Numerical Data (DFT)

Topics in this session

How to access features in the Power BI User Interface
  Linking and unlinking items on a dashboard
  Drill down features
  Analytics options

Numerical data visualizations
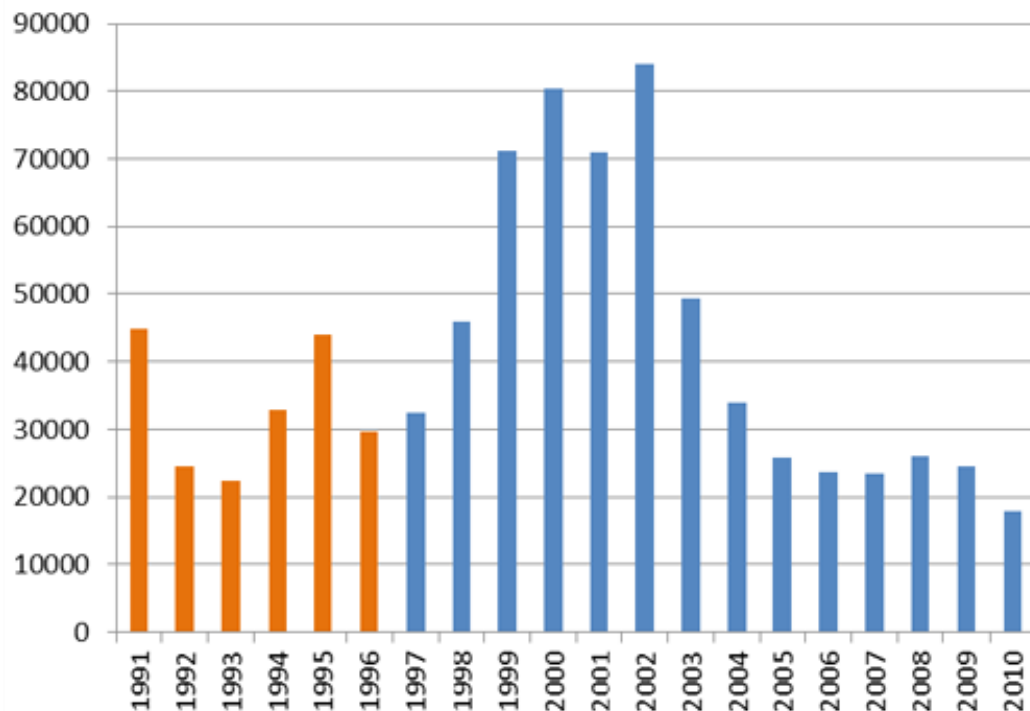 Histograms and Line Charts
  Trend lines

Histograms

Very common way to start to understand a data set is to look at the distribution of frequency (count) of items grouped by intervals. (cf bar charts which are usually grouped by categories.)
https://www.forbes.com/sites/naomirobbins/2012/01/04/a-histogram-is-not-a-bar-chart/#5ab0e6a06d77

e.g. number of principal asylum applications per year in the UK

Source: Migration Watch UK

DFT New Vehicle Registration Data

Load the data set:
    veh0150.xlsx
    Select the sheet VEH0150_Wrangled

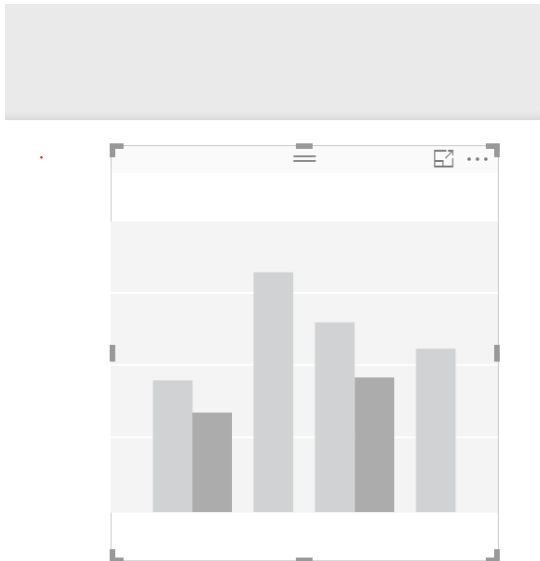This data is from the latest DfT 2017 release of new car registrations.

If it loads some empty columns you can remove them from consideration in the query editor click **Edit Queries** to bring it up.
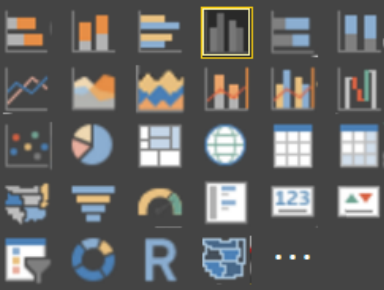
Histogram vehicle count vs time

We can use the standard Bar Chart to create a histogram.

By convention histograms are drawn vertically.

Click on **Clustered Column Chart** to create the empty visual:
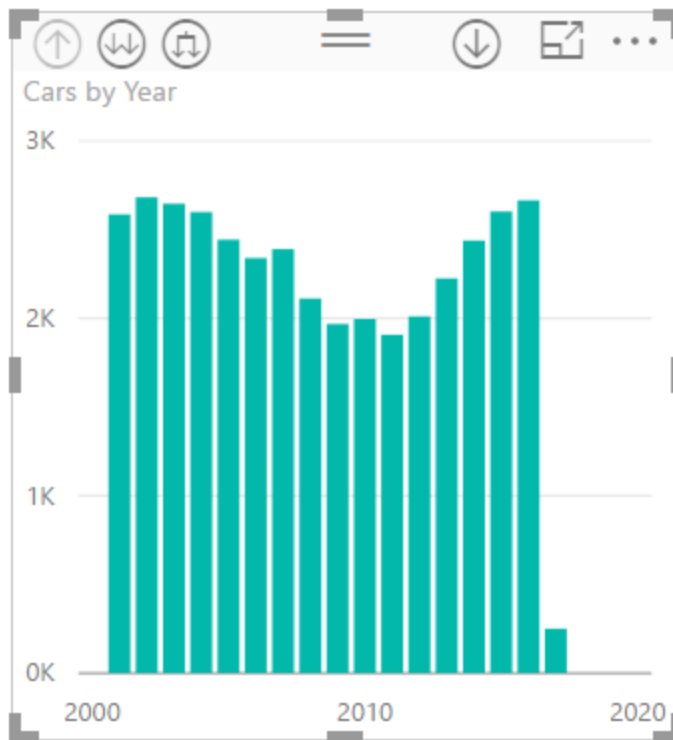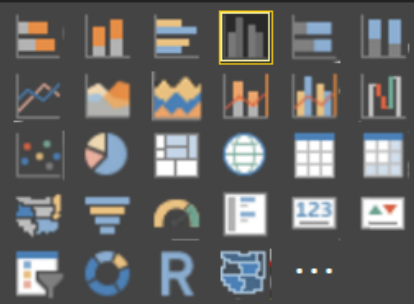
Histogram vehicle count vs time

Select **Period** for the axis
And **Cars** (1000's of) for the Value

This shows new car registrations dropped from 2000-2011 but have since been increasing.
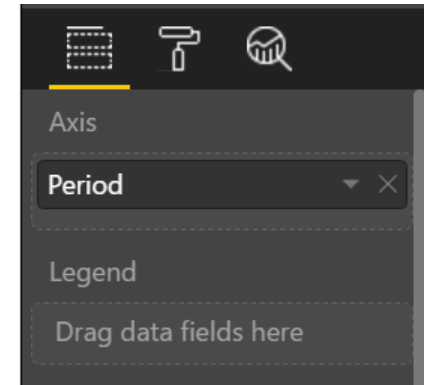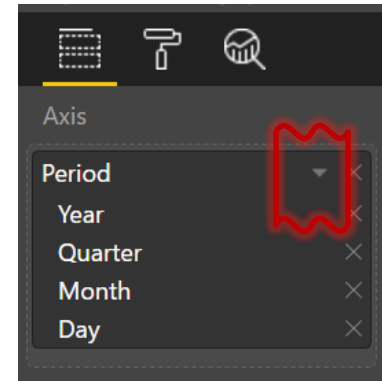
Seeing more detail

Set the **Axis** time to **Period** (not **Date Hierarchy**)
Filter the **Page** to use only dates after 12/31/2009
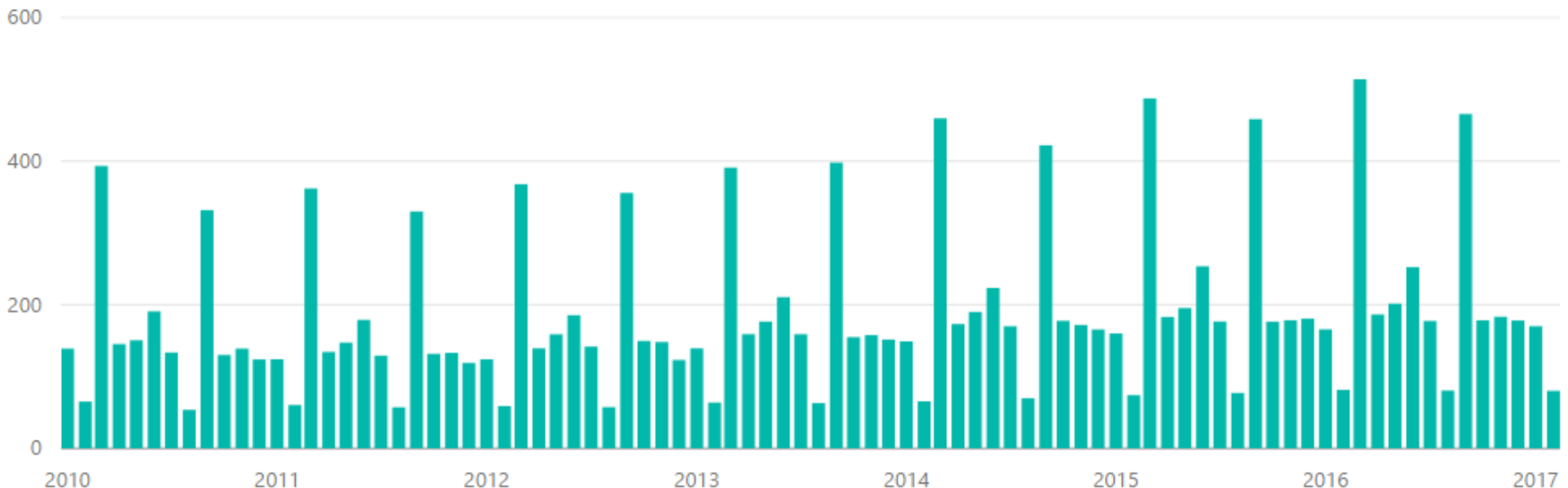
Format the chart:

Y-axis **Display Units** set to **None**

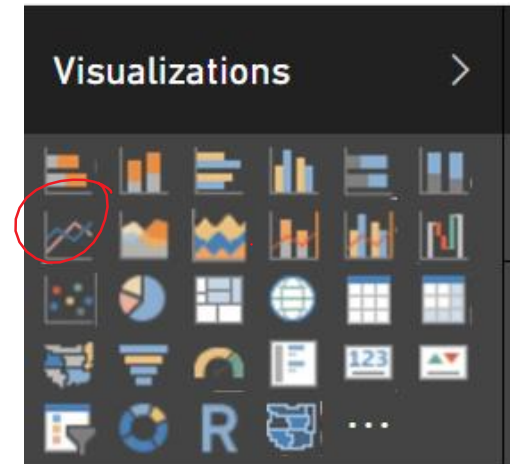Title changed to note 1000's units

New Cars Registered (1000's) by Month
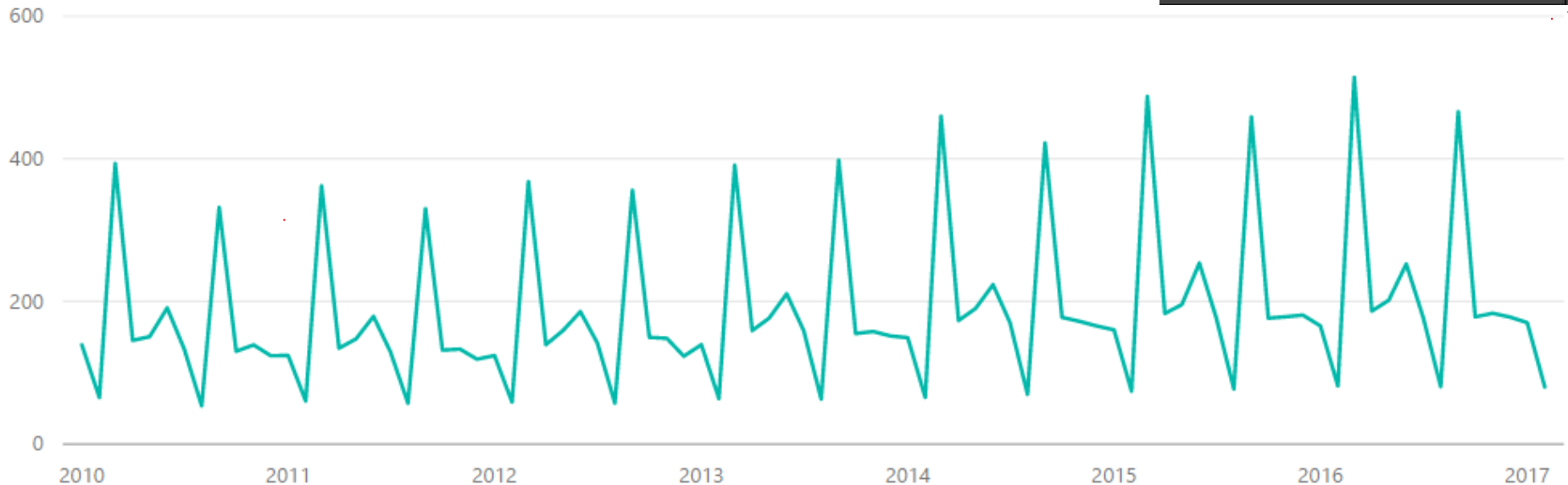
Exploring the data

Add a line graph as below:

    Copy and Paste the Column Chart
    Then select the second chart
    and then click the **Line Chart** icon

The second column chart becomes a line graph:

New Cars Registered (1000's) by Month
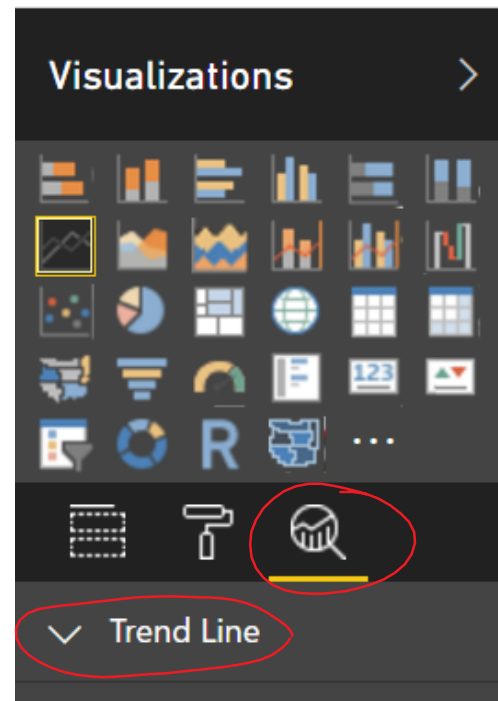
Finding the story?
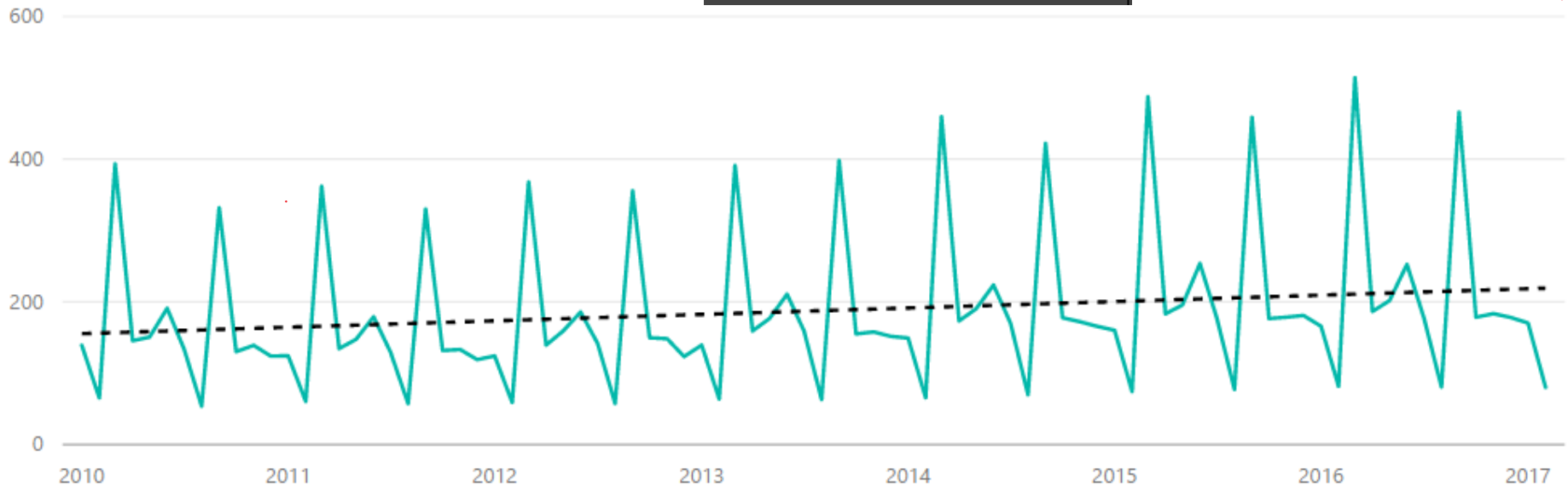
Add a trend line
Select your Line Chart
Click the **Analytics** icon
Select **Trend Line** and click **Add**

Gradual growth since 2010

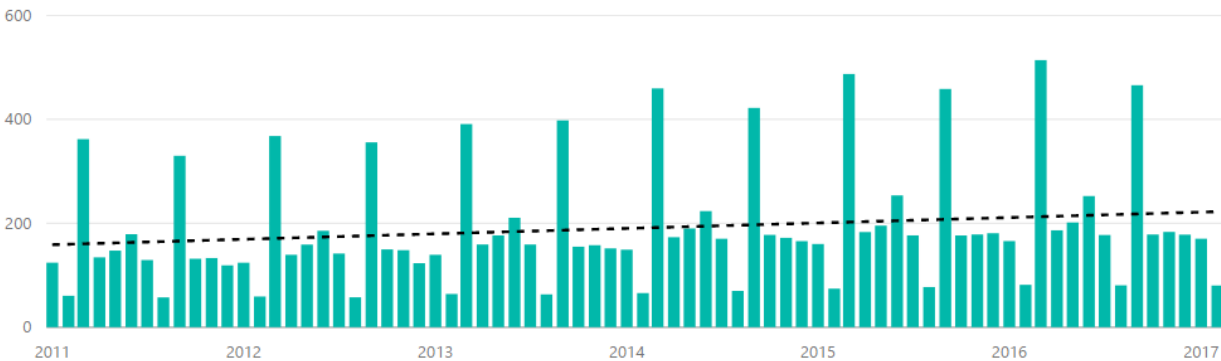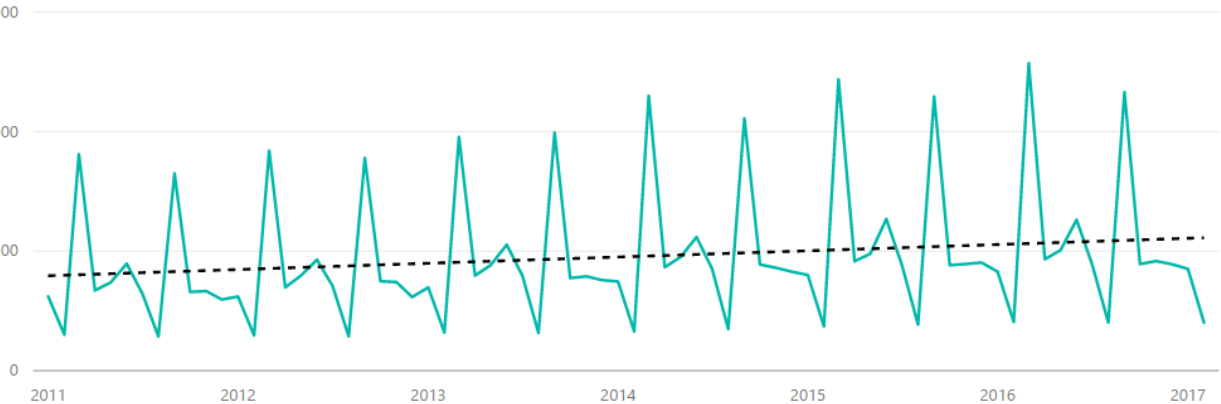New Cars Registered (1000's) by Month

Creating a Dashboard

If we were to plot all the data from 2001 the long term trend is currently downwards, but the last six years have seen real growth.

Unlinking/Linking Visuals

Select a visual, eg Cars by Year
Click on **Edit visual interactions**
Select the type of interaction to allow with other visuals

New cars registered in the UK 2001-2017

New Cars Registered (1000's) by Month

New Cars Registered (1000's) by Month

1000's cars registered
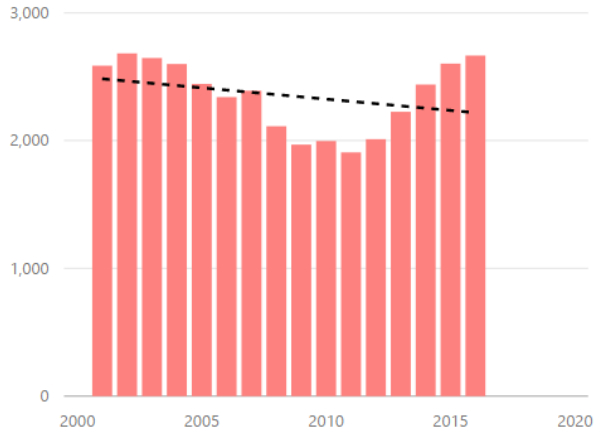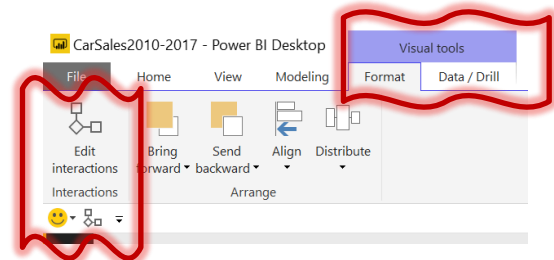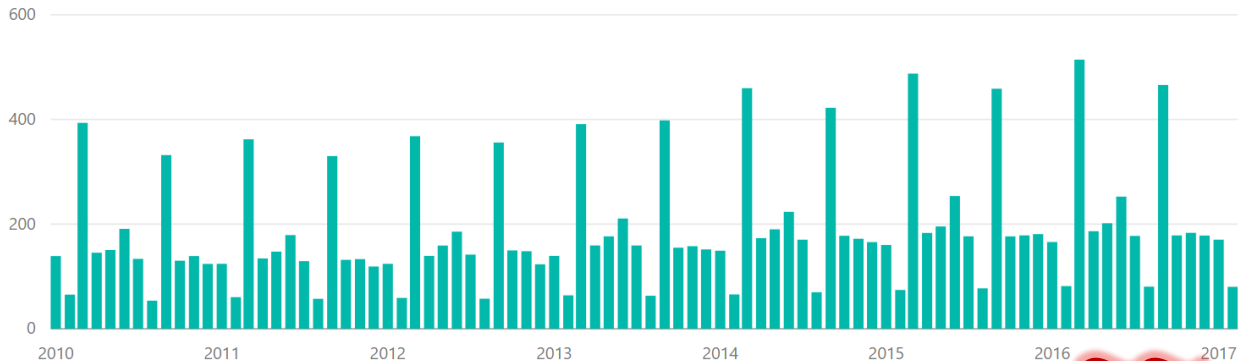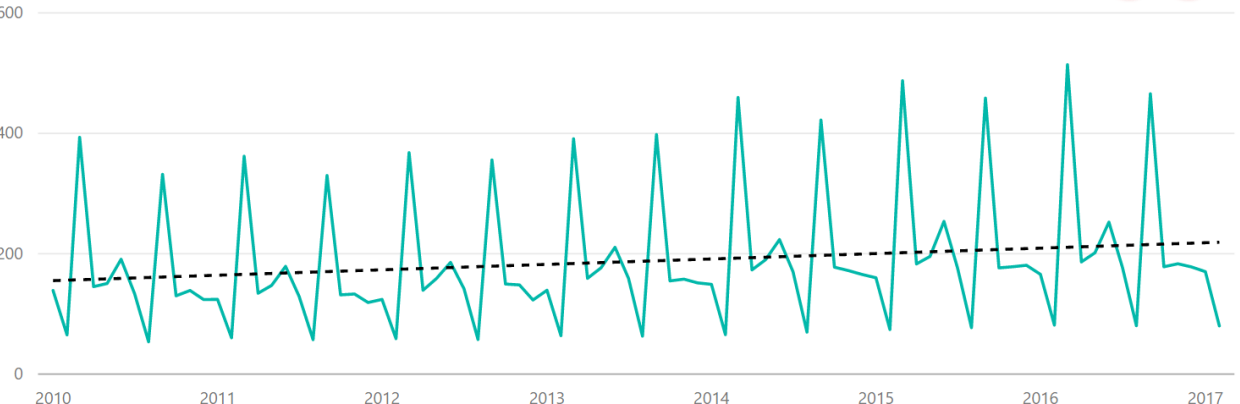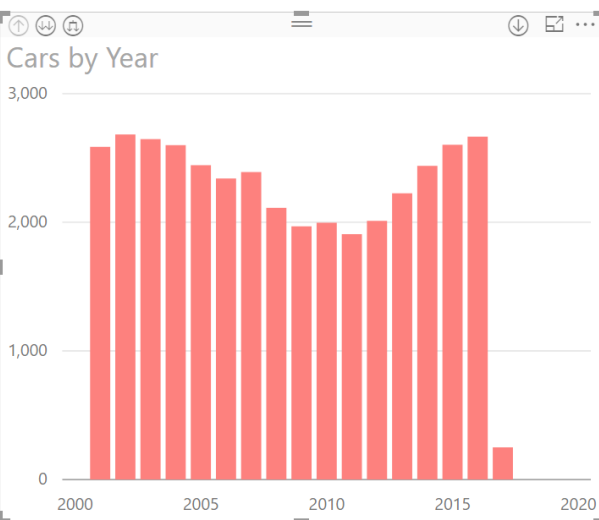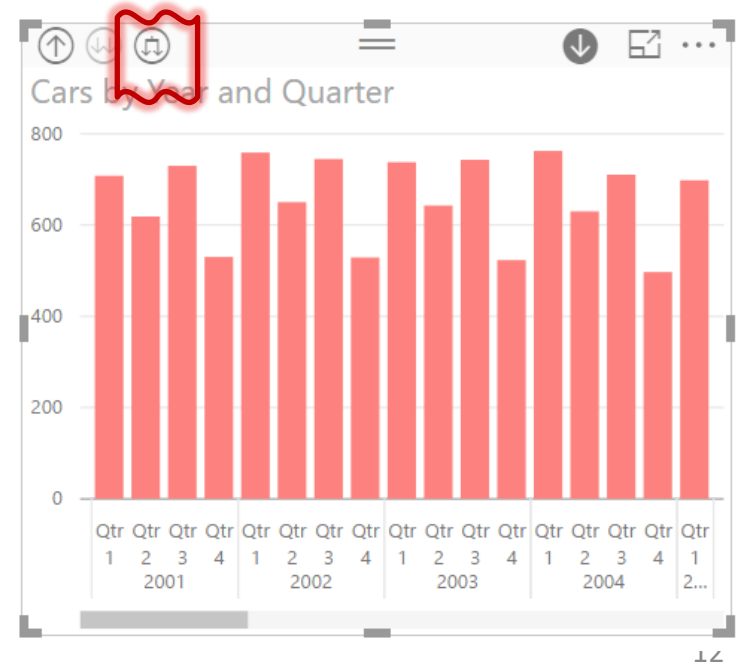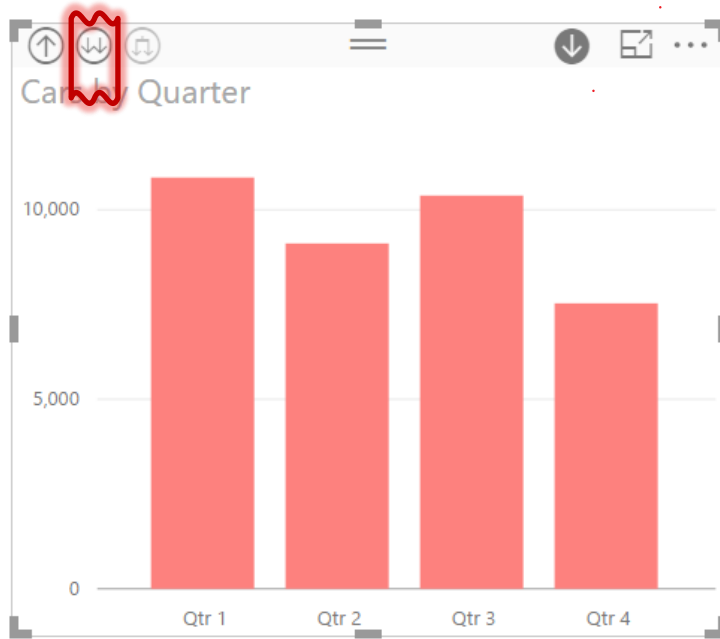
37,863

Period

01/01/2001   01/02/2017

Cars by Year

Drilling down into hierarchical data

You can drill down the whole data set in one of two ways

Show aggregated next level down   or   **Expand all down one level**
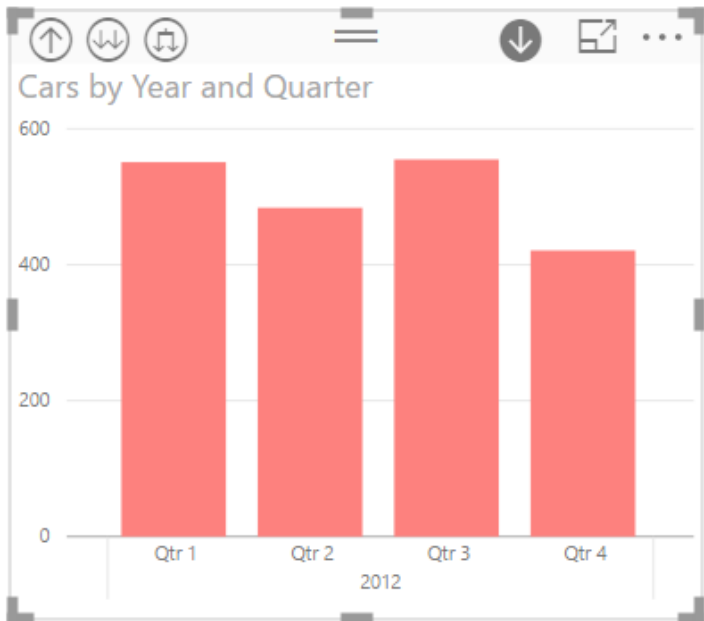

Note the format options for the axis titles are sensitive to the drill down level you are in.
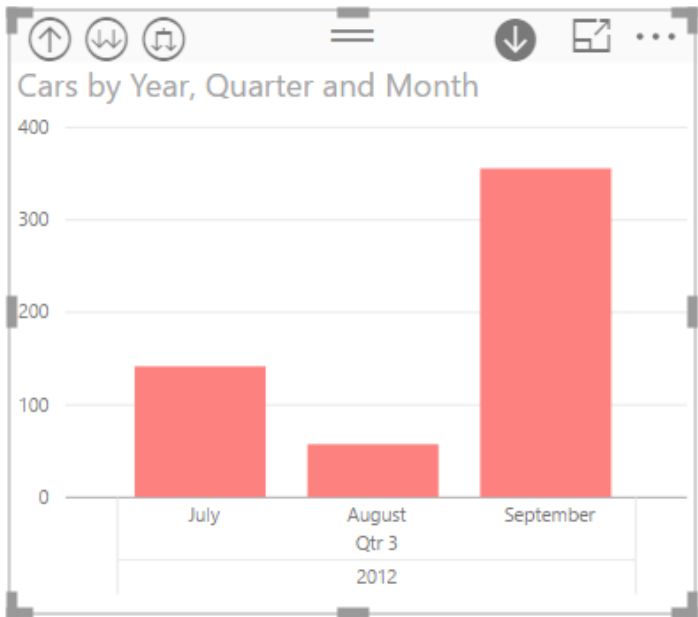
Drilling down into individual data

On the Cars by Year visual
Click on **Drill Mode** to select it,
this lets you drill down into individual bars.

Now click on a bar to drill down to Quarters

Click on a bar again to drill down to months.

... and again if your data also has further levels, e.g. days.