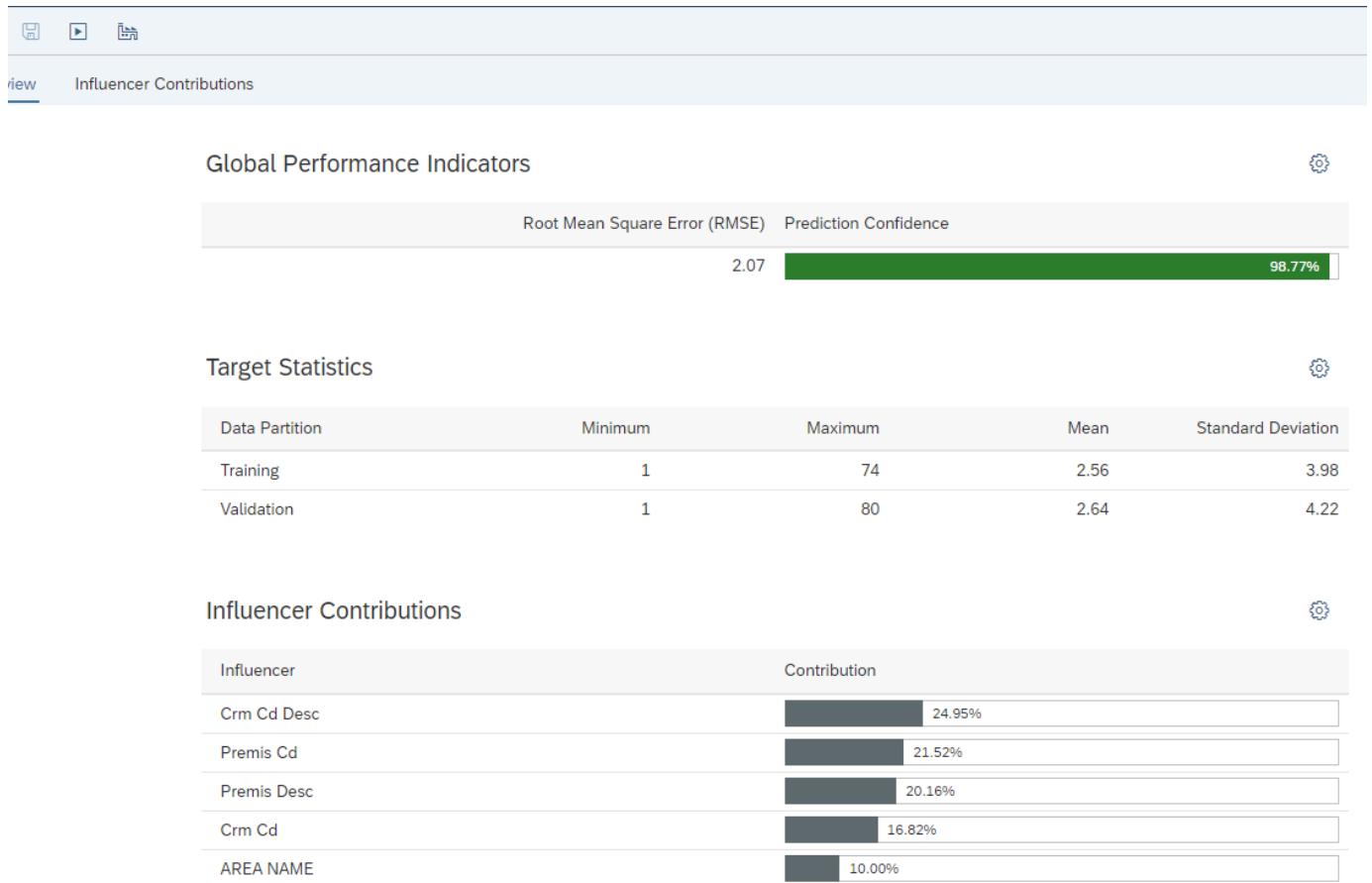
Train

(2) Training Data Source: **2022 Crime Data**

(3) **Target (Predictive Goal): Sum of Count (Crime)**

- (4) **Influencers:** No Influencers excluded
- (5) **Limit number on influencers:** On (Toggle on)
- (6) Leave default as 10 for maximum number of influencers
- (7) Select Train**

Results of Regression Model 2



(8) Save the model.

a. **Variable that contributes the most to the regression model: Crm Cd Desc 24.95%**

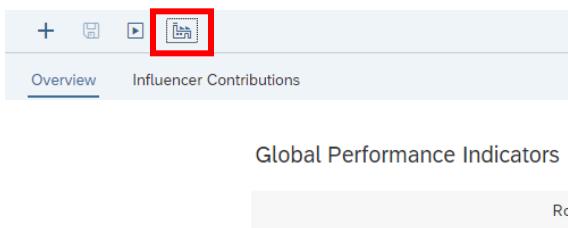
Maximum Error of predictions of Quantity: 2.07 RMSE

b. Click on the blue ribbon on the bottom of page to expand the model and compare.

Which model is better? Model 1 with 99.08% confidence.

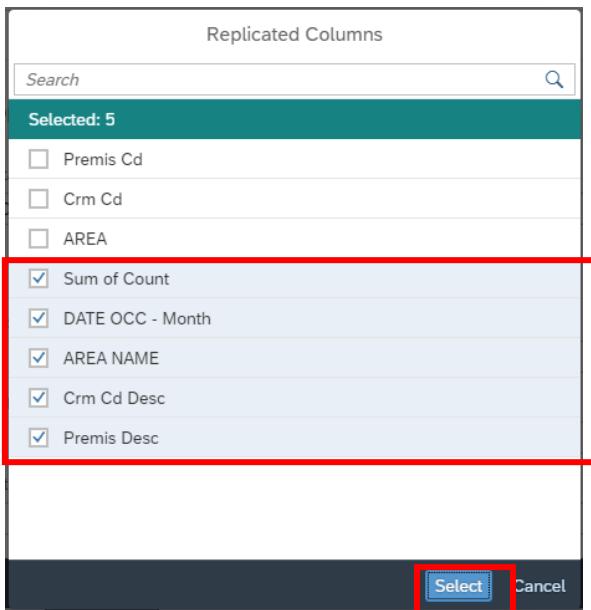
c. Still on the expanded blue Predictive Models ribbon. Click on Model 1.

d. Click on **Apply Predictive Model** as shown below:



Settings listed:

Replicated columns: Sum of Count, Date OCC – Month, Area Name, Crm Cd Desc, Premis Desc



e. Click Select

f. Select **Apply**.

Apply Predictive Model

Apply To Population

Data Source: * ⓘ
2022 Crime Data

Generated Dataset

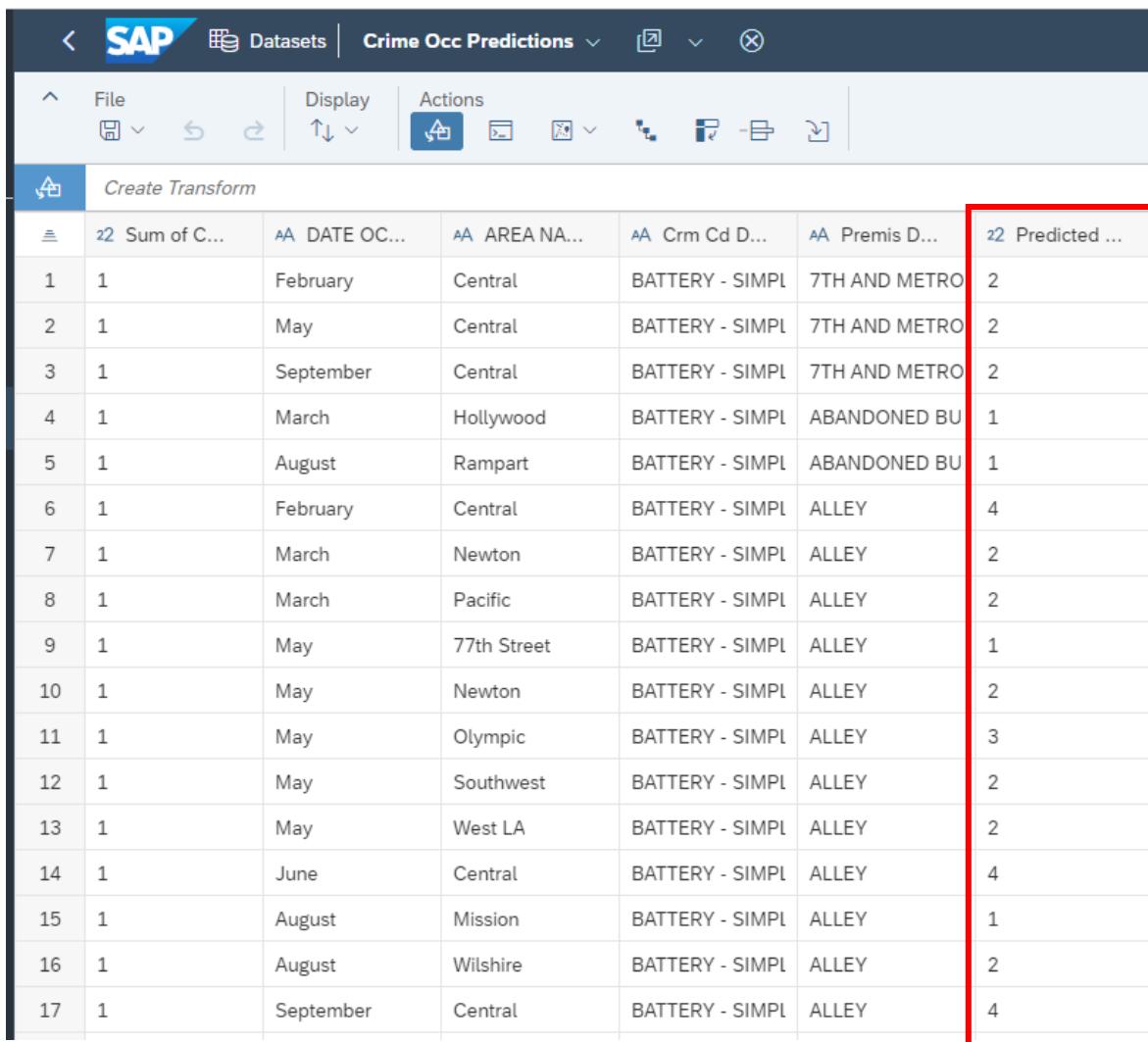
Replicated Columns: ⓘ
Premis Desc X DATE OCC - Month X AREA NAME X 2 More

Statistics & Predictions: ⓘ
Predicted Value X

Output As: *
Crime Occ Predictions

Apply **Cancel**

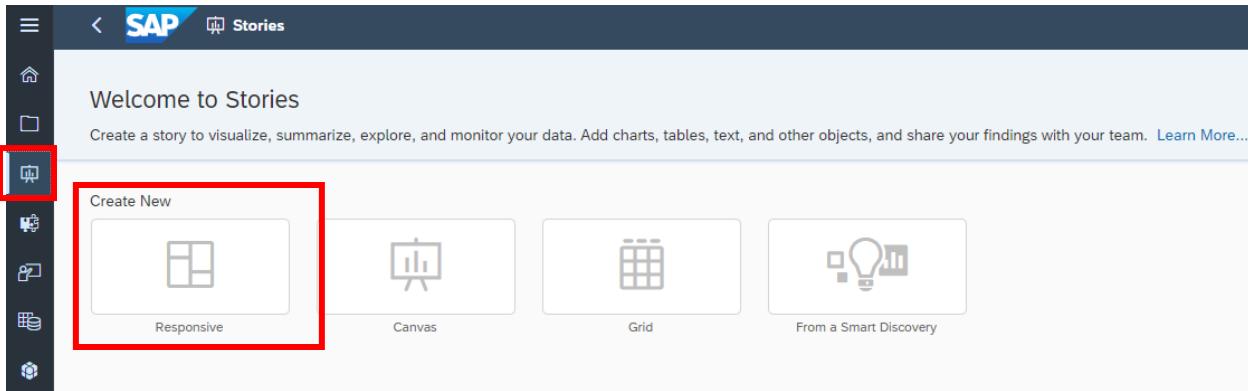
- j. Open a new tab with SAC URL to see the predictions using 2022 Crime Data and go to the folder
- k. Open file “Crime Occ Predictions” to see the Predictive Values.
- l. The Predicted Values will be in the last column in the dataset.



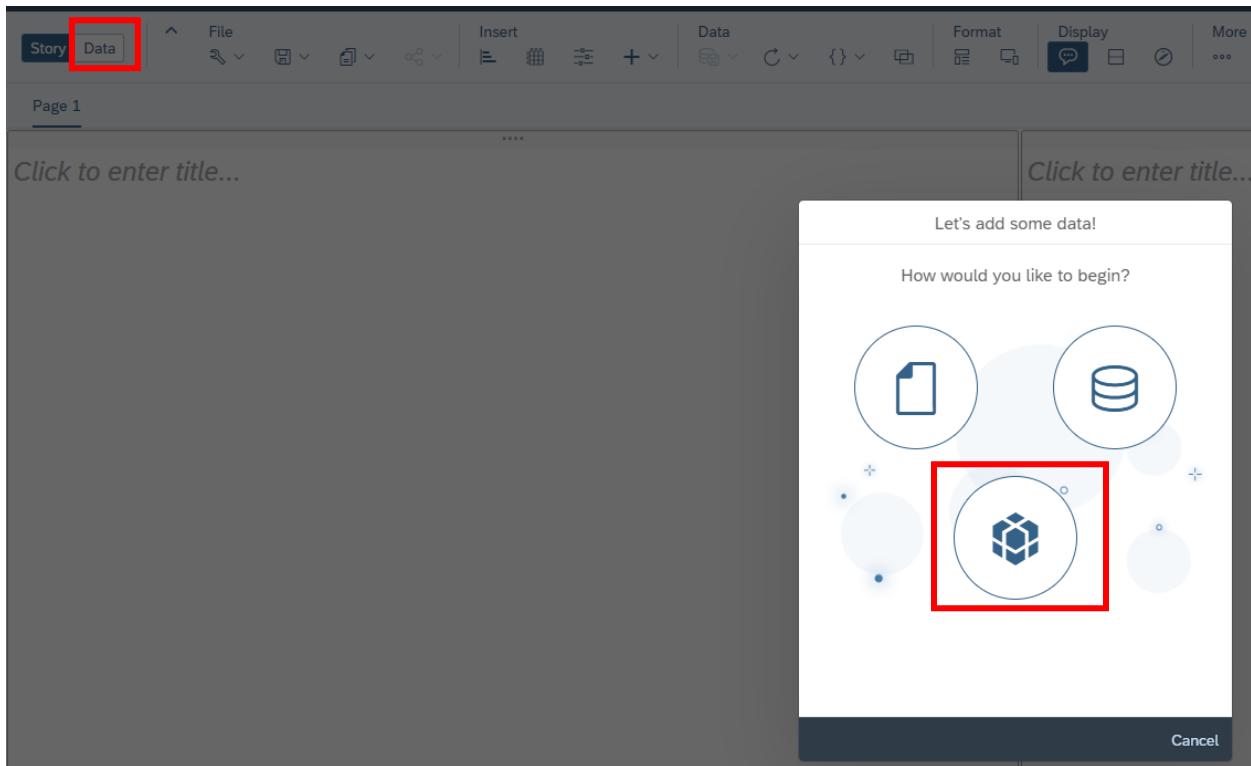
The screenshot shows the SAP Datasets interface with the dataset 'Crime Occ Predictions'. The table has the following columns:

	#2 Sum of C...	AA DATE OC...	AA AREA NA...	AA Crm Cd D...	AA Premis D...	#2 Predicted ...
1	1	February	Central	BATTERY - SIMPL	7TH AND METRO	2
2	1	May	Central	BATTERY - SIMPL	7TH AND METRO	2
3	1	September	Central	BATTERY - SIMPL	7TH AND METRO	2
4	1	March	Hollywood	BATTERY - SIMPL	ABANDONED BU	1
5	1	August	Rampart	BATTERY - SIMPL	ABANDONED BU	1
6	1	February	Central	BATTERY - SIMPL	ALLEY	4
7	1	March	Newton	BATTERY - SIMPL	ALLEY	2
8	1	March	Pacific	BATTERY - SIMPL	ALLEY	2
9	1	May	77th Street	BATTERY - SIMPL	ALLEY	1
10	1	May	Newton	BATTERY - SIMPL	ALLEY	2
11	1	May	Olympic	BATTERY - SIMPL	ALLEY	3
12	1	May	Southwest	BATTERY - SIMPL	ALLEY	2
13	1	May	West LA	BATTERY - SIMPL	ALLEY	2
14	1	June	Central	BATTERY - SIMPL	ALLEY	4
15	1	August	Mission	BATTERY - SIMPL	ALLEY	1
16	1	August	Wilshire	BATTERY - SIMPL	ALLEY	2
17	1	September	Central	BATTERY - SIMPL	ALLEY	4

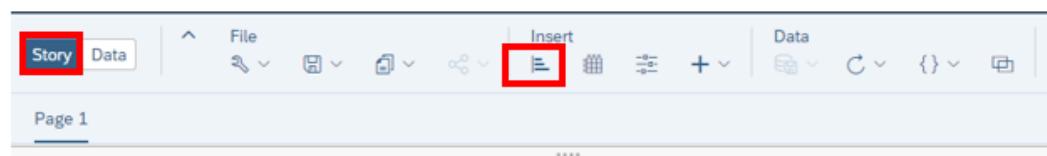
- m. We could examine the Predictive Value with the Crime Count per month, but it is not efficient, so we will go ahead and create graphs.
- n. Save.
- o. Go to **Stories** in the left-hand menu bar and Click Create New > **Responsive**.



- p. Select **Data** from an existing dataset or model.



- q. Locate and choose the Story Compare Crime Actual Predicted that has saved the Predicted Values dataset.
- r. Select Story, then insert a chart and create a visualization to compare predicted values to the actual crime count by Month.

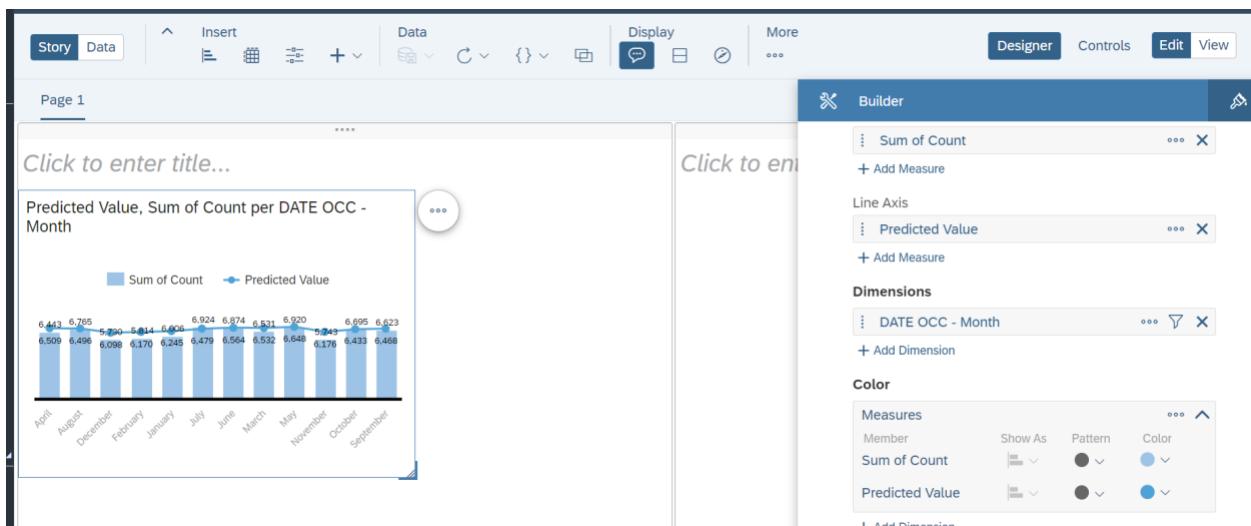


- s. Select a combo line column (Combination Column & Line) chart.
- (1) Measures: [Column Axis: Sum of Count, Line Axis: Predicted Value], Dimensions: Date Occ - Month.
- t. Save your Story named “Story Compare Crime Actual Predicted” in your folder.

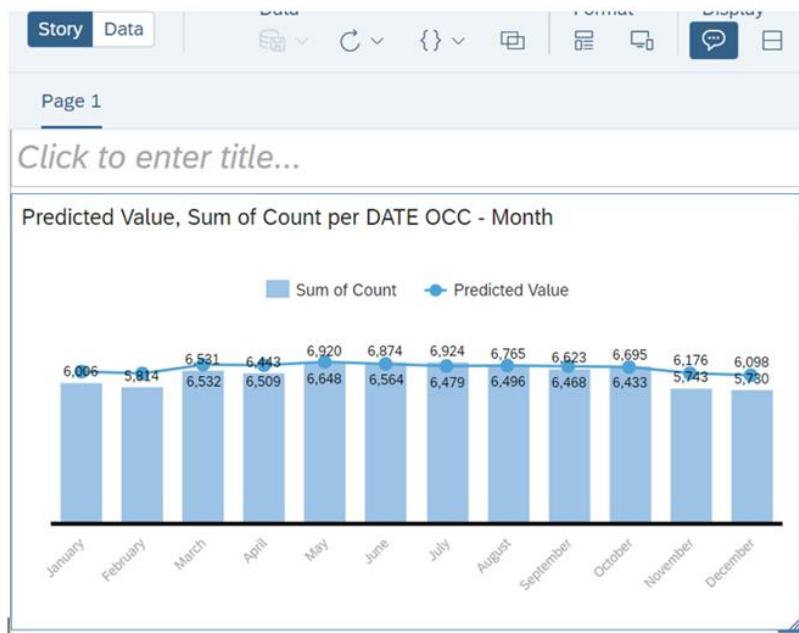
The screenshot shows the Tableau Builder interface with the following configurations:

- Measures:**
 - Column Axis: Sum of Count
 - Line Axis: Predicted Value
- Dimensions:**
 - DATE OCC - Month
- Color:**
 - Shows settings for 'Sum of Count' and 'Predicted Value' including Show As, Pattern, and Color.
- Properties:**
 - View Mode
 - Enable Explorer (unchecked)

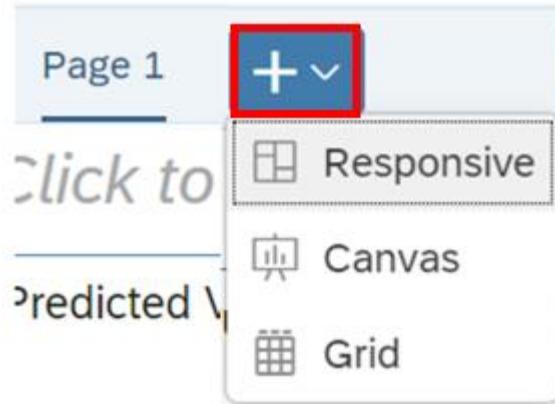
- u. After selecting fields, your bar chart will be displayed as follows:



v. Since the months are not in order select _____ and sort the data by month.



- To do a second story for the Area Name, Go to Page 1 and next to Page 1 on the right side – move your cursor and a + will show > then select responsive and Page 2 will be added. See figure below:



3. Insert a bar chart, you can follow steps by adding a bar chart and selecting:

Select a combo line column (Combination Column & Line) chart.

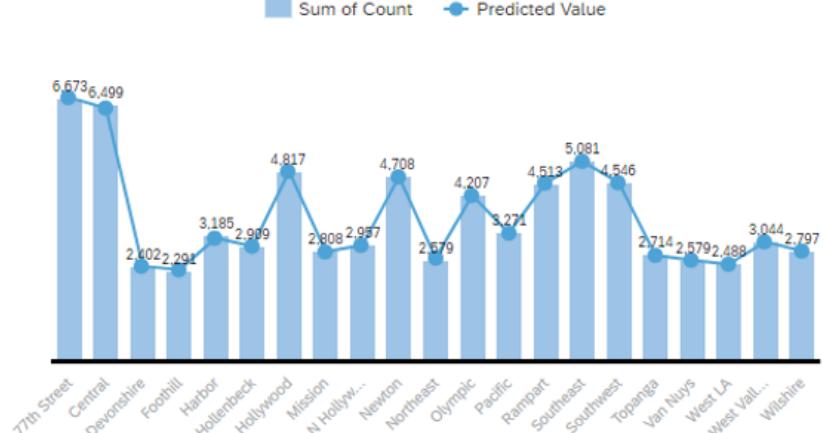
(1) Measures: [Column Axis: Sum of Count, Line Axis: Predicted Value], Dimensions: AREA NAME.



4. To have a better picture of the area with the highest and lowest crime count, we will need to sort the data. Sort from highest to lowest.

...
...*Click to enter title...*

Predicted Value, Sum of Count per AREA NAME

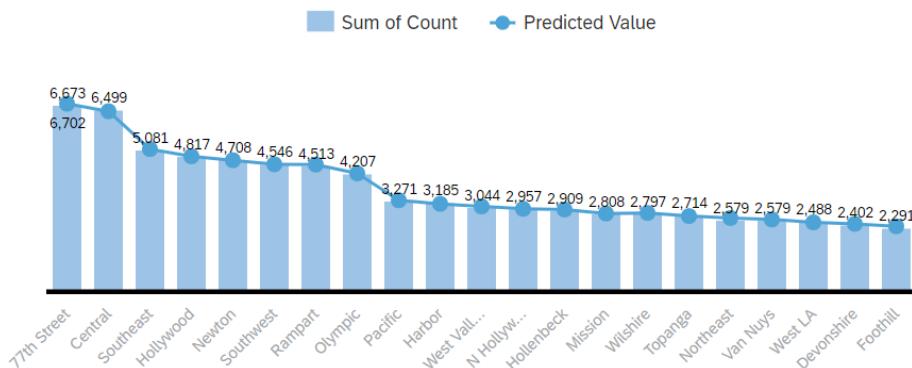


5. After sorting the data. We can see that the two areas with the highest and lowest crime rate are:

Two Highest: 77th (6,673) and Central (6,499) & the Two Lowest: Devonshire (2,402) and Foothill (2,291).

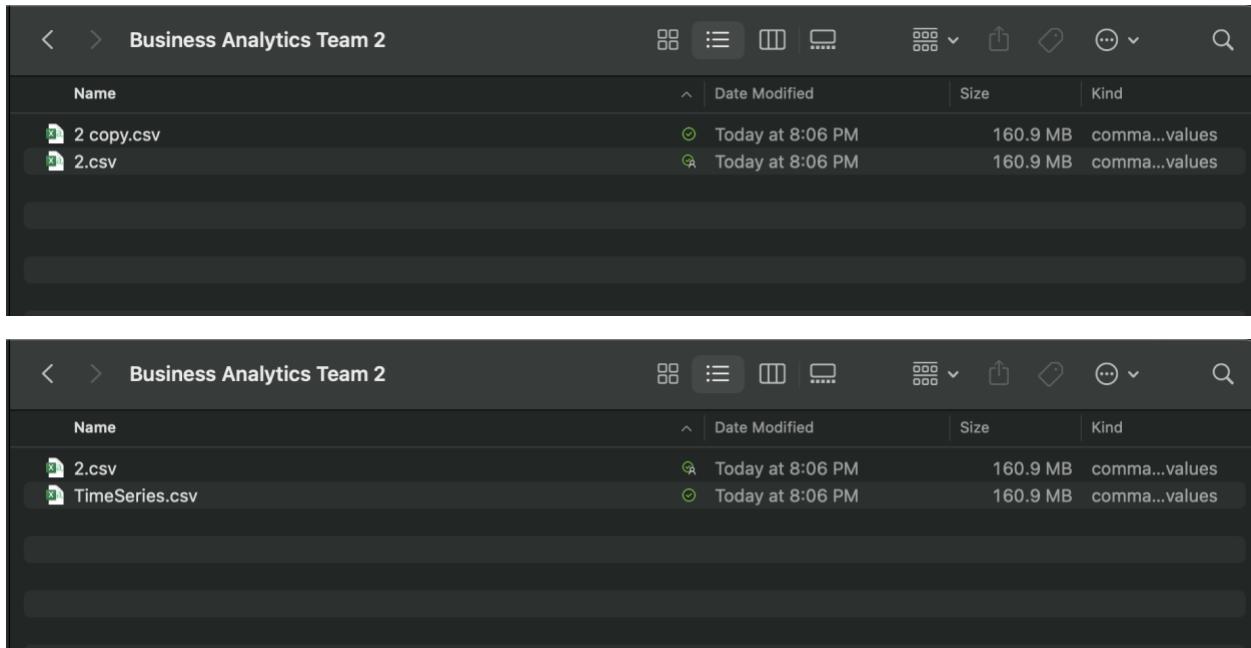
Click to enter title...

Predicted Value, Sum of Count per AREA NAME



Step 4.1: Time Series Analysis and Forecast

Make a copy of your original dataset csv file, then rename as TimeSeries. Open the newly created TimeSeries file to clean bad data



Right click on Weapon Desc to display menu then select filter > Filter by Selected Cell's Value.

AutoSave OFF

TimeSeries

Home Insert Draw Page Layout Formulas Data Review View Automate Developer Tell me

Clipboard Font Alignment Number Styles Cells Editing

Possible Data Loss: Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format.

R1

B C D E F G H I J K L M N O P Q R S T

1 ATE OCC TIME OCC Time Date & Time Date & Multi: AREA

2 1/1/20 9:00:00 AM 9:00:00 AM 1/1/20 9:00:00 AM 1/1/20 9:00:00 AM

3 1 Central 163 2 624 BATTERY - S 36 F B 501 SINGLE FAMILY DWELLING STRONG-ARM(HANDS, FIST, FEET OR BODILY FOR IC)

4 1 Central 155 2 845 SEX OFFEND 0 X X 102 SIDEWALK UNKNOWN WEAPON/OTHER

5 15 N Hollywood 1543 2 745 VANDALISM 76 F W 502 MULTI-UNIT DWELLING (APARTMENT, DUPLEX, ETC)

6 19 Mission 1998 2 740 VANDALISM 31 X X 409 BEAUTY SUPPLY STORE

7 1 Central 163 1 121 RAPE, FORCI 25 F H 735 NIGHT CLUB (OPEN EVENINGS UNKNOWN WEAPON/OTHER)

8 1 Central 161 1 442 SHOPLIFTING 23 M H 404 DEPARTMENT STORE

9 1 Central 155 2 946 OTHER MISIC 0 X X 726 POLICE FACILITY

10 1 Central 101 1 341 THEFT-GRAF 23 M B 502 MULTI-UNIT DWELLING (APARTMENT, DUPLEX, ETC)

11 17 Devonshire 1708 1 341 THEFT-GRAF 0 X X 203 OTHER BUSINESS

12 1 Central 192 1 330 BURGLARY F 29 M A 101 STREET ROCK/THROWN OBJECT

13 1 Central 111 2 930 CRIMINAL TH 35 M O 108 PARKING LOT VERBAL THREAT

14 1 Central 162 1 341 THEFT-GRAF 41 M A 503 HOTEL

15 1 Central 162 1 648 ARSON 0 X X 404 DEPARTMENT STORE UNKNOWN WEAPON/OTHER

16 1 Central 128 1 442 SHOPLIFTING 24 F H 252 COFFEE SHOP (STARBUCKS, COFFEE BEAN, PEET'S, ETC.)

17 19 Mission 1916 2 626 INTIMATE RF 24 F H 501 SINGLE FAMILY DWELLING STRONG-ARM(HANDS, FIST, FEET OR BODILY FOR IC)

18 11 Northeast 1124 2 626 INTIMATE RF 34 F H 501 SINGLE FAM

19 5 Harbor 511 1 440 THEFT PLAIN 29 F W 102 SIDEWALK

20 9 Van Nuys 932 1 354 THEFT OF ID 46 M B 502 MULTI-UNIT DWELLING

21 1 Central 152 1 210 ROBBERY 66 M B 103 ALLEY Advanced Filter...

22 9 Van Nuys 909 2 354 THEFT OF ID 40 M O 507 CONDOMINIUM

23 1 Central 162 1 341 THEFT-GRAF 31 M H 404 DEPARTMENT STORE

24 1 Central 162 1 442 SHOPLIFTING 27 M B 404 DEPARTMENT STORE

25 10 West Valley 1045 2 354 THEFT OF ID 46 F W 501 SINGLE FAMILY DWELLING

26 1 Central 166 1 230 ASSAULT WI 62 M A 502 MULTI-UNIT DWELLING

27 10 West Valley 1043 2 354 THEFT OF ID 34 F B 502 MULTI-UNIT DWELLING

28 11 Northeast 1101 1 330 BURGLARY F 43 M A 108 PARKING LOT

29 1 Central 141 1 340 PUBLIC RESTROOM/OUTSIDE* 71 M W 502 MULTI-UNIT DWELLING (APAR, STRONG-ARM (HANDS, FIST, FEET OR BODILY FOR AO)

30 8 West LA 814 2 624 BATTERY - S 50 F W 501 SINGLE FAMILY DWELLING STRONG-ARM(HANDS, FIST, FEET OR BODILY FOR IC)

31 1 Central 141 1 121 RAPE, FORCI 19 F B 503 HOTEL STRONG-ARM(HANDS, FIST, FEET OR BODILY FOR IC)

32 1 Central 111 1 310 BURGLARY 51 M W 503 HOTEL

33 8 West LA 859 2 354 THEFT OF ID 27 M W 501 SINGLE FAMILY DWELLING

34 11 Northeast 1124 2 626 INTIMATE RF 33 F H 502 MULTI-UNIT DWELLING (APAR, STRONG-ARM (HANDS, FIST, FEET OR BODILY FOR AO)

35 1 Central 111 1 510 VEHICLE - ST 0 707 GARAGE/CARPORT

36 1 Central 166 2 930 CRIMINAL TH 69 M B 801 MTA BUS UNKNOWN WEAPON/OTHER WEAPON

37 10 West Valley 1043 2 354 THEFT OF ID 39 M B 503 MULTI-UNIT DWELLING (APARTMENT, DUPLEX, ETC.)

38 7 Wilshire 722 1 442 SHOPLIFTING 19 M O 203 OTHER BUSINESS

39 9 Van Nuys 935 2 624 BATTERY - S 57 F H 102 SIDEWALK STRONG-ARM (HANDS, FIST, FEET OR BODILY FOR IC)

40 1 Central 181 2 740 VANDALISM 0 X X 101 STREET

41 8 West LA 841 2 624 BATTERY - S 78 F W 510 NURSING/CONVALESCENT/RE STRONG-ARM (HANDS, FIST, FEET OR BODILY FOR AO)

42 1 Central 162 1 442 SHOPLIFTING 0 M W 404 DEPARTMENT STORE Adult Other

43 1 Central 195 1 330 BURGLARY F 24 M H 101 STREET IC

44 1 Central 163 1 230 ASSAULT WI 52 M H 401 MINI-MART BLUNT INSTRUMENT

45 1 Central 146 1 230 ASSAULT WI 38 F H 203 OTHER BUSINESS BOTTLE

46 2/4/20 4:45:00 PM 4:00:00 PM 4:00:00 PM 1 Central 162 1 442 SHOPLIFTING 55 M W 404 DEPARTMENT STORE AA

47 11/12/20 5:00:00 PM 5:00:00 PM 5:00:00 PM 14 Pacific 1444 1 420 THEFT FROM 0 101 STREET Adult Arres

48 1 Central 163 2 740 VANDALISM 66 F A 122 VEHICLE, PASSENGER/TLBLICK IC

49 2/6/20 5:00:00 PM 5:00:00 PM 5:00:00 PM 1 Central 163 2 740 VANDALISM 66 F A 122 VEHICLE, PASSENGER/TLBLICK Invest Cont

TimeSeries

Ready Accessibility: Unavailable

100%

Select All except for blanks. You should then see that there are no more blanks in the column Weapon Desc.

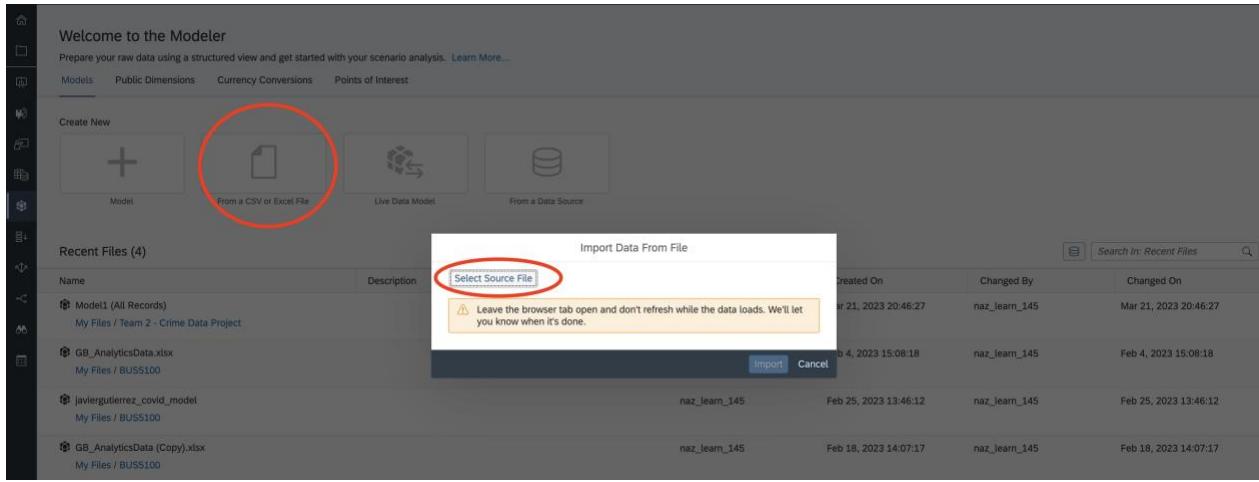
Screenshot of Microsoft Excel showing a large dataset (R682337) with various filters applied. A red circle highlights the '(Blanks)' filter option in the 'Choose One' dropdown under the 'Filter' ribbon.

Click Save and close the file.

On SAP click on the plus sign and select Model.

Screenshot of SAP FIORI interface showing a list of files. A red circle highlights the 'Model' item in the list.

Click on 'From a CSV or Excel File' then 'Select Source File'



Select your source file then proceed to Import.

Import Data From File

Select Source File

⚠️ Leave the browser tab open and don't refresh while the data loads. We'll let you know when it's done.

Use first row as column headers

CSV Delimiter

On the bottom right you should see an uploading status.

Welcome to the Modeler

Prepare your raw data using a structured view and get started with your scenario analysis. [Learn More...](#)

Models Public Dimensions Currency Conversions Points of Interest

Create New

Recent Files (4)

Name	Description	Created By	Created On
Modell (All Records) My Files / Team 2 - Crime Data Project		naz_learn_145	Mar 21, 2023 20:46:27
GB_AnalyticsData.xlsx My Files / BUSS100		naz_learn_145	Feb 4, 2023 15:08:18
Javiergutierrez_covid_model My Files / BUSS100		naz_learn_145	Feb 25, 2023 13:46:12
GB_AnalyticsData (Copy).xlsx My Files / BUSS100		naz_learn_145	Feb 18, 2023 14:07:17

Draft Data

Search	Expiration
TimeSeries.csv	Uploading <input type="button" value="X"/>

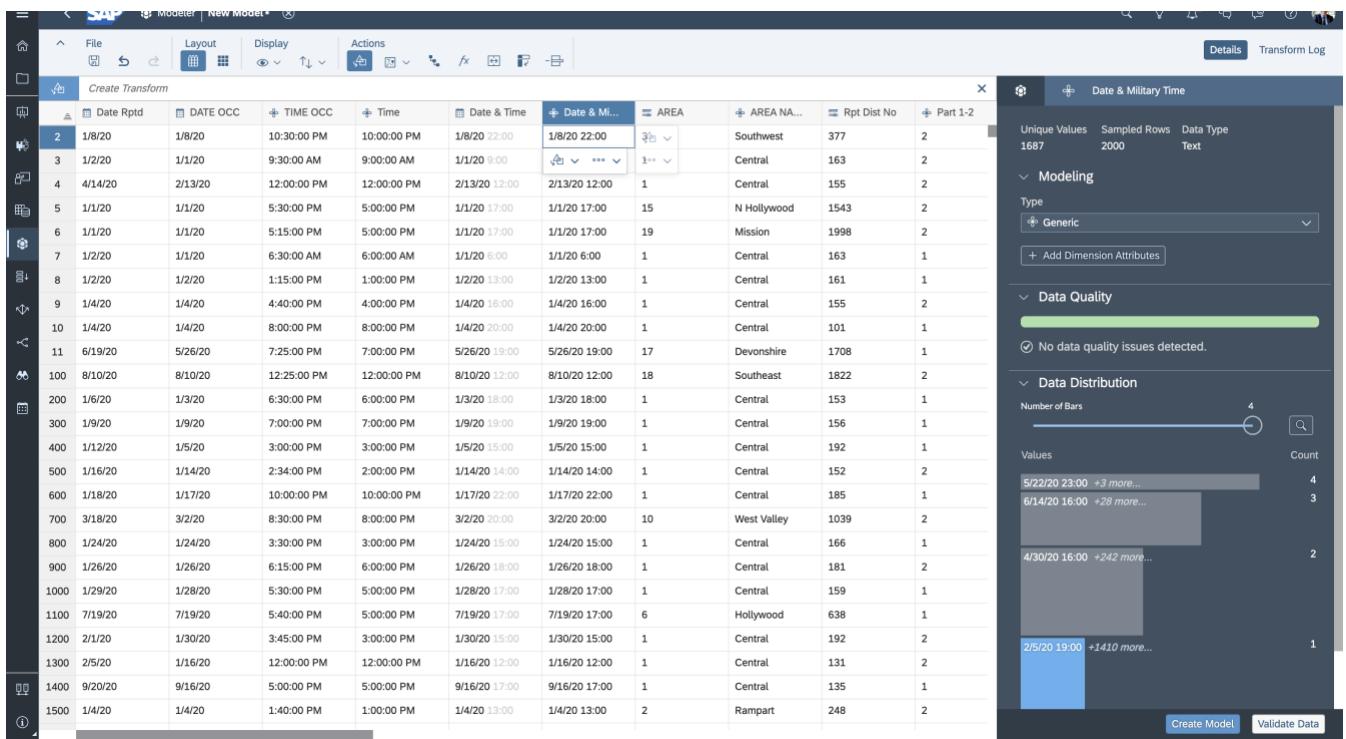
Click on TimeSeries.csv after file is uploaded.

Draft Data

Search   

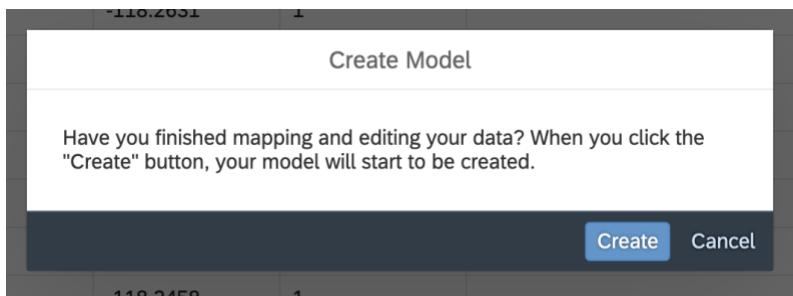
Name	Expiration
TimeSeries.csv	7 days 

Inspect model for issues on the panel on far-right side. Notice there are no issues. You may proceed to click Create Model.



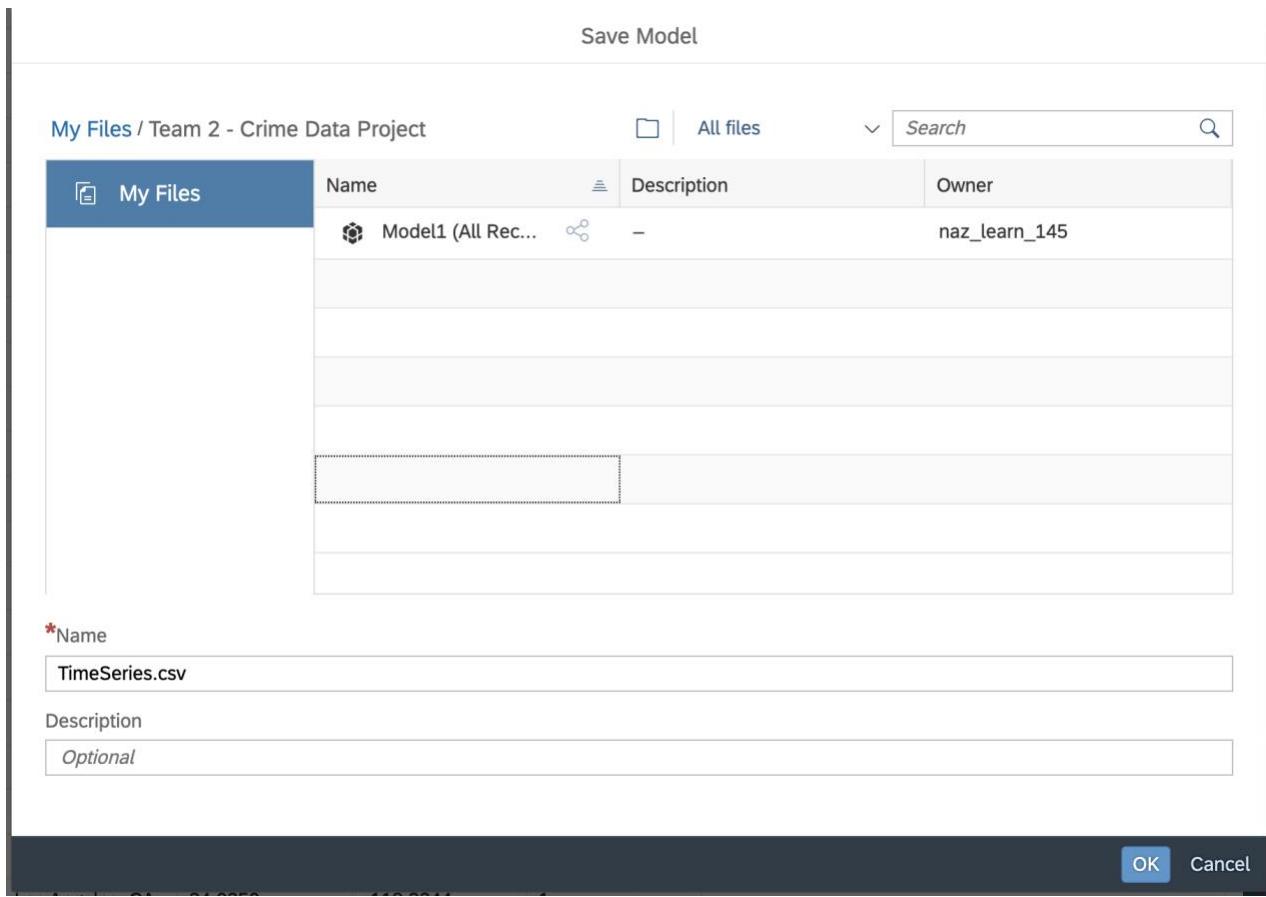
The screenshot shows the SAP Modeler interface with a data grid on the left and a detailed analysis panel on the right. The data grid contains approximately 1500 rows of data with columns for Date Rptd, DATE OCC, TIME OCC, Time, Date & Time, Date & Mi..., AREA, AREA NA..., Rpt Dist No, and Part 1-2. The analysis panel on the right includes sections for Unique Values (1687), Sampled Rows (2000), Data Type (Text), Modeling (Type: Generic), Data Quality (No data quality issues detected), and Data Distribution (Number of Bars slider, Values: 5/22/20 23:00, 6/14/20 16:00, 4/30/20 16:00, 2/5/20 19:00).

Click Create.



The dialog box has a title bar with the date "11.02.2021" and a "Create Model" button. The main content area contains the text: "Have you finished mapping and editing your data? When you click the 'Create' button, your model will start to be created." At the bottom are "Create" and "Cancel" buttons.

Save model in desired folder and enter a name. Click OK. Model creation will be in progress. This may take a few minutes.



You should see this screen once complete.

The screenshot shows the SAP Modeler interface with the following details:

- Header:** SAP Modeler | TimeSeries.csv
- Left Sidebar:** Workspace, General, Edit, Data, View, Validation.
- Top Navigation:** Import / Export Jobs, API Subscriptions, Status.
- Draft Sources:** A message indicates "This model contains no draft data. Click on the import data icon to upload data now."
- Import Jobs:**

Name	Query	Schedule	Last Updated
TimeSeries.csv	TimeSeries.csv File	Uploaded once	Mar 21, 2023 22:07:56
- Export Jobs:** A message indicates "This model has no previous exports."
- Bottom Buttons:** Notify me of refresh failures by email (checkbox), View All Schedules.
- Status Panel:** Data Timeline, Import, Export, TimeSeries.csv imported successfully (Mar 21, 2023 at 22:07:56, 682335 rows imported).

Create Story

The screenshot shows the SAP Modeler interface with the following details:

- Left Sidebar:** All files, My Files (selected), Views, Favorites, Featured Files, Deleted Files.
- Table View:**

Name	Description	Owner	Created On	Changed By
Crime_Data_from_2020_to_Present V1	-	naz_learn_136	Mar 20, 2023 15:23	naz_learn_136
Crime_Data_from_2020_to_Present V_2	-	naz_learn_145	Mar 21, 2023 20:13	naz_learn_145
Data 6.1, 6.2, and 6.3	-	naz_learn_136	Mar 21, 2023 21:40	naz_learn_136
Model1 (All Records)	-	naz_learn_145	Mar 21, 2023 20:46	naz_learn_145
Story for Data Crime Project	-	naz_learn_145	Mar 21, 2023 19:53	naz_learn_145
TimeSeries	-	naz_learn_145	Mar 21, 2023 21:23	naz_learn_145
TimeSeries.csv	-	naz_learn_145	Mar 21, 2023 22:07	naz_learn_145

Welcome to Stories

Create a story to visualize, summarize, explore, and monitor your data. Add charts, tables, text, and other objects, and share your findings with your team. [Learn More...](#)

Create New

- Responsive** (circled in red)
- Canvas
- Grid
- From a Smart Discovery

Recent Files (7)

Name	Description	Created By	Created On	Changed By	Changed On
Story for Data Crime Project My Files / Team 2 - Crime Data Project		naz_learn_145	Mar 21, 2023 19:53:46	naz_learn_145	Mar 21, 2023 20:24:22
Story Store Sales v2 My Files / BUS5100		naz_learn_145	Mar 15, 2023 20:52:09	naz_learn_145	Mar 15, 2023 20:52:09
Story Store Sales			Mar 14, 2023 14:14:00		Mar 14, 2023 14:14:00
Story Store Sales			Mar 14, 2023 14:14:00		Mar 14, 2023 14:14:00
Story Store Sales			Mar 14, 2023 14:14:00		Mar 14, 2023 14:14:00
Story Store Sales			Mar 14, 2023 14:14:00		Mar 14, 2023 14:14:00

Select Design Mode Type

What design mode would you like to use?

Optimized Design Experience

The Optimized Design mode provides an improved experience when designing dashboards. This mode has some useful new features, but it does not include all the features that are currently supported in the Classic Design mode.

[Learn More](#)

Classic Design Experience

The Classic Design mode provides all the existing features and functionality you may have already used in SAP Analytics Cloud.

[Create](#) [Cancel](#)

Page 1

Click to enter title...

Click to enter title...

Let's add some data!

How would you like to begin?

- File
- Data (circled in red)
- Insert
- Data
- Format
- Display
- More

Designer Controls Edit View

Select Dataset or Model

My Files / Team 2 - Crime Data Project

Name	Description	Owner
Crime_Data_from_2020_to_Present.csv	-	naz_learn_136
Crime_Data_from_2020_to_Present.csv	-	naz_learn_145
Model1 (All Records)	-	naz_learn_145
TimeSeries	-	naz_learn_145
TimeSeries.csv	-	naz_learn_145

Cancel

SAP Stories | New Story •

Page 1

Click to enter title...

At least one measure is required to build a chart.

Insert

Builder

Data Source
TimeSeries.csv

+ Add Linked Models

Chart Structure

Comparison (Trend circled)
Correlation (Stacked Area, Line)
Chart Orientation (Horizontal circled)

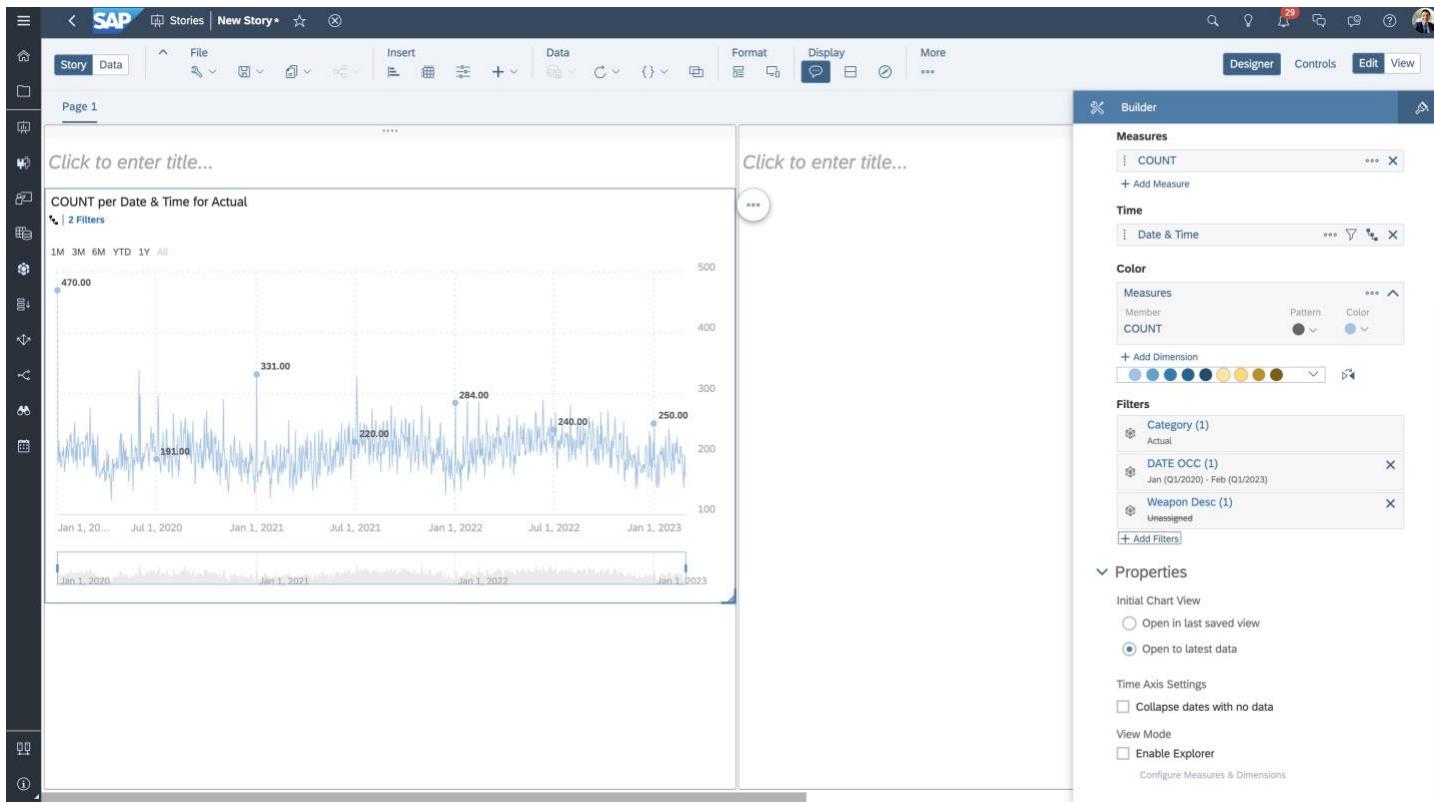
Measures
+ Add Measure

Dimensions
+ Add Dimension

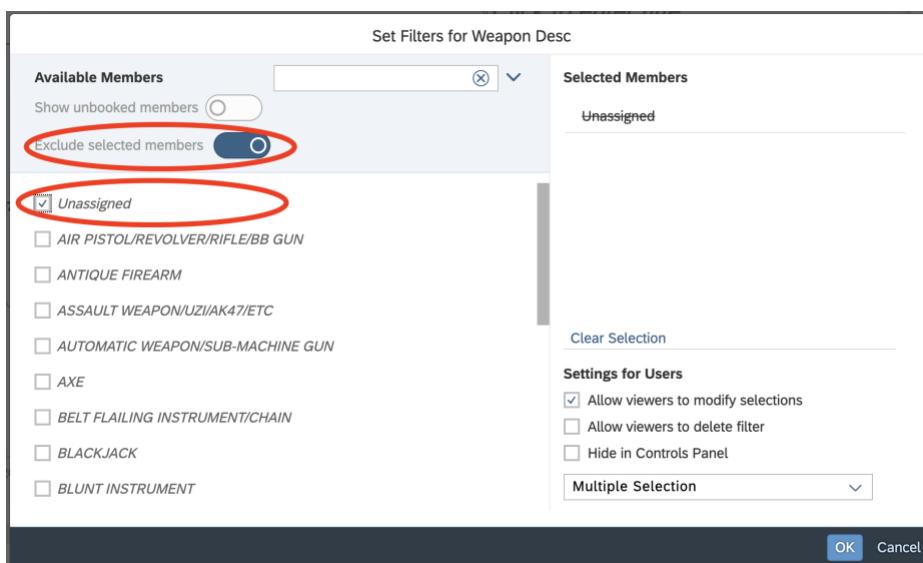
Color
+ Add Dimension/Measure

Filters

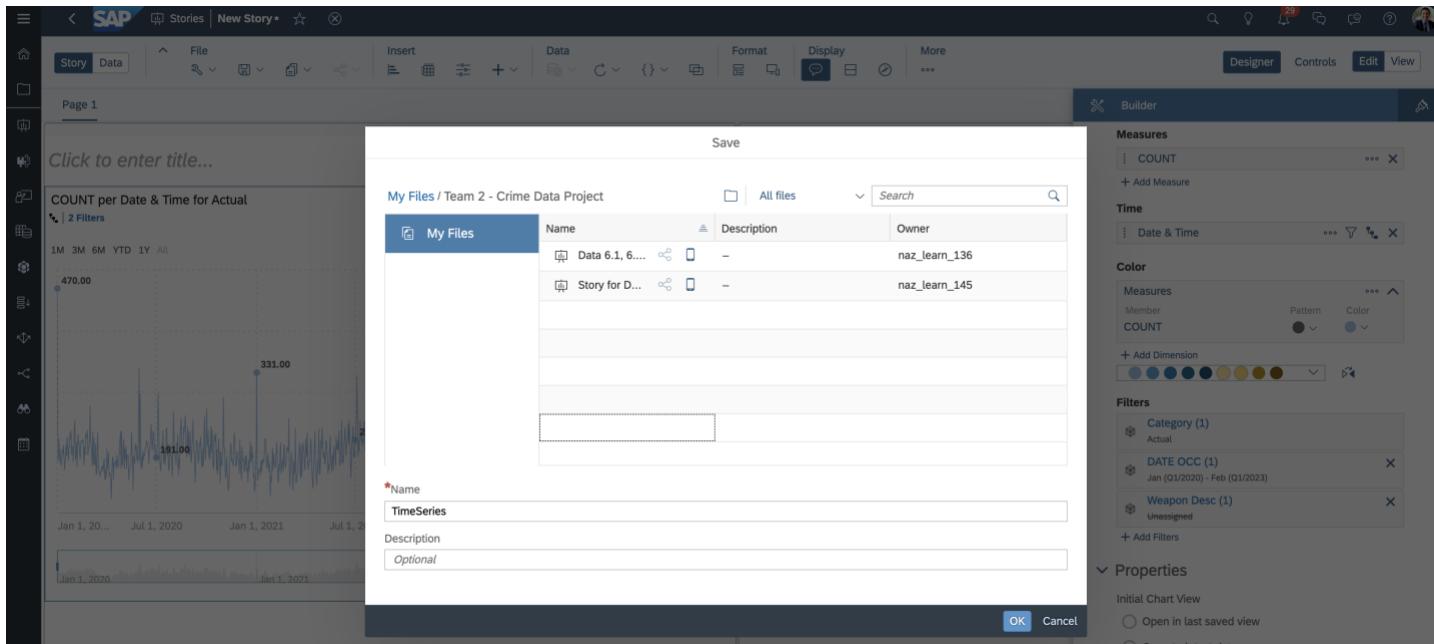
For Measures, enter COUNT column. For Time select Date & Time column. For filter, select Date OCC to only show records until the Feb 28, 2023. Then click add filter.



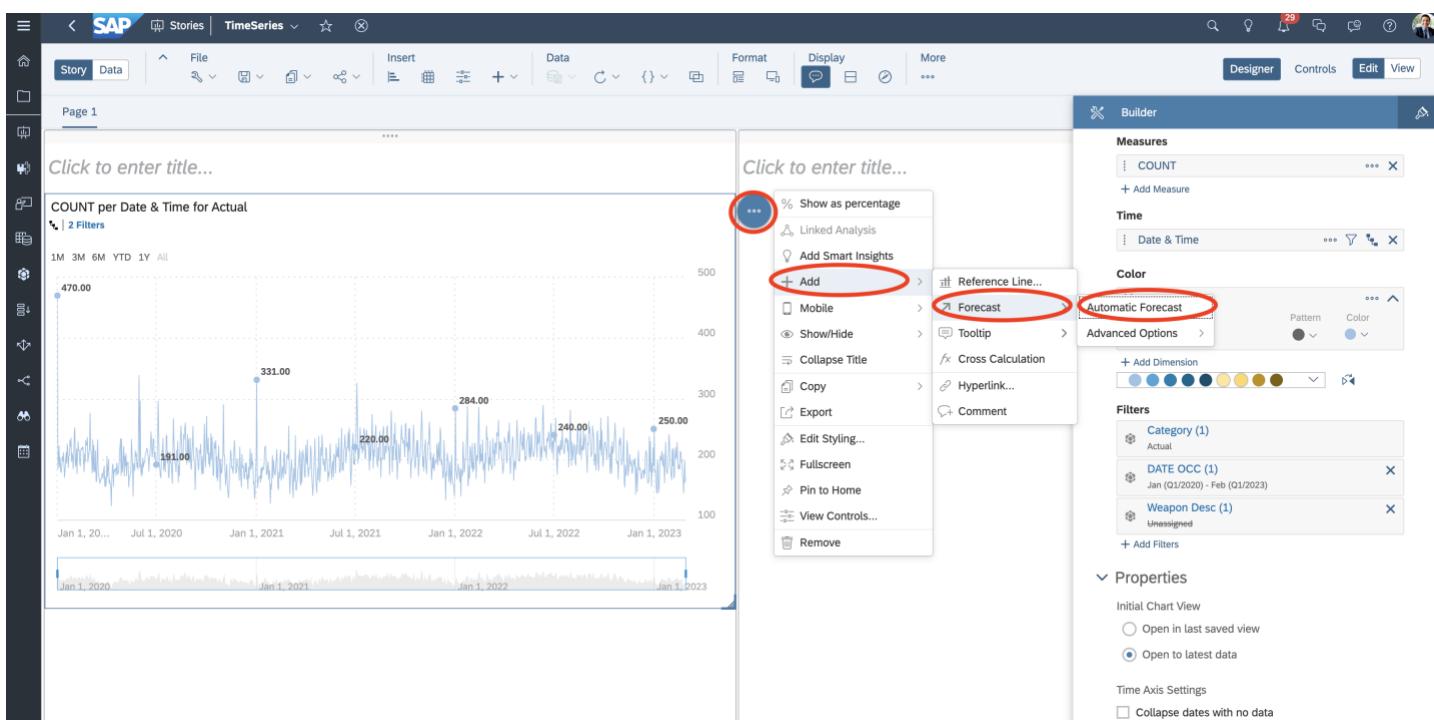
Add filter on the Weapon Desc column to remove blank data affecting time series. Toggle ON the Exclude selected members and only select Unassigned. Then click OK.



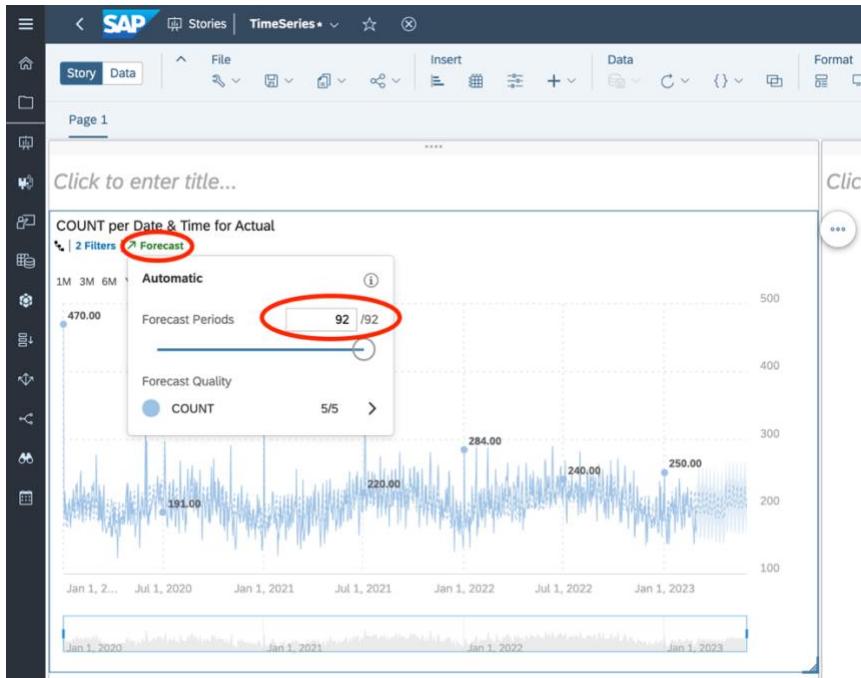
Save story file and enter TimeSeries as file name. Click Ok



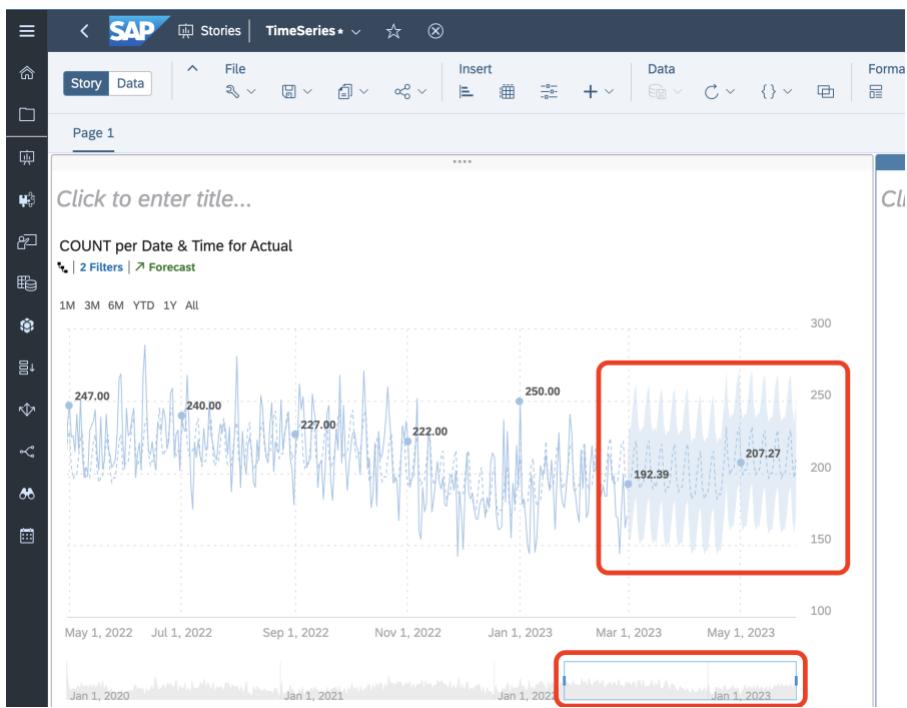
Choose add: Add > Automatic Forecast. It will take a minute but when the Forecast Loading completes, the word Forecast will appear at the top left of the chart.



Click on the word Forecast and try different forecast periods to see the results and wait for the Time Series chart to re-render. Now revert back to 92 periods.



Adjust the Date range in the bottom of the Time Series chart to focus on only the past few months. You are now able to see the 92 day forecast clearly.



References

1. URL of Data Source: <https://catalog.data.gov/dataset/crime-data-from-2020-to-present>
2. Github URL: https://github.com/jgutie229/calstatela_BusinessAnalytics