LAB 1: CONNECTING TO AN ONLINE DATA SOURCE

BY

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EXCELTV

LAB: CONNECTING TO AN ONLINE DATA SOURCE

MODULE OUTCOMES

- Connecting to a remote data service
- Using Power Query to transform the data
- Using Power BI Visualization to quickly create an interactive visualization

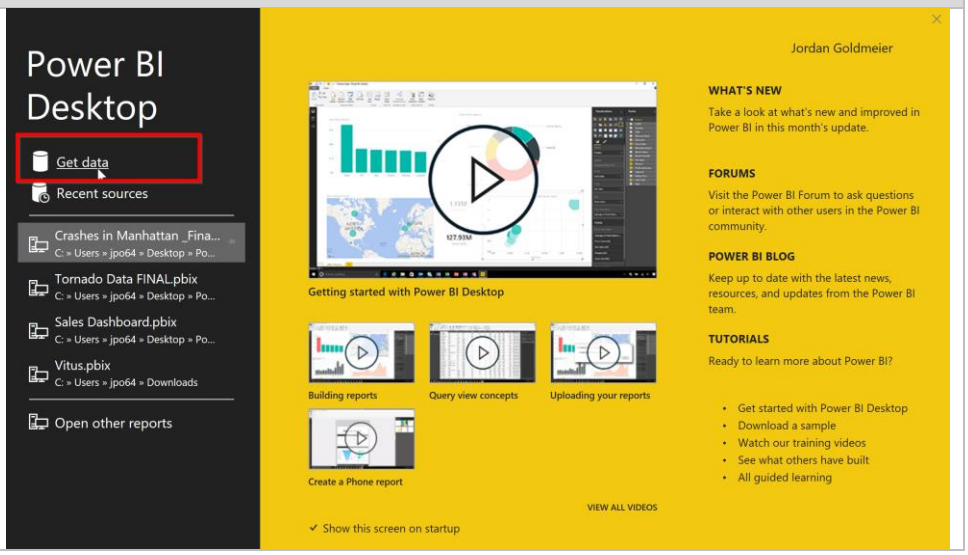
DESCRIPTION

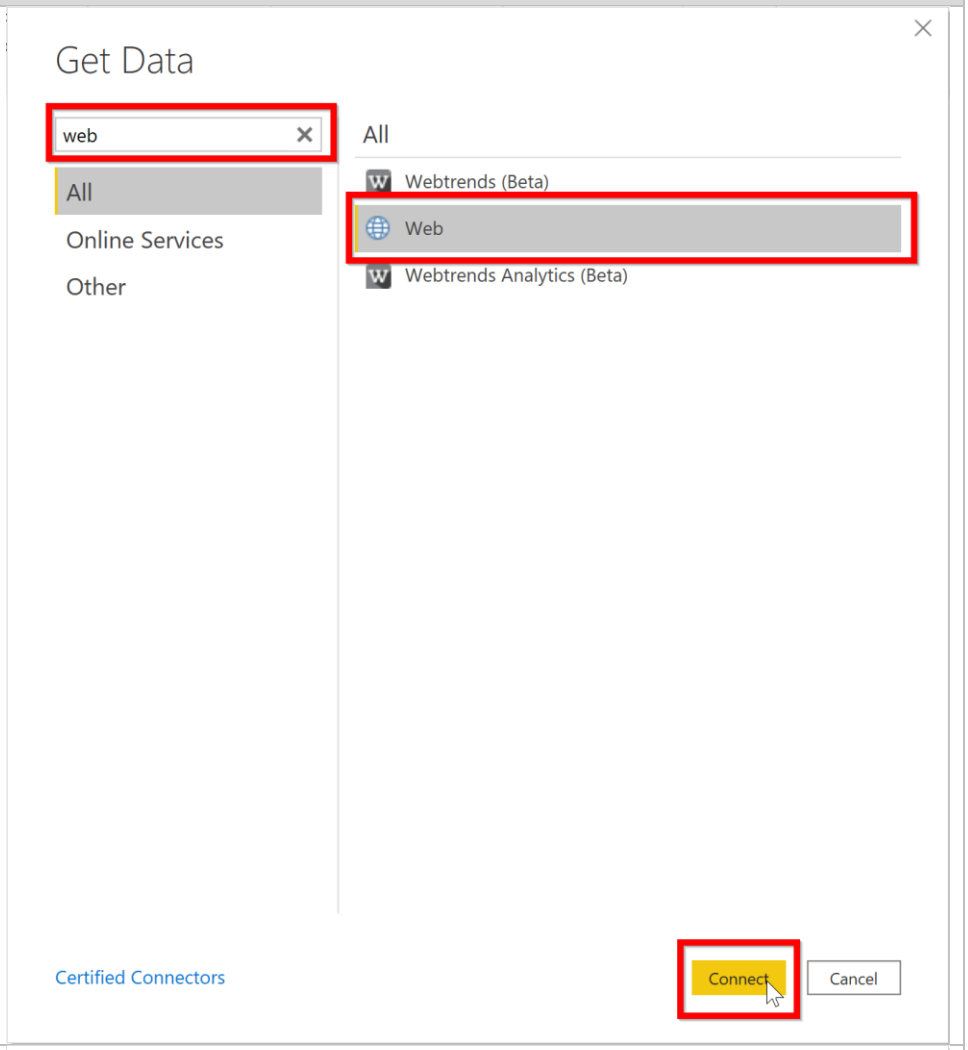
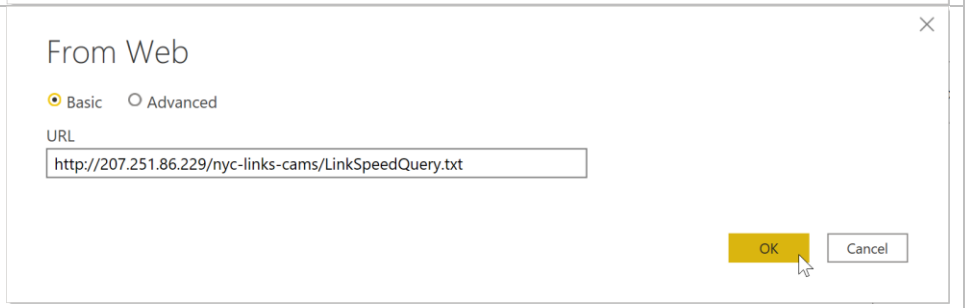
This lab is split into three parts:

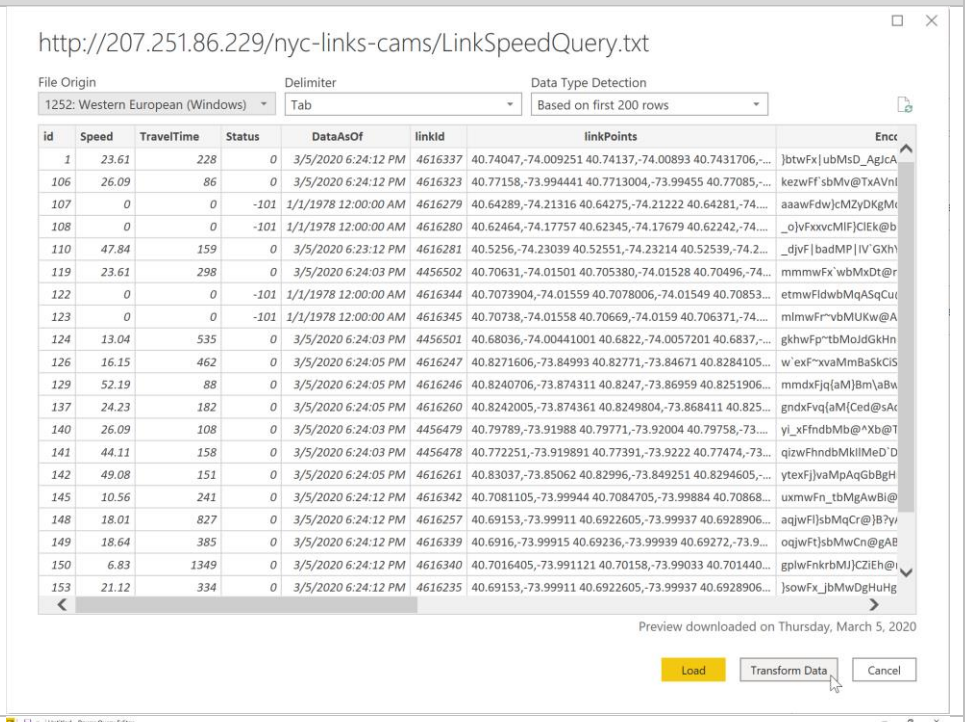
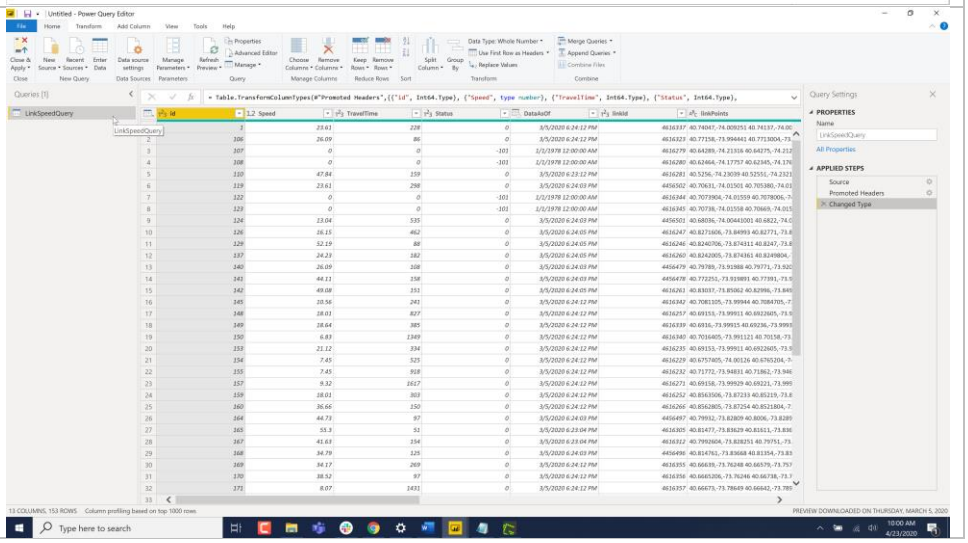
- Part 1: Connecting to the data source
- Part 2: Wrangling with Power Query
- Part 3: Creating the report

Links:
https://data.cityofnewyork.us/ - http://207.251.86.229/nyc-links-cams/LinkSpeedQuery.txt

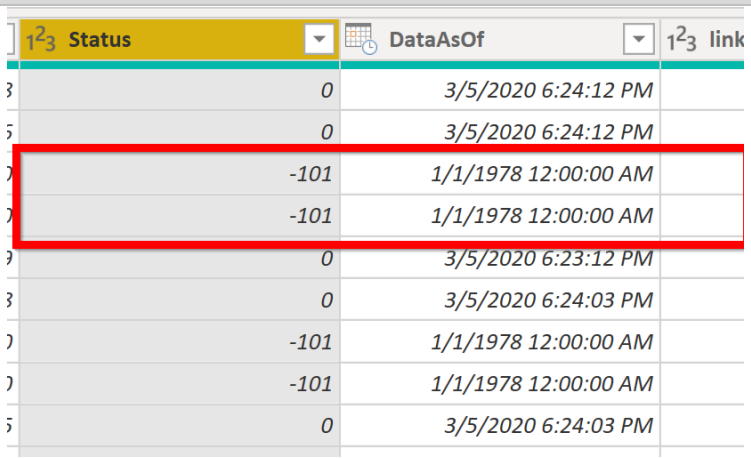
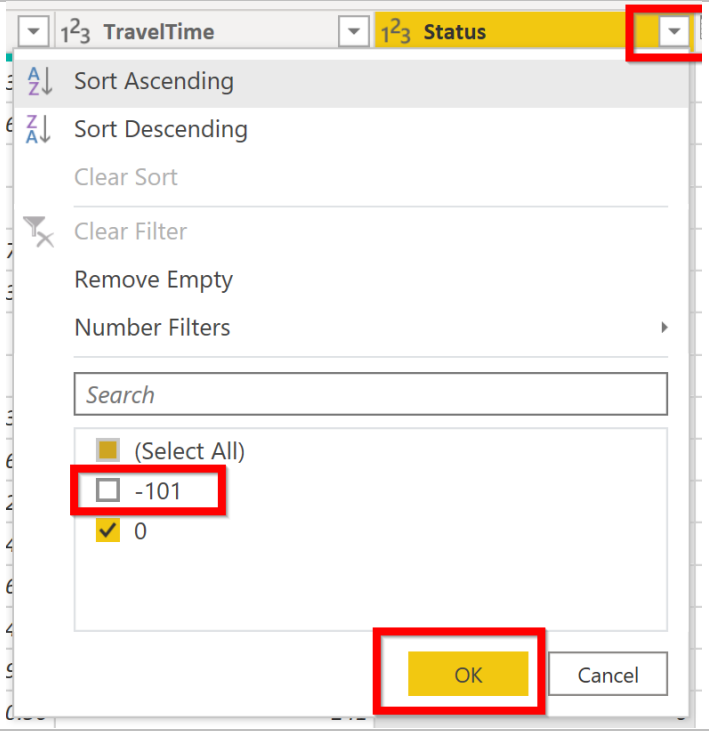
PART 1: CONNECTING TO THE DATA SOURCE

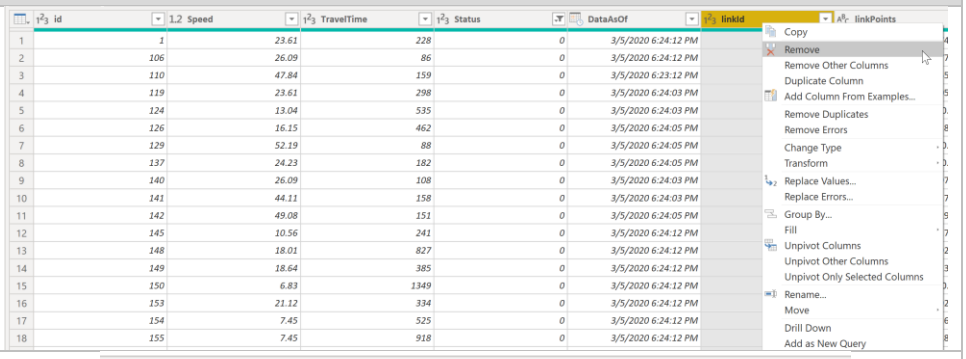
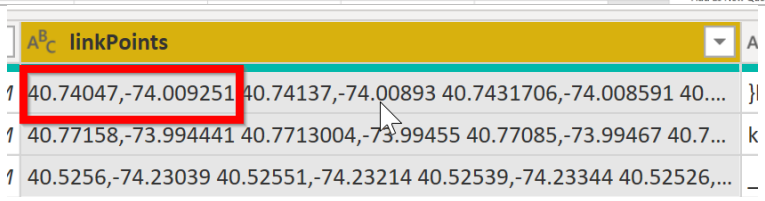
Click Steps	Screen Shots
1. Open Power BI 2. Select Get data on the left side of the screen	

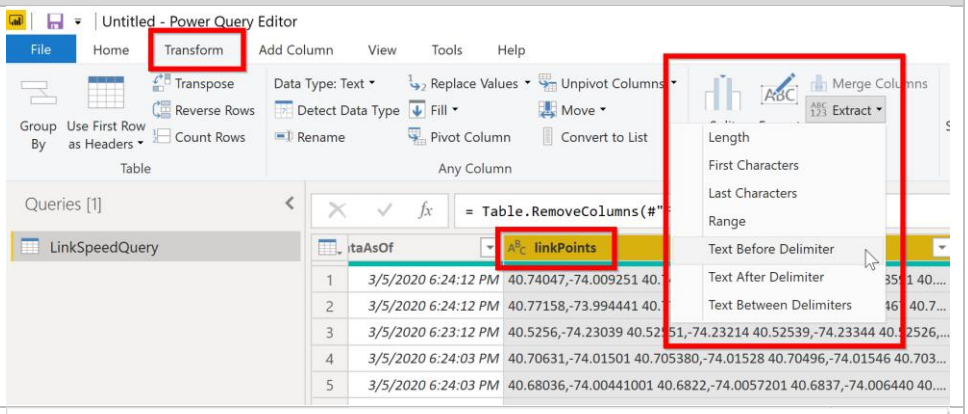
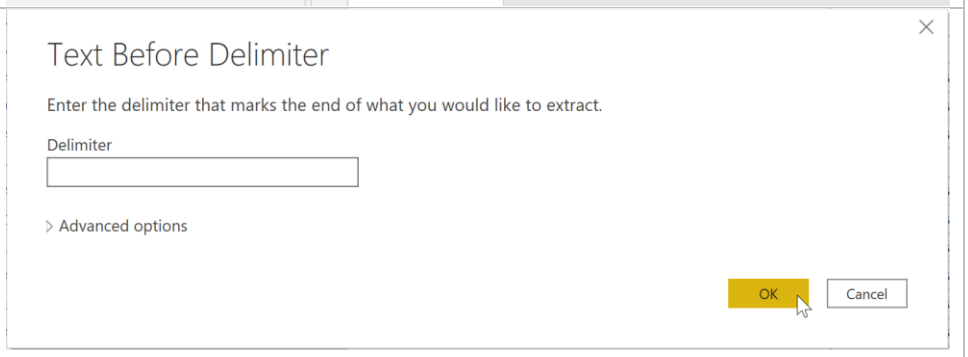
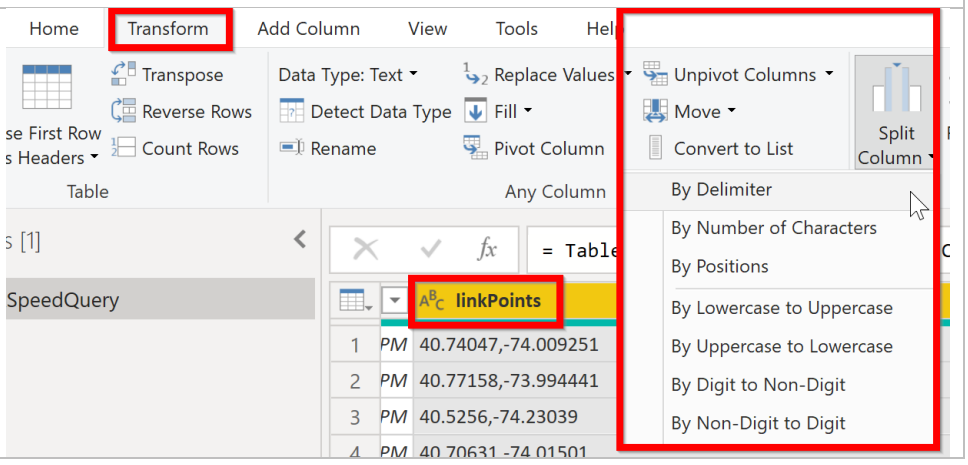
Click Steps	Screen Shots
3. Type “web” in the Get Data search box to search of the Web Connector 4. Click on the Web connector on the right side of the screen when it pops up. 5. Press Connect once selected.	
6. We are going to connect to the NYC speed camera database. Use the following connection link: http://207.251.86.229/nyc-links-cams/LinkSpeedQuery.txt 7. Click OK	

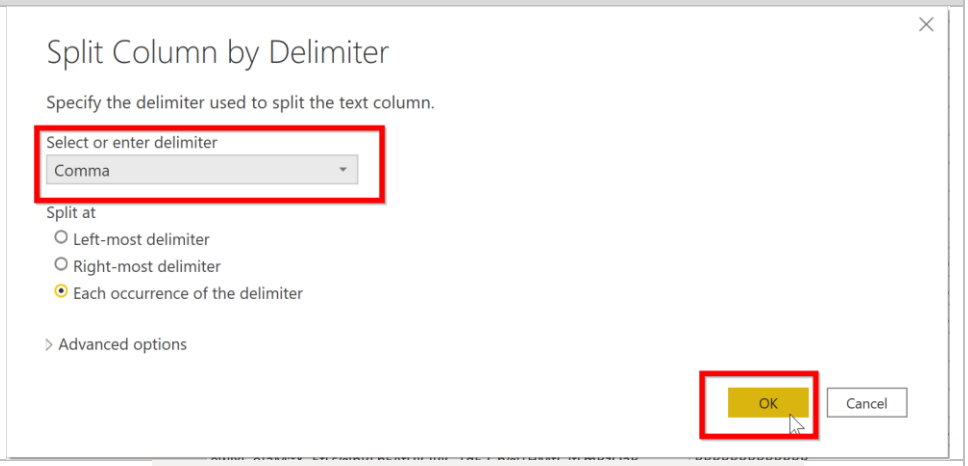
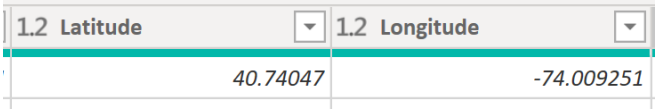
Click Steps	Screen Shots
8. Once the data is loaded, click Transform Data. Note: this is real-time data, so your results might differ.	
9. Your data should now be loaded into Power Query. Your screen will look similar to the one to the right.	

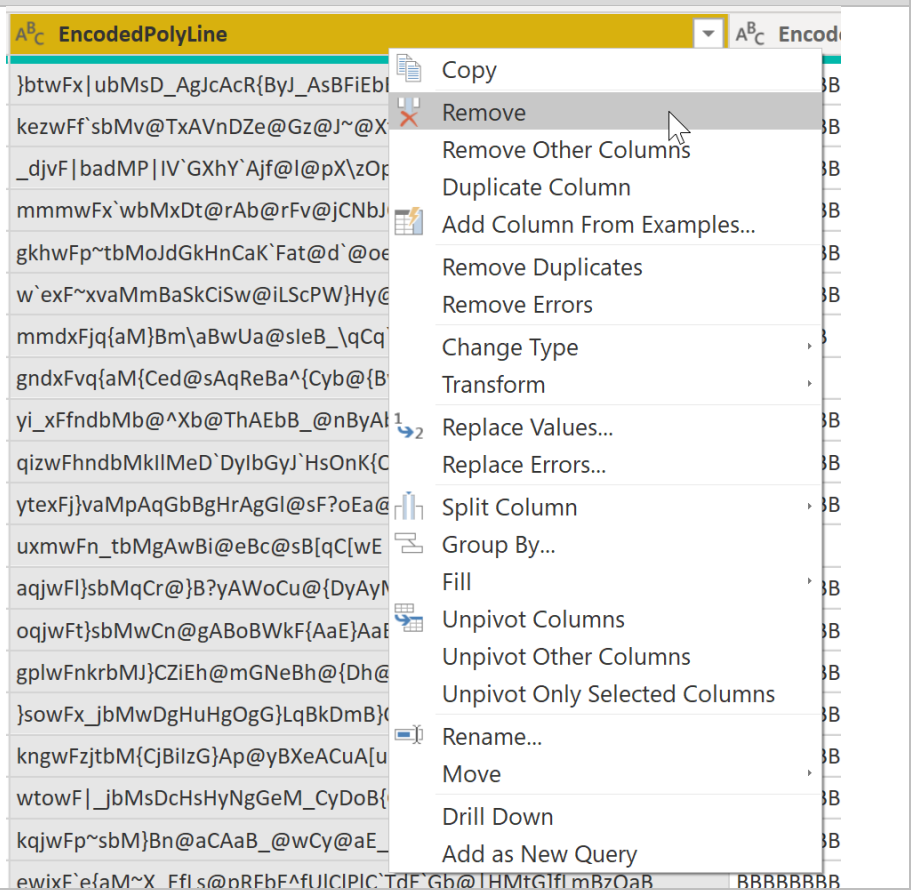
PART 2: WRANGLING WITH POWER QUERY

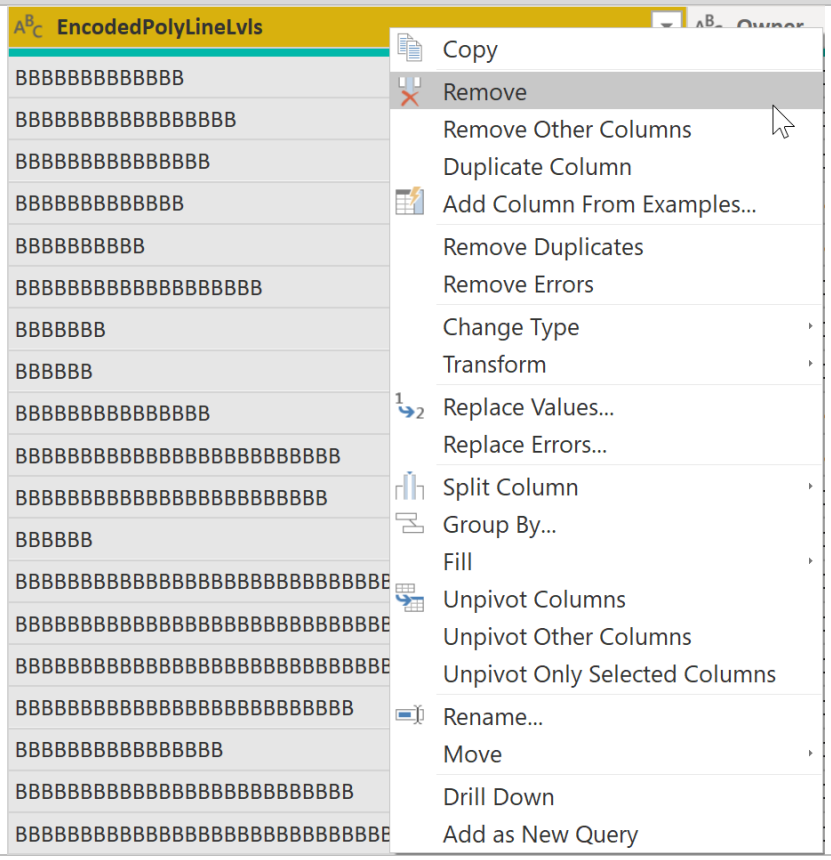
Click Steps	Screen Shots
10. We'll start by using Power Query to clean up the dataset before we do analysis on it. 11. Notice that Status contains some nonsense data.	
12. Let's filter out the negatives to removed the dirty data. Click on the dropdown to the right of status. 13. Deselect anything that isn't a 0. 14. Click OK.	

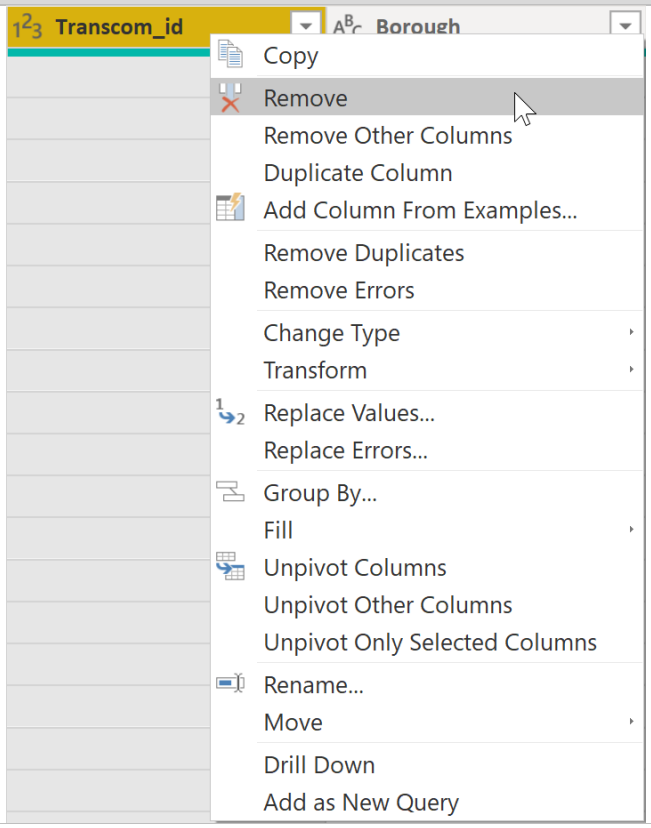
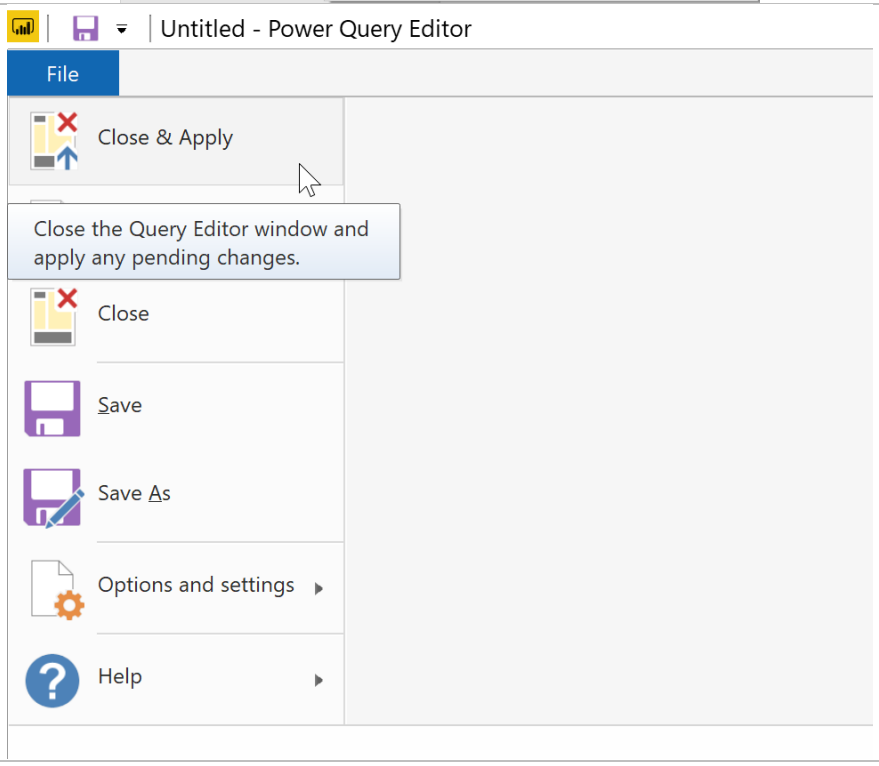
Click Steps	Screen Shots
15. Let's remove the LinkID column. Right click on the LinkID column header. 16. Click Remove.	
17. Now we need to create longitude and latitude columns. The linkPoints columns contains multiple longitude and latitude points. This reflects the entire physical footprint (point by point) of the camera sensor but we don't really need all of that information. We're only interested in the first two points in the red highlight. Notice that each longitude and latitude point uses a comma to refer to one point. Multiple points are separated by a space. Again, we're only interested in the first set of pairwise points.	

Click Steps	Screen Shots
18. Let's extract only those points first. Click the linkPoints header field. 19. Click the Transform tab. 20. Click Extract. 21. Click Text Before Delimiter.	
22. Type in a space [hit the space bar key] in the delimiter textbox. You probably can't see it in the image, but there is a space in the textbox. 23. Click OK. Notice that the other geo points have been removed.	
24. Now we have to separate the latitude and longitude points. To make the separation, click the on the linkPoints column. 25. Click Transform 26. Click the Split Column button. 27. Click By Delimeter.	

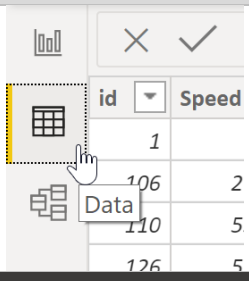
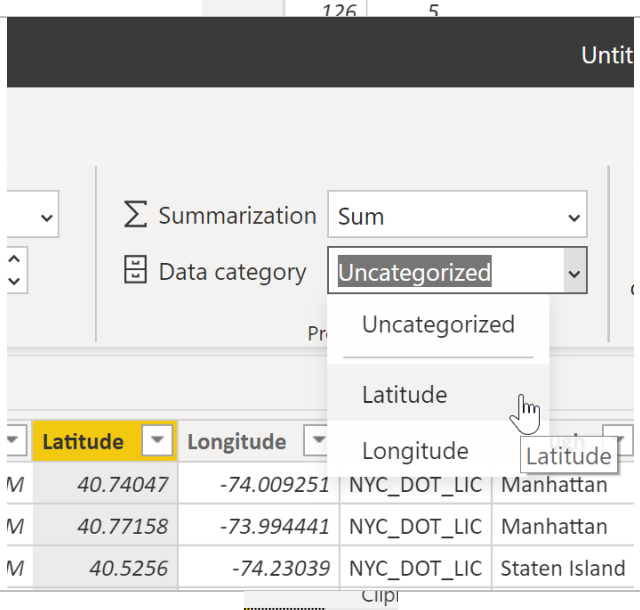
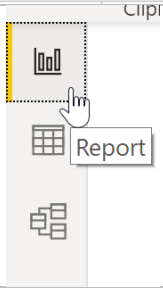
Click Steps	Screen Shots
28. From the dropdown select Comma. 29. Click OK.	
30. The new columns will be named LinkPoints.1 and LinkPoints.2. Rename them to latitude and longitude respectively.	

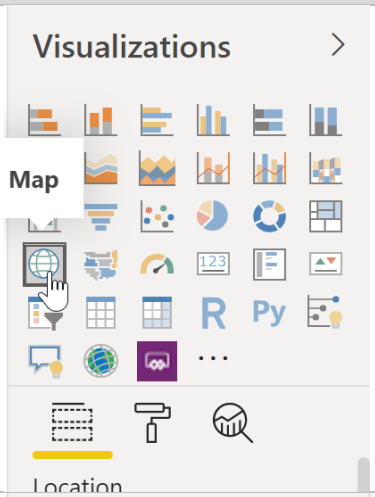
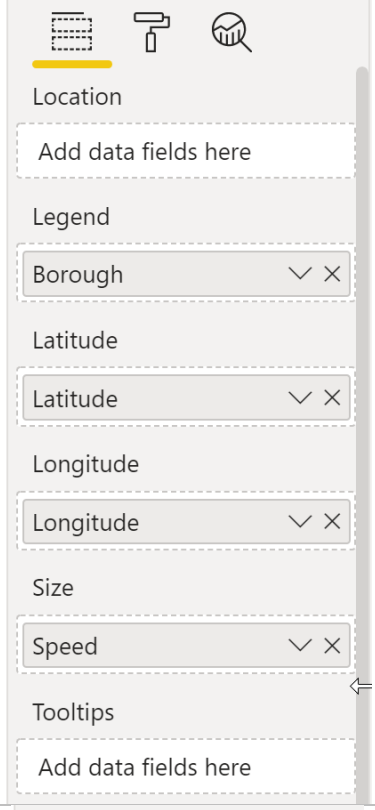
Click Steps	Screen Shots
31. Let's remove more columns we don't need. Right click on the EncodedPolyLine column header. Click Remove.	

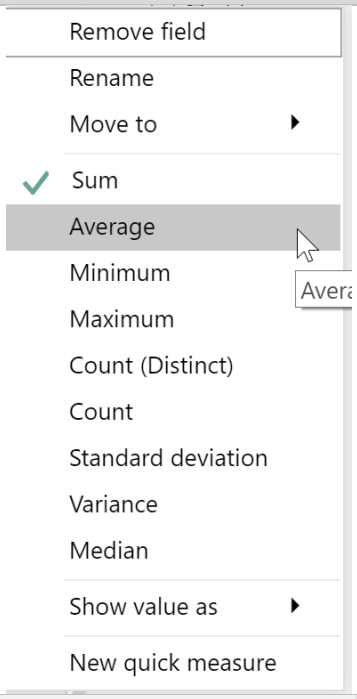
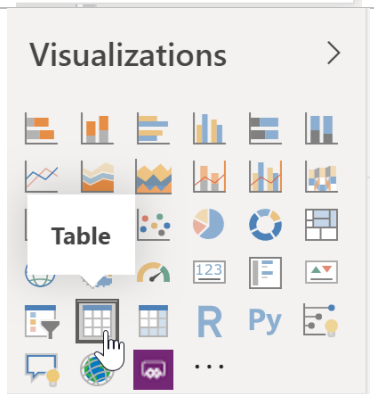
Click Steps	Screen Shots
32. Let's remove more columns we don't need. Right click on the EncodedPolyLineLvis column header. Click Remove.	

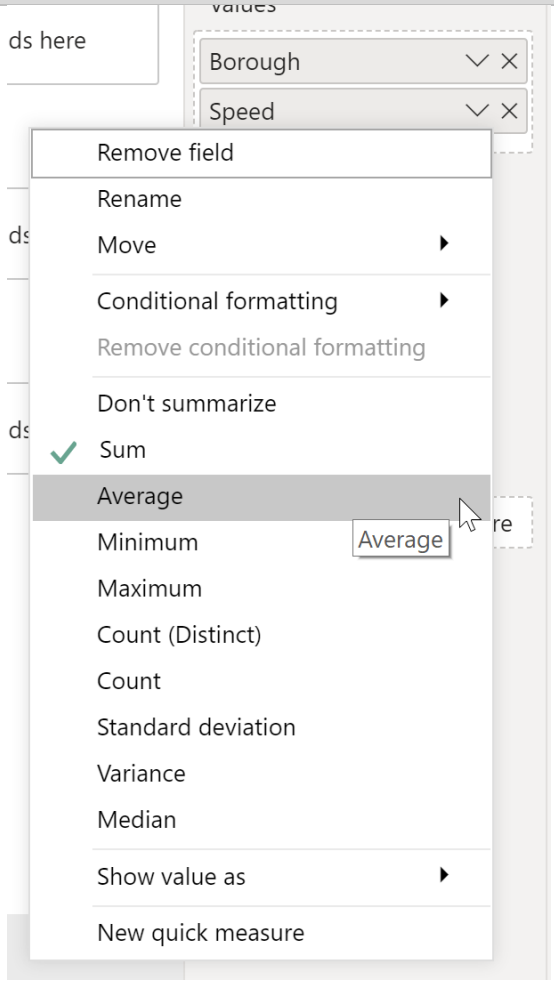
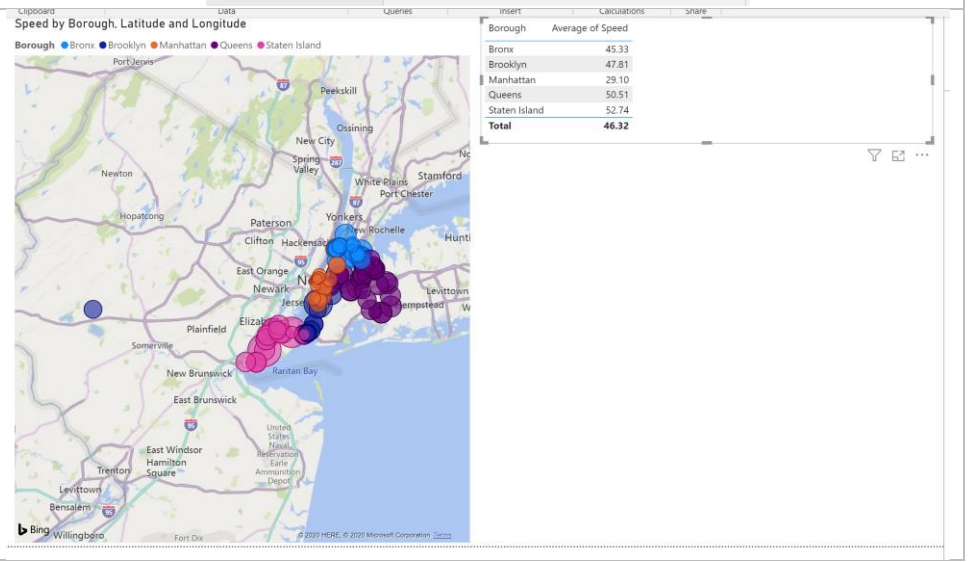
Click Steps	Screen Shots
33. Remove Transcom_id. We don't need it. Right click the column header. Select Remove.	
34. We're finished. Now Click Close & Apply.	

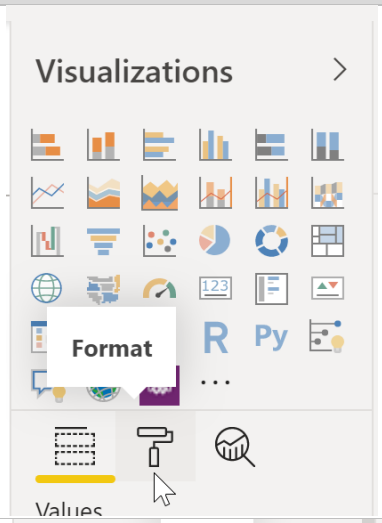
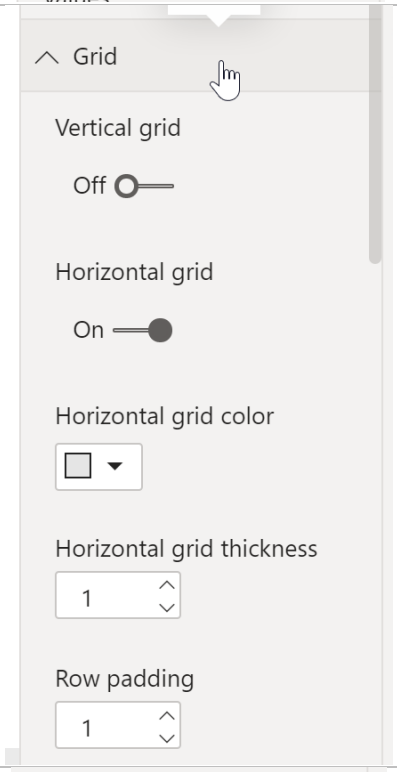
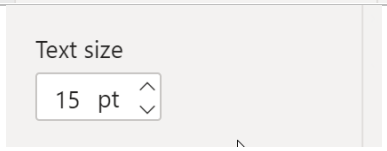
PART 3: CREATING THE REPORT

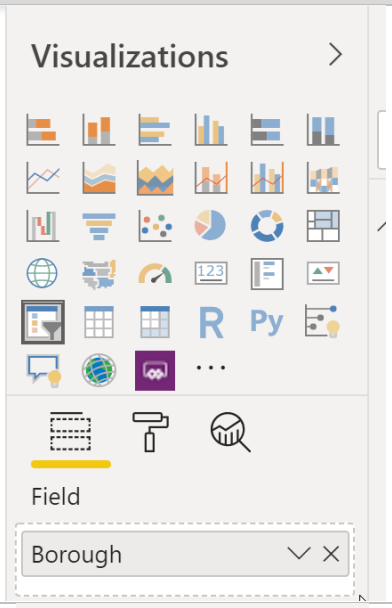
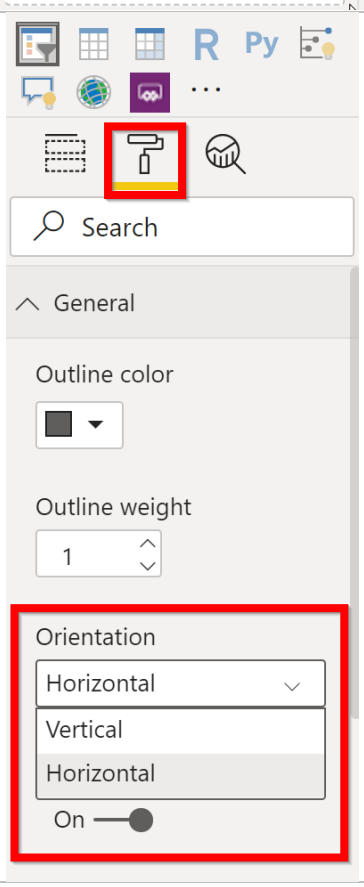
Click Steps	Screen Shots
1. When Power Query closes click on the Data icon to go to the data view.	
2. Select the latitude column header. Select the Data Category dropdown latitude. This will tell Power BI to treat it as a latitude data point. 3. Click on the Longitude header and do the same (but click the Longitude item).	
4. Click the Report icon to move to the Report view.	

Click Steps	Screen Shots
5. Click the Map button to insert a map in the upper left.	
6. Place the Latitude column in the Latitude field well. 7. Place the Longitude column in the Longitude field well. 8. Place the Borough column into the Legend field well. 9. Place the Speed column into the Size field well.	
10. Click the down arrow next to the Speed field in the Size field well.	

Click Steps	Screen Shots
11. Select Average.	
12. Now let's create a table to show the average speed. 13. Click the Table button to insert a new table.	
14. Add Borough and Speed to the Values field well.	

Click Steps	Screen Shots
15. Click on the down arrow next to speed and select Average.	
16. Resize the table so that it appears like the one in the picture.	

Click Steps	Screen Shots
Let's format the table. With the table selected, Click the Format paintbrush button.	
17. Click the Grid dropdown. And then scroll down.	
18. Change the Text size to 15pt. You might need to resize the final table to make it look how you'd like it.	

Click Steps	Screen Shots
19. Let's add a slicer. Click the Slicer icon. 20. Add Borough to the field well. This will add a slicer checklist. Let's turn it into a the chicklet type of slicer.	
21. With the slicer selected click the Format button 22. Press the General button to open the options. 23. From the Orientation dropdown select Horizontal.	

Click Steps	Screen Shots
24. If you did everything right, your report should look like the screenshot.