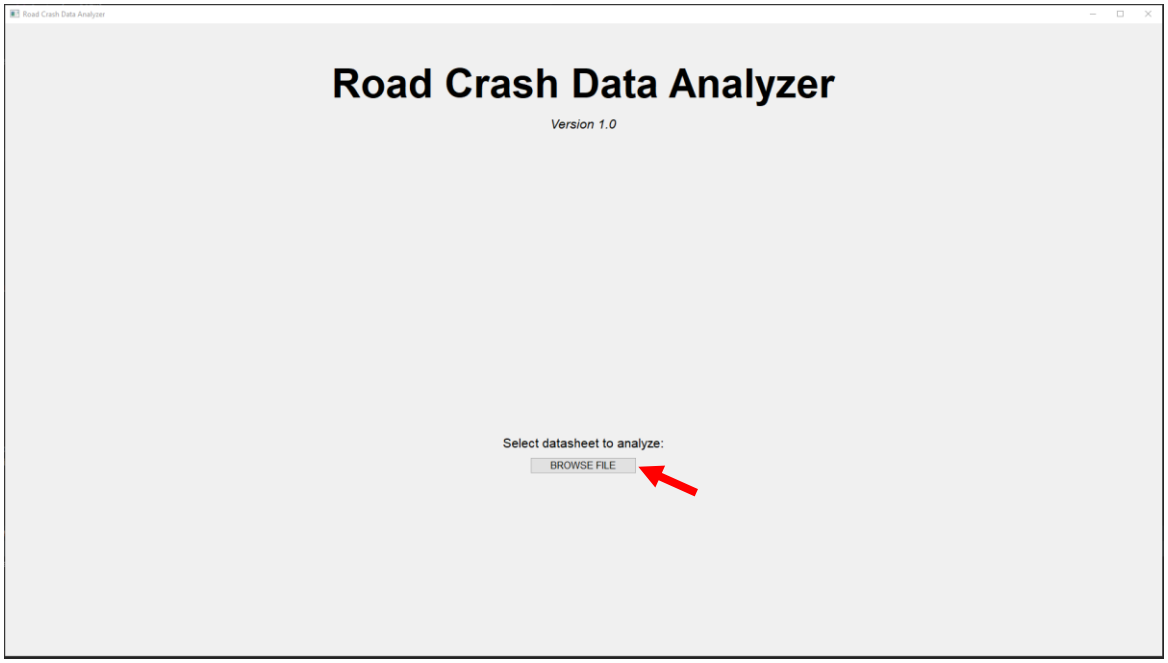
Road Crash Data Analyzer User Manual

2810ICT Software Technologies Assignment Part B

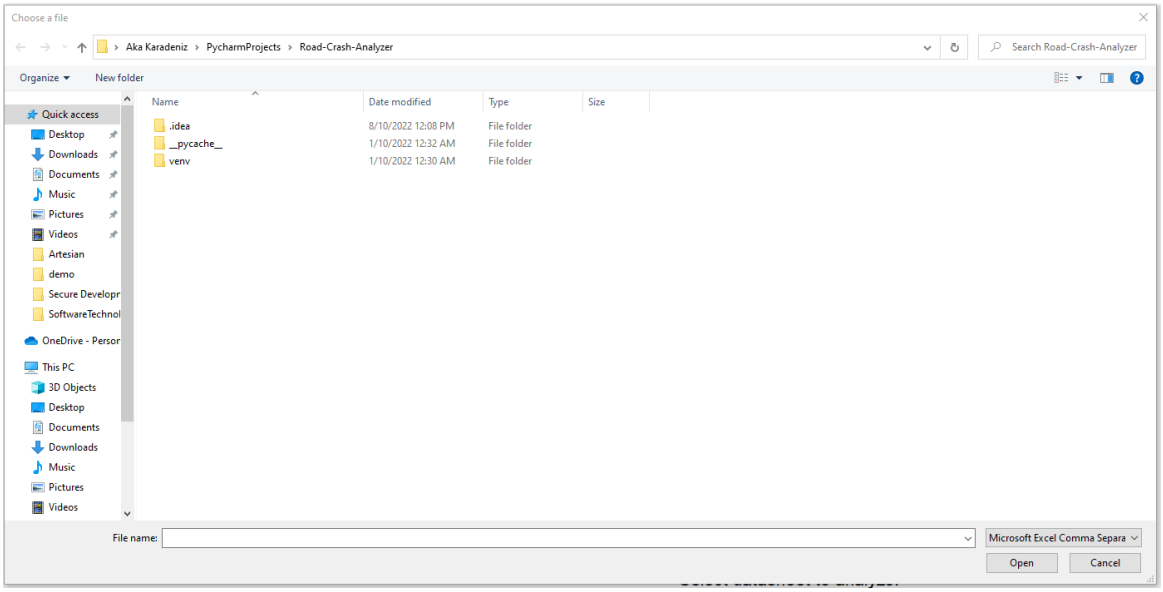
Contents

1. Selecting a File

When you first launch the program, you will see the title screen shown below. In order to begin analysis, you must select a .csv file using the 'Browse File' button near the center of the screen.

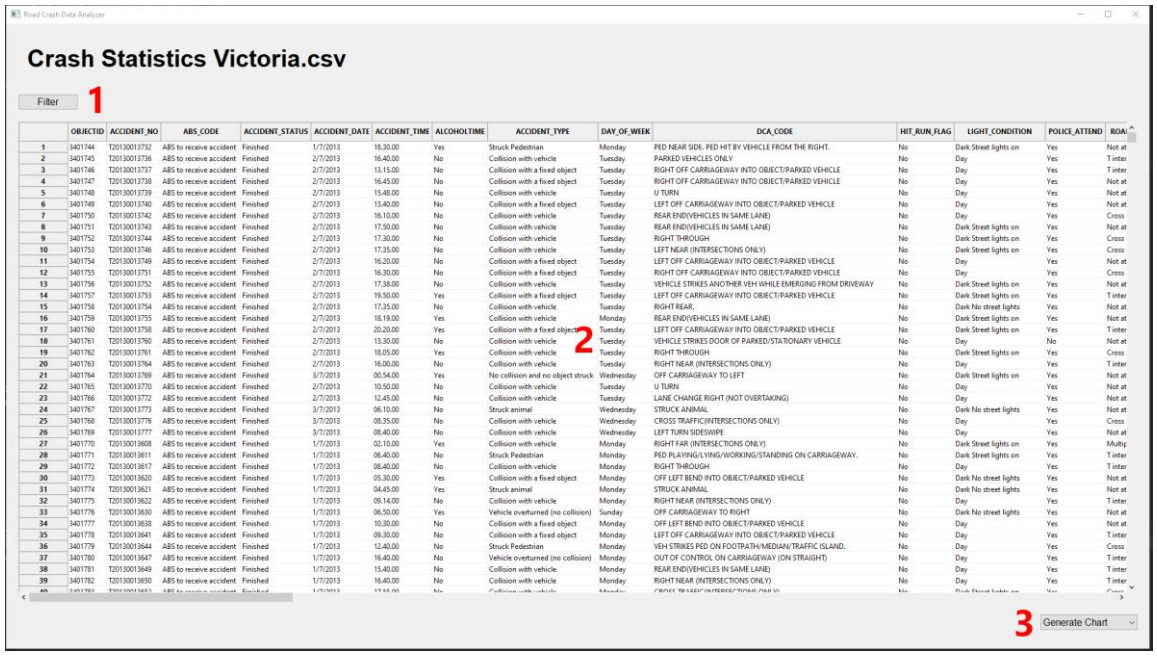


Clicking on this button will launch a file selection dialog showing the directory where the program is located. You can easily browse other directories on your computer. Once you've selected the .csv file you wish to analyze, click on the 'Open' button in the bottom right corner of the file selection dialog.



2. The Data Screen

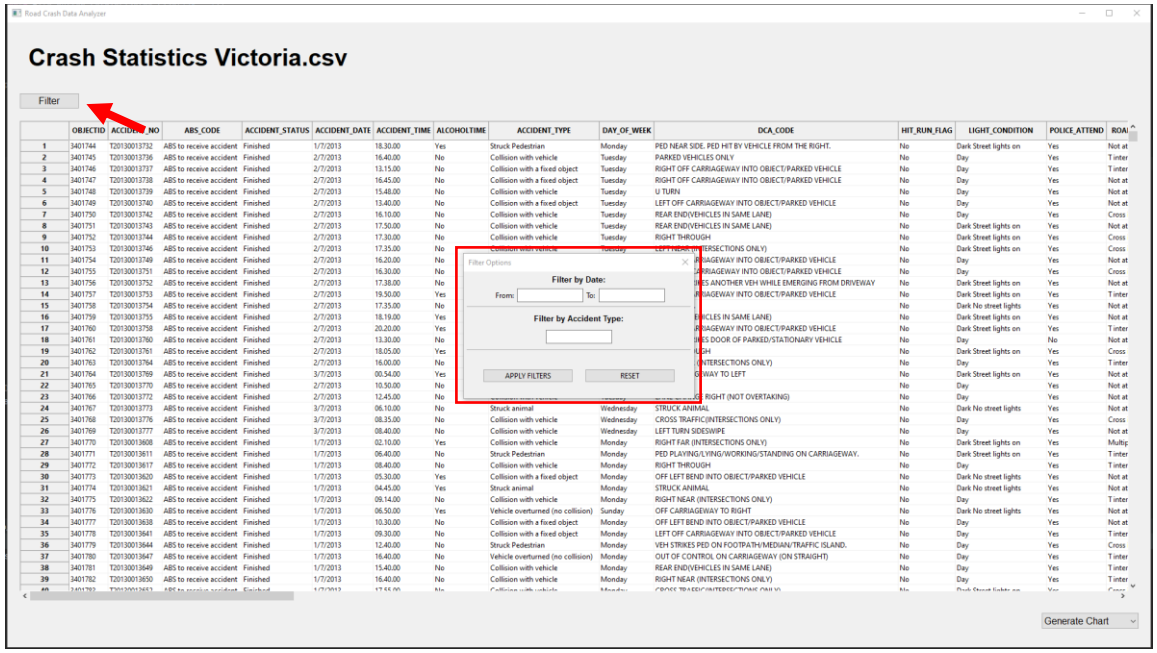
After selecting a .csv file, the program will load for a brief period and display the screen shown below. This is the main screen of the program where the imported data is shown in table form.



1. Filter button: Opens the Filter Options window through which the data table can be filtered by date and accident type.
2. Data Table: Displays the imported data in table form with column names and row numbers.
3. Generate Chart combo box: Allows the user to generate a chart from a selection. The charts are generated only from the data currently shown inside the Data Table (see section 5).

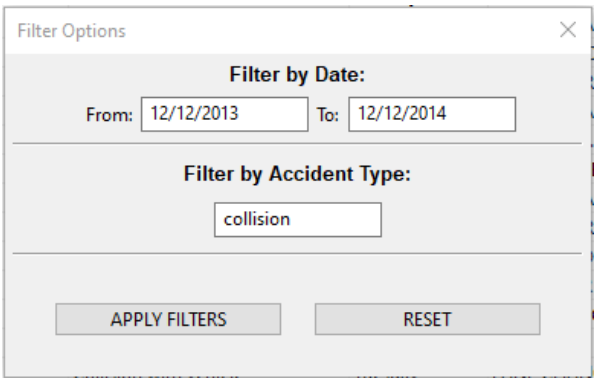
3. Filter Options

Clicking on the 'Filter' button in the top-left corner of the main screen will open a small Filter Options window in the centre of the display.

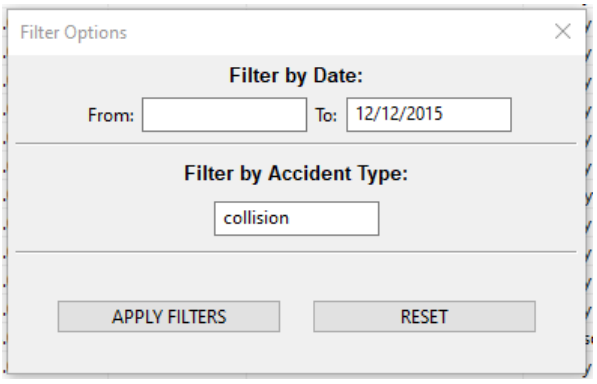


The Filter Options window is not a modal window, i.e., the user can still scroll through the data table with the Filter Options window open. They are also free to reposition the Filter Options window. As shown below, there are two filter options: Filter by Date, and Filter by Accident Type. The user can specify a different combination of inputs to yield a specific selection of rows.

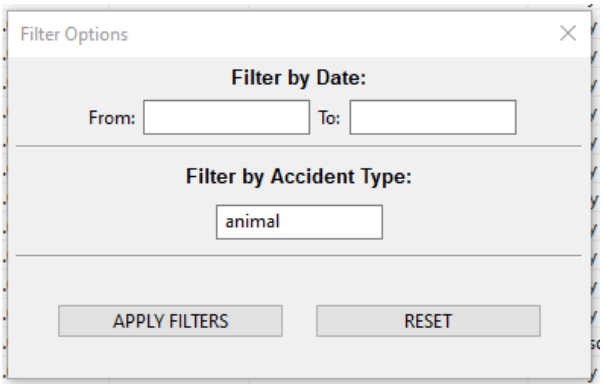
Below are examples of possible inputs.



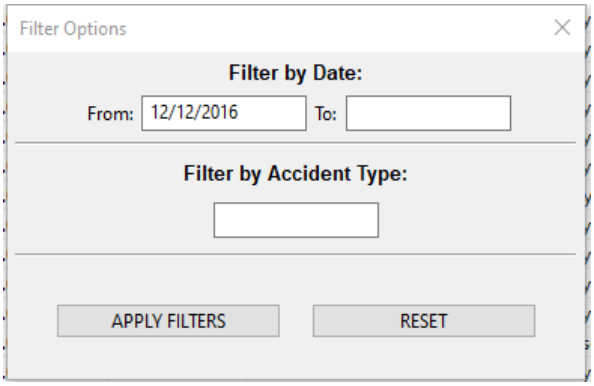
Selects all rows between 12/12/2013 and 12/12/2014 that have 'collision' in their accident type value.



Selects all rows up to 12/12/2016 that have 'collision' in their accident type value.

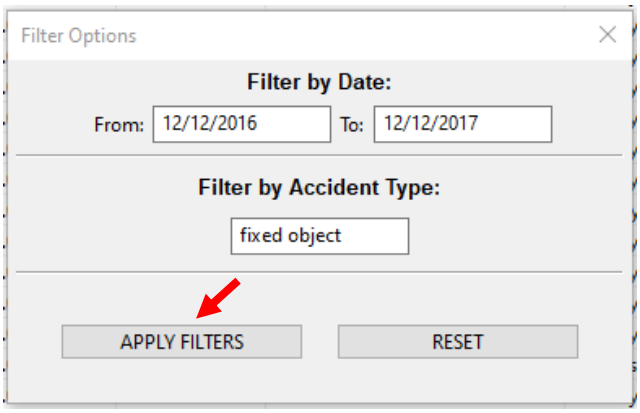


Selects all rows that have 'animal' in their accident type value.

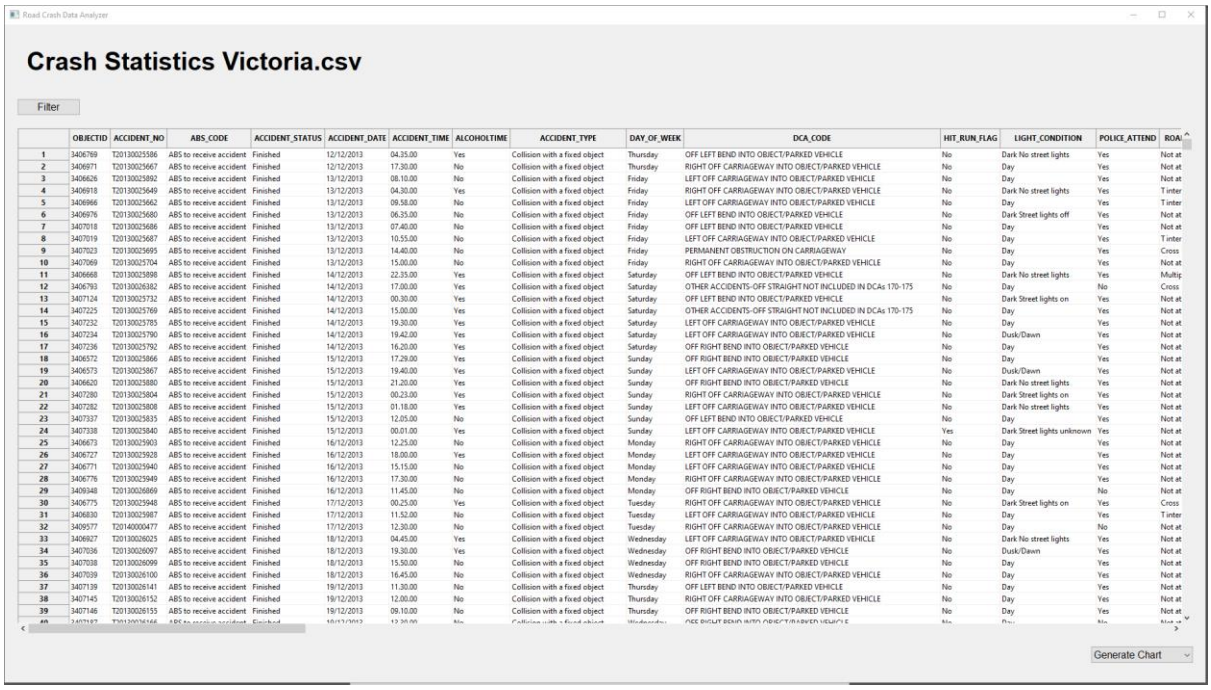


Selects all rows from 12/12/2016 onwards

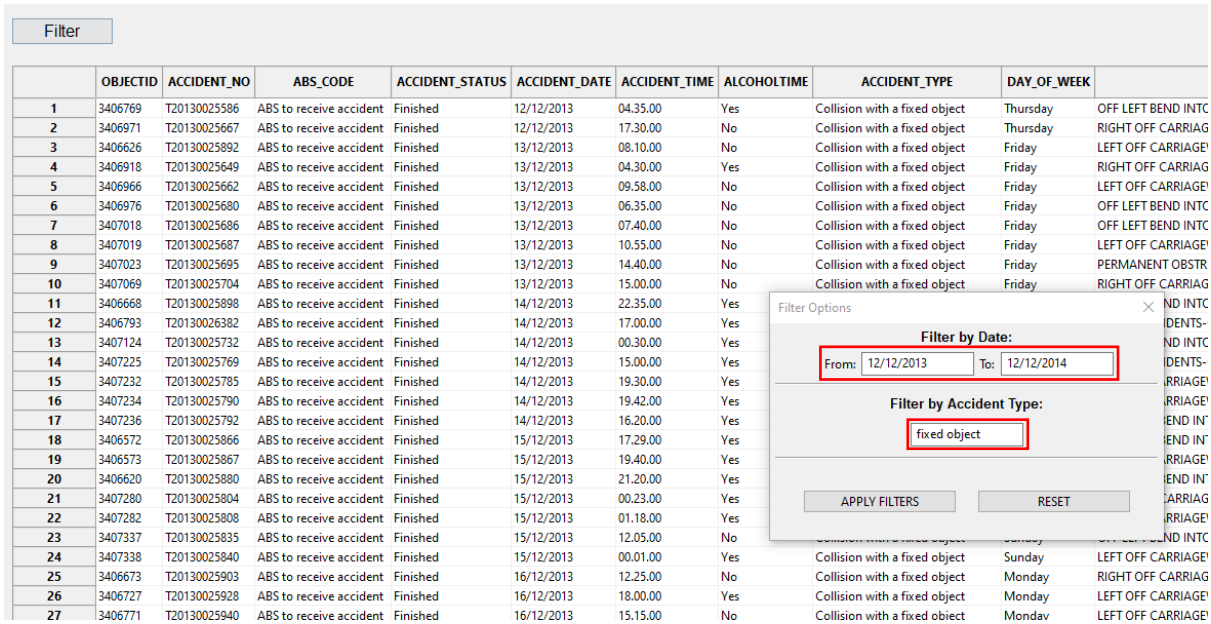
Clicking on the 'Apply Filters' button will apply all of the specified filters to the data table. Clicking on the 'Reset' button will clear the values in the filter text fields – if filters have already been applied to the table, then the 'Reset' button will also reset the table back to its original, unfiltered form (erasing the text fields yourself and clicking 'Apply Filters' also does this).



After applying the filters, you may close the Filter Options window. The table in the main screen will now show only the rows selected by the filter options.



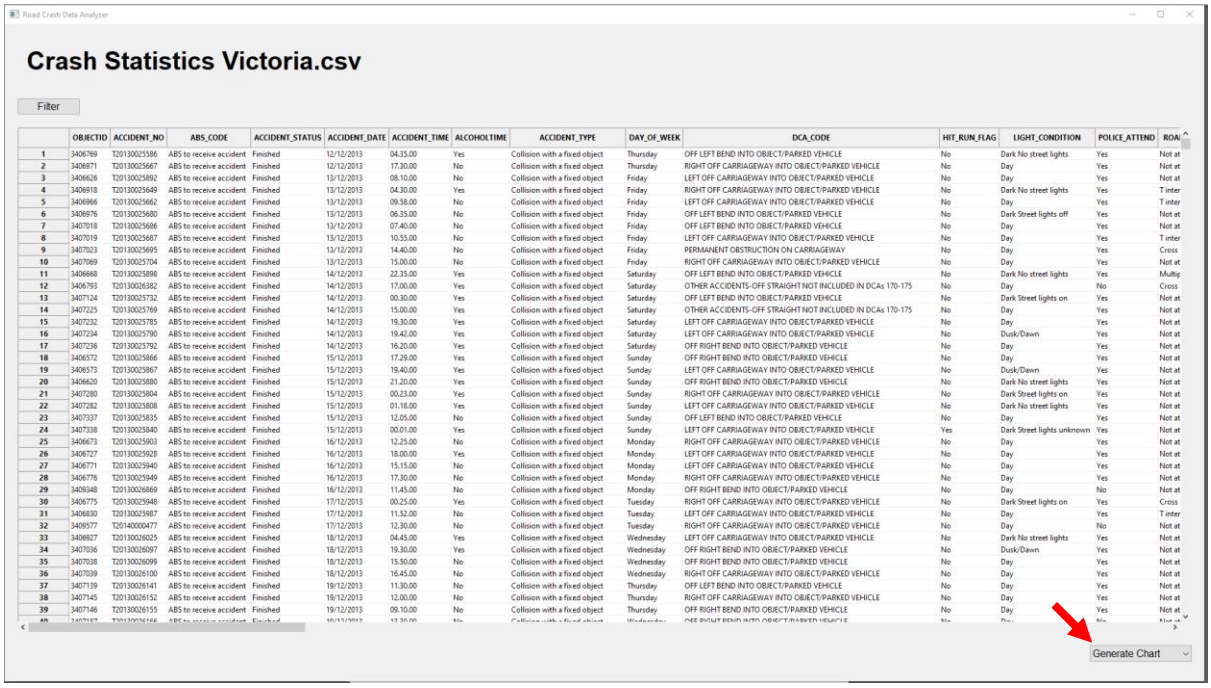
Note: The Filter Options window preserves the filter values that were applied to the table. As shown below, clicking on the 'Filter' button again will, as expected, open the Filter Options window – this time, however, the text fields are pre-filled with the values last used to filter the table. This allows the user to see which filters are currently applied.



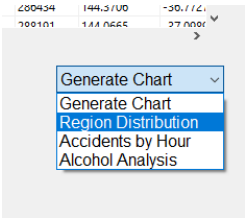
	OBJECTID	ACCIDENT_NO	ABS_CODE	ACCIDENT_STATUS	ACCIDENT_DATE	ACCIDENT_TIME	ALCOHOLTIME	ACCIDENT_TYPE	DAY_OF_WEEK	
1	3406769	T20130025586	ABS to receive accident	Finished	12/12/2013	04.35.00	Yes	Collision with a fixed object	Thursday	OFF LEFT BEND INTO
2	3406971	T20130025667	ABS to receive accident	Finished	12/12/2013	17.30.00	No	Collision with a fixed object	Thursday	RIGHT OFF CARRIAG
3	3406626	T20130025892	ABS to receive accident	Finished	13/12/2013	08.10.00	No	Collision with a fixed object	Friday	LEFT OFF CARRIAGE
4	3406918	T20130025649	ABS to receive accident	Finished	13/12/2013	04.30.00	Yes	Collision with a fixed object	Friday	RIGHT OFF CARRIAG
5	3406966	T20130025662	ABS to receive accident	Finished	13/12/2013	09.58.00	No	Collision with a fixed object	Friday	LEFT OFF CARRIAGE
6	3406976	T20130025680	ABS to receive accident	Finished	13/12/2013	06.35.00	No	Collision with a fixed object	Friday	OFF LEFT BEND INTO
7	3407018	T20130025686	ABS to receive accident	Finished	13/12/2013	07.40.00	No	Collision with a fixed object	Friday	OFF LEFT BEND INTO
8	3407019	T20130025687	ABS to receive accident	Finished	13/12/2013	10.55.00	No	Collision with a fixed object	Friday	LEFT OFF CARRIAGE
9	3407023	T20130025695	ABS to receive accident	Finished	13/12/2013	14.40.00	No	Collision with a fixed object	Friday	PERMANENT OBSTR
10	3407069	T20130025704	ABS to receive accident	Finished	13/12/2013	15.00.00	No	Collision with a fixed object	Friday	RIGHT OFF CARRIAG
11	3406668	T20130025898	ABS to receive accident	Finished	14/12/2013	22.35.00	Yes	Collision with a fixed object		ND INTO
12	3406793	T20130026382	ABS to receive accident	Finished	14/12/2013	17.00.00	Yes	Collision with a fixed object		IDENTS-
13	3407124	T20130025732	ABS to receive accident	Finished	14/12/2013	00.30.00	Yes	Collision with a fixed object		ND INTO
14	3407225	T20130025769	ABS to receive accident	Finished	14/12/2013	15.00.00	Yes	Collision with a fixed object		IDENTS-
15	3407232	T20130025785	ABS to receive accident	Finished	14/12/2013	19.30.00	Yes	Collision with a fixed object		RRIAGE
16	3407234	T20130025790	ABS to receive accident	Finished	14/12/2013	19.42.00	Yes	Collision with a fixed object		RRIAGE
17	3407236	T20130025792	ABS to receive accident	Finished	14/12/2013	16.20.00	Yes	Collision with a fixed object		END INT
18	3406572	T20130025866	ABS to receive accident	Finished	15/12/2013	17.29.00	Yes	Collision with a fixed object		END INT
19	3406573	T20130025867	ABS to receive accident	Finished	15/12/2013	19.40.00	Yes	Collision with a fixed object		RRIAGE
20	3406620	T20130025880	ABS to receive accident	Finished	15/12/2013	21.20.00	Yes	Collision with a fixed object		END INT
21	3407280	T20130025804	ABS to receive accident	Finished	15/12/2013	00.23.00	Yes	Collision with a fixed object		CARRIAG
22	3407282	T20130025808	ABS to receive accident	Finished	15/12/2013	01.18.00	Yes	Collision with a fixed object		RRIAGE
23	3407337	T20130025835	ABS to receive accident	Finished	15/12/2013	12.05.00	No	Collision with a fixed object		ND INTO
24	3407338	T20130025840	ABS to receive accident	Finished	15/12/2013	00.01.00	Yes	Collision with a fixed object	Sunday	LEFT OFF CARRIAGE
25	3406673	T20130025903	ABS to receive accident	Finished	16/12/2013	12.25.00	No	Collision with a fixed object	Monday	RIGHT OFF CARRIAG
26	3406727	T20130025928	ABS to receive accident	Finished	16/12/2013	18.00.00	Yes	Collision with a fixed object	Monday	LEFT OFF CARRIAGE
27	3406771	T20130025940	ABS to receive accident	Finished	16/12/2013	15.15.00	No	Collision with a fixed object	Monday	LEFT OFF CARRIAGE

4. Chart Generation

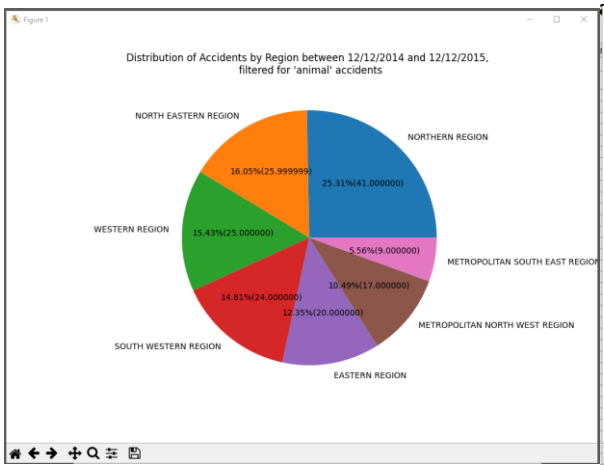
Clicking on the 'Generate Chart' button in the bottom-right corner of the screen will expand a combo box listing the chart generation options.

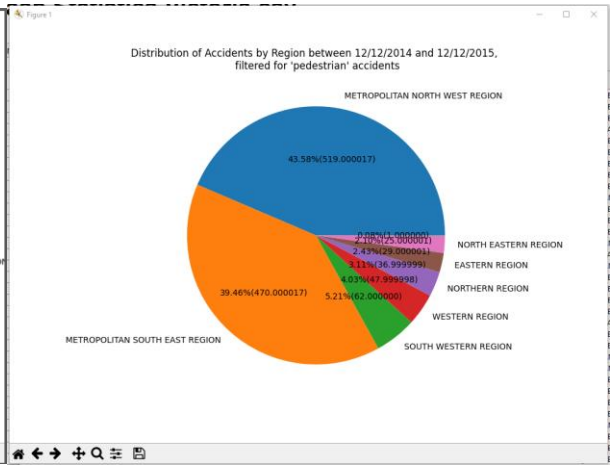


Clicking on one of the options will promptly open a separate window displaying the graph.



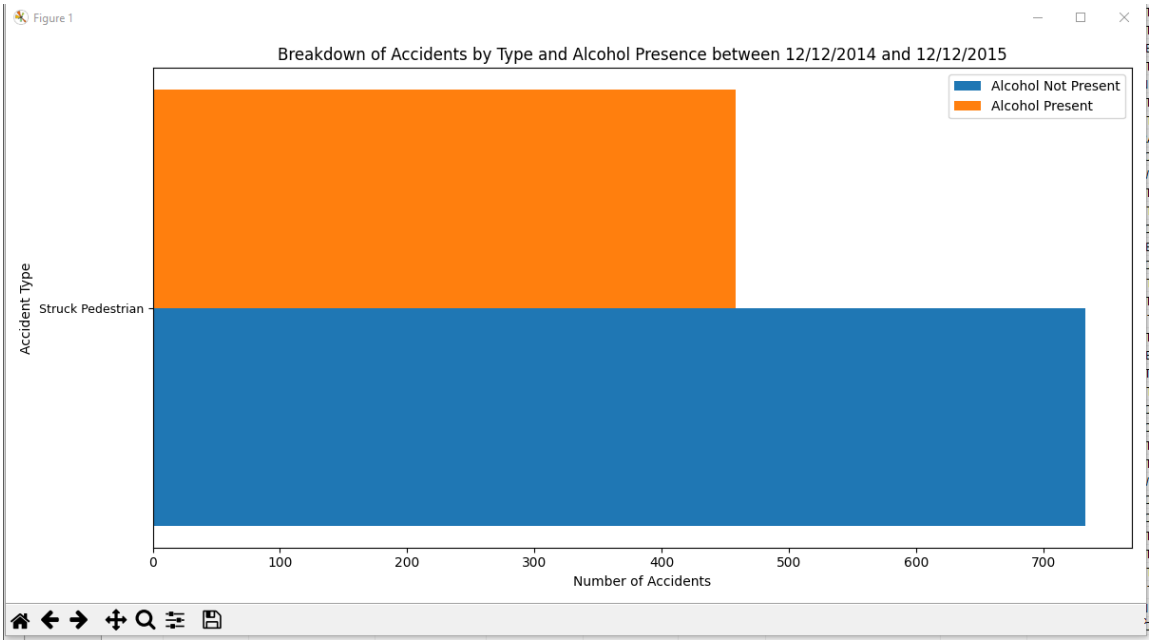
It is important to remember that the charts are generated from the data table's current form, i.e., if the data is filtered, then the chart will be generated based on that filtered data. The filters are mentioned automatically in the title of the graph to reflect this fact.





The two graphs shown above were generated separately with different filters, allowing insight into correlations between region and accident type that would otherwise not be possible.

Furthermore, because of this behaviour, generating an Alcohol Analysis chart that is filtered for a specific accident type will result in a bar chart showing values for just that one accident type, as shown below where the data being plotted was already filtered for ‘struck pedestrian’ accidents.



If this is not desired, then it is best to generate an Alcohol Analysis chart without filtering for a specific accident type.