CCTV Dashboard

Mercano & Fulcher

Instructions:

Using other Data Analytics or Business Intelligence tool (e.g., Tableau or Tableau Public), conduct real-time data analytics on the "cctv_counts" table using the given API. Below is the guide for your analytics.

1. The first 2 pages should be visual analytics showing all data captured by each CCTV. Do some drill down and/or drill through reports on this page.

2. The other pages will be the details of each CCTV.

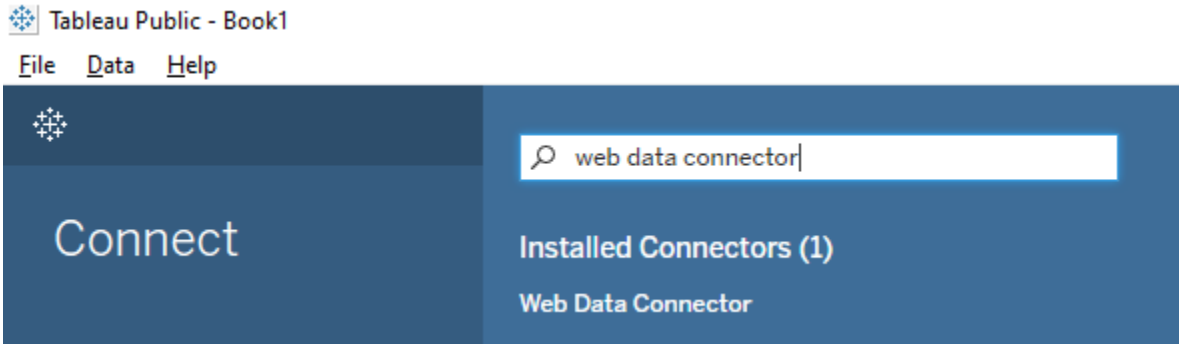
Based on the instructions, the group used Tableau Public as our alternative tool to conduct this project, the group took quite some time getting familiarized with the settings and options of Tableau but was able to adapt as the project developed. For the first requirement the group created two pages capable of visualizing the data of each CCTV, drill down and drill through reports were used on these pages. Additionally, each individual graph or chart shown in a page must be made separately on a different worksheet, and said worksheets are then compiled on the various pages.

STEP BY STEP PROCEDURE IN CREATING THE PROJECT

1. Data Acquisitions and data loading in Tableu

For this activity, we were given an API for the dataset that we were going to use for the project. To connect it into tablue, searched for a web connector and found the proper procedure in connecting the API into tablue.

First, we navigate through the server selection window of the tablue and searched for web connector.

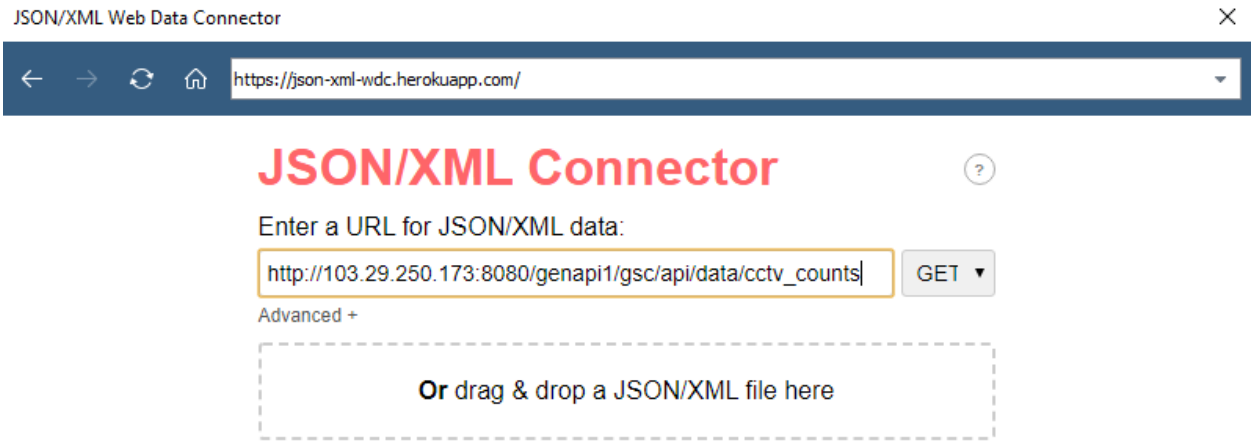


Then we pasted the web connector we found in one of tablue forum inside the web data connector window

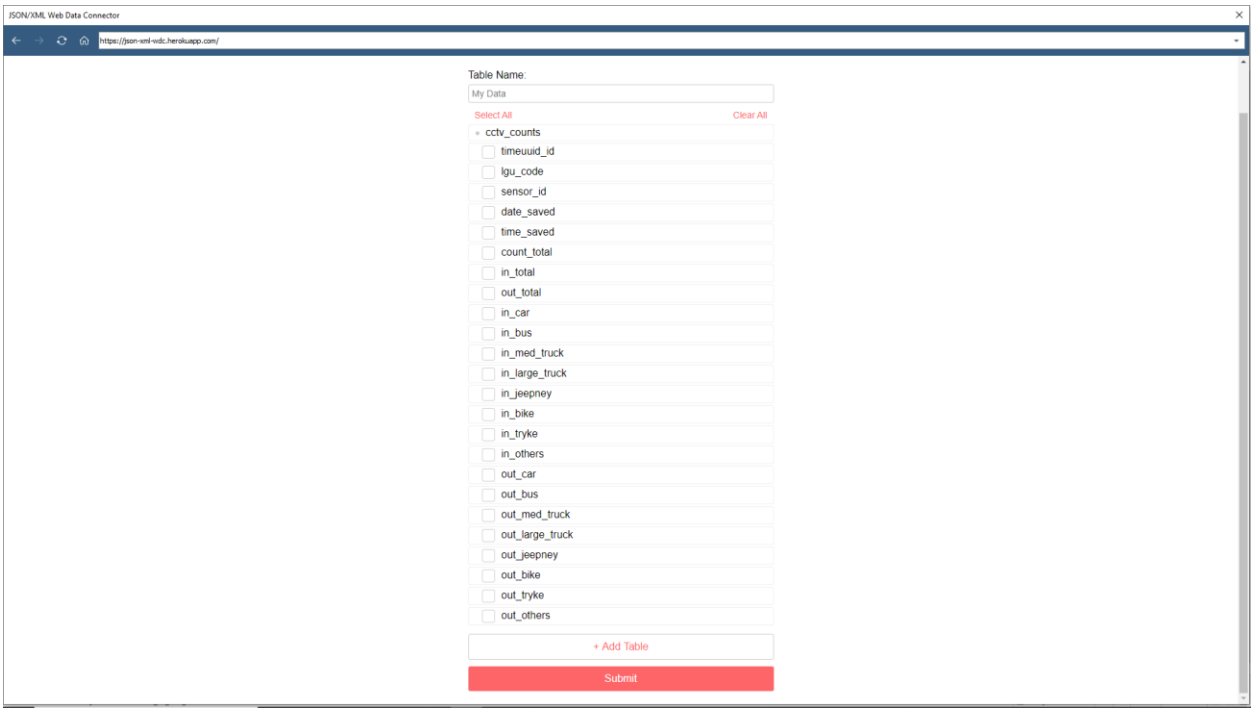
CCTV Dashboard

Mercano & Fulcher

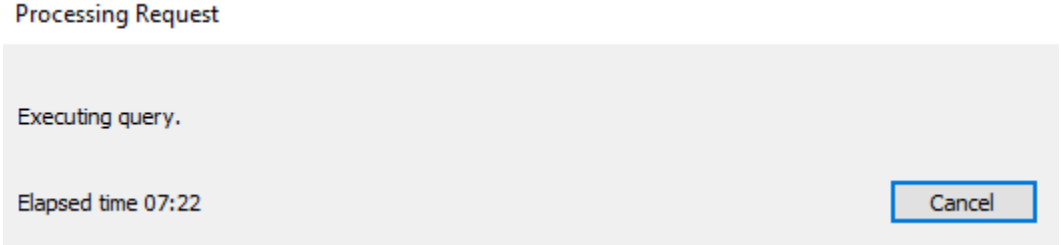
Here, we pasted the API given for this project inside the web connector



After loading, you will then be prompt to select the schema level



The tablue will now load the data and will took time before it apears



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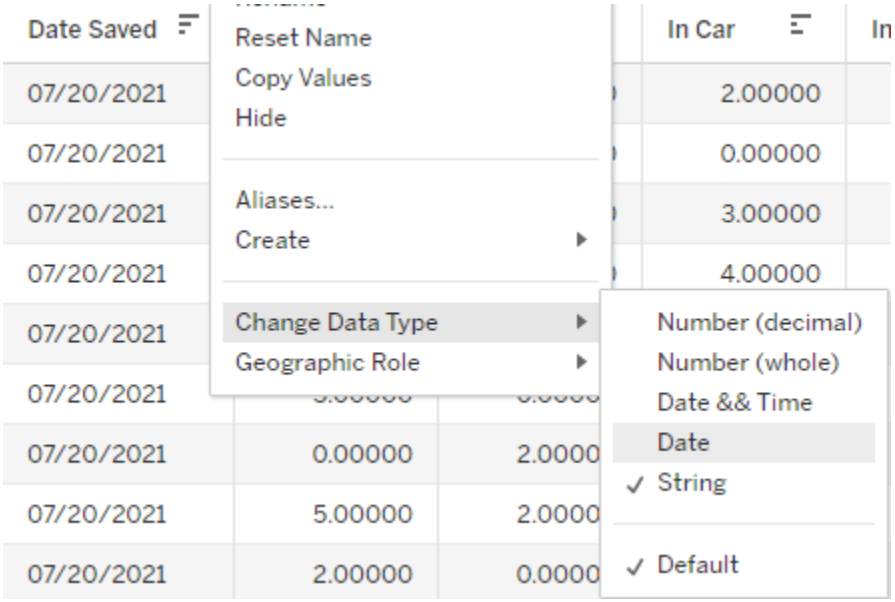
After loading, you can now view the data in tablue

Document Index (gener...	cctv counts Index (gene...	Count Total	Date Saved	In Bike	In Bus	In Car	In Jeepney
1	7	23.0000	07/20/2021	0.00000	1.00000	2.00000	1.00000
1	8	21.0000	07/20/2021	3.00000	0.00000	0.00000	0.00000
1	9	26.0000	07/20/2021	3.00000	0.00000	3.00000	1.00000
1	10	28.0000	07/20/2021	2.00000	1.00000	4.00000	1.00000
1	11	18.0000	07/20/2021	0.00000	1.00000	0.00000	1.00000
1	12	19.0000	07/20/2021	3.00000	0.00000	1.00000	0.00000
1	13	13.0000	07/20/2021	0.00000	2.00000	0.00000	1.00000
1	14	27.0000	07/20/2021	5.00000	2.00000	3.00000	1.00000
1	15	20.0000	07/20/2021	2.00000	0.00000	3.00000	1.00000
1	16	20.0000	07/20/2021	1.00000	1.00000	4.00000	1.00000
1	17	25.0000	07/20/2021	5.00000	2.00000	2.00000	0.00000

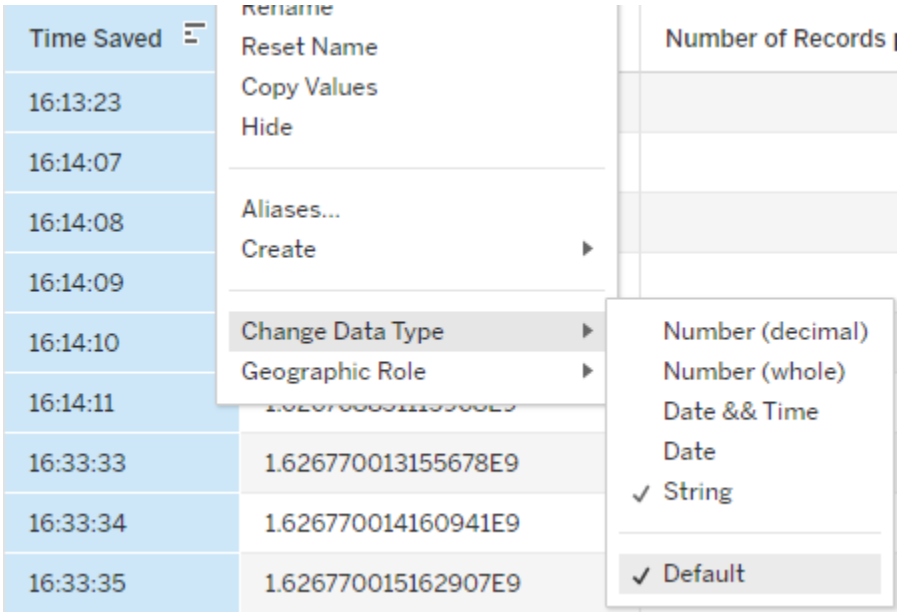
2. Data Cleaning

For data cleaning part, the data we acquired from the given API does not really require complicated data cleaning procedures. There are only two noticeable things, first is that the date and time is save as a string data type. This can be easily done by simply changing the data type in the format settings of the column.



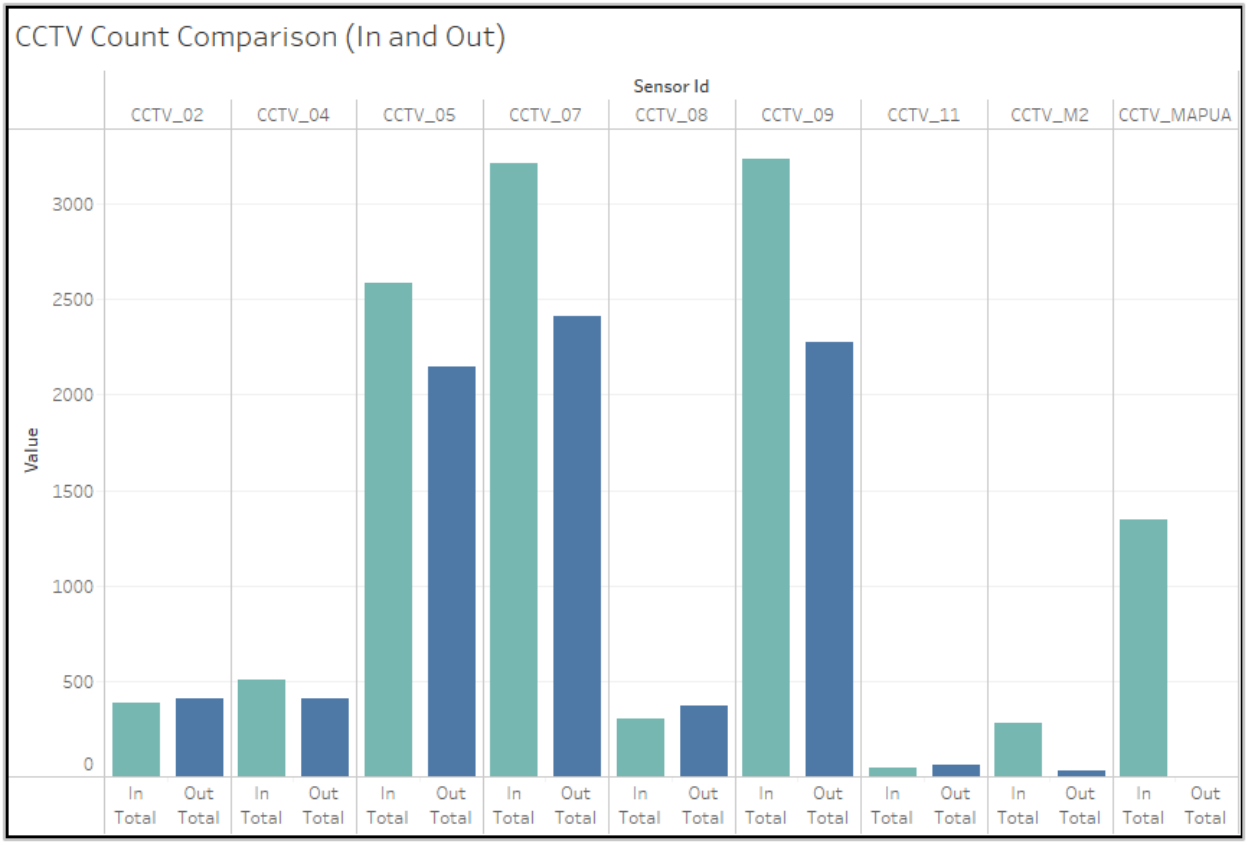
CCTV Dashboard

Mercano & Fulcher



Page 1:

The group first made a worksheet to compare the number of vehicles going in and out from each CCTVs. The columns of the graph consisted of the Sensor ID (The names of each CCTV) and the Measure Names (Vehicles going in and out), whilst the rows only contain the Measure Values (The amount of the vehicles going in and out).



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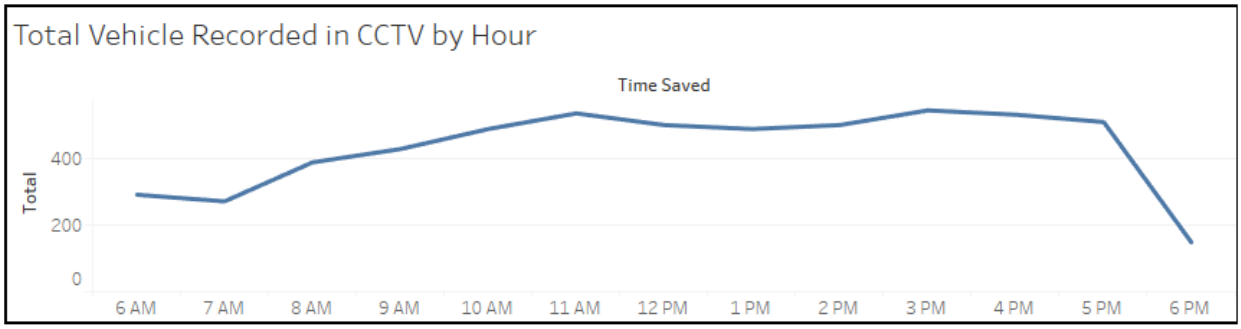
The next worksheet displays the amount of vehicles being counted by the hour. This graph updates depending on what date the user selects.



The next worksheet works in tandem with the most of graphs for page 1, the Dates Saved worksheet provides the user the list of possible dates to choose from and updates the previous graphs with the data from each day.

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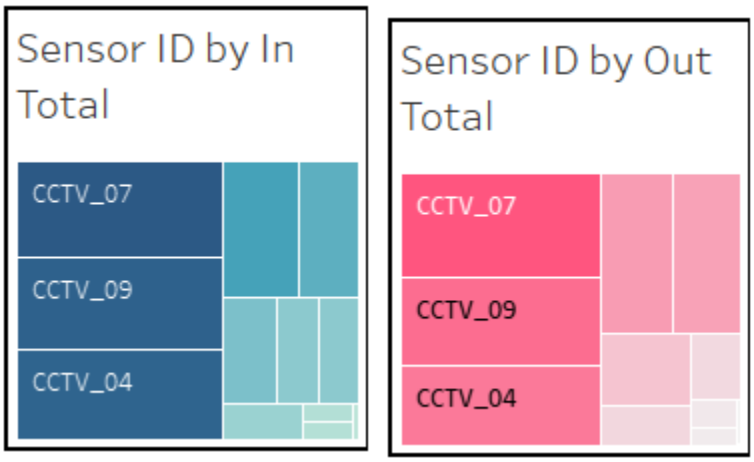
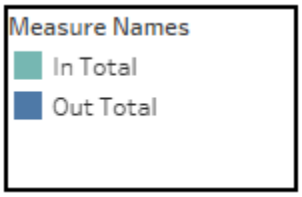
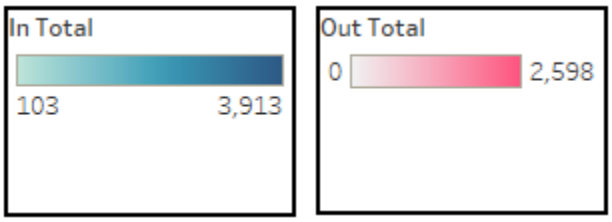
The next two worksheets function similarly to each other but displays different values. These worksheet displays the list of all the CCTVs saved, the varying sizes displays the amount of vehicles that are counted, the bigger the square the larger the amount counted, and vice versa. These worksheets are also used to drill through the second page by selecting which CCTV the user wants to see further details on.



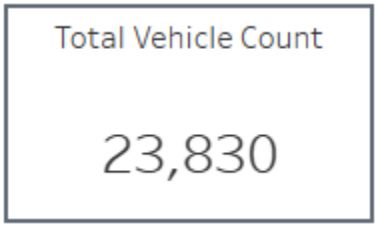
The next worksheets are labels that provide additional information and to easily understand the data from the graphs. The Measure Names worksheet serves as a legend for the CCTV Count Comparison graph.

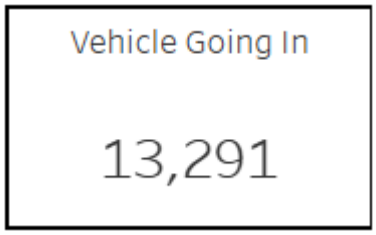


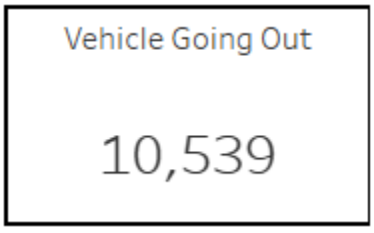
The In Total and Out Total worksheets contains a bar that displays the lowest to highest amount of vehicle counted by each CCTV on the selected date.



The next three worksheets display the sum of vehicles going in, going out, and for both combined.



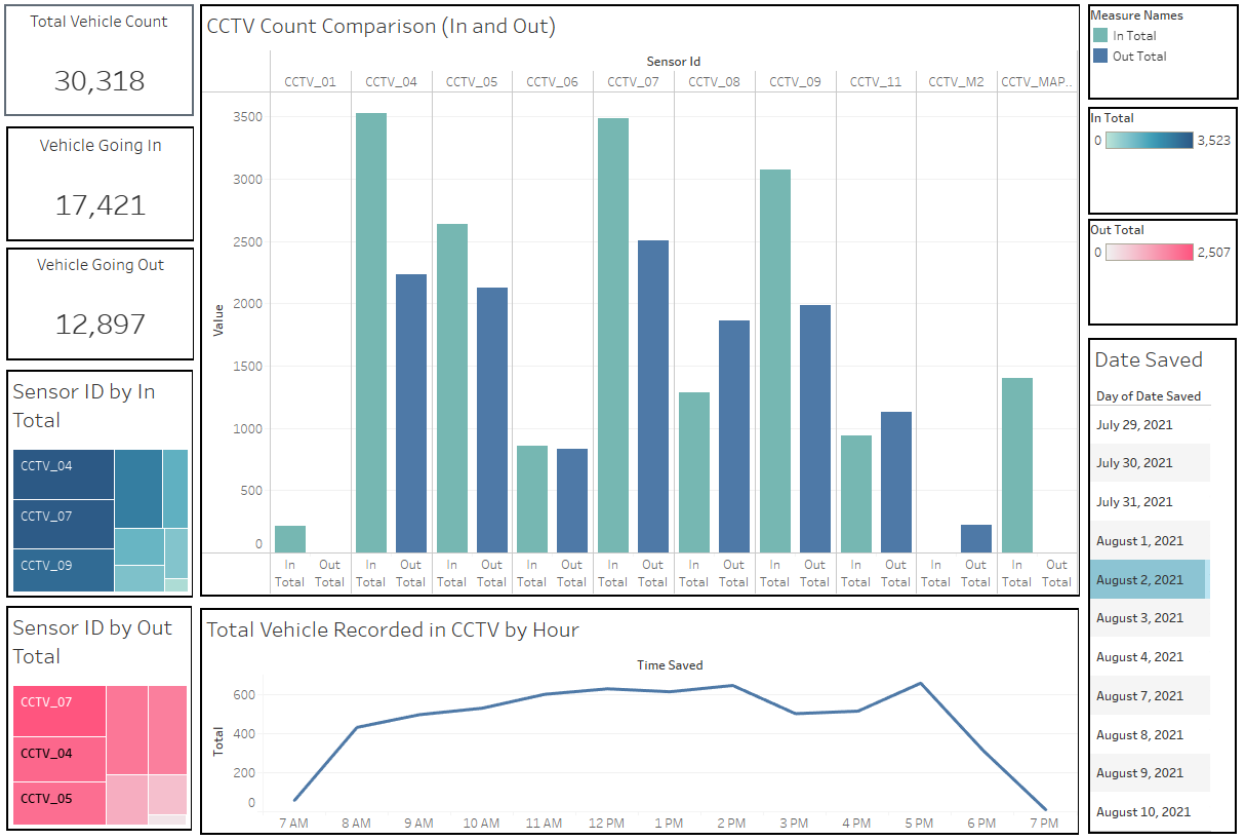




CCTV Dashboard

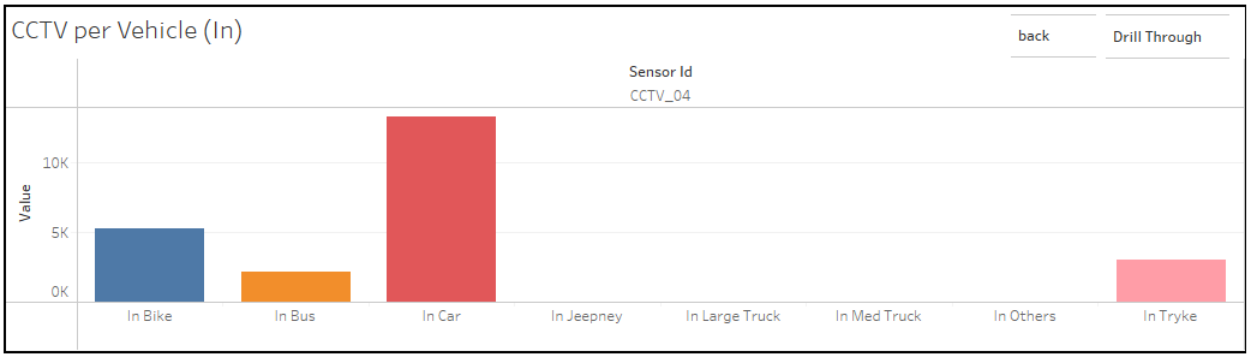
Mercano & Fulcher

These are all of the worksheets used for Page 1, the image below showcases all of the worksheet for Page 1.



Page 2:

Upon selecting a date and a CCTV ID the user will be redirected to Page 2 with the use of drill through. The second page showcases graphs which displays information about vehicles going in and out.



CCTV Dashboard

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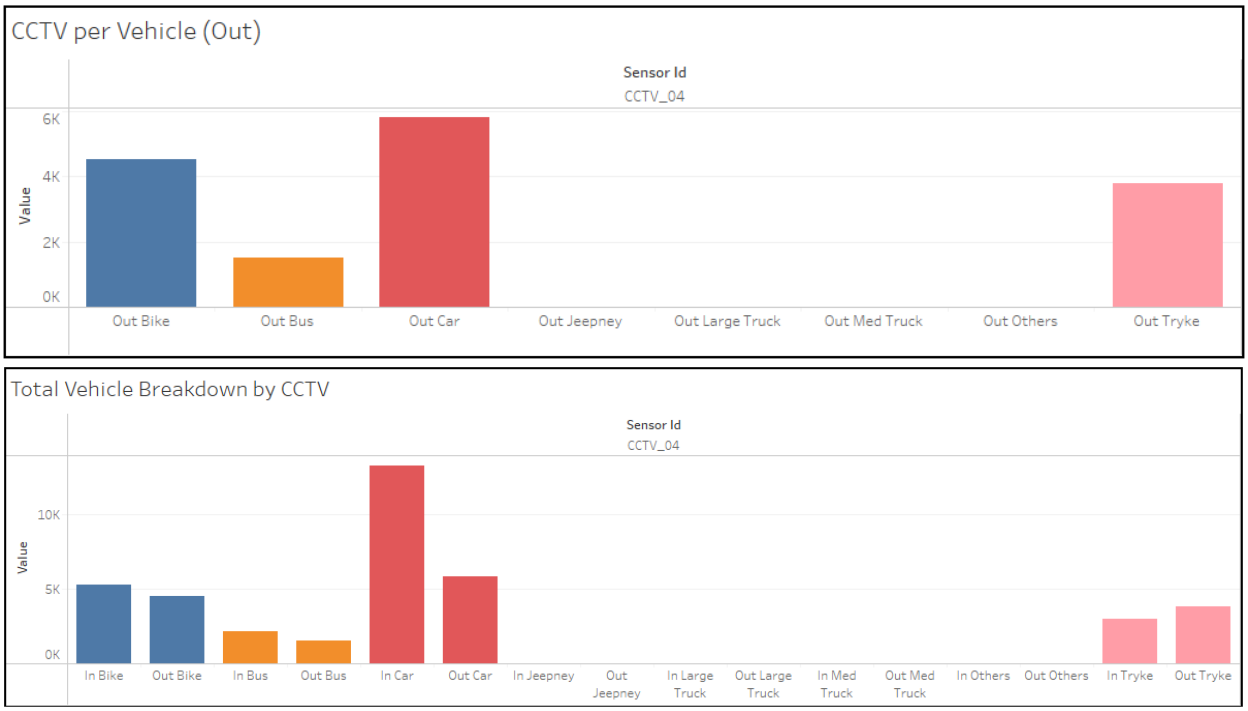
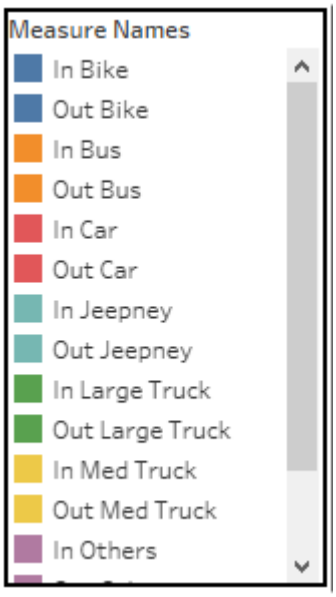


The information displayed by the graph are only from the selected CCTV, which in this case, is from CCTV 4. The following worksheets are for aditional information and for eace of access in the project. The next three worksheets display the sum of vehicles going in, going out, and for both combined.

The Measure Names worksheet serves as a legend for the three graphs.



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The Back and Drill Through buttons serve as a way for the user to return to Page 1 or to drill through further into Page 3.

These are all of the worksheets used for Page 2, the image below showcases all of the worksheet for Page 2.

CCTV Dashboard

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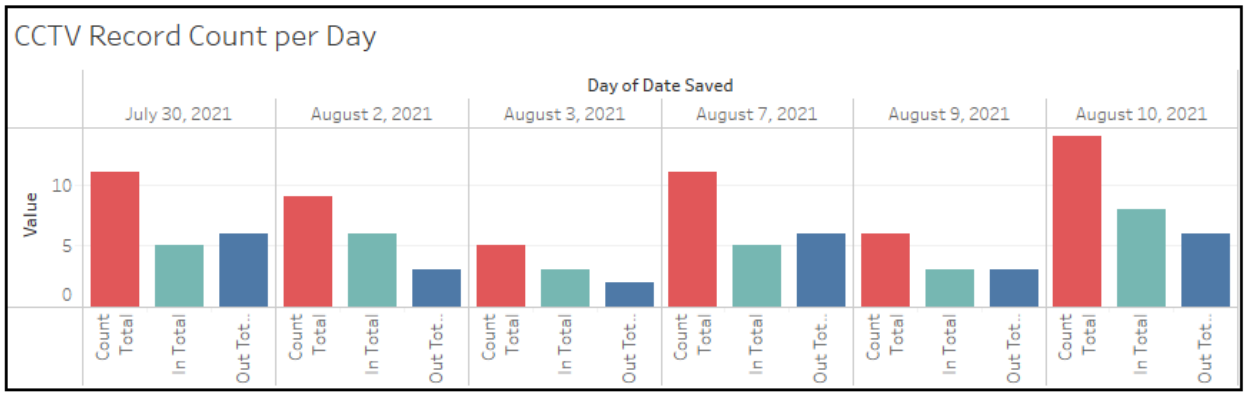
Page 3:

After selecting the Drill Down option on Page 2, the user will be redirected into Page 3, the first graph displays all the vehicles counted by that CCTV for the selected day, this graph is updated based on the selected time by the user.



The Time worksheet serves as a selection for the user to choose what specific time the user wants to observe.

CCTV Dashboard

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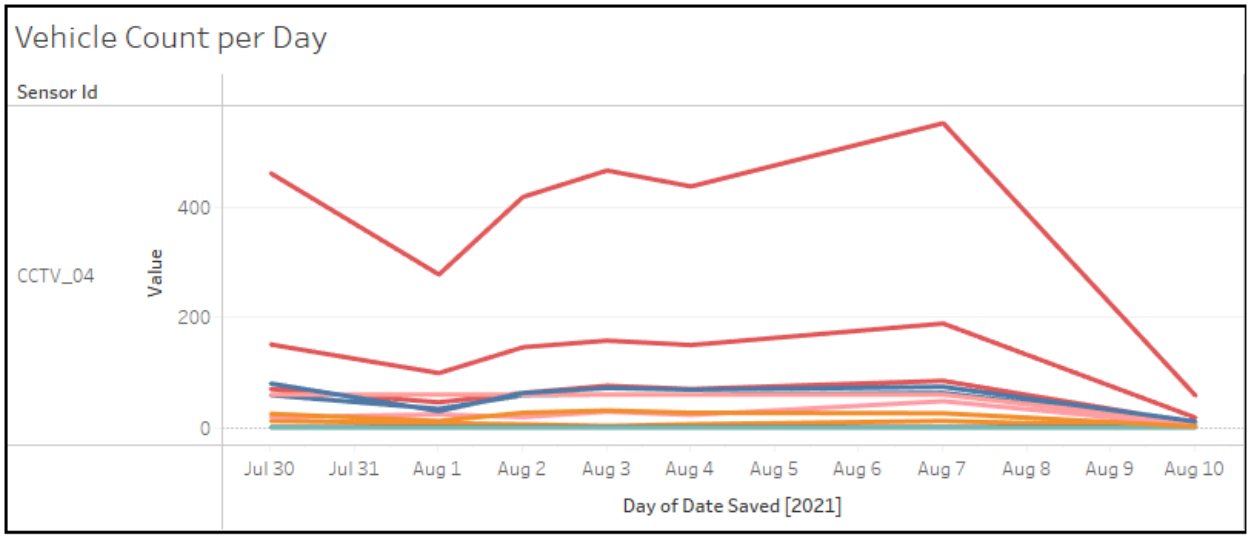
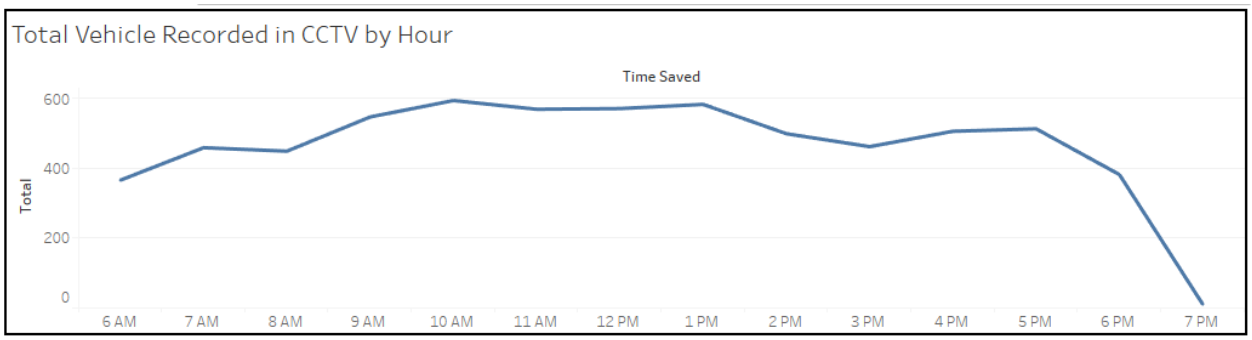
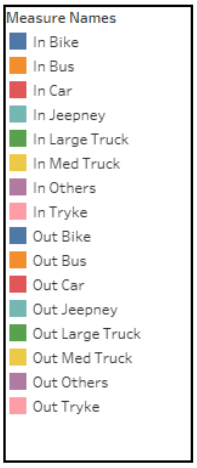
The Vehicle Count per Day worksheet shows the amount and type of vehicle that is counted on a specific date, this graph can also be updated to show what vehicles are counted based on the time by selecting on the Time worksheets.



The next graph displays the amount of vehicles that are counted by the hour.



The following worksheets are for aditional information and for eace of access in the project. The Measure Names worksheet serves as a legend for the three graphs.



CCTV Dashboard

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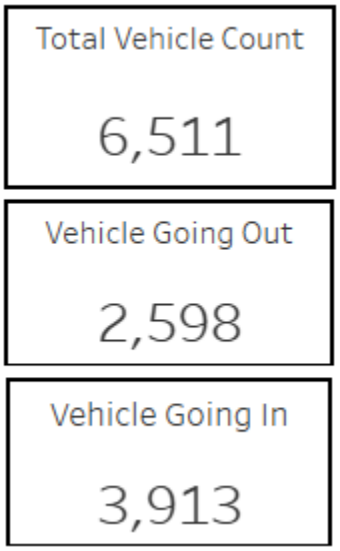
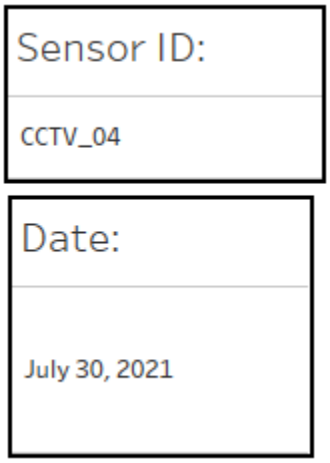
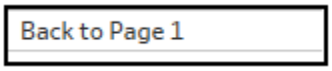
The next three worksheets display the sum of vehicles going in, going out, and for both combined.



The Sensor ID worksheet displays what CCTV is selected and the Date worksheet displays what date is selected.



The Back to Page 1 button serves for the user to return to the first page if they desire to.



CCTV Dashboard

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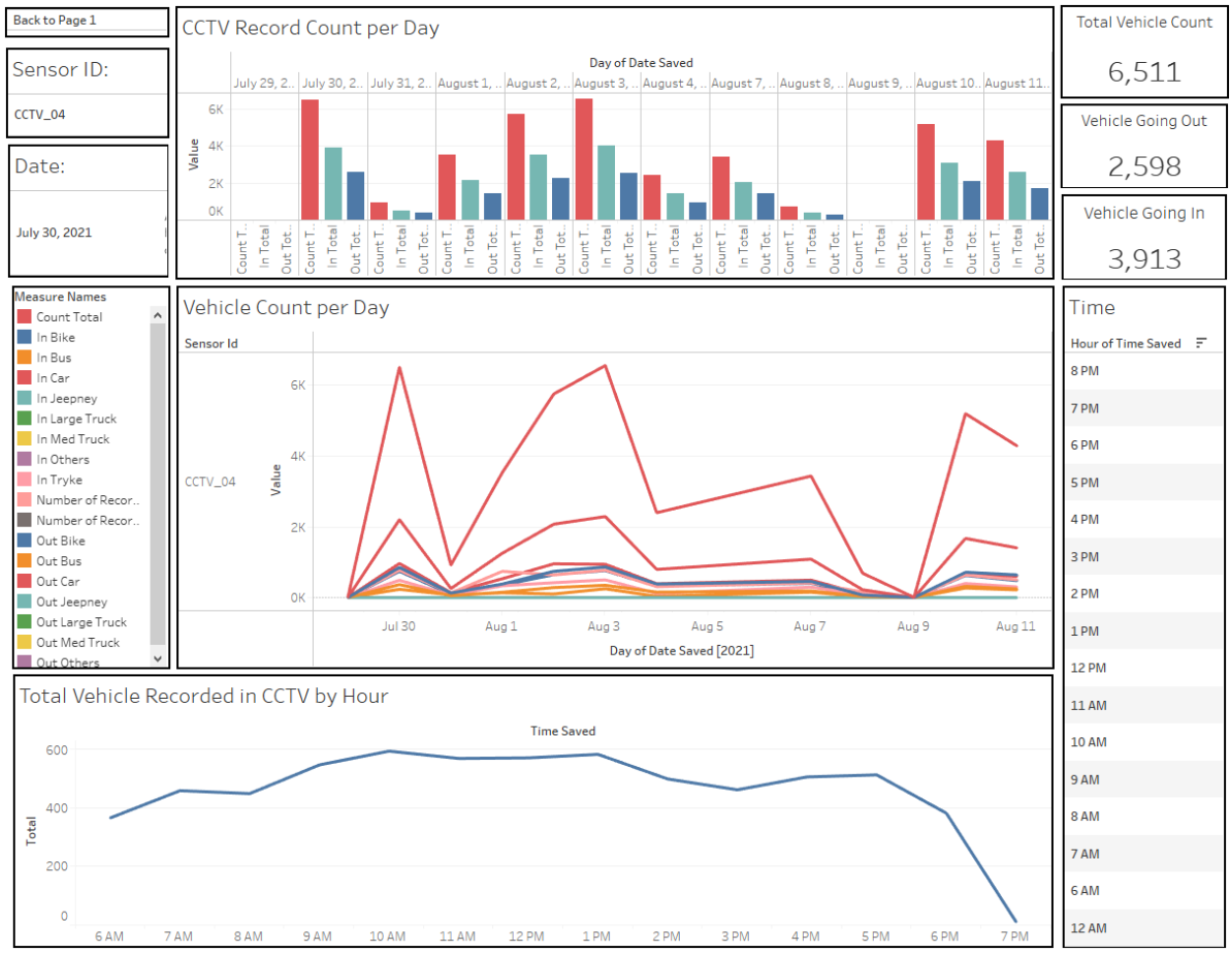
These are all of the worksheets used for Page 3, the image below showcases all of the worksheet for Page 3.



CCTV Dashboard

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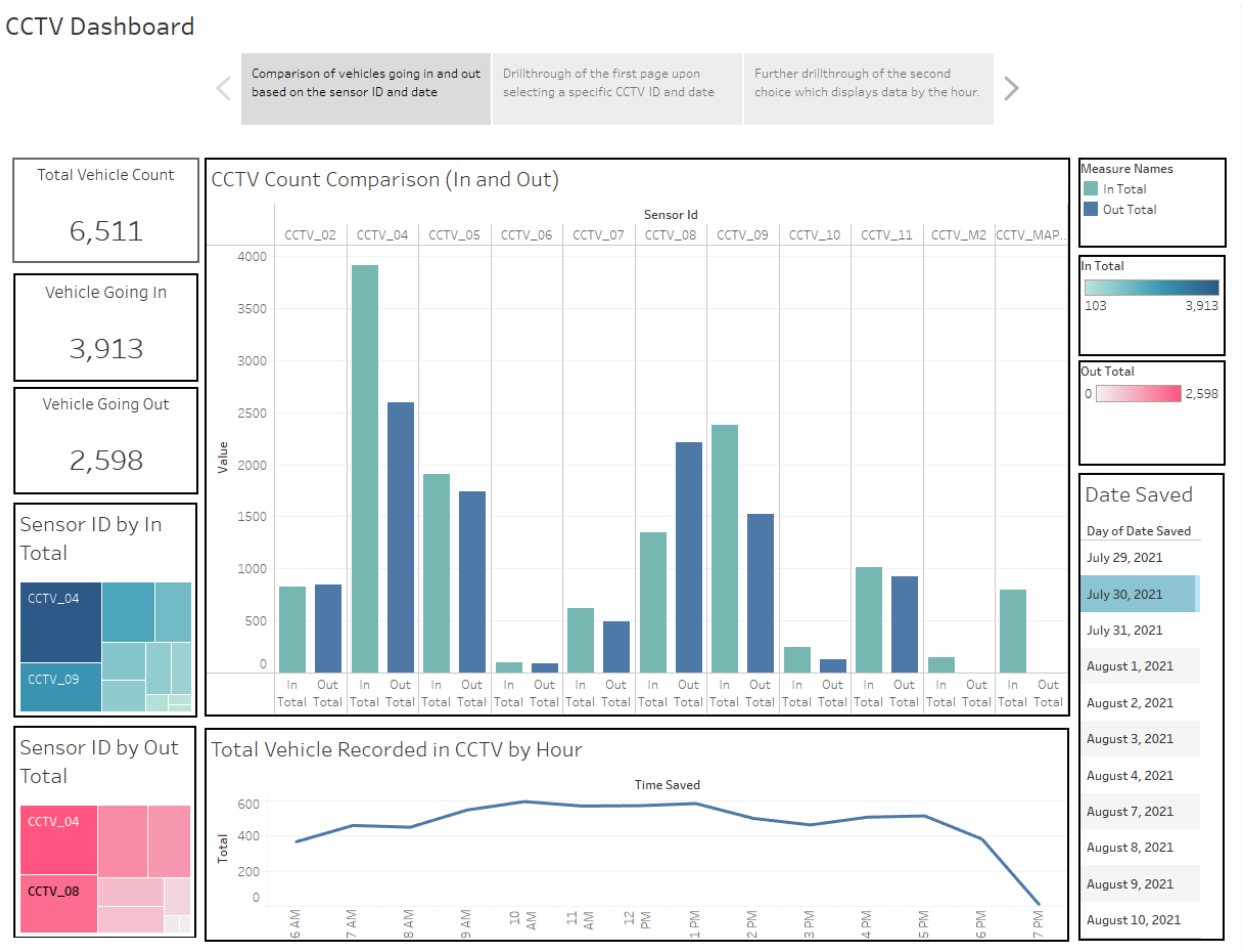
To compile all three of the pages, the group created a storyboard that showcases each of the pages with proper descriptions.



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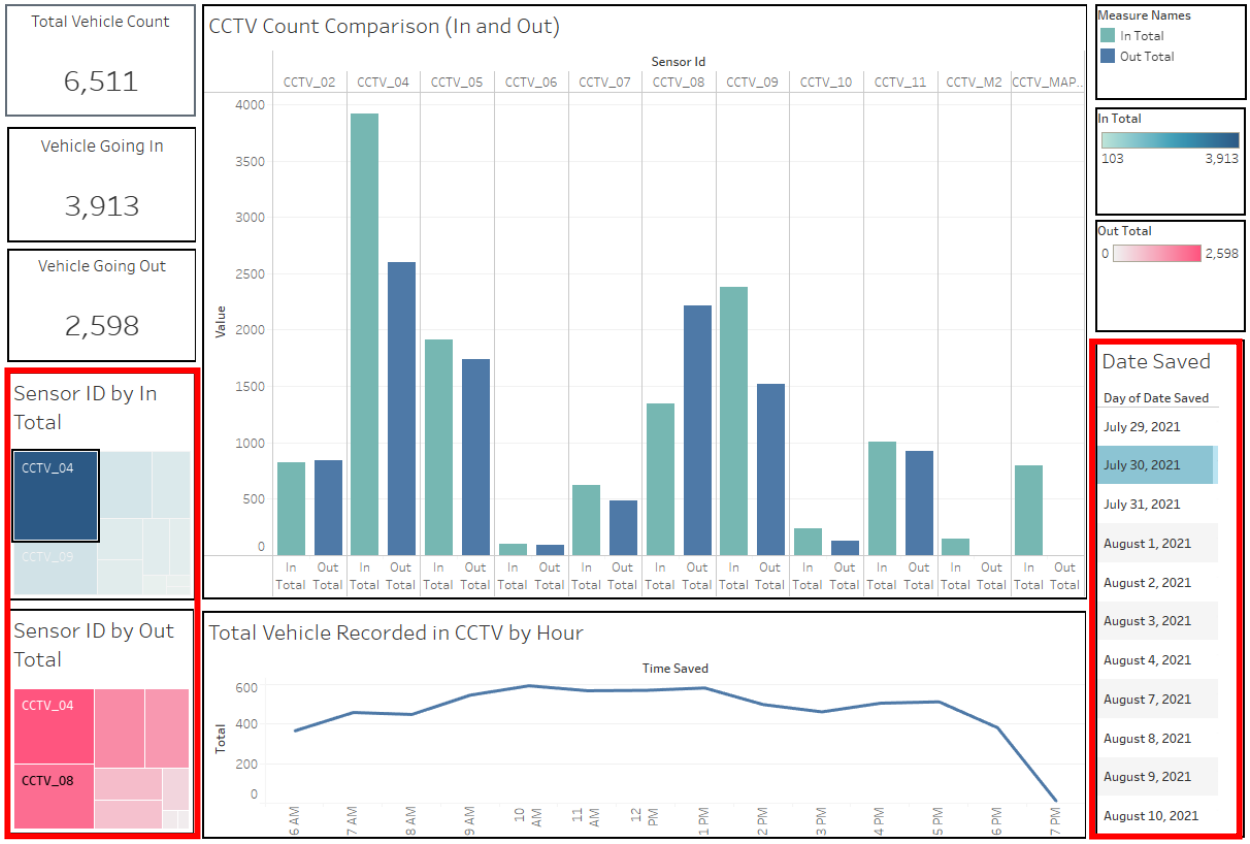
Sample Run:



2

1

For this sample run, the user must first select a date and choose a CCTV to drill through, for this example July 30, 2021, was selected as the date and CCTV 4 was selected to view.

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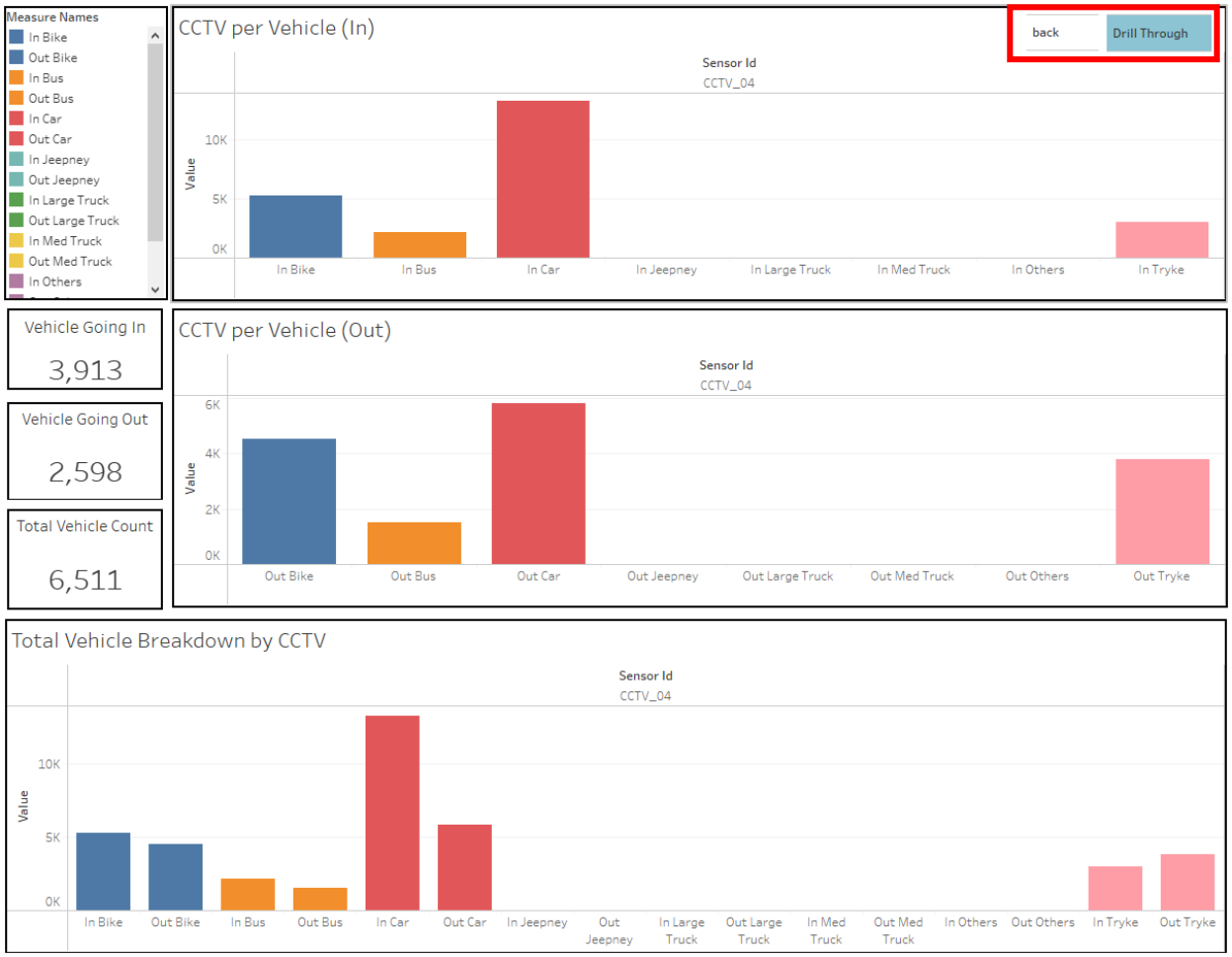

After viewing the information on page 2, the user can either select to go back to page 1 or to drill through towards page 3.

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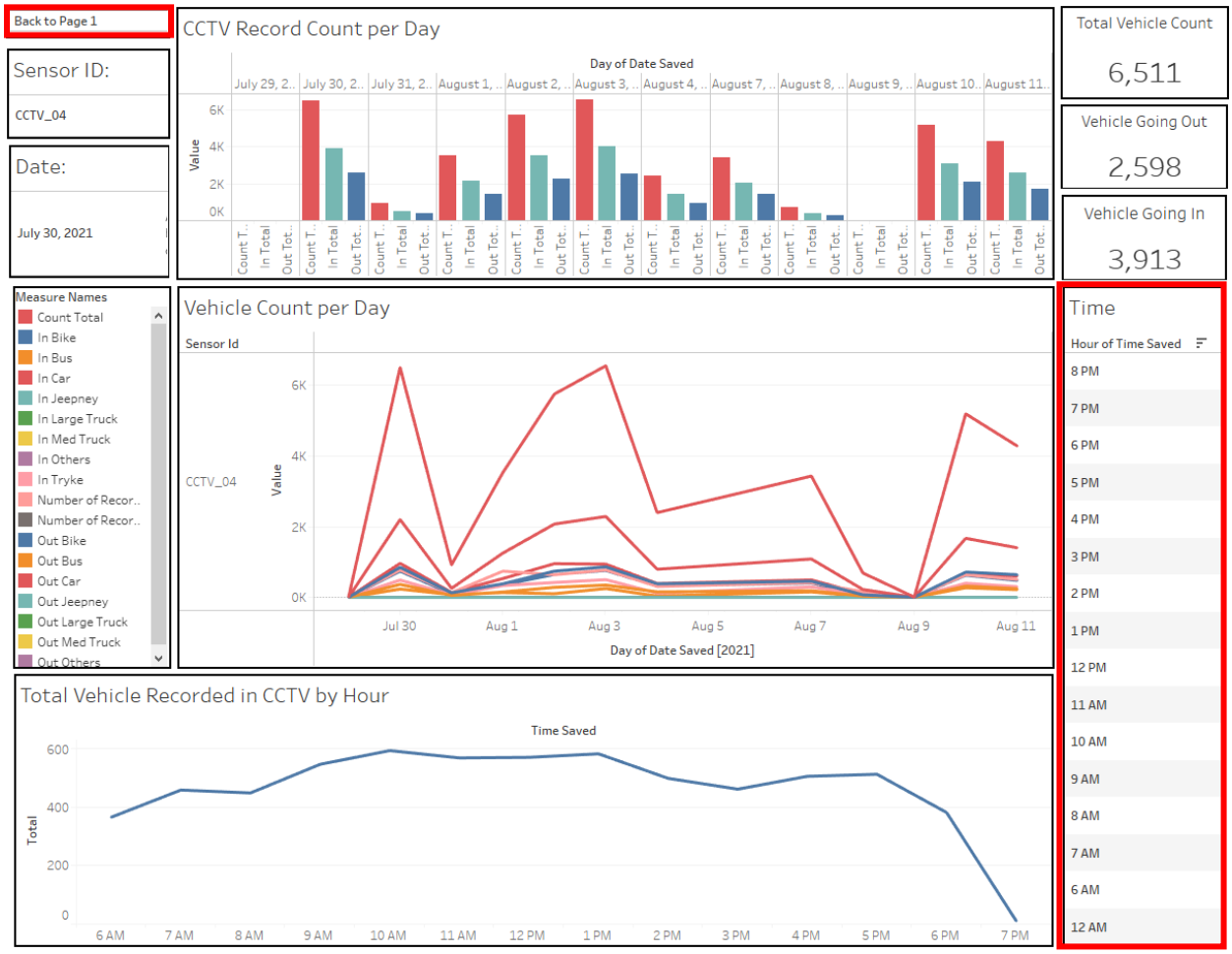
2



1

Once on page 3, the viewer can choose a specific hour they want to view, upon selecting the graphs will update. Once the user is satisfied, they can press the Back to Page 1 button to return to the very first page.