Data_exploration

November 17, 2023

```python
[28]: import pandas as pd
      import numpy as np
      import matplotlib.pyplot as plt
      import gc
      import os
```

```python
[29]: airports = ['Atlanta', 'Chicago', 'Dallas', 'Denver', 'LA', 'JFK']
```

```python
[30]: basepath = '/Users/ketansand/Downloads/Flight_Data'
```

```python
[31]: years = np.arange(2012,2023).astype(str)
```

```python
[52]: file_name = '/Users/ketansand/Downloads/Flight_Data/2022/Atlanta.csv'
      data_air = pd.read_csv(file_name)
      print(data_air.head())
```

```
   Unnamed: 0                FL_DATE OP_UNIQUE_CARRIER  ORIGIN_AIRPORT_ID  \
0           0  1/1/2022 12:00:00 AM                9E              10397
1           1  1/1/2022 12:00:00 AM                9E              10397
2           2  1/1/2022 12:00:00 AM                9E              10397
3           3  1/1/2022 12:00:00 AM                9E              10397
4           4  1/1/2022 12:00:00 AM                9E              10397

   DEST_AIRPORT_ID  CRS_DEP_TIME  DEP_DELAY  CANCELLED CANCELLATION_CODE  \
0            10135          2050       -6.0        0.0               NaN
1            10146          1142       72.0        0.0               NaN
2            10146          1846       -4.0        0.0               NaN
3            10185          1249       95.0        0.0               NaN
4            10185          1925       -5.0        0.0               NaN

   AIR_TIME  CARRIER_DELAY  WEATHER_DELAY  NAS_DELAY  SECURITY_DELAY  \
0      82.0            NaN            NaN        NaN             NaN
1      32.0           63.0            0.0        1.0             0.0
2      32.0            NaN            NaN        NaN             NaN
3      95.0           95.0            0.0       18.0             0.0
4      83.0            NaN            NaN        NaN             NaN

   LATE_AIRCRAFT_DELAY  Month
```

```
0                  NaN       1
1                  9.0       1
2                  NaN       1
3                  0.0       1
4                  NaN       1
```

[48]:
```python
year = []
airport = []
cancelled_flights = []
flight_with_nan = []
flight_with_nan_and_delay = []
flight_with_non_nan = []
all_data = []
for i in range(len(years)):
    for j in range(len(airports)):
        file_path = os.path.join(basepath, years[i])
        file_name = file_path+'/{}.csv'.format(airports[j])
        print(file_name)
        data_air = pd.read_csv(file_name)

        #### removing cancelled flights ######
        data_not_cancelled = data_air[data_air['CANCELLED']==0]
        data_cancelled = data_air[data_air['CANCELLED']==1]

        data_air = data_not_cancelled.drop(columns = ['CANCELLATION_CODE',
 'CANCELLED'])

        data_air_nan = data_air[data_air.isna().any(axis=1)]

        data_non_neg = data_air_nan[data_air_nan['DEP_DELAY'] > 0]

        data_final = data_air.dropna()

        year.append(years[i])
        airport.append(airports[j])
        cancelled_flights.append(len(data_cancelled))
        flight_with_nan.append(len(data_air_nan))
        flight_with_nan_and_delay.append(len(data_non_neg))
        flight_with_non_nan.append(len(data_final))
        all_data.append(len(data_air))
        gc.collect()
```

```
/Users/ketansand/Downloads/Flight_Data/2012/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2012/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2012/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2012/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2012/LA.csv
/Users/ketansand/Downloads/Flight_Data/2012/JFK.csv
```

```
/Users/ketansand/Downloads/Flight_Data/2013/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2013/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2013/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2013/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2013/LA.csv
/Users/ketansand/Downloads/Flight_Data/2013/JFK.csv
/Users/ketansand/Downloads/Flight_Data/2014/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2014/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2014/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2014/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2014/LA.csv
/Users/ketansand/Downloads/Flight_Data/2014/JFK.csv
/Users/ketansand/Downloads/Flight_Data/2015/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2015/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2015/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2015/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2015/LA.csv
/Users/ketansand/Downloads/Flight_Data/2015/JFK.csv
/Users/ketansand/Downloads/Flight_Data/2016/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2016/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2016/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2016/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2016/LA.csv
/Users/ketansand/Downloads/Flight_Data/2016/JFK.csv
/Users/ketansand/Downloads/Flight_Data/2017/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2017/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2017/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2017/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2017/LA.csv
/Users/ketansand/Downloads/Flight_Data/2017/JFK.csv

/Users/ketansand/opt/anaconda3/lib/python3.8/site-
packages/IPython/core/interactiveshell.py:3165: DtypeWarning: Columns (8) have
mixed types.Specify dtype option on import or set low_memory=False.
  has_raised = await self.run_ast_nodes(code_ast.body, cell_name,

/Users/ketansand/Downloads/Flight_Data/2018/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2018/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2018/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2018/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2018/LA.csv
/Users/ketansand/Downloads/Flight_Data/2018/JFK.csv
/Users/ketansand/Downloads/Flight_Data/2019/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2019/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2019/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2019/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2019/LA.csv
/Users/ketansand/Downloads/Flight_Data/2019/JFK.csv
/Users/ketansand/Downloads/Flight_Data/2020/Atlanta.csv
```
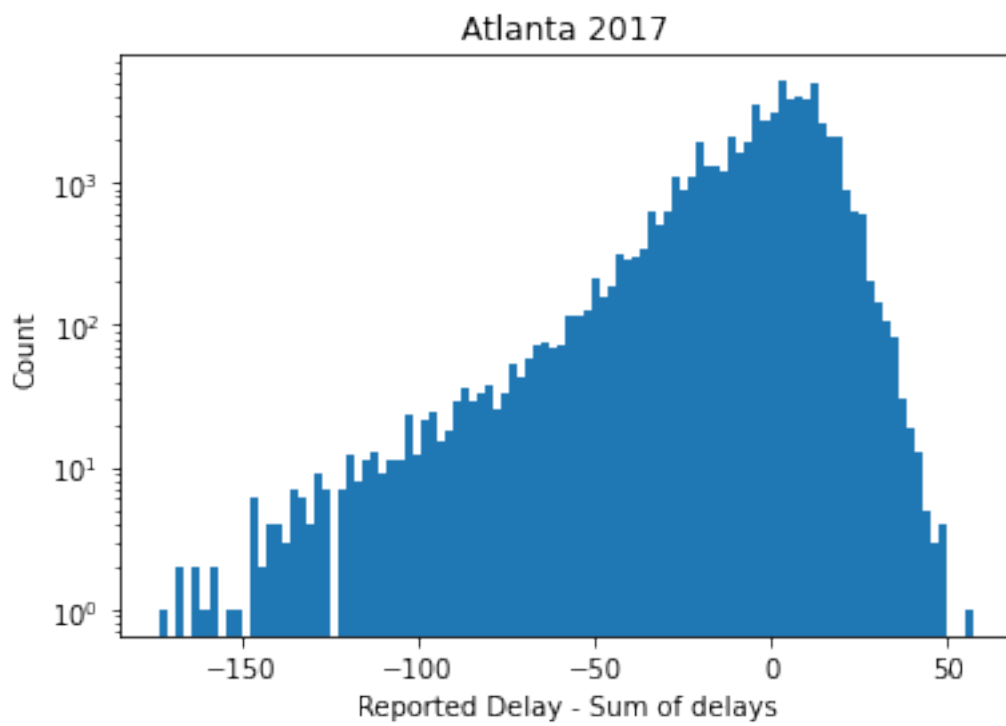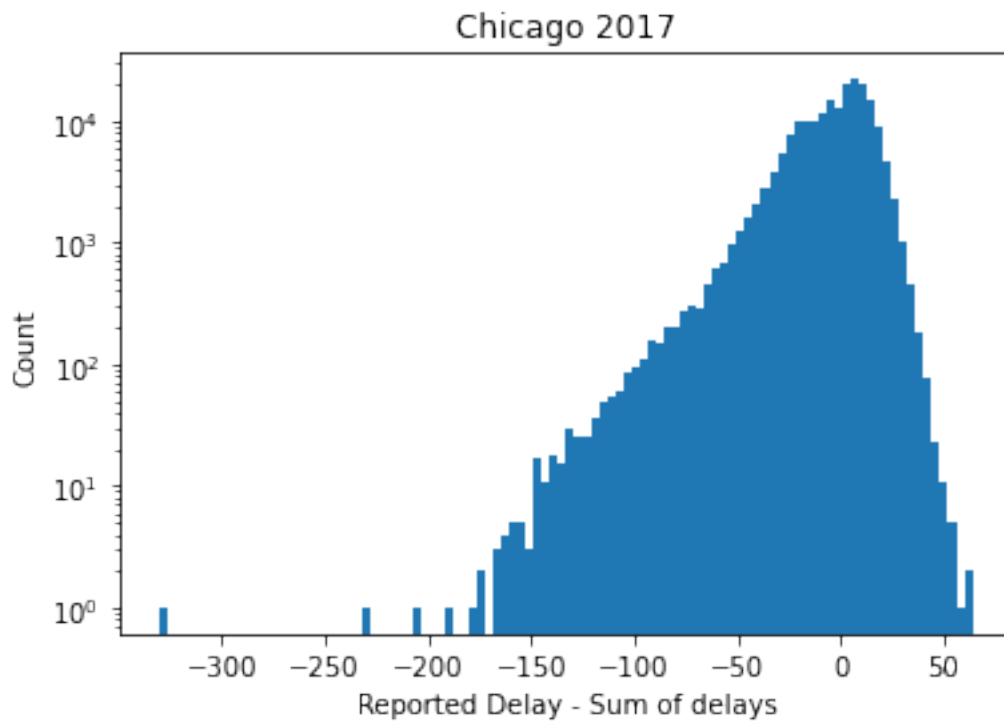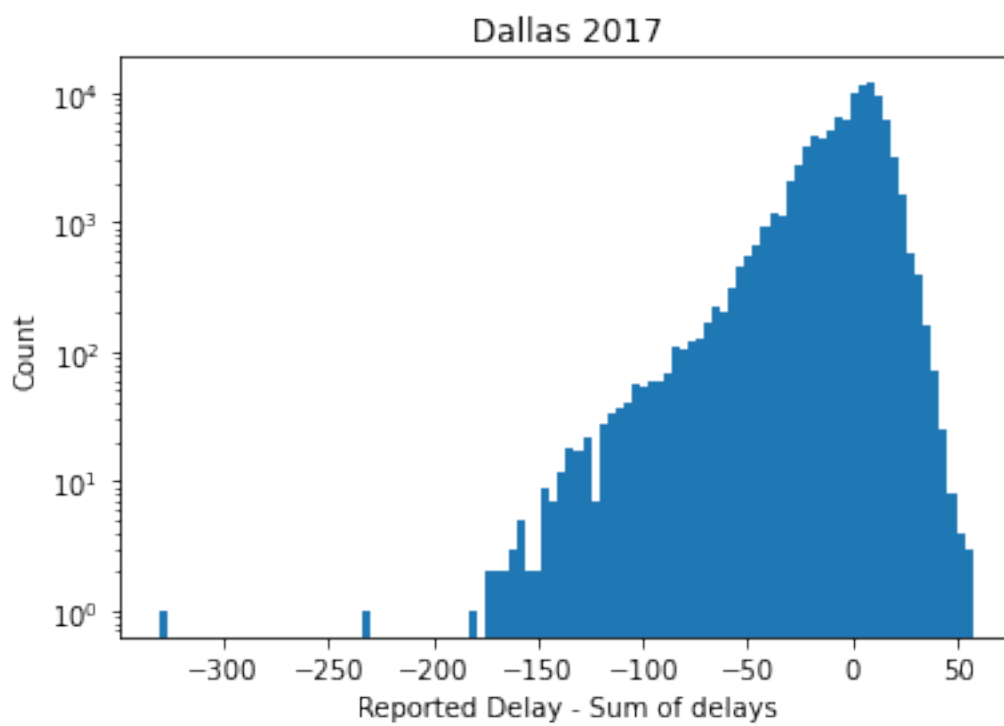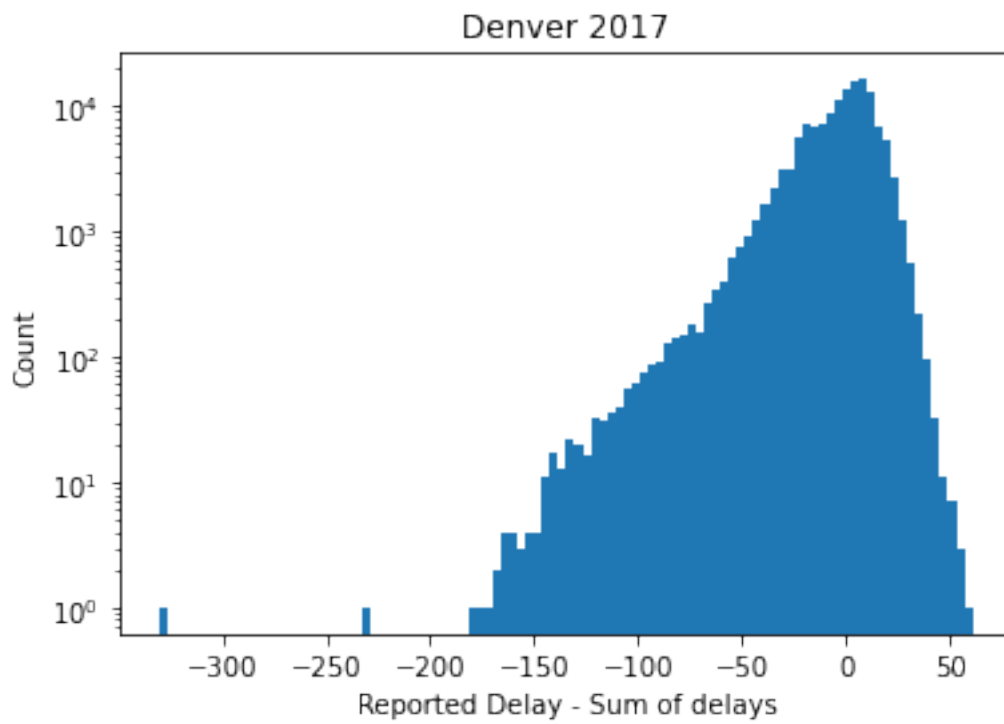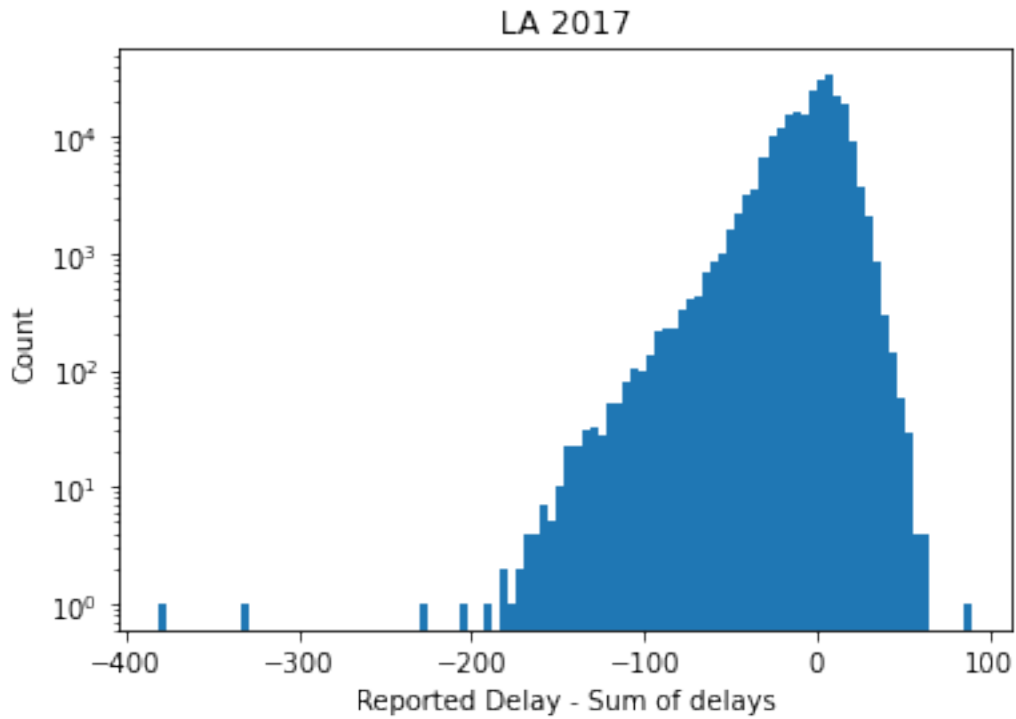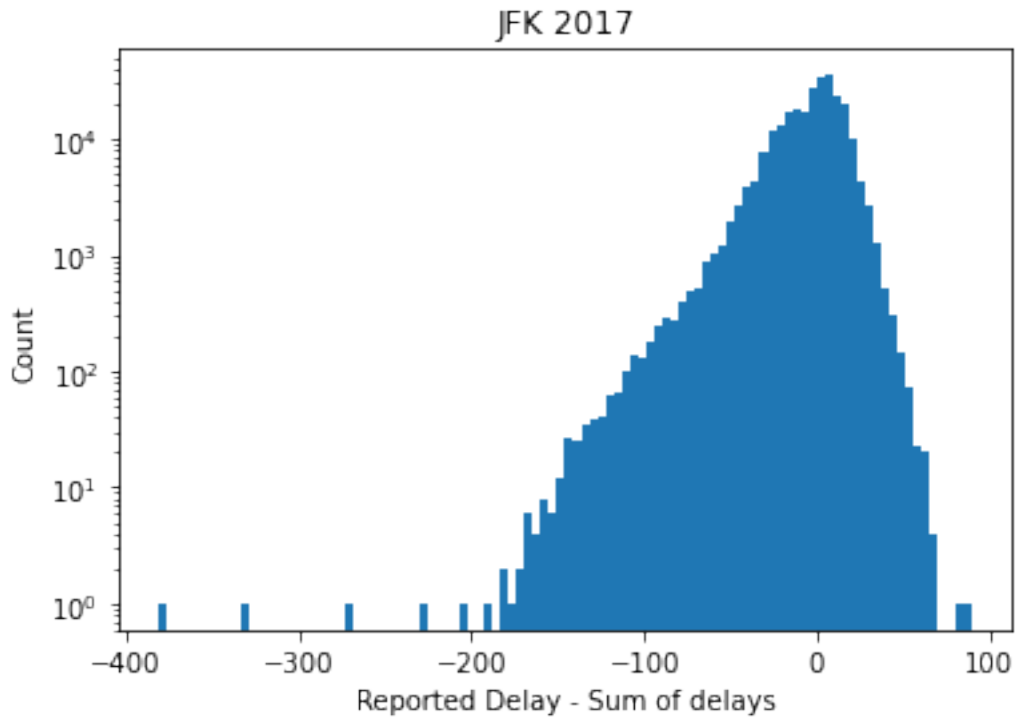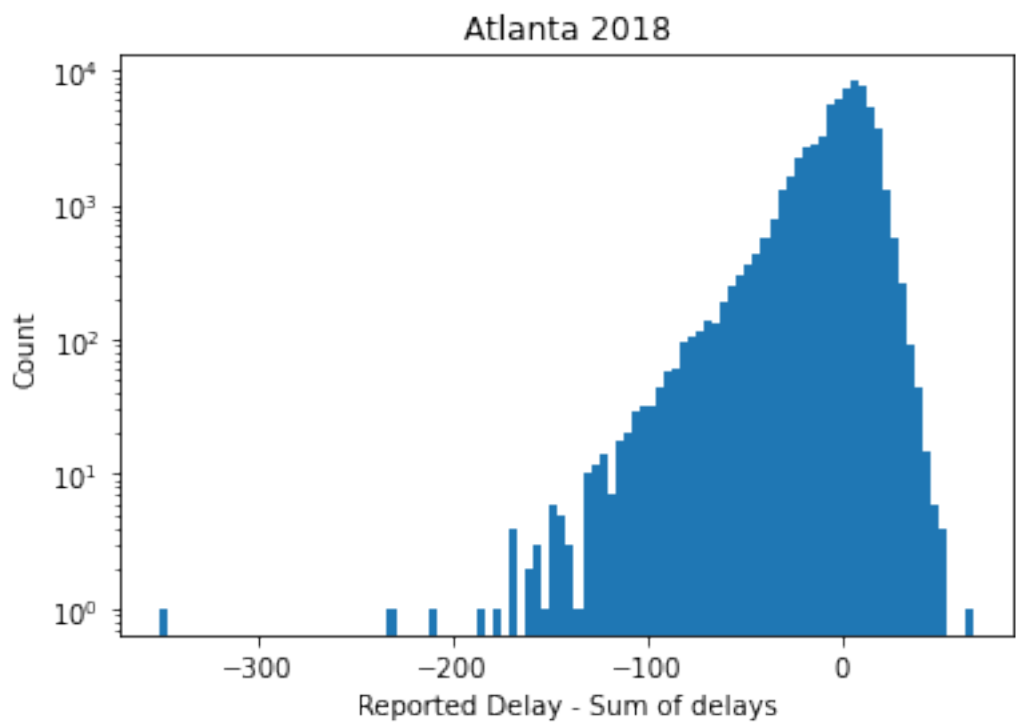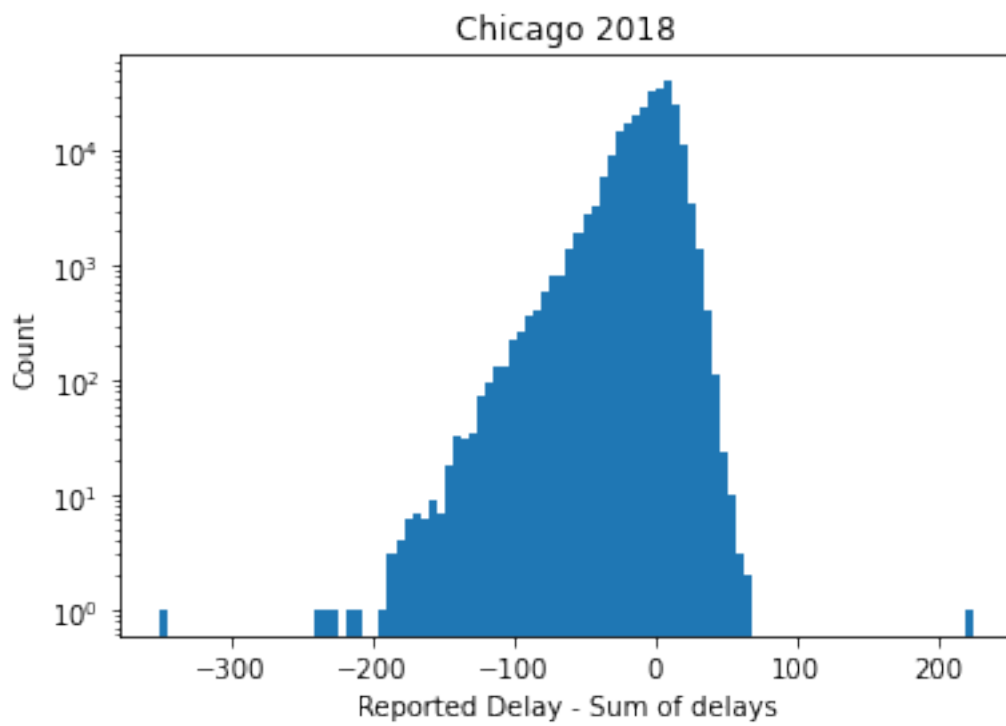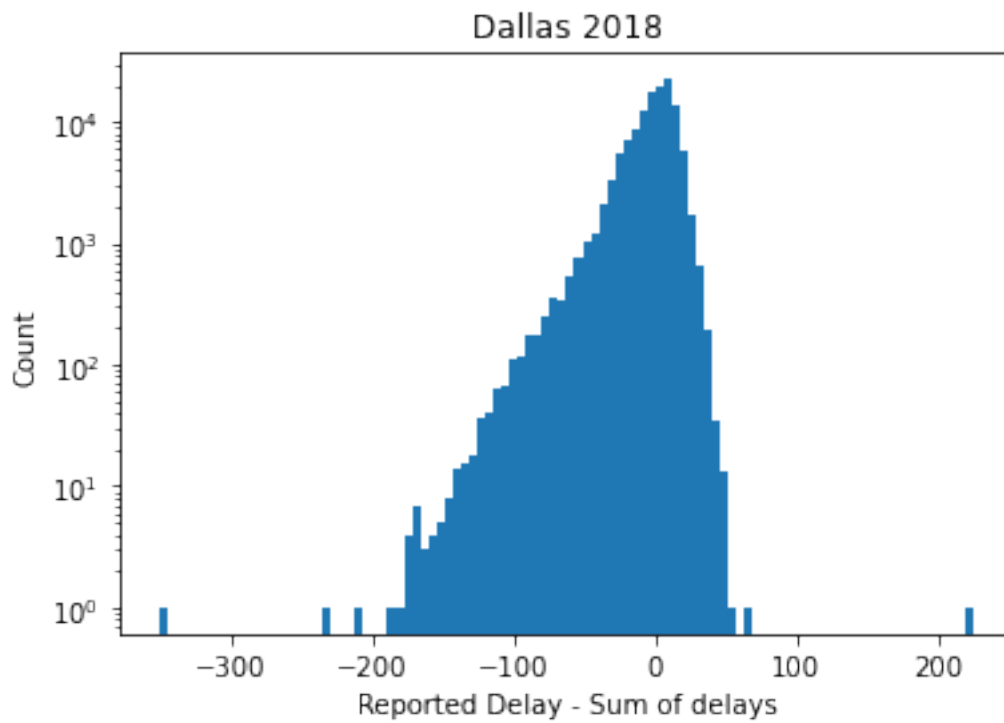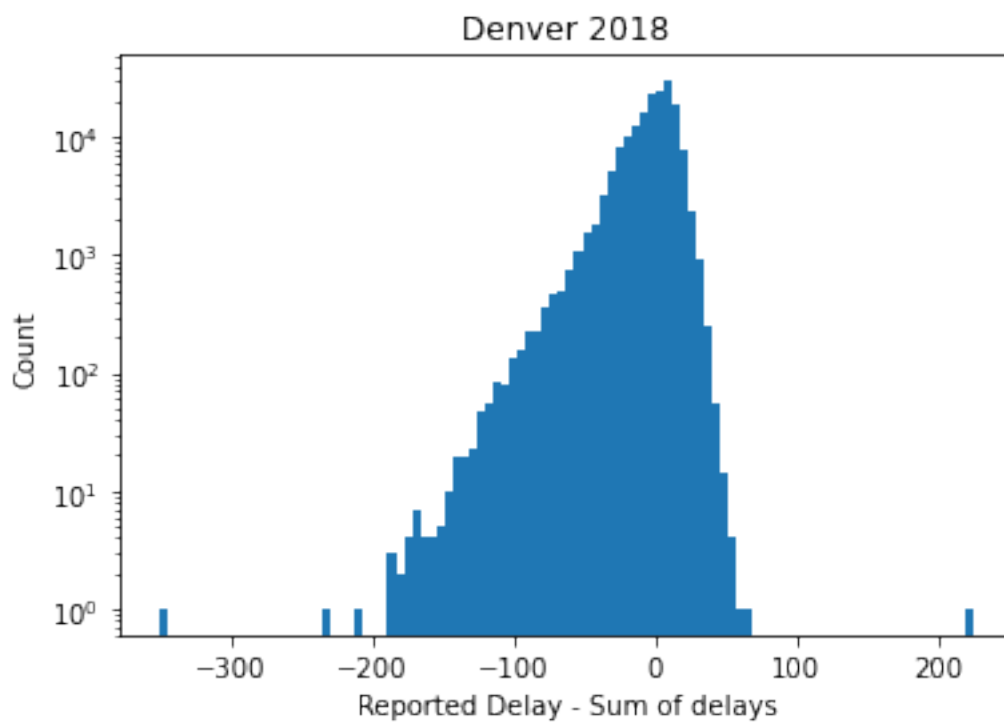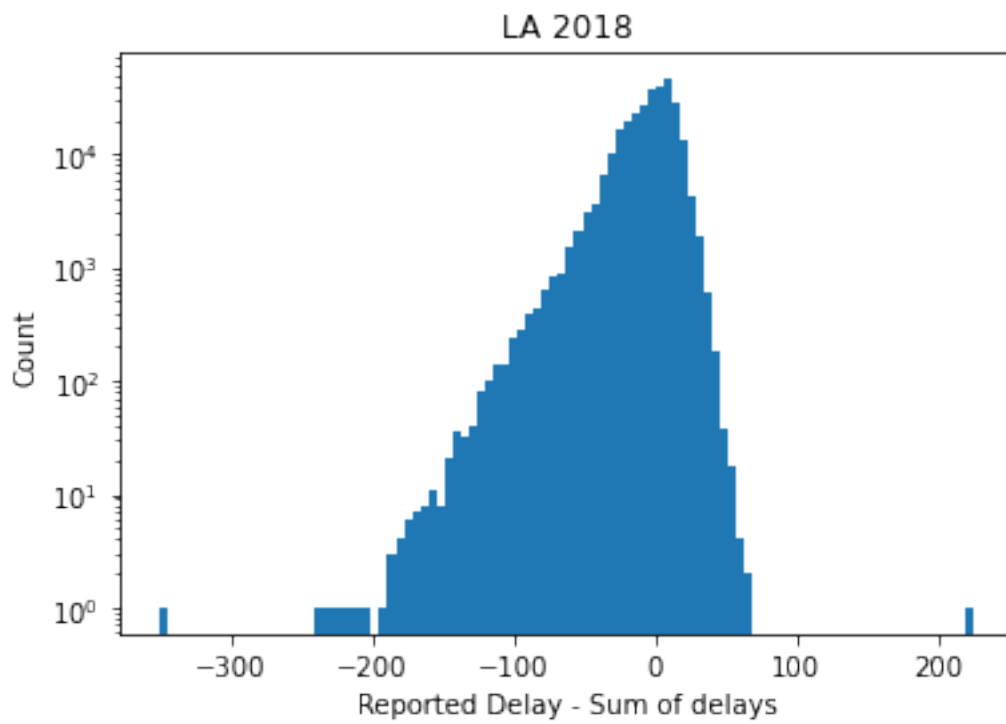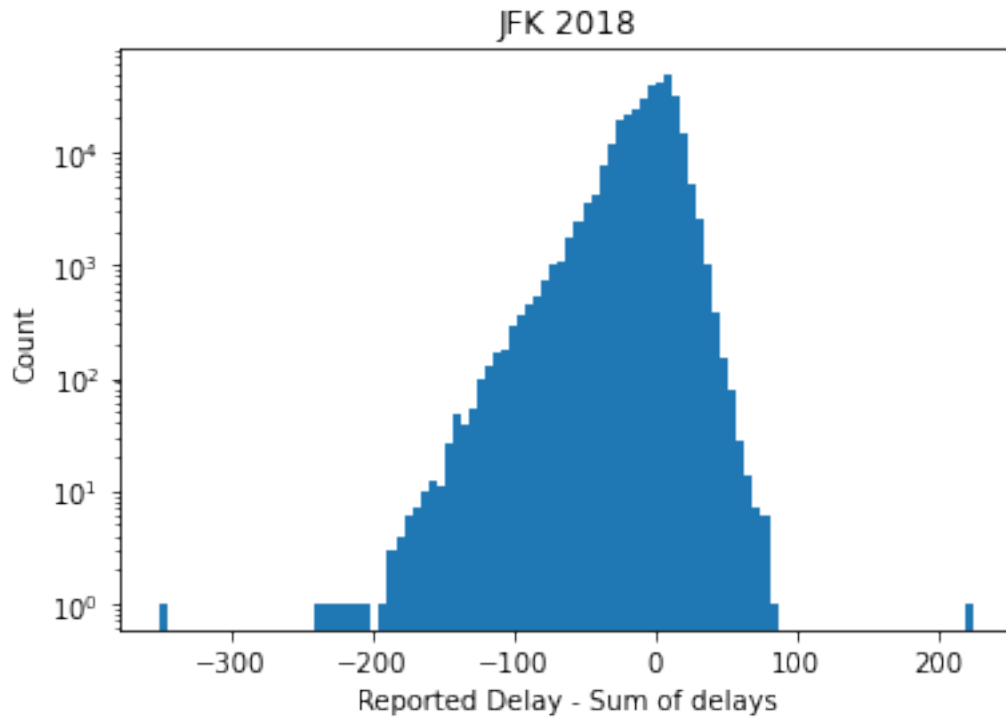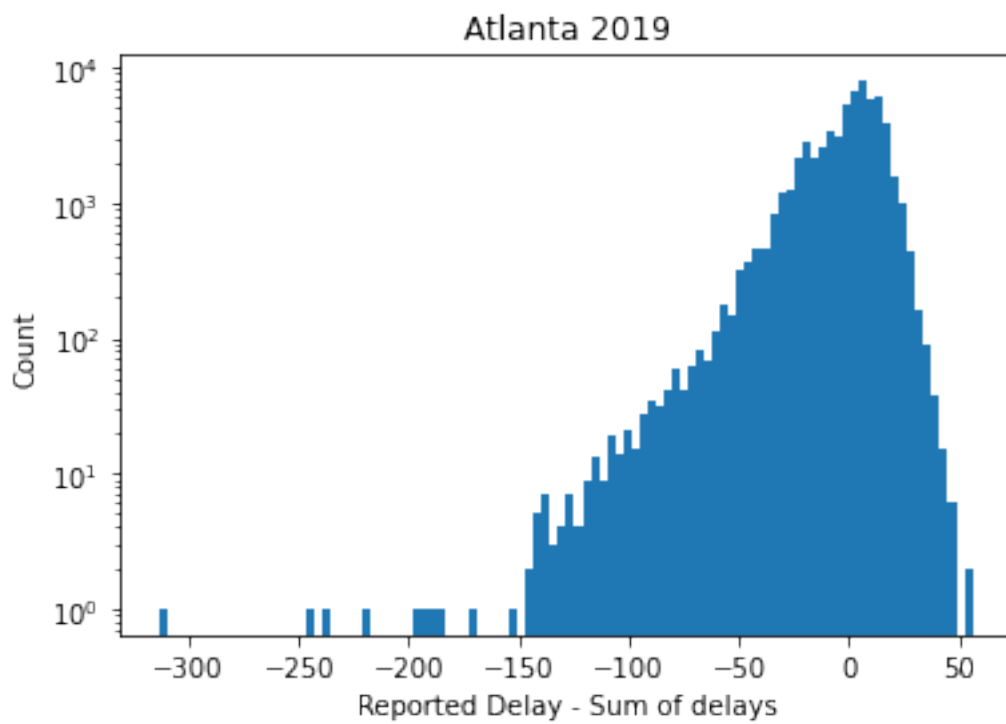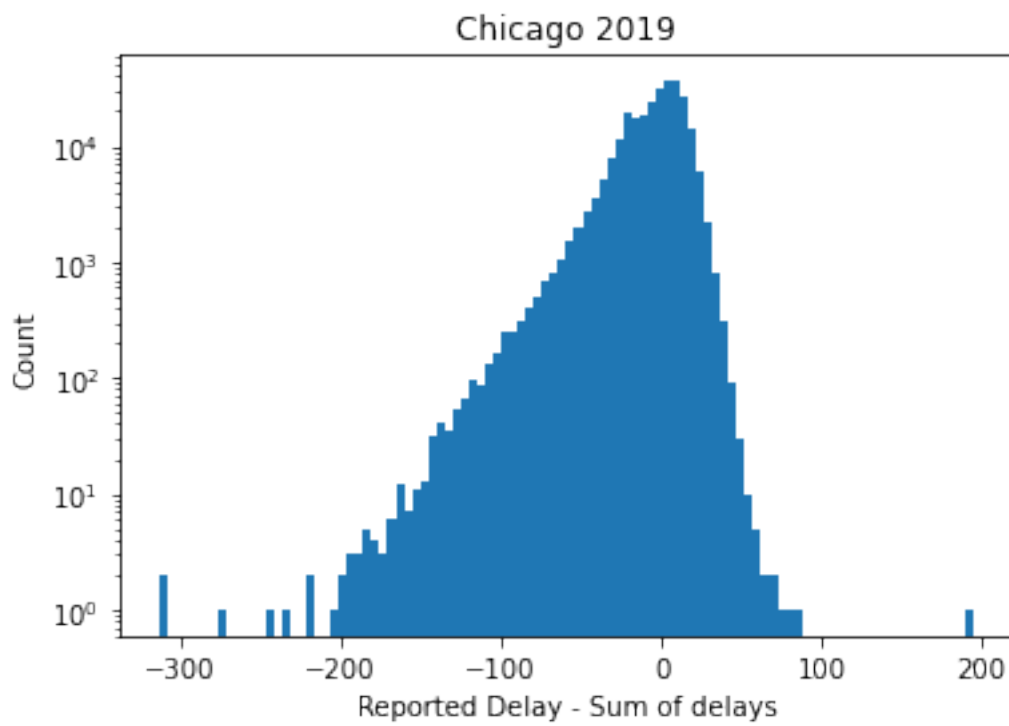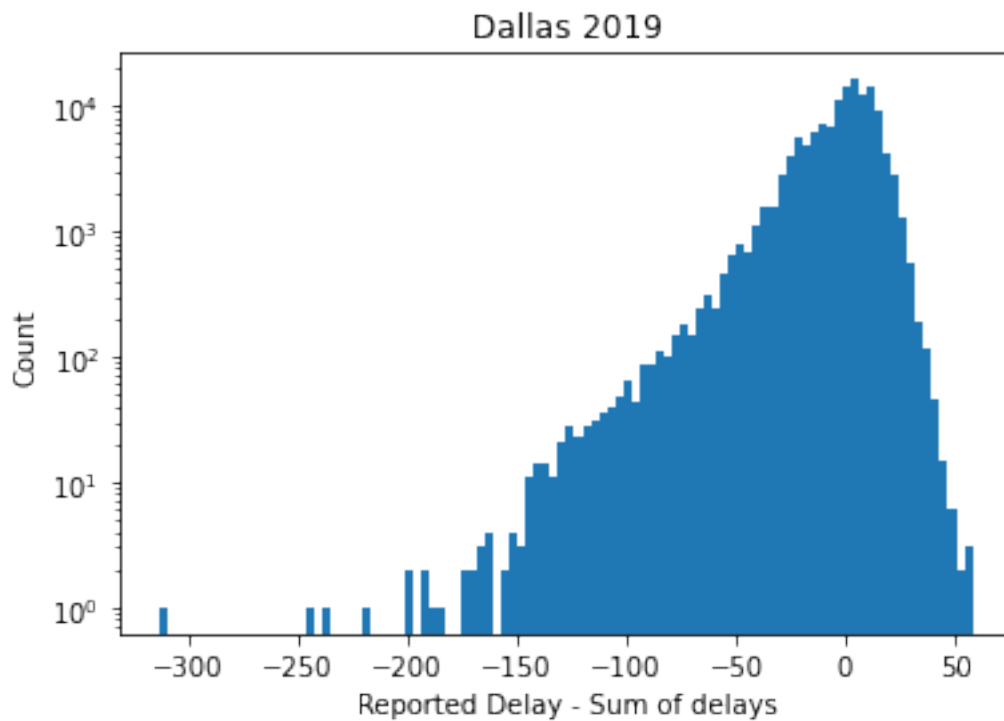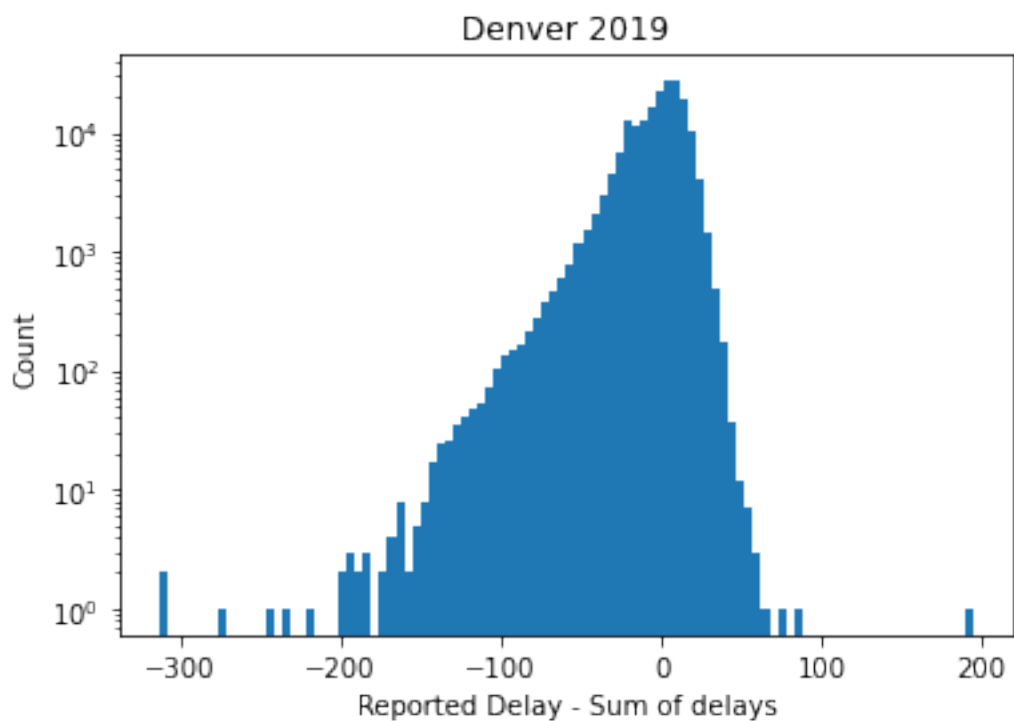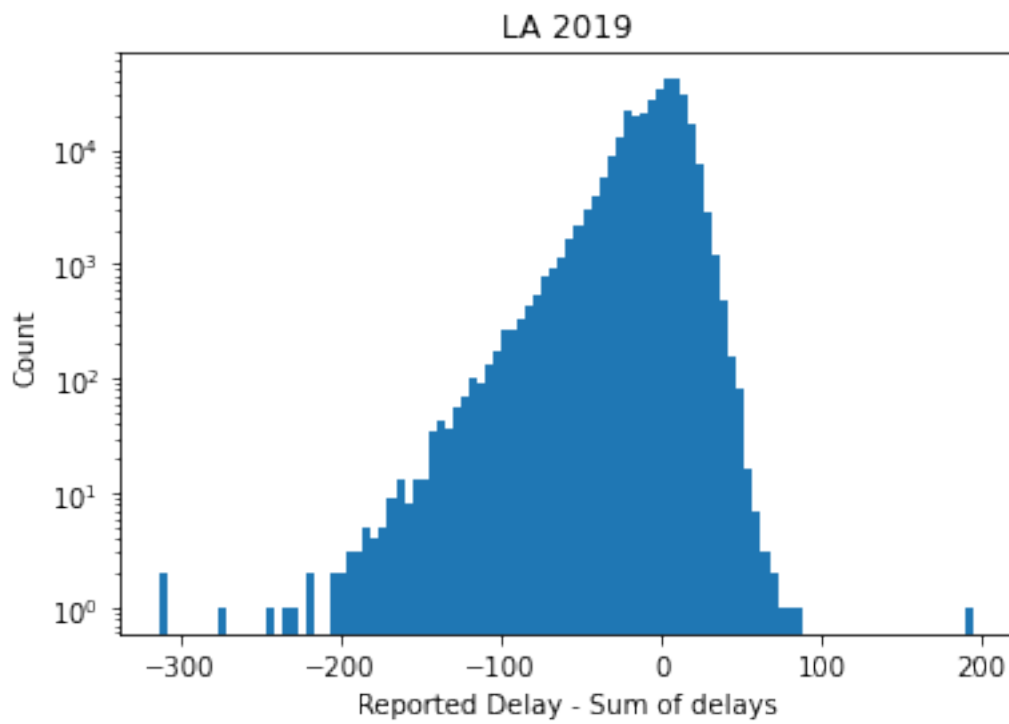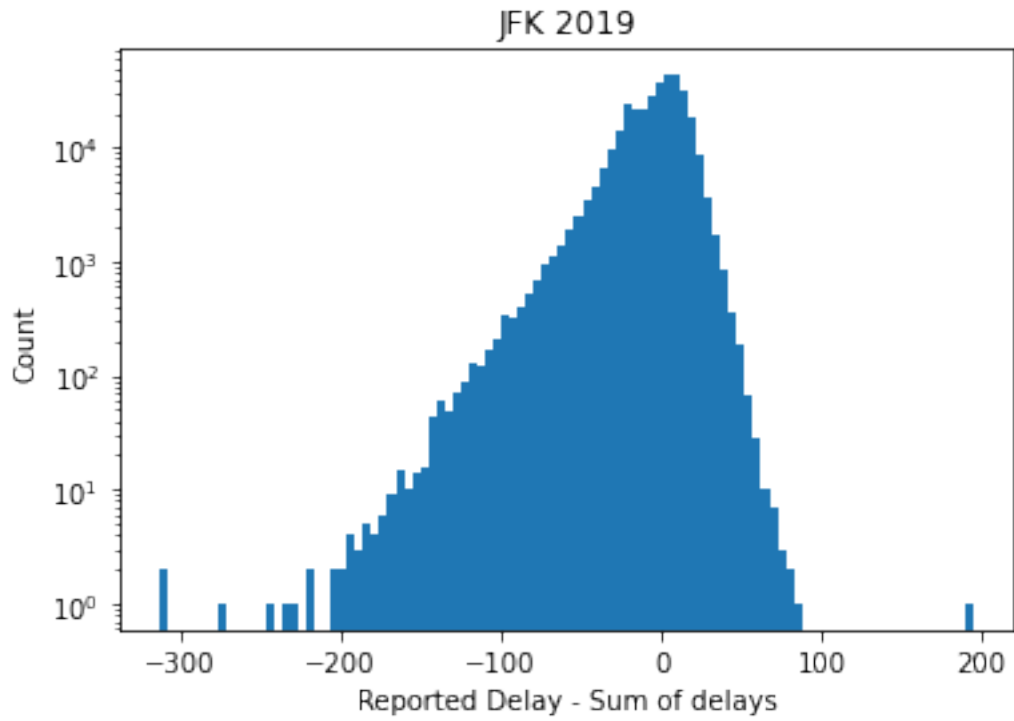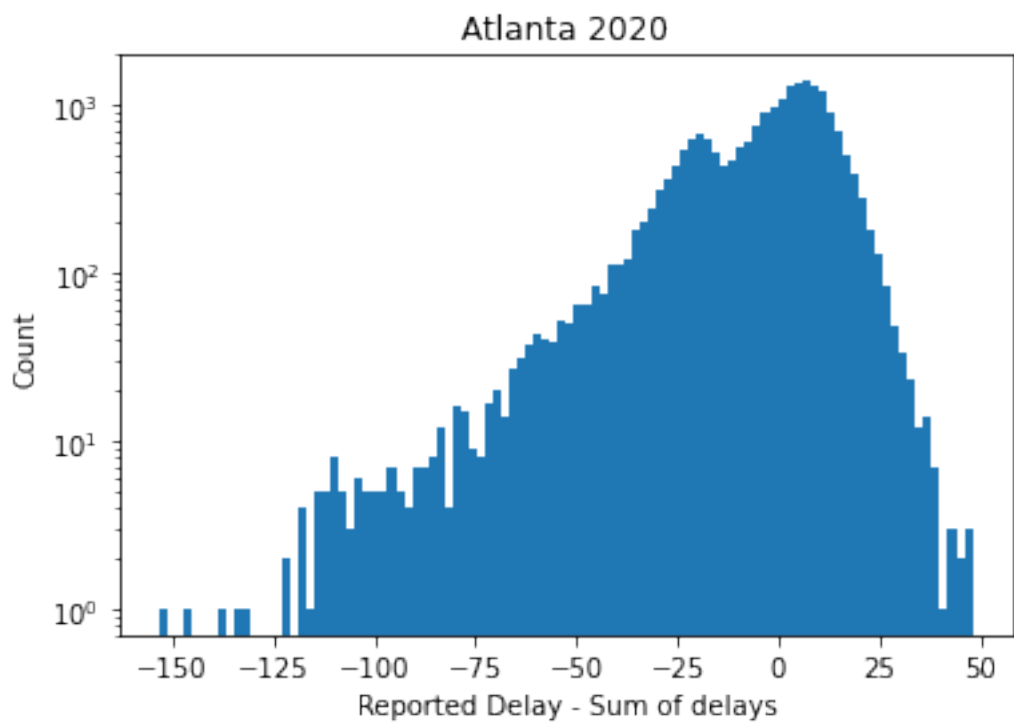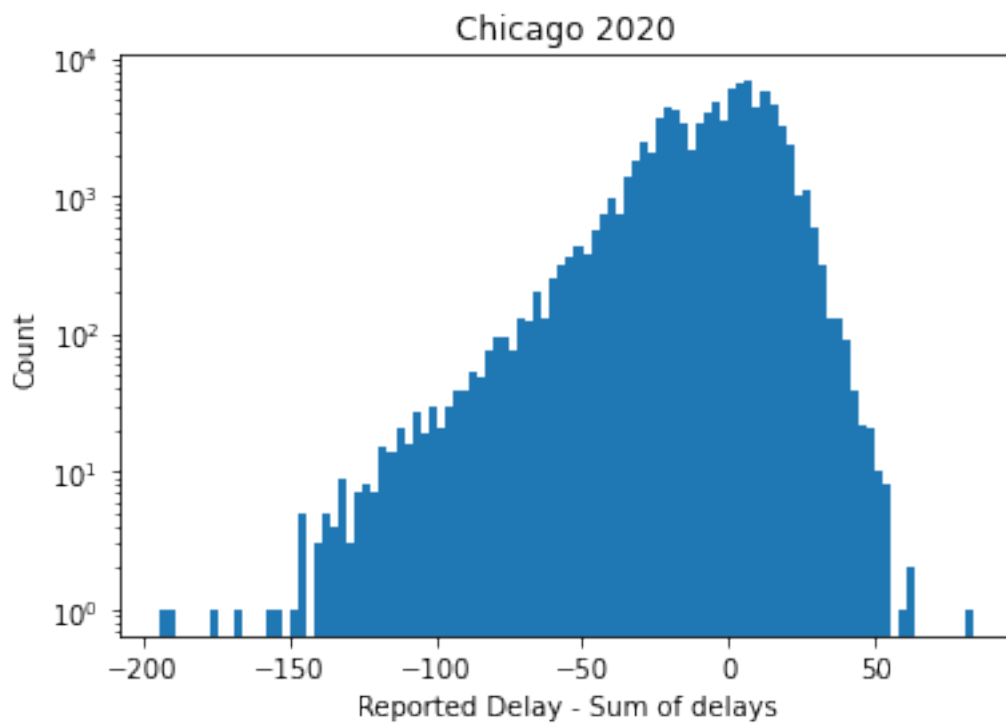
```
/Users/ketansand/Downloads/Flight_Data/2020/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2020/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2020/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2020/LA.csv
/Users/ketansand/Downloads/Flight_Data/2020/JFK.csv
/Users/ketansand/Downloads/Flight_Data/2021/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2021/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2021/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2021/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2021/LA.csv
/Users/ketansand/Downloads/Flight_Data/2021/JFK.csv
/Users/ketansand/Downloads/Flight_Data/2022/Atlanta.csv
/Users/ketansand/Downloads/Flight_Data/2022/Chicago.csv
/Users/ketansand/Downloads/Flight_Data/2022/Dallas.csv
/Users/ketansand/Downloads/Flight_Data/2022/Denver.csv
/Users/ketansand/Downloads/Flight_Data/2022/LA.csv
/Users/ketansand/Downloads/Flight_Data/2022/JFK.csv
```
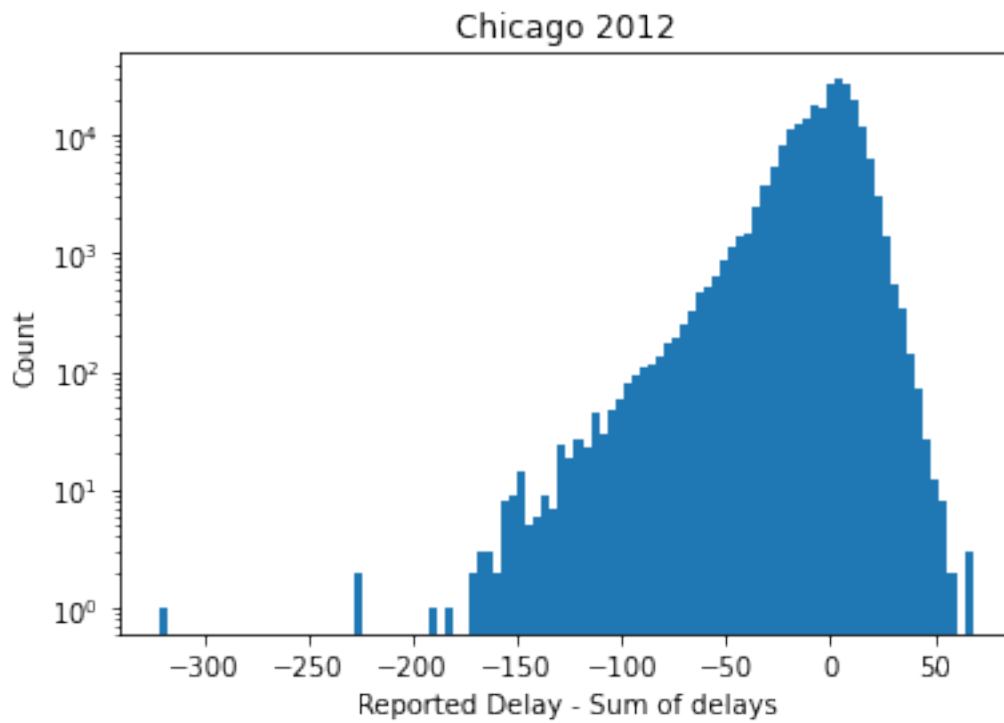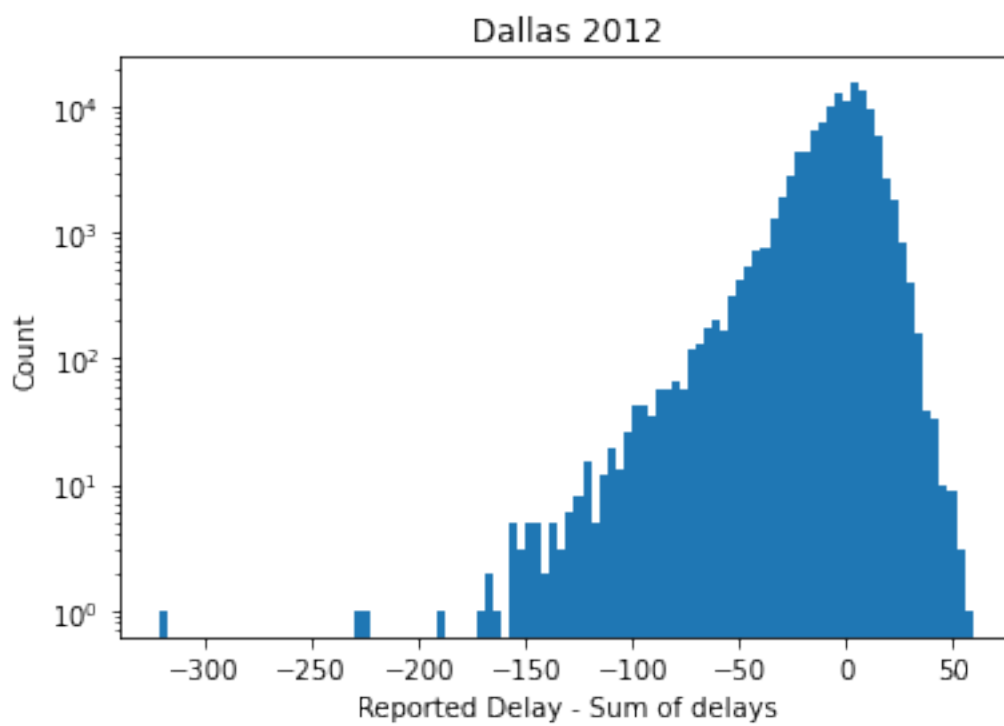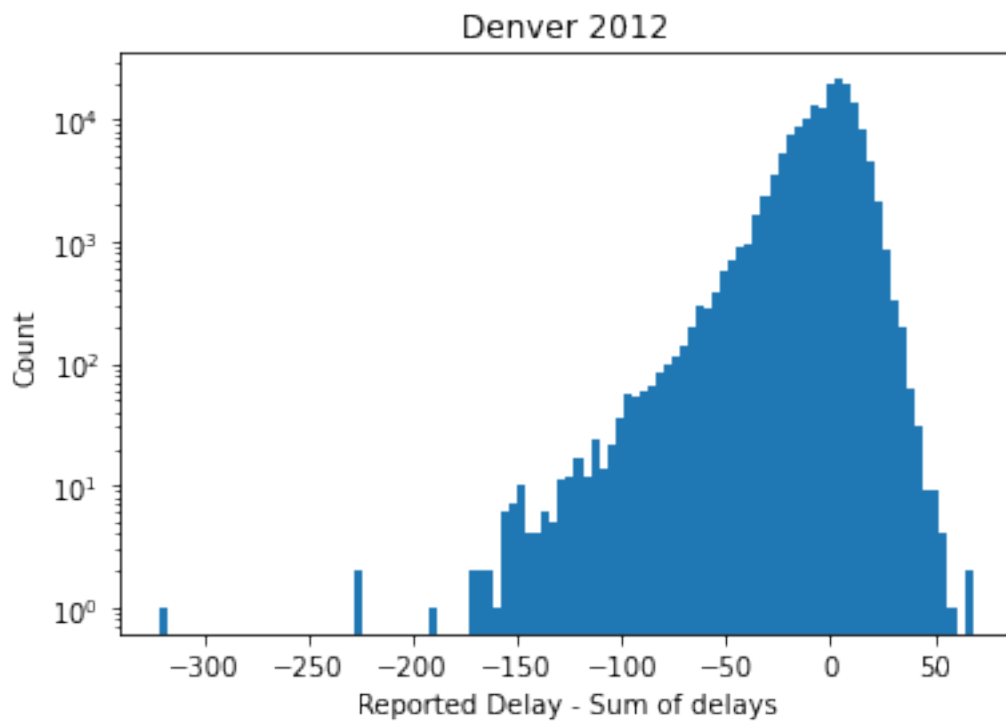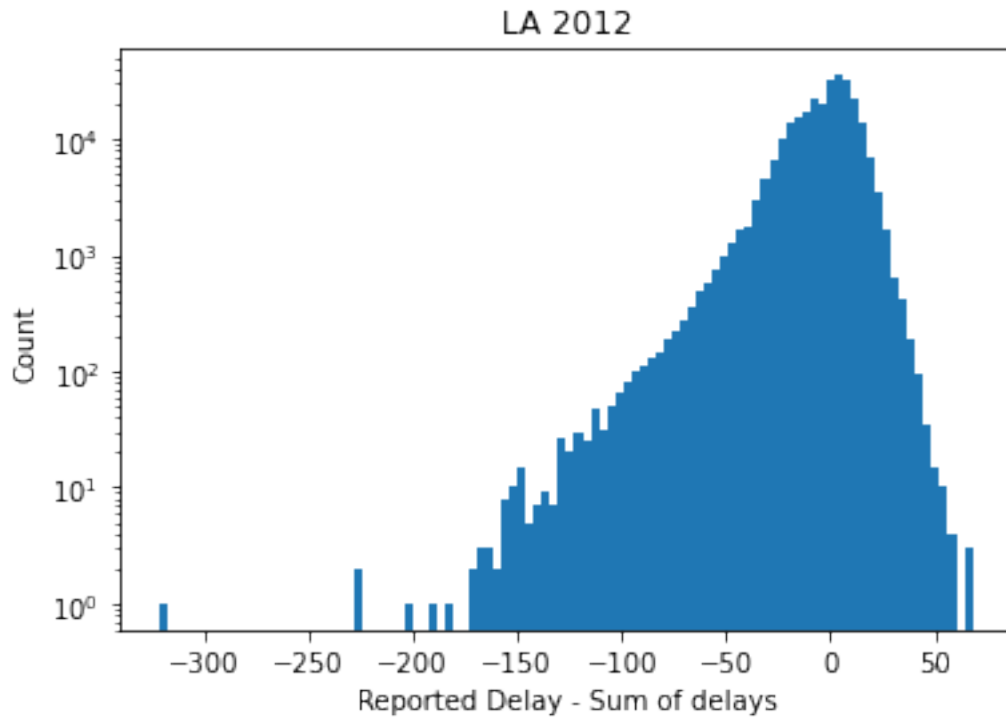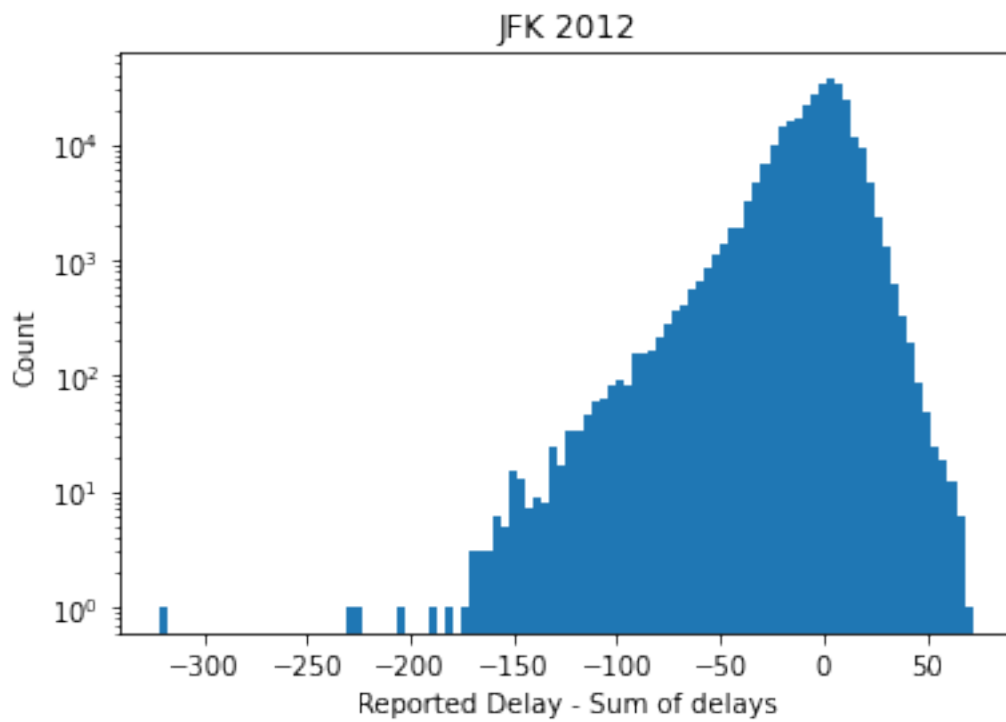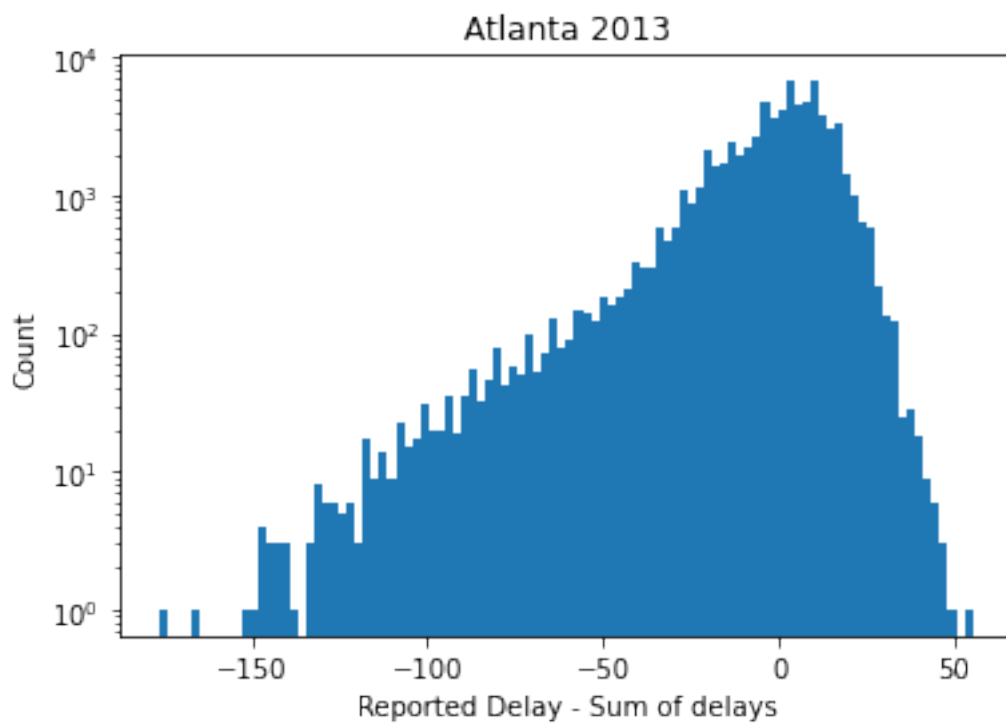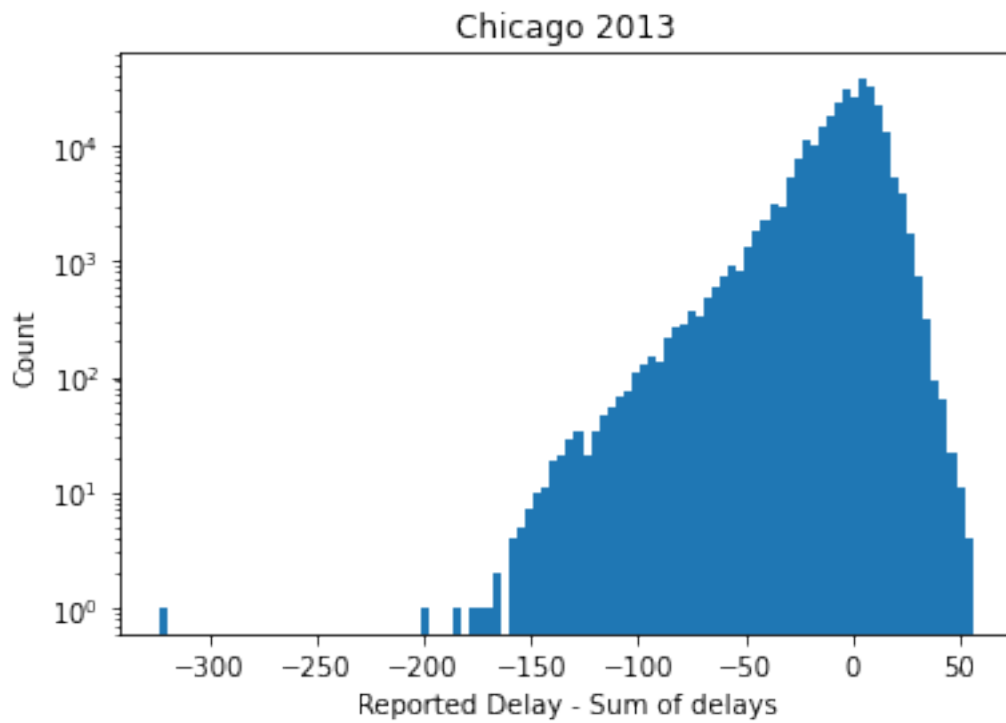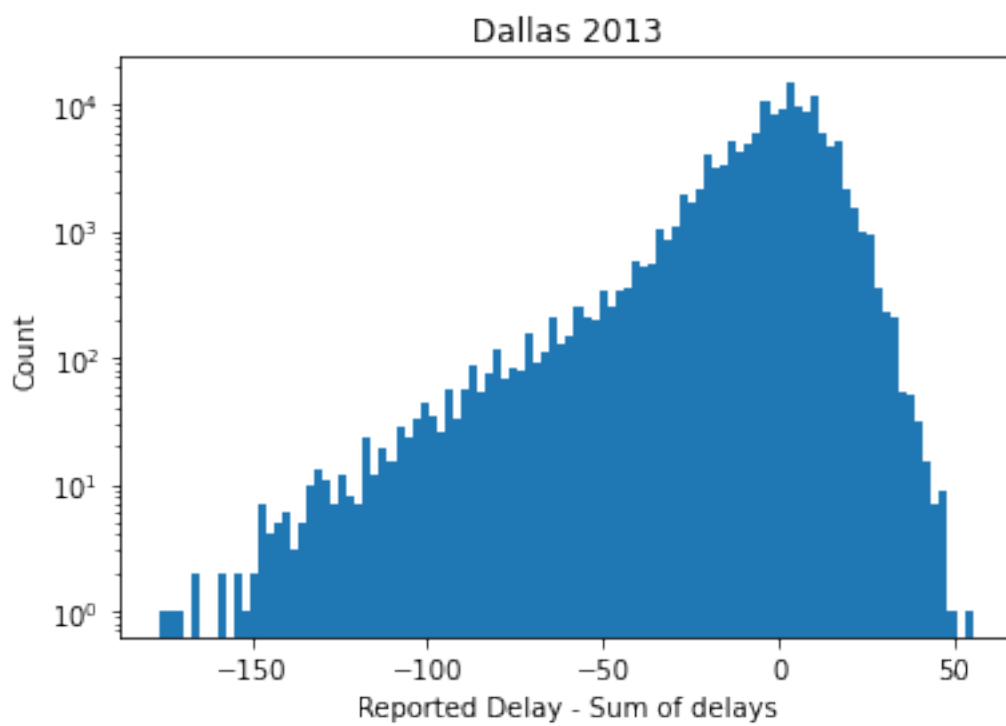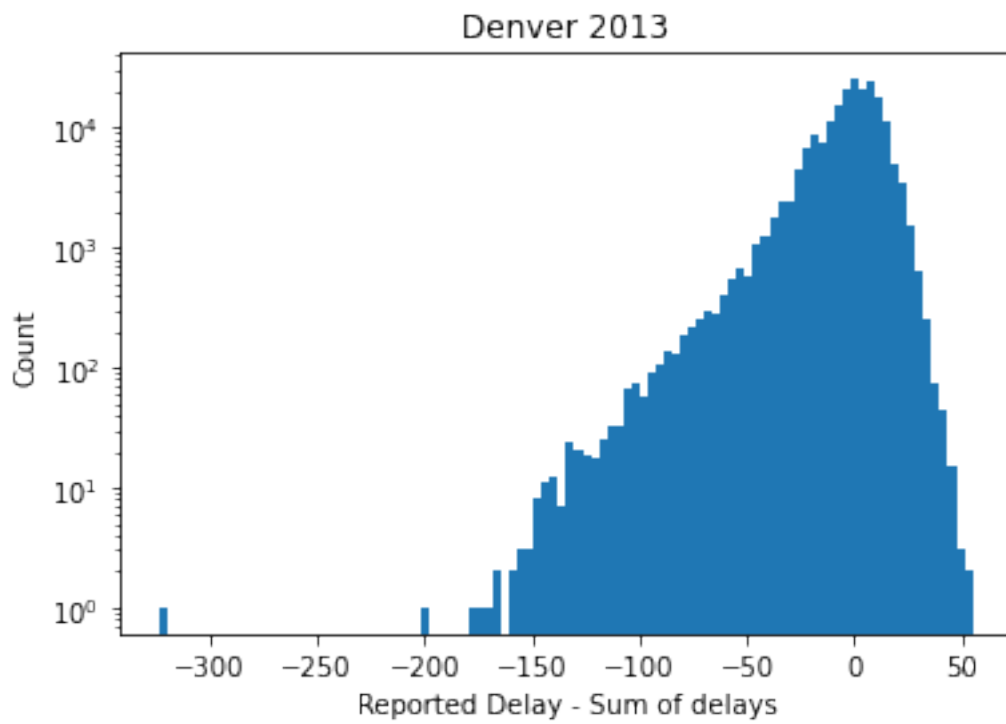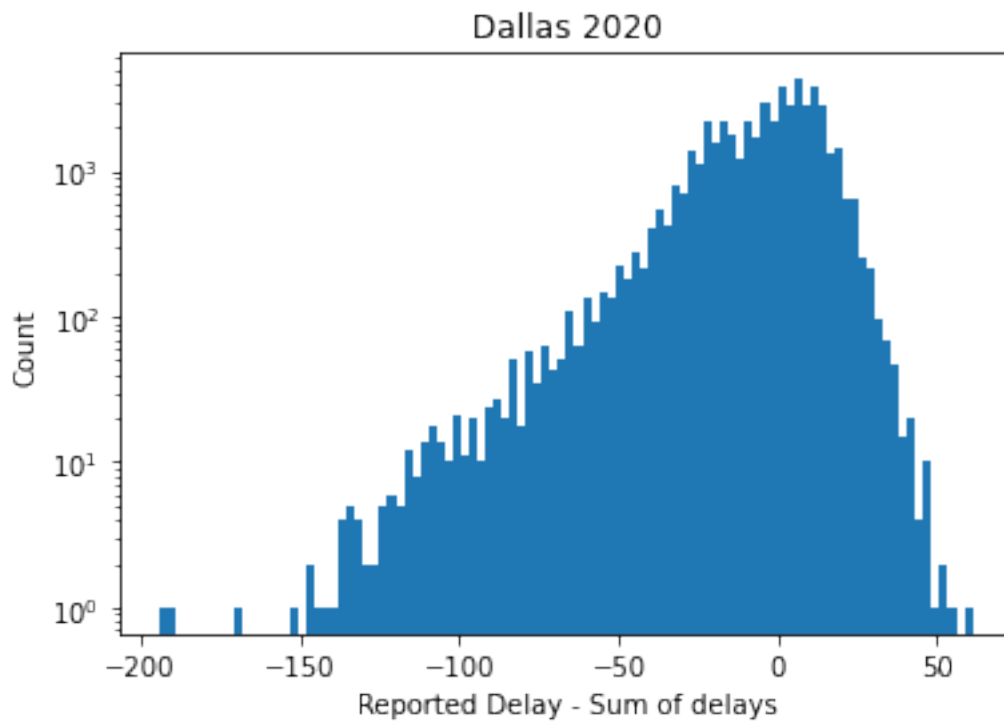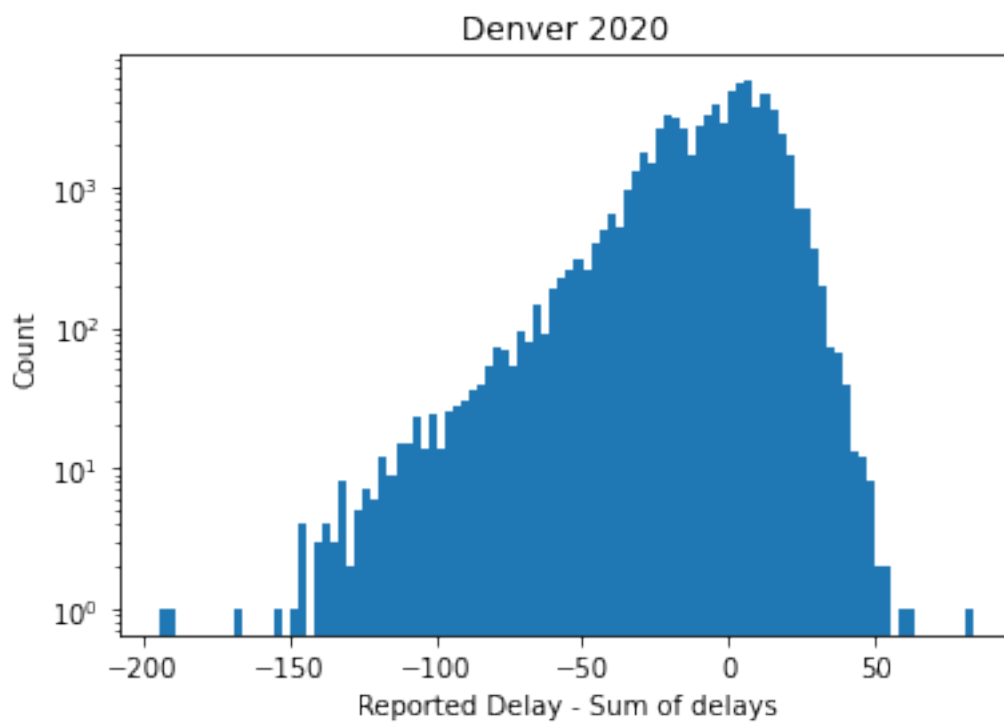
```python
[51]: data_dict = {'Year': year,
         'Aiport': airport,
         'Flights': all_data,
         'Cancelled_flights': cancelled_flights,
         'Flight_Nan': flight_with_nan,
         'Flight_Nan_and_delay': flight_with_nan_and_delay,
         'Flight_non_nan': flight_with_non_nan}
df = pd.DataFrame.from_dict(data_dict)
pd.set_option('display.max_rows', None)
display(df)
df.to_csv('Basic_data_info.csv')
```

```
    Year  Aiport  Flights  Cancelled_flights  Flight_Nan  \
0   2012  Atlanta   389756               2259      332941
1   2012  Chicago  1195574              15396      966244
2   2012   Dallas   657242               7239      541758
3   2012   Denver   890953               9239      729709
4   2012       LA  1416163              17711     1145481
5   2012      JFK  1511687              19302     1223040
6   2013  Atlanta   395962               2916      323122
7   2013  Chicago  1196426              21915      913954
8   2013   Dallas   675239              10066      535353
9   2013   Denver   899142              12760      701107
10  2013       LA  1418806              24356     1095014
11  2013      JFK  1528123              26318     1178482
12  2014  Atlanta   363802               5977      296904
13  2014  Chicago  1129928              29401      847984
14  2014   Dallas   635281              12807      498430
15  2014   Denver   856346              15947      659696
16  2014       LA  1349367              31894     1021645
```

17	2014	JFK	1447608	34213	1096816
18	2015	Atlanta	376836	2588	317428
19	2015	Chicago	1147737	20009	919187
20	2015	Dallas	630764	9255	518118
21	2015	Denver	842799	11411	684562
22	2015	LA	1357899	22248	1086582
23	2015	JFK	1458060	24201	1165222
24	2016	Atlanta	382129	2246	326193
25	2016	Chicago	1038975	11667	849284
26	2016	Dallas	575889	4535	479031
27	2016	Denver	798853	7707	661982
28	2016	LA	1250059	13566	1013040
29	2016	JFK	1346601	14775	1088447
30	2017	Atlanta	359236	5419	299231
31	2017	Chicago	1023004	12484	829952
32	2017	Dallas	538576	7287	441201
33	2017	Denver	760263	8765	621512
34	2017	LA	1235194	14591	994588
35	2017	JFK	1327572	16667	1064188
36	2018	Atlanta	387502	2544	323458
37	2018	Chicago	1221645	16640	968547
38	2018	Dallas	661435	7909	535496
39	2018	Denver	895829	9504	723510
40	2018	LA	1441019	18537	1150573
41	2018	JFK	1567236	21972	1250758
42	2019	Atlanta	392603	2406	331084
43	2019	Chicago	1265272	25713	993189
44	2019	Dallas	689052	10301	557767
45	2019	Denver	936227	15152	748527
46	2019	LA	1482392	28545	1172780
47	2019	JFK	1607501	30581	1272728
48	2020	Atlanta	243342	11982	221680
49	2020	Chicago	822703	46621	732541
50	2020	Dallas	457308	23837	406428
51	2020	Denver	644790	34895	574481
52	2020	LA	940555	52937	840876
53	2020	JFK	994119	56467	889237
54	2021	Atlanta	311206	2093	269521
55	2021	Chicago	1074572	21370	876415
56	2021	Dallas	582616	11101	485333
57	2021	Denver	838265	16724	683433
58	2021	LA	1246713	23547	1019359
59	2021	JFK	1328306	24611	1086965
60	2022	Atlanta	312944	4982	256417
61	2022	Chicago	1099600	27072	858367
62	2022	Dallas	581738	12896	461952
63	2022	Denver	846196	19905	657991
64	2022	LA	1287923	29905	1013600

```
65   2022        JFK   1419630                34779        1110943

     Flight_Nan_and_delay   Flight_non_nan
0                   76578           56815
1                  265377          229330
2                  130472          115484
3                  199889          161244
4                  316376          270682
5                  333277          288647
6                   89640           72840
7                  297800          282472
8                  165491          139886
9                  230475          198035
10                 350316          323792
11                 370804          349641
12                  88992           66898
13                 264451          281944
14                 145827          136851
15                 204120          196650
16                 316177          327722
17                 334016          350792
18                  84782           59408
19                 257717          228550
20                 137994          112646
21                 191836          158237
22                 306921          271317
23                 327146          292838
24                  77503           55936
25                 207738          189691
26                 111667           96858
27                 159077          136871
28                 260655          237019
29                 280259          258154
30                  74113           60005
31                 190969          193052
32                 105636           97375
33                 150301          138751
34                 238482          240606
35                 254119          263384
36                  82428           64044
37                 220421          253098
38                 127602          125939
39                 175586          172319
40                 265387          290446
41                 285631          316478
42                  78029           61519
43                 235205          272083
44                 130985          131285
```

```
45              186844          187700
46              285368          309612
47              305430          334773
48               29581           21662
49              102820           90162
50               58065           50880
51               85126           70309
52              118305           99679
53              124161          104882
54               59968           41685
55              220299          198157
56              112635           97283
57              178993          154832
58              256854          227354
59              272208          241341
60               67253           56527
61              239477          241233
62              113255          119786
63              192879          188205
64              279100          274323
65              303755          308687
```

```python
[67]: for i in range(len(years)):
          for j in range(len(airports)):
              gc.collect()

              file_path = os.path.join(basepath, years[i])
              file_name = file_path+'/{}.csv'.format(airports[j])
              print(file_name)
              data_air = pd.read_csv(file_name)

              #### removing cancelled flights ######
              data_not_cancelled = data_air[data_air['CANCELLED']==0]
              data_cancelled = data_air[data_air['CANCELLED']==1]

              data_air = data_not_cancelled.drop(columns = ['CANCELLATION_CODE',
          →'CANCELLED'])

              data_air_nan = data_air[data_air.isna().any(axis=1)]

              data_non_neg = data_air_nan[data_air_nan['DEP_DELAY'] > 0]

              data_final = data_air.dropna()

              delay_cols = ['CARRIER_DELAY', 'WEATHER_DELAY', 'NAS_DELAY',
          →'SECURITY_DELAY', 'LATE_AIRCRAFT_DELAY']
```

```
        sum_delay = data_final['CARRIER_DELAY'] + data_final['WEATHER_DELAY'] +␣
↪data_final['NAS_DELAY'] + data_final['SECURITY_DELAY'] +␣
↪data_final['LATE_AIRCRAFT_DELAY']

        x = data_final['DEP_DELAY'] - sum_delay

        plt.hist(x, bins=100, log=True)
        plt.ylabel("Count")
        plt.xlabel("Reported Delay - Sum of delays")
        plt.title("{} {}".format(airports[j], years[i]))
        oname = '/Users/ketansand/Downloads/Flight_Data/Plots/Delay_Diff/
↪{}_{}_delay_diff.jpg'.format(airports[j], years[i])
        plt.savefig(oname, bbox_inches='tight', dpi=300)
        plt.show()



        #data_final['sum'] = data_final[delay_cols].sum(axis=1)

        #plt.hist(data_final)
```

/Users/ketansand/Downloads/Flight_Data/2012/Atlanta.csv

Atlanta 2012

/Users/ketansand/Downloads/Flight_Data/2012/Chicago.csv

8

Chicago 2012

/Users/ketansand/Downloads/Flight_Data/2012/Dallas.csv

Dallas 2012

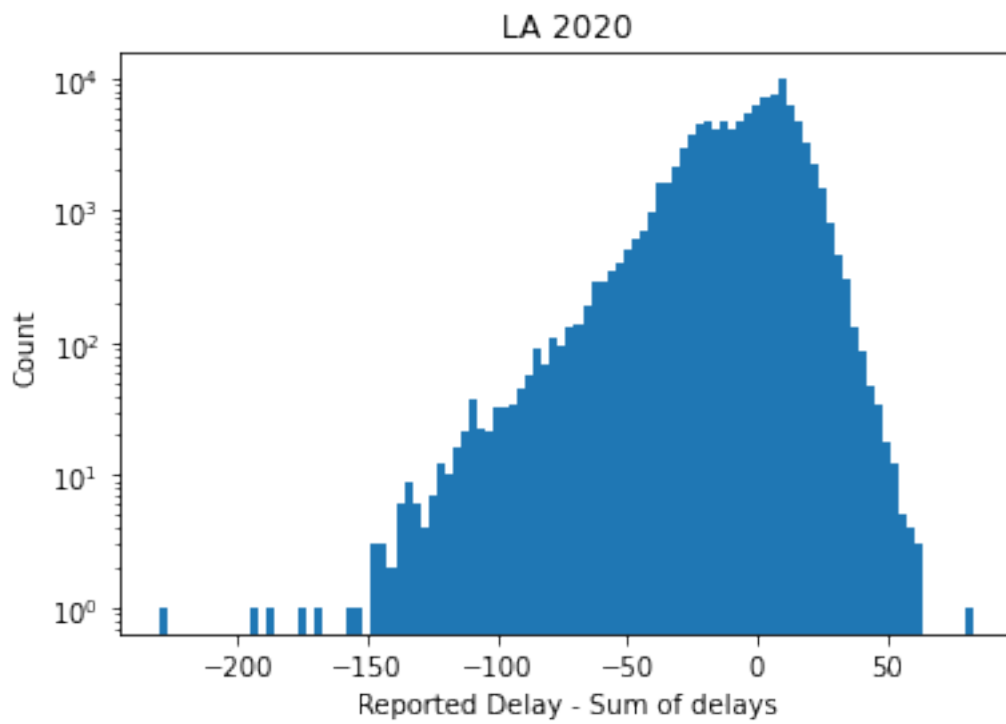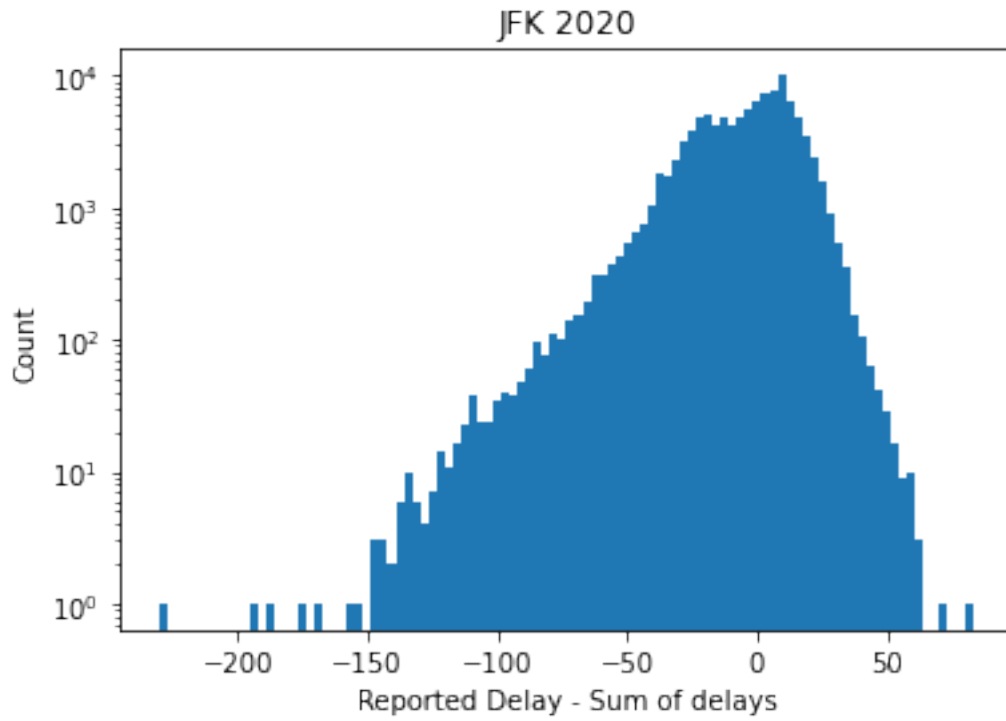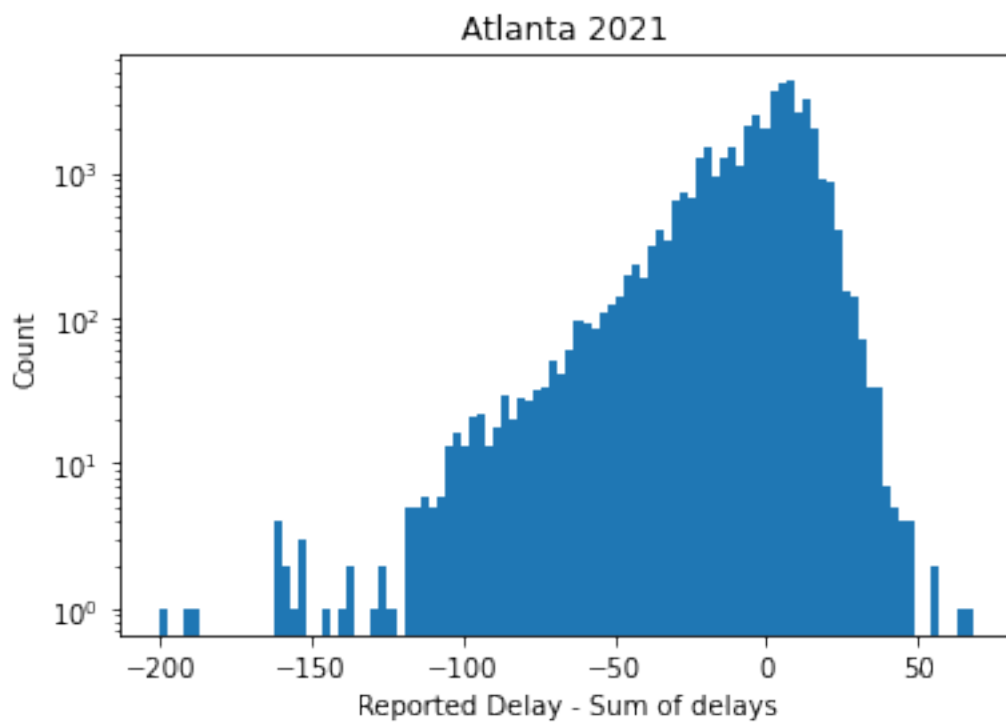/Users/ketansand/Downloads/Flight_Data/2012/Denver.csv

Denver 2012

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LA 2012

/Users/ketansand/Downloads/Flight_Data/2012/JFK.csv

JFK 2012

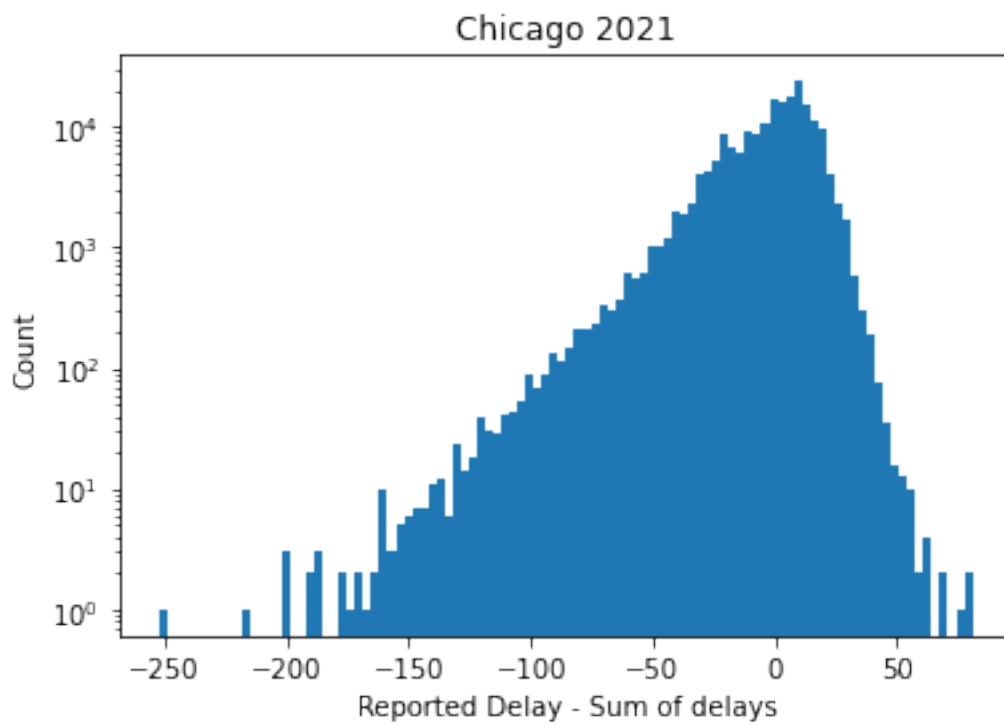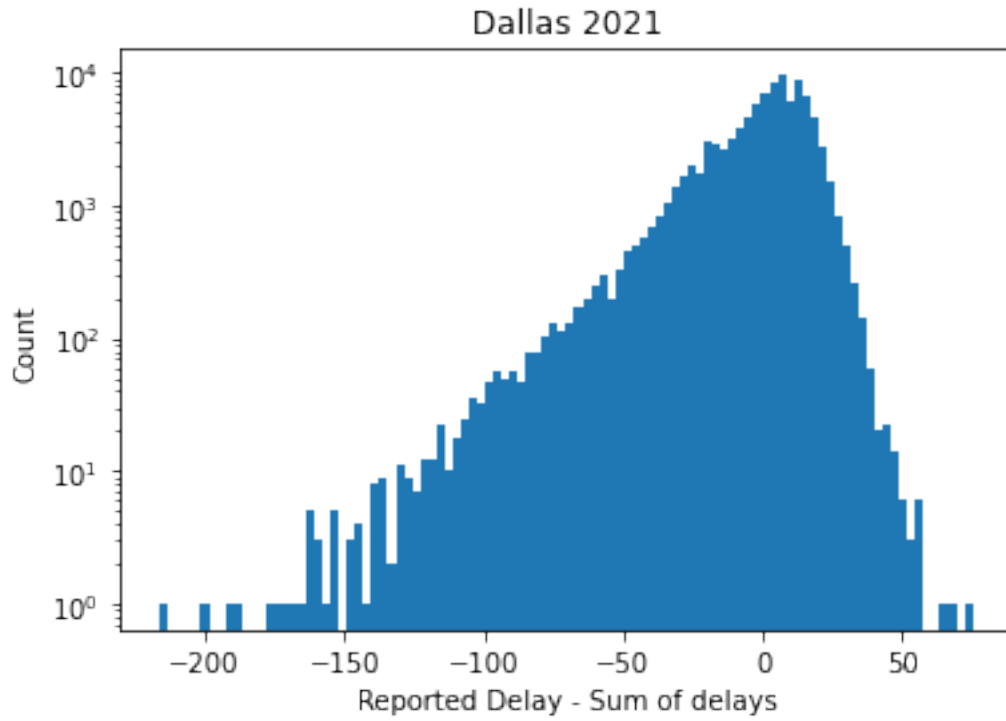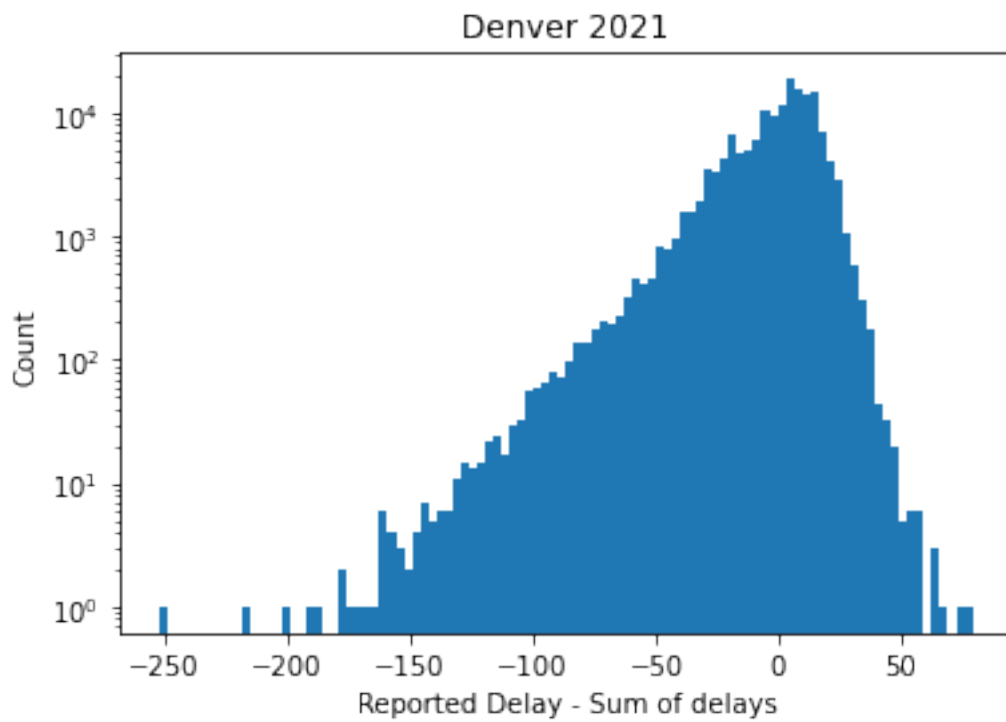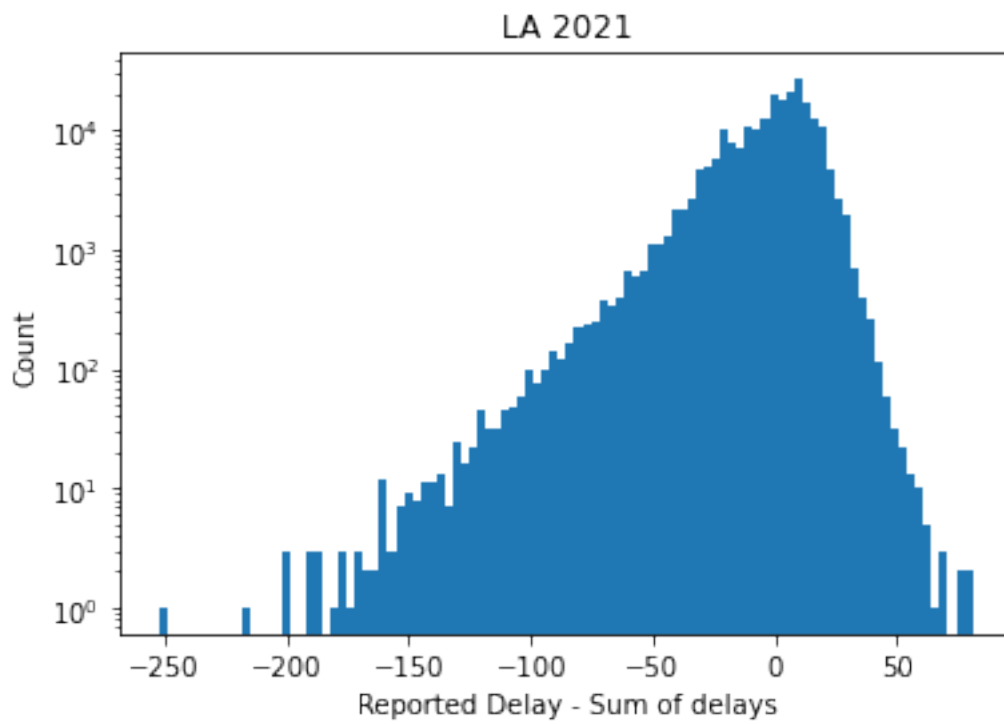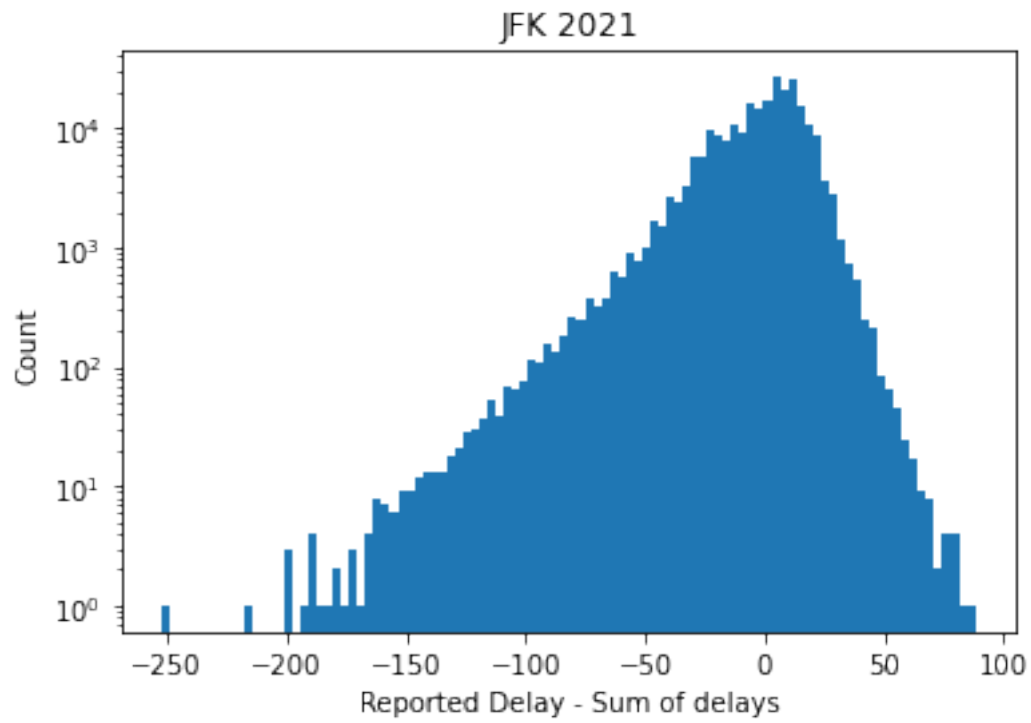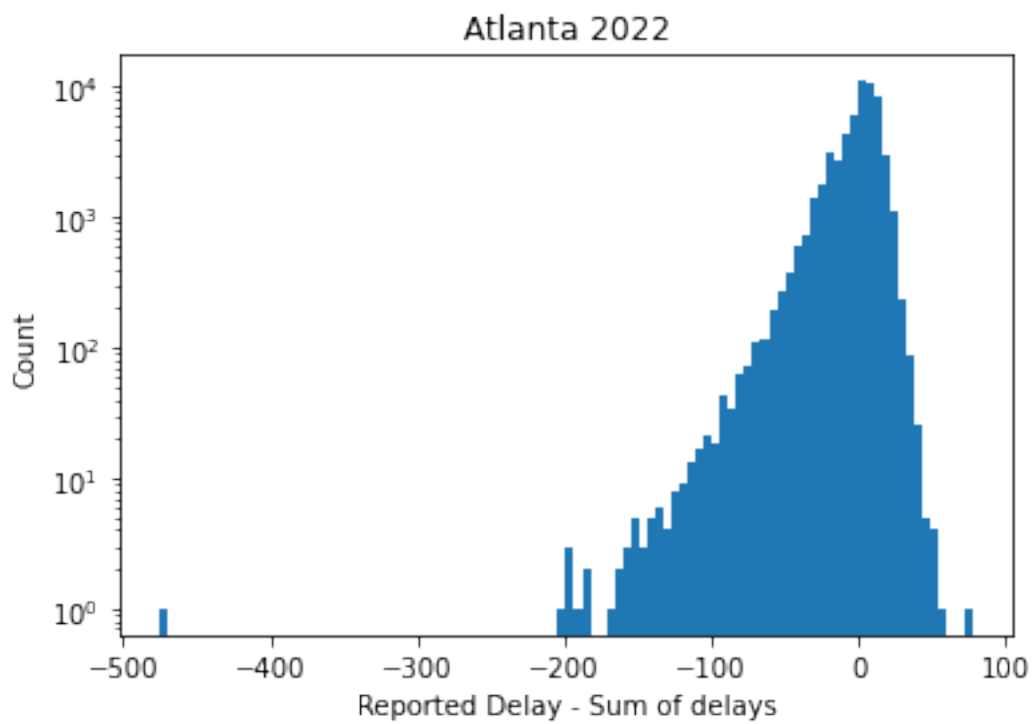/Users/ketansand/Downloads/Flight_Data/2013/Atlanta.csv

Atlanta 2013

/Users/ketansand/Downloads/Flight_Data/2013/Chicago.csv

Chicago 2013

/Users/ketansand/Downloads/Flight_Data/2013/Dallas.csv

Dallas 2013

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/Users/ketansand/Downloads/Flight_Data/2013/Denver.csv

Denver 2013

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LA 2013

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JFK 2013

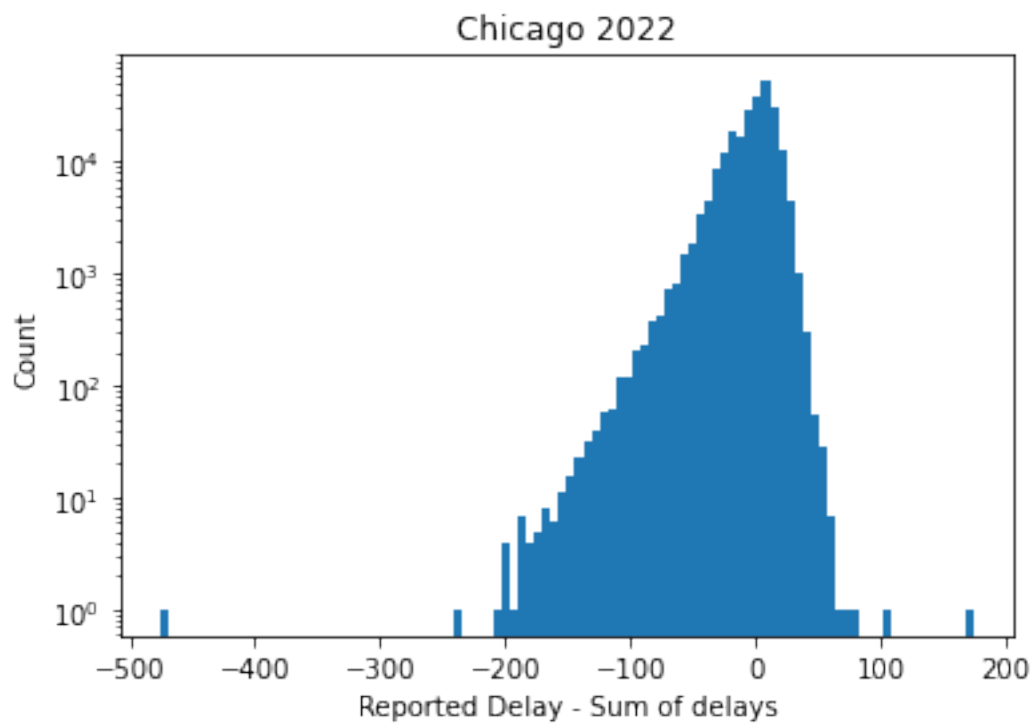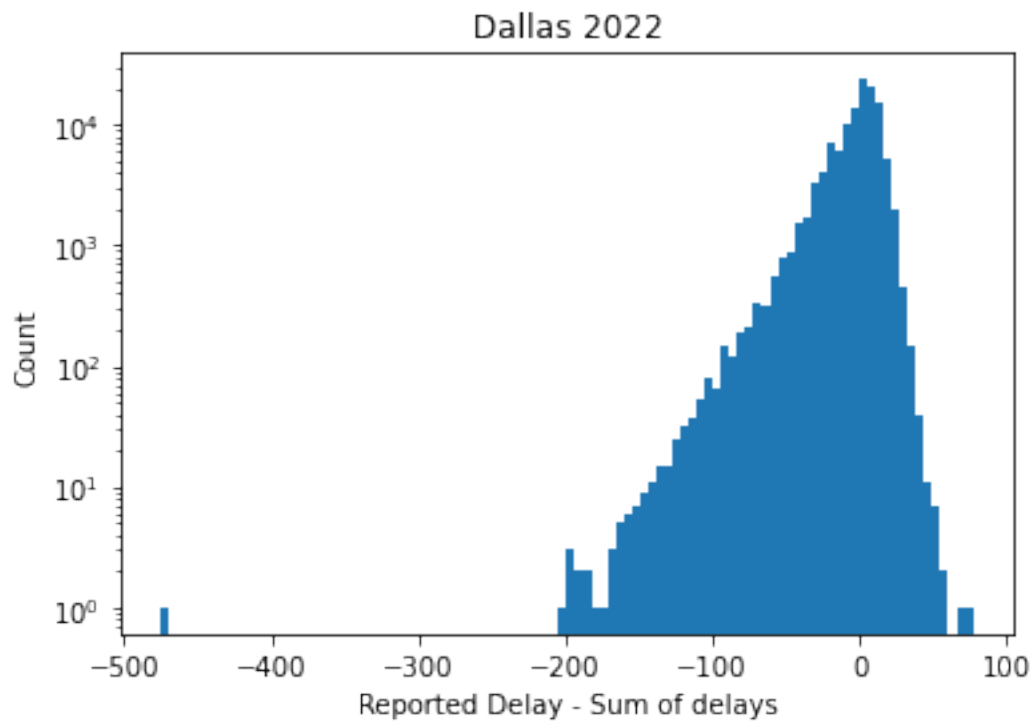/Users/ketansand/Downloads/Flight_Data/2014/Atlanta.csv

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Chicago 2014

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Dallas 2014

/Users/ketansand/Downloads/Flight_Data/2014/Denver.csv

Denver 2014

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LA 2014

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JFK 2014
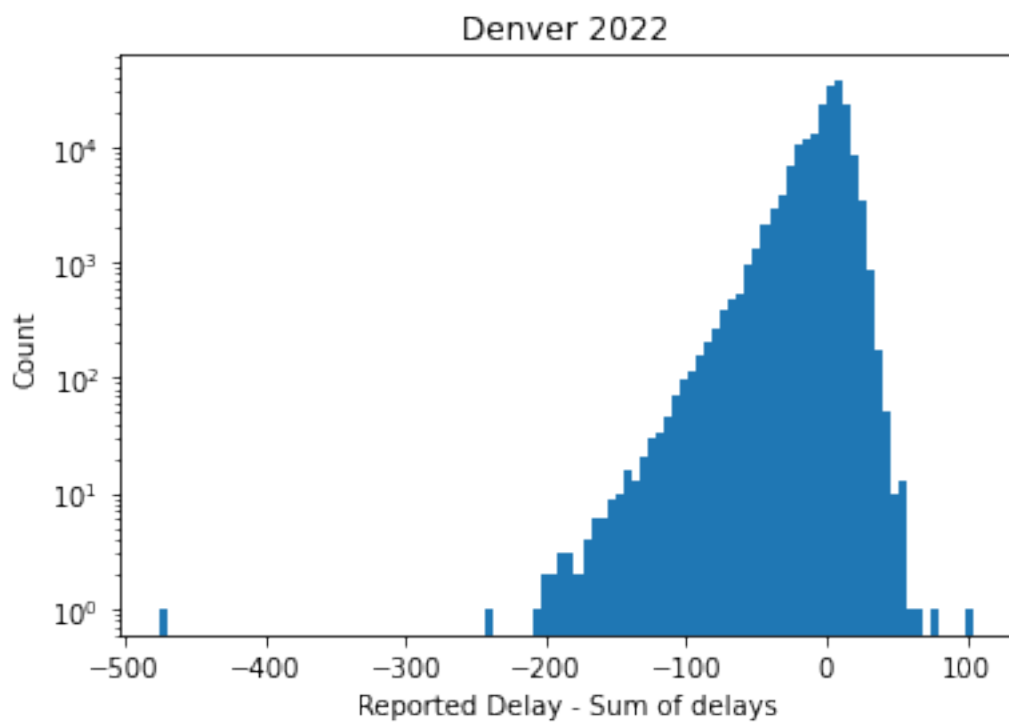
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Atlanta 2015

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Chicago 2015

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Dallas 2015

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Denver 2015

/Users/ketansand/Downloads/Flight_Data/2015/LA.csv

LA 2015

/Users/ketansand/Downloads/Flight_Data/2015/JFK.csv

JFK 2015

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/Users/ketansand/Downloads/Flight_Data/2016/Atlanta.csv

Atlanta 2016

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Chicago 2016

/Users/ketansand/Downloads/Flight_Data/2016/Dallas.csv

Dallas 2016

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Denver 2016

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LA 2016

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JFK 2016

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Atlanta 2017

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Chicago 2017

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Dallas 2017

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Denver 2017

/Users/ketansand/Downloads/Flight_Data/2017/LA.csv

LA 2017

/Users/ketansand/Downloads/Flight_Data/2017/JFK.csv

/Users/ketansand/opt/anaconda3/lib/python3.8/site-packages/IPython/core/interactiveshell.py:3165: DtypeWarning: Columns (8) have mixed types.Specify dtype option on import or set low_memory=False.
  has_raised = await self.run_ast_nodes(code_ast.body, cell_name,

JFK 2017
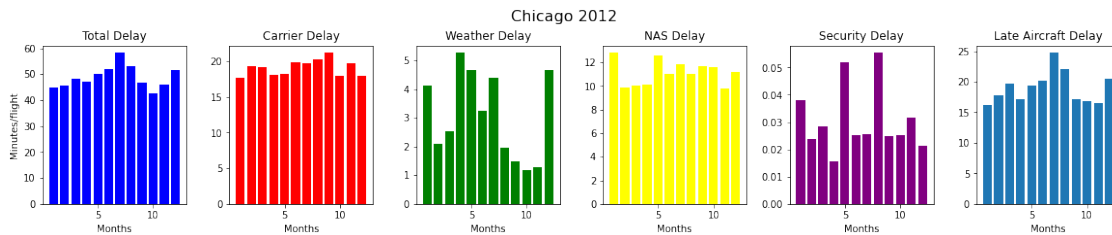
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Atlanta 2018

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/Users/ketansand/Downloads/Flight_Data/2018/Dallas.csv

Dallas 2018

/Users/ketansand/Downloads/Flight_Data/2018/Denver.csv

Denver 2018

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/Users/ketansand/Downloads/Flight_Data/2018/LA.csv

LA 2018

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JFK 2018

/Users/ketansand/Downloads/Flight_Data/2019/Atlanta.csv

Atlanta 2019
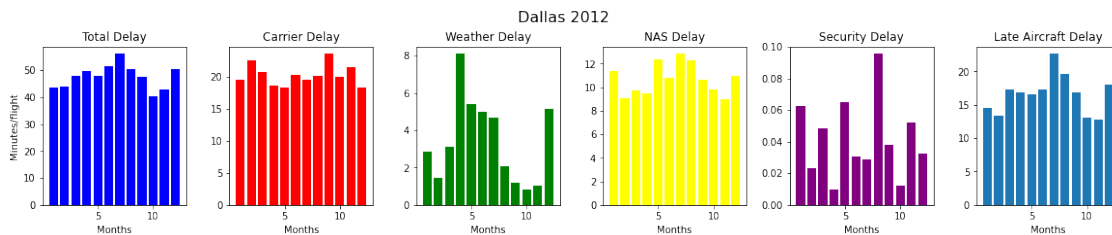
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Chicago 2019

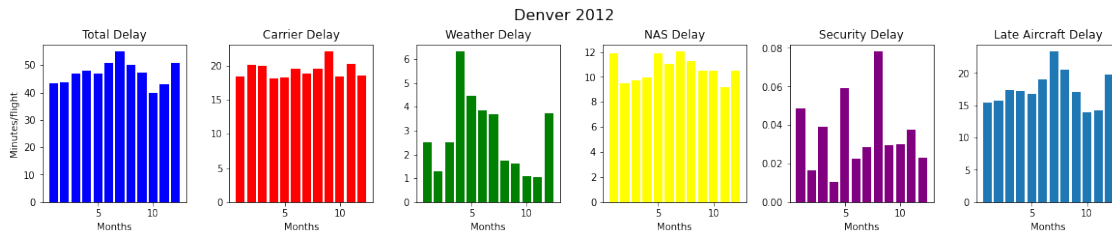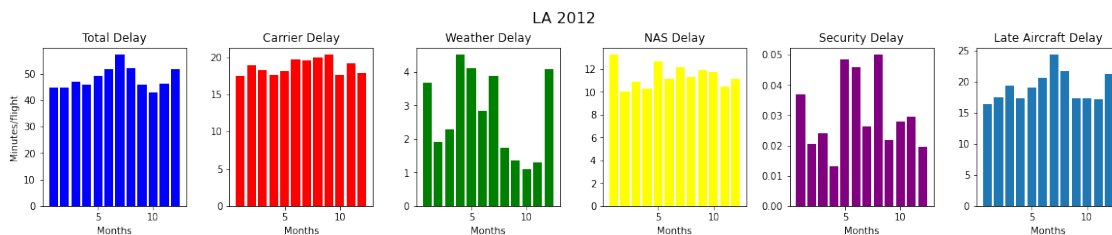/Users/ketansand/Downloads/Flight_Data/2019/Dallas.csv

Dallas 2019

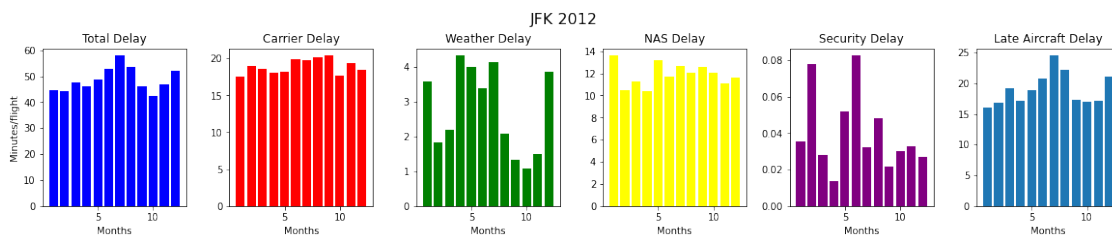/Users/ketansand/Downloads/Flight_Data/2019/Denver.csv
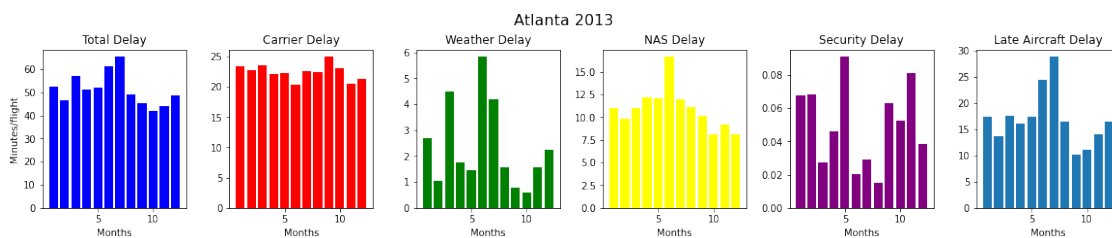

Denver 2019

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LA 2019

/Users/ketansand/Downloads/Flight_Data/2019/JFK.csv

JFK 2019

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Atlanta 2020

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Chicago 2020

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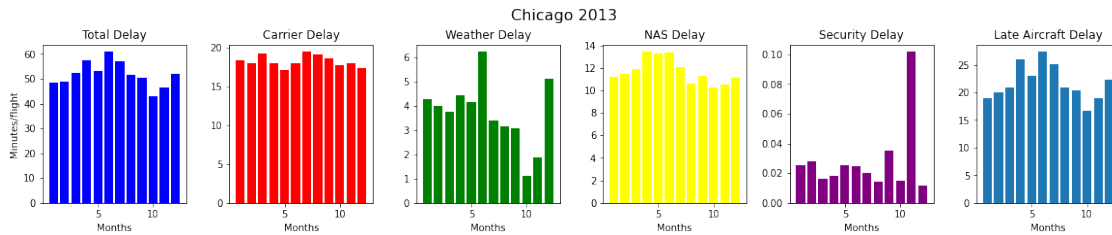/Users/ketansand/Downloads/Flight_Data/2020/LA.csv

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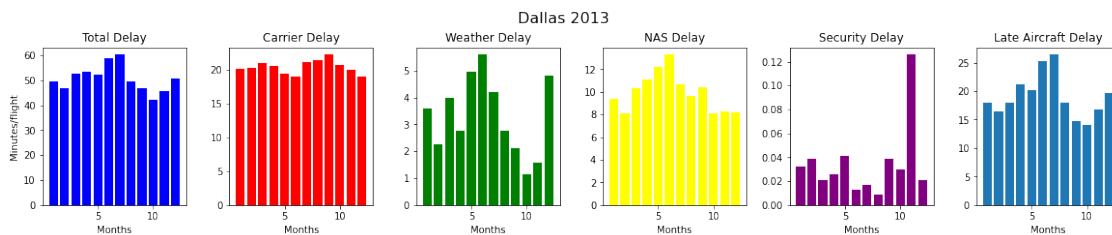/Users/ketansand/Downloads/Flight_Data/2020/JFK.csv

JFK 2020

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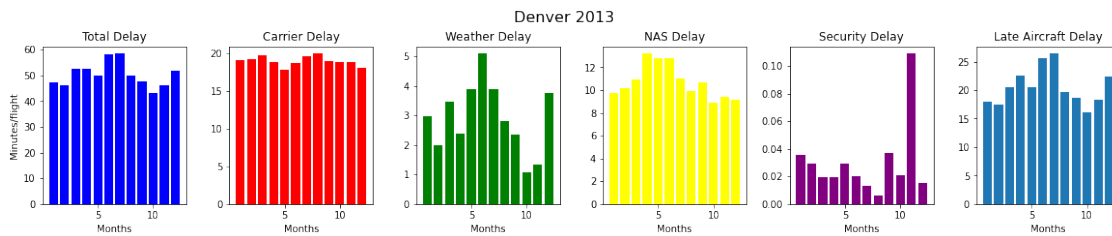

Atlanta 2021

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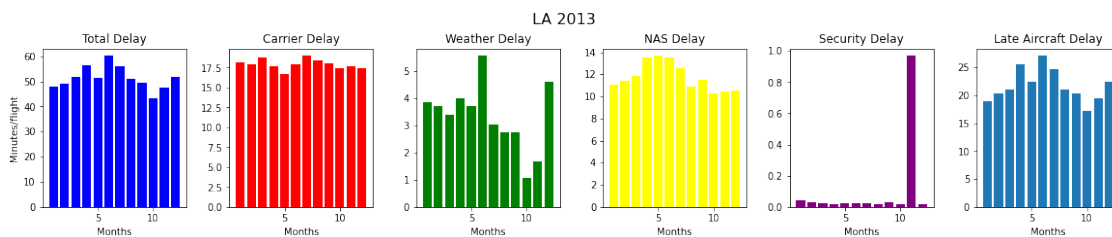

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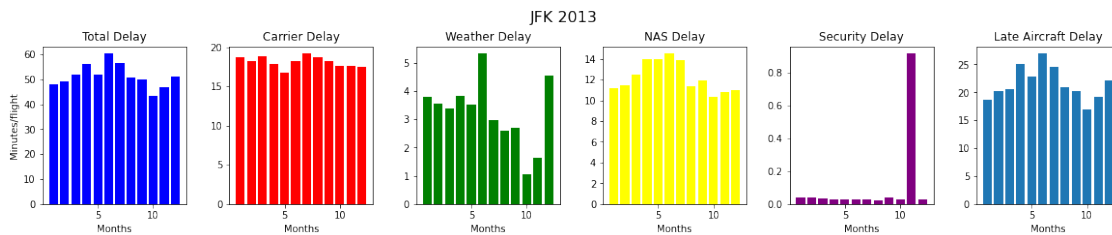
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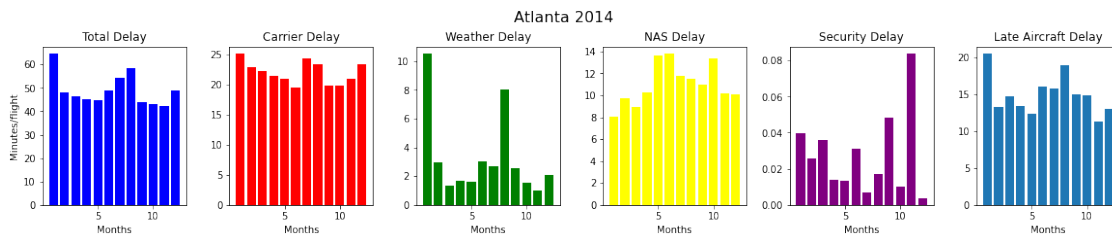/Users/ketansand/Downloads/Flight_Data/2021/Denver.csv

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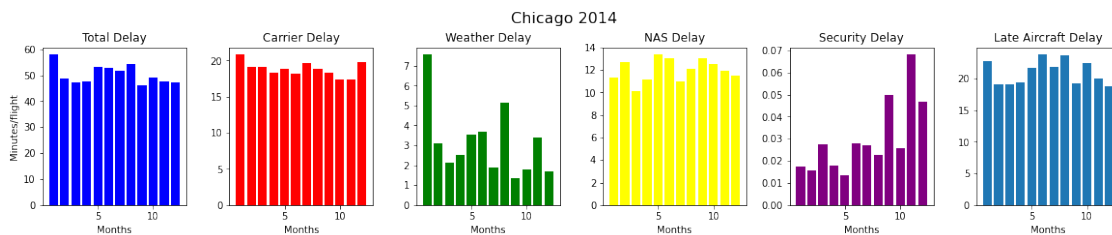/Users/ketansand/Downloads/Flight_Data/2021/LA.csv

LA 2021

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JFK 2021

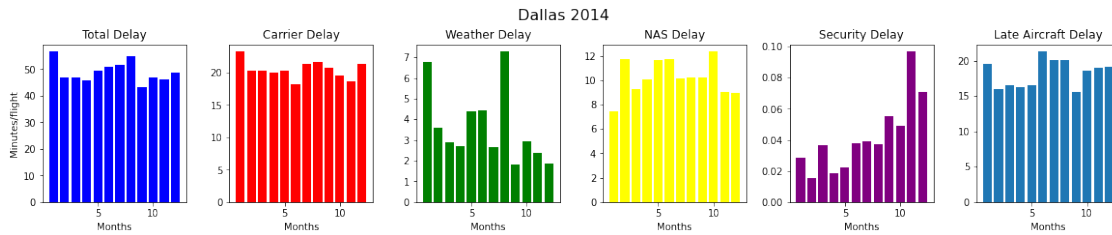/Users/ketansand/Downloads/Flight_Data/2022/Atlanta.csv
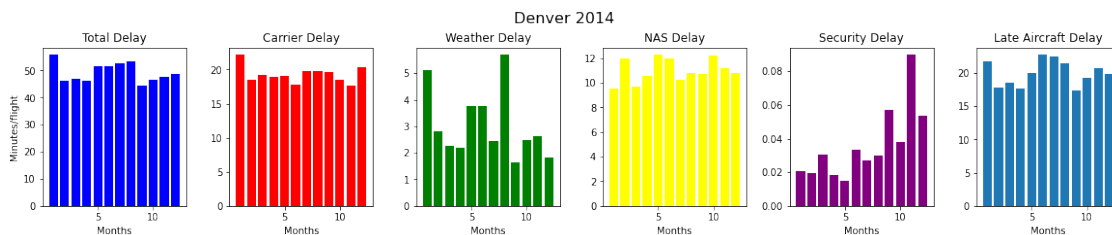

Atlanta 2022

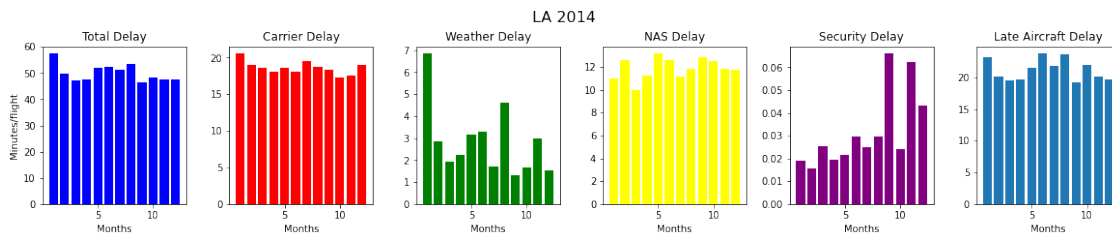/Users/ketansand/Downloads/Flight_Data/2022/Chicago.csv

Chicago 2022

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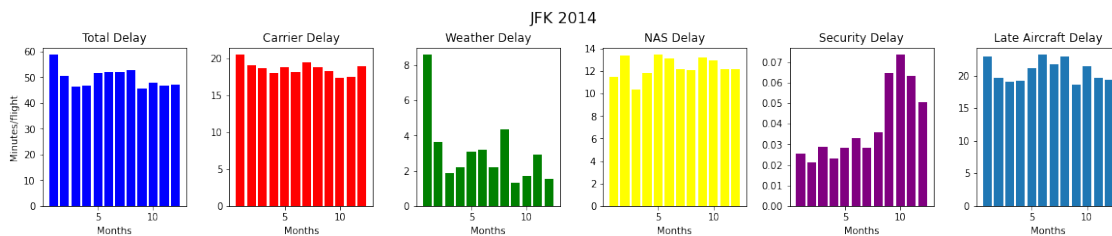
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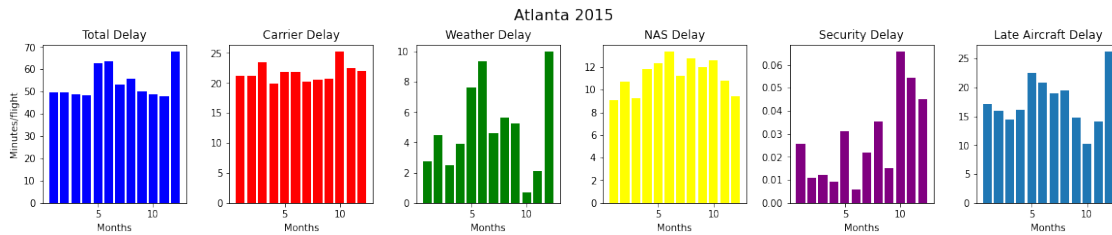/Users/ketansand/Downloads/Flight_Data/2022/Denver.csv

Denver 2022
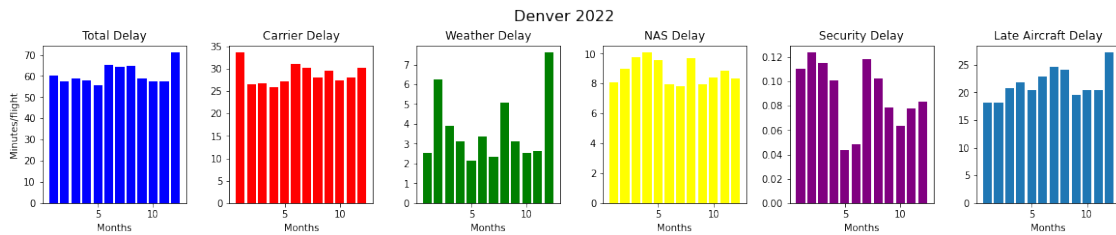
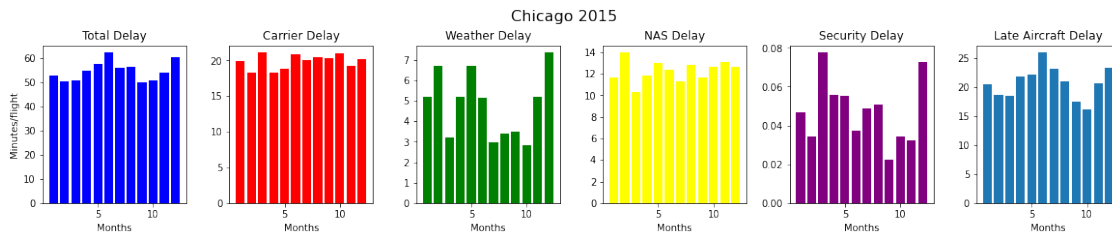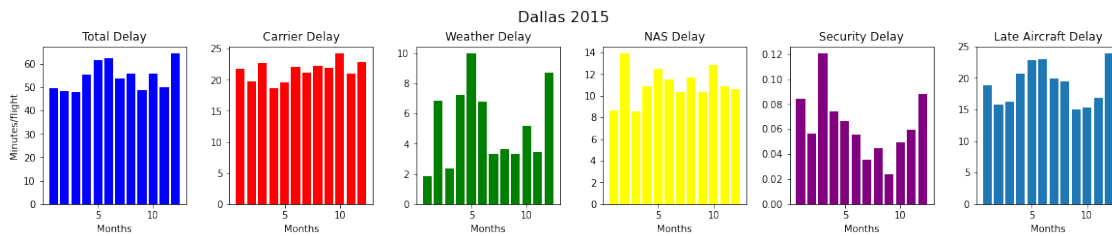/Users/ketansand/Downloads/Flight_Data/2022/LA.csv

LA 2022

/Users/ketansand/Downloads/Flight_Data/2022/JFK.csv

JFK 2022

```
[69]: for i in range(len(years)):
          for j in range(len(airports)):
              gc.collect()

              file_path = os.path.join(basepath, years[i])
              file_name = file_path+'/{}.csv'.format(airports[j])
              print(file_name)
              data_air = pd.read_csv(file_name)

              ###### Separating cancelled flights #####
              data_not_cancelled = data_air[data_air['CANCELLED']==0]
              data_cancelled = data_air[data_air['CANCELLED']== 1.0]
              data_not_cancelled = data_not_cancelled.drop(columns =␣
       ↪['CANCELLATION_CODE'])
              data_final = data_not_cancelled.dropna()

              #### Normalizing by number of flights per month #####
      #         nflights_mon = []
      #         for i in range(12):
      #             month = data_final[data_final['Month']==i+1]
      #             nflights_mon.append(len(month))

              data_month = data_final.groupby('Month').mean()
```

```python
#           data_month['nflights'] = nflights_mon


        fig, axs = plt.subplots(1, 6, figsize=(20, 3))
        plt.subplots_adjust(wspace=0.3)

        axs[0].bar(data_month.index, data_month['DEP_DELAY'], color = 'blue')
        axs[0].set_xlabel('Months')
        axs[0].set_ylabel('Minutes/flight')
        axs[0].set_title('Total Delay')


        axs[1].bar(data_month.index, data_month['CARRIER_DELAY'], color = 'red')
        axs[1].set_xlabel('Months')
        axs[1].set_title('Carrier Delay')


        axs[2].bar(data_month.index, data_month['WEATHER_DELAY'], color =␣
 ↪'green')
        axs[2].set_xlabel('Months')
        axs[2].set_title('Weather Delay')


        axs[3].bar(data_month.index, data_month['NAS_DELAY'], color = 'yellow')
        axs[3].set_xlabel('Months')
        axs[3].set_title('NAS Delay')


        axs[4].bar(data_month.index, data_month['SECURITY_DELAY'],␣
 ↪color='purple')
        axs[4].set_xlabel('Months')
        axs[4].set_title('Security Delay')

        axs[5].bar(data_month.index, data_month['LATE_AIRCRAFT_DELAY'])
        axs[5].set_xlabel('Months')
        axs[5].set_title('Late Aircraft Delay')

        print(airports[j], years[i])

        plt.suptitle('{} {}'.format(airports[j], years[i]), y=1.05, fontsize=16)

        oname = '/Users/ketansand/Downloads/Flight_Data/Plots/
 ↪Monthly_Histograms/{}_{}_monthly_hist.jpg'.format(airports[j], years[i])
        plt.savefig(oname, bbox_inches='tight', dpi=300)

        plt.show()
```

```
        gc.collect()
```

/Users/ketansand/Downloads/Flight_Data/2012/Atlanta.csv
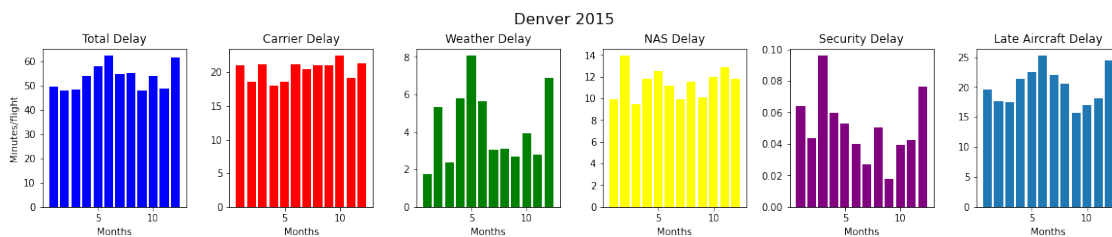Atlanta 2012

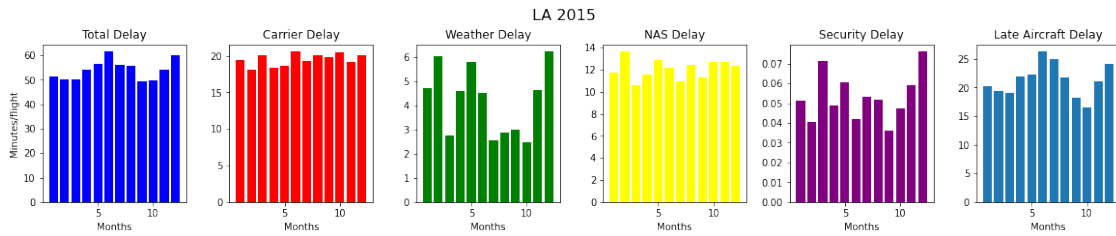/Users/ketansand/Downloads/Flight_Data/2012/Chicago.csv
Chicago 2012

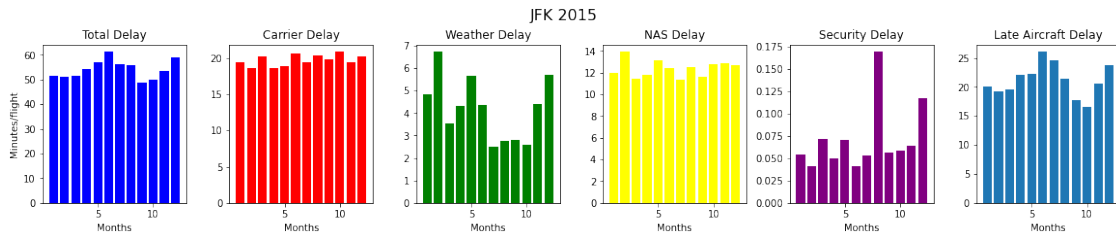/Users/ketansand/Downloads/Flight_Data/2012/Dallas.csv
Dallas 2012

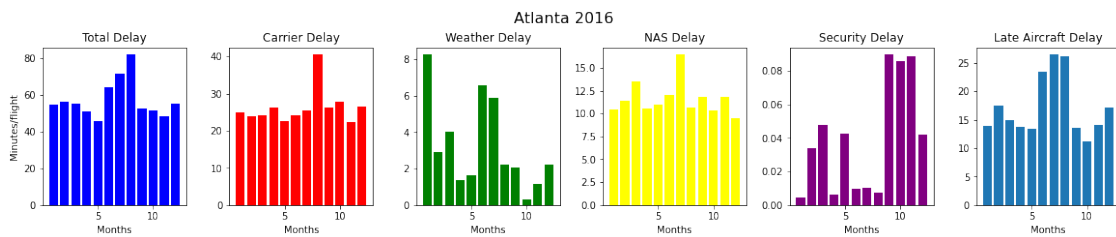/Users/ketansand/Downloads/Flight_Data/2012/Denver.csv
Denver 2012

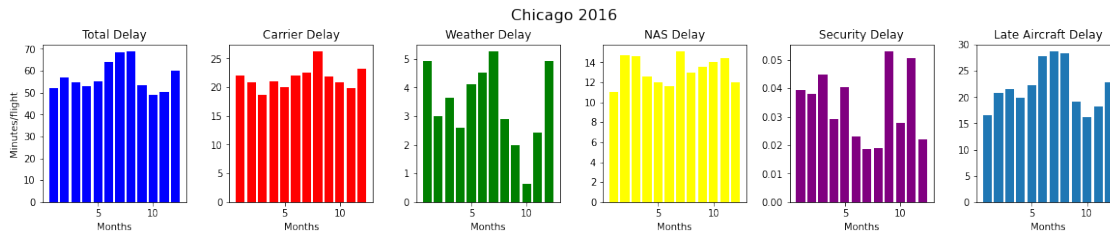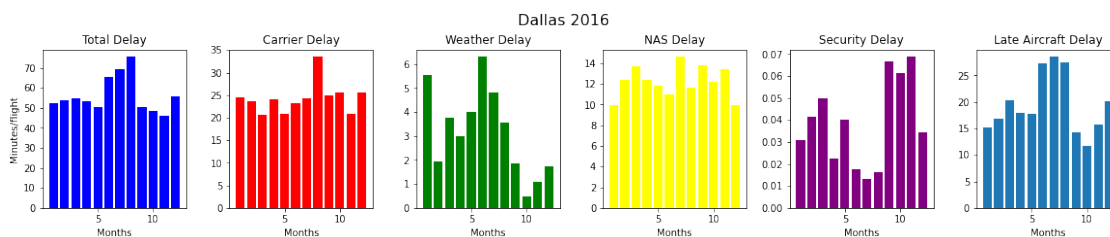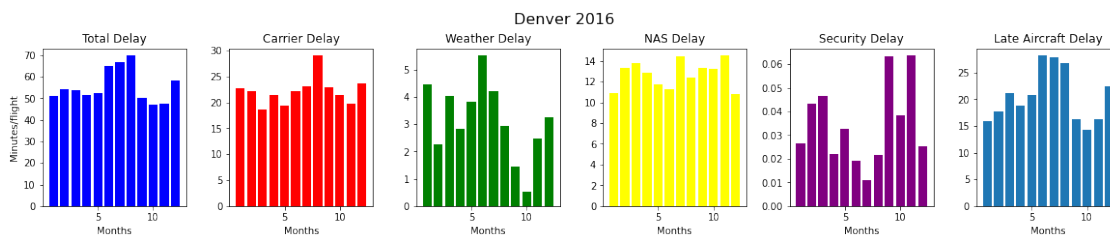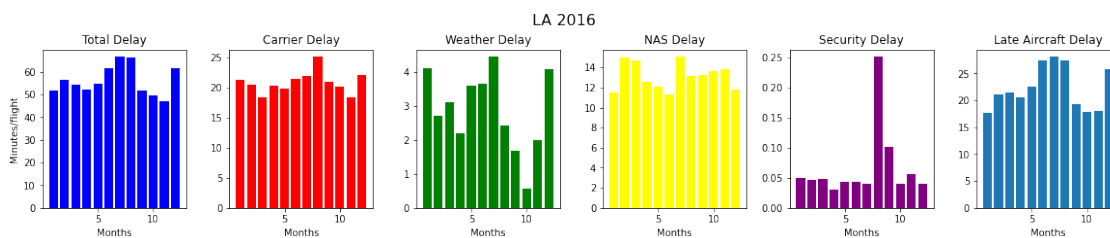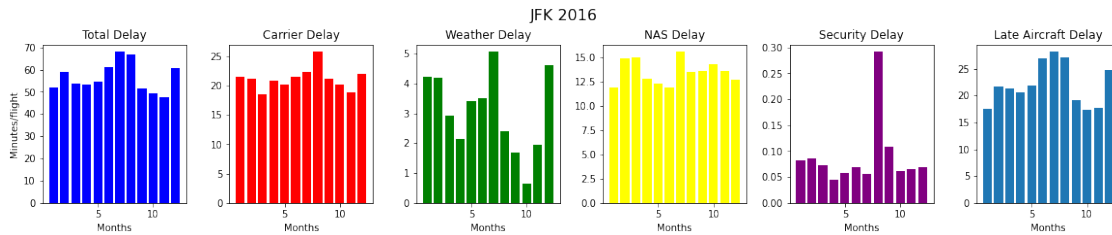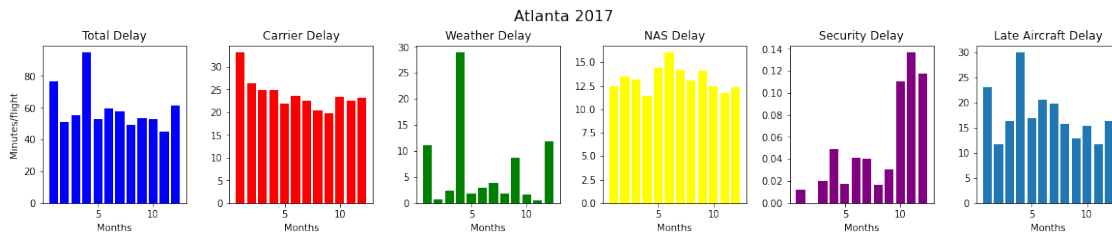Denver 2012
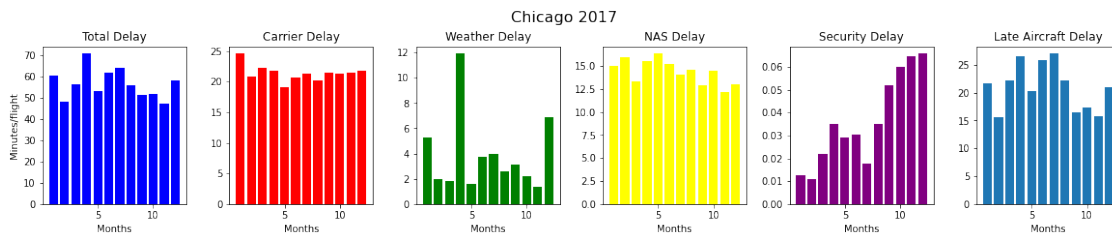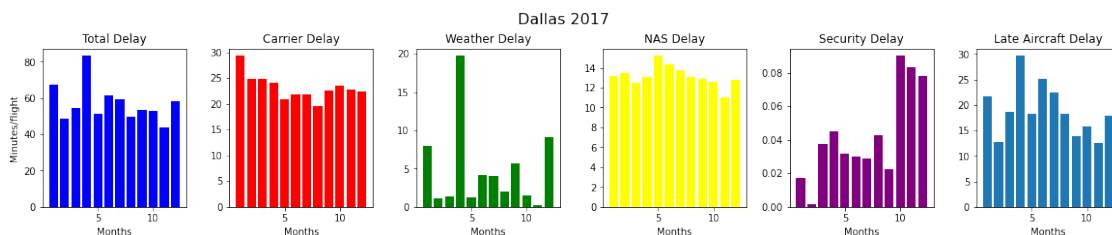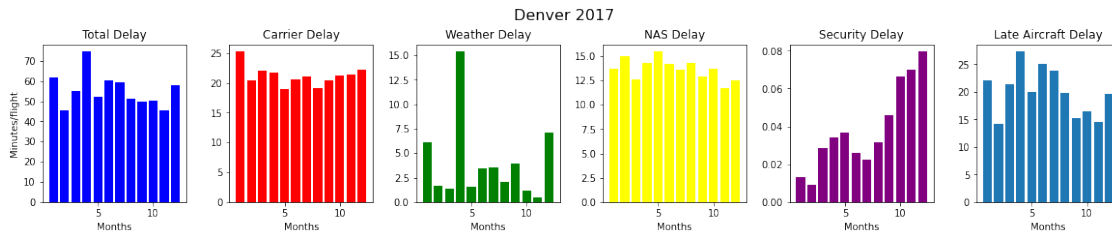
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LA 2012

LA 2012

/Users/ketansand/Downloads/Flight_Data/2012/JFK.csv
JFK 2012

JFK 2012

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Atlanta 2013

Atlanta 2013

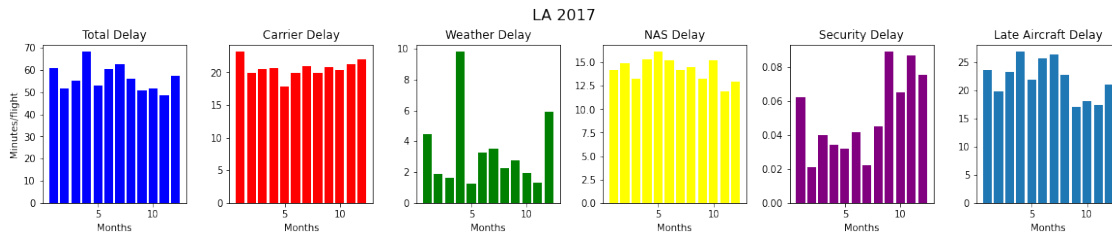/Users/ketansand/Downloads/Flight_Data/2013/Chicago.csv
Chicago 2013

Chicago 2013

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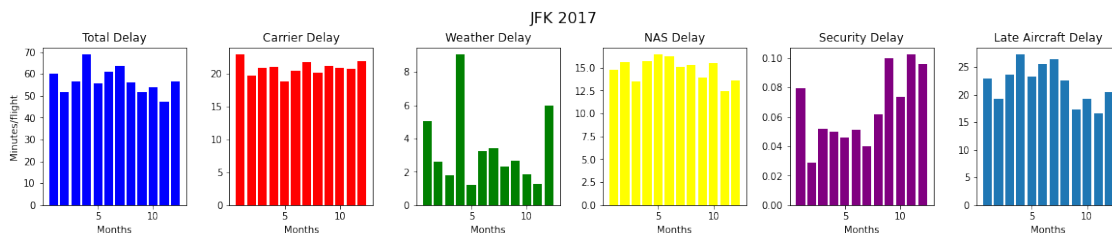
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LA 2013

LA 2013

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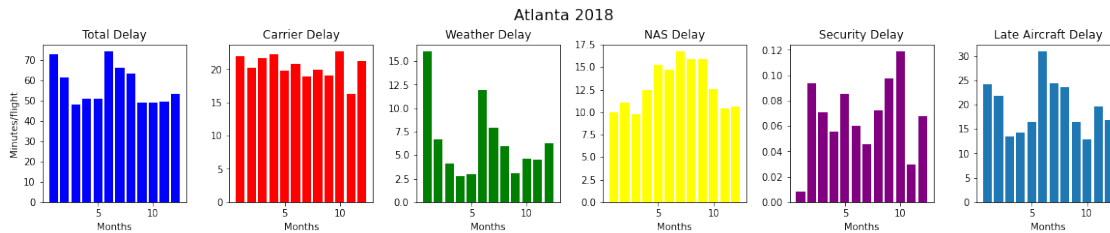JFK 2013

JFK 2013

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Atlanta 2014

Atlanta 2014

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Chicago 2014

Chicago 2014

/Users/ketansand/Downloads/Flight_Data/2014/Dallas.csv
Dallas 2014

Dallas 2014

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Denver 2014

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LA 2014

LA 2014

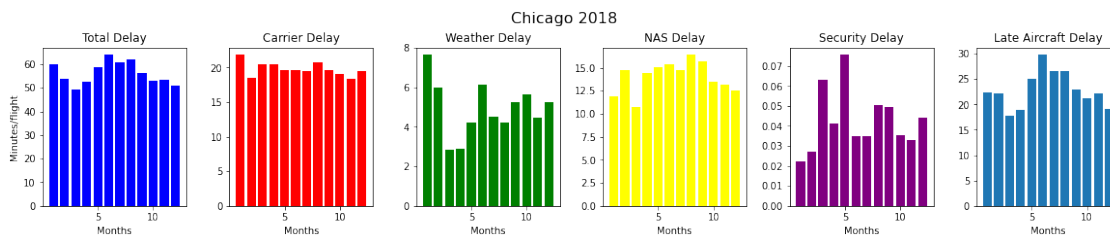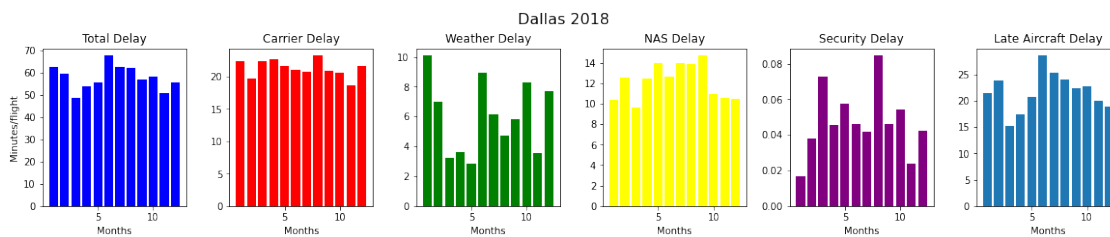/Users/ketansand/Downloads/Flight_Data/2014/JFK.csv
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JFK 2014

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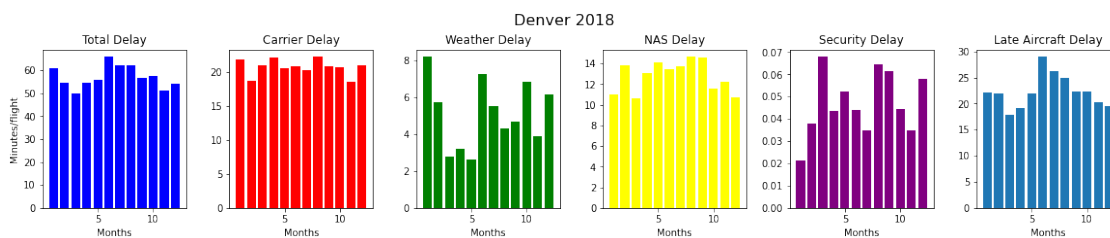Atlanta 2015

Atlanta 2015

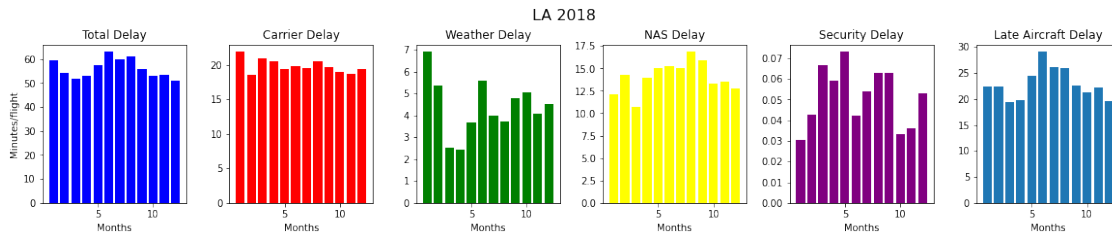/Users/ketansand/Downloads/Flight_Data/2015/Chicago.csv
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Chicago 2015

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Denver 2015

Denver 2015

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LA 2015

LA 2015

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JFK 2015

JFK 2015

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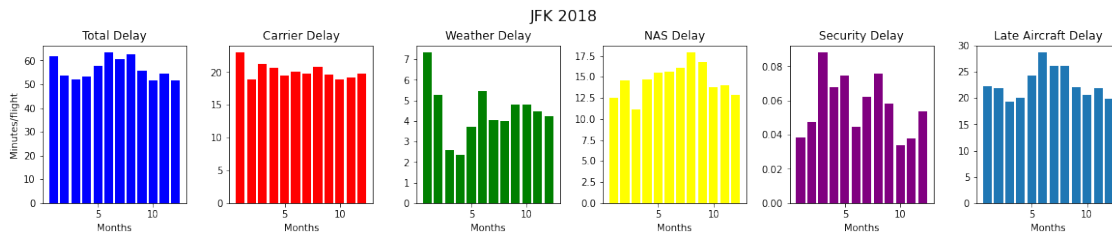
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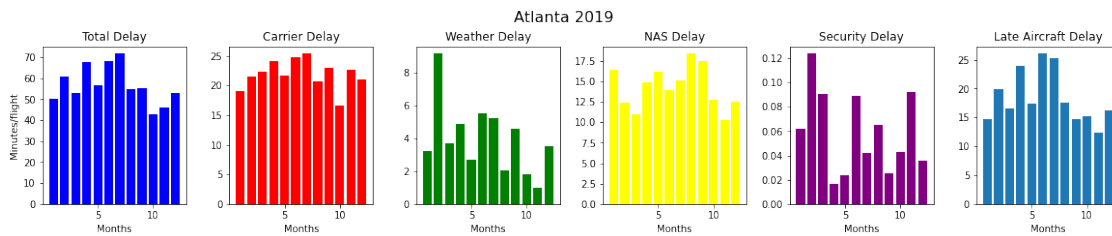/Users/ketansand/Downloads/Flight_Data/2016/Denver.csv
Denver 2016

Denver 2016
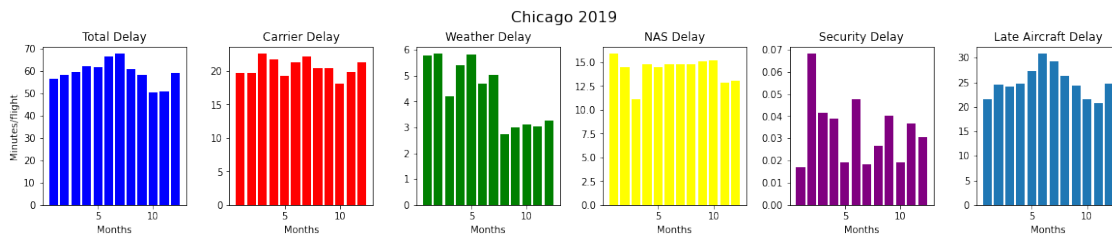
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LA 2016

LA 2016

61

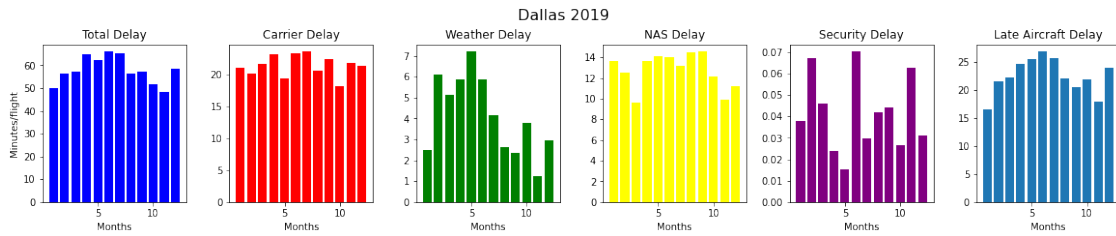/Users/ketansand/Downloads/Flight_Data/2016/JFK.csv
JFK 2016

JFK 2016

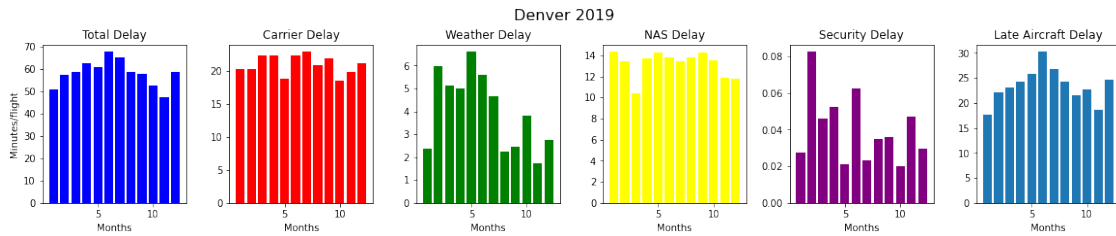/Users/ketansand/Downloads/Flight_Data/2017/Atlanta.csv
Atlanta 2017

Atlanta 2017

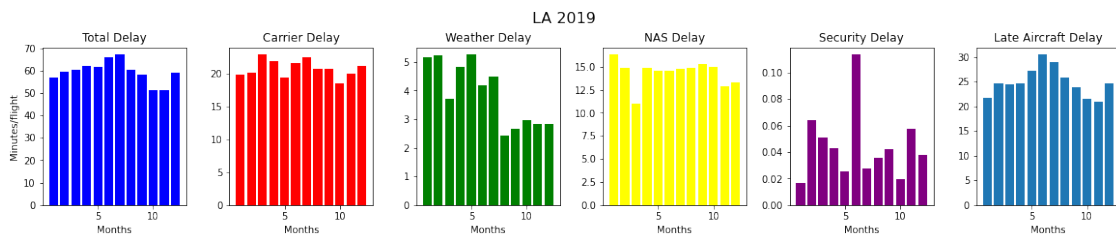/Users/ketansand/Downloads/Flight_Data/2017/Chicago.csv
Chicago 2017

Chicago 2017

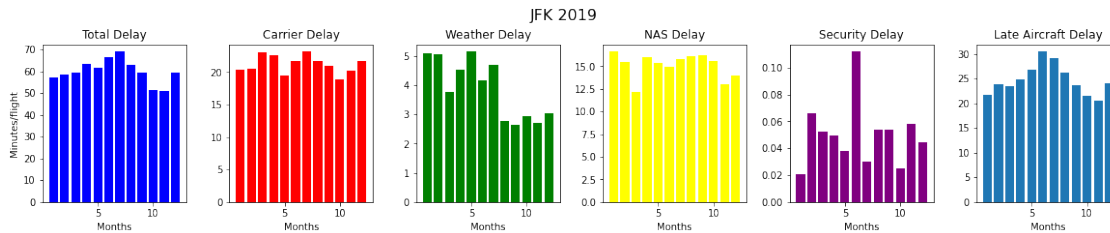/Users/ketansand/Downloads/Flight_Data/2017/Dallas.csv
Dallas 2017

Dallas 2017

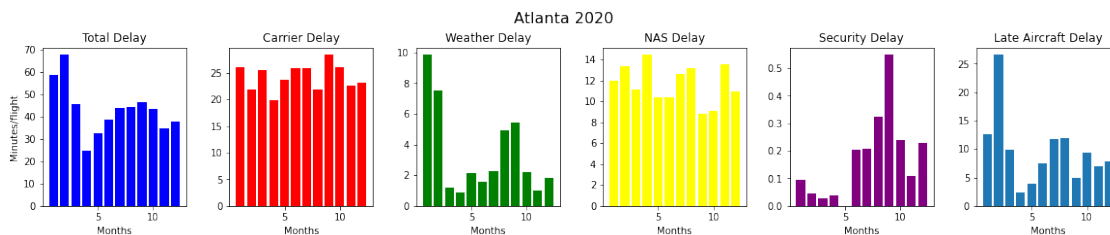/Users/ketansand/Downloads/Flight_Data/2017/Denver.csv
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Denver 2017
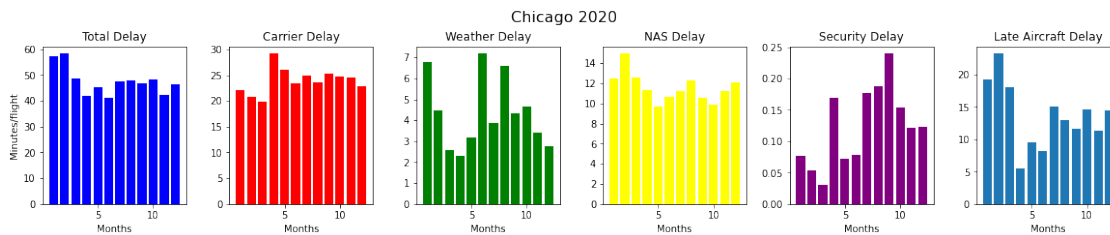
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LA 2017

LA 2017

/Users/ketansand/Downloads/Flight_Data/2017/JFK.csv

/Users/ketansand/opt/anaconda3/lib/python3.8/site-
packages/IPython/core/interactiveshell.py:3165: DtypeWarning: Columns (8) have
mixed types.Specify dtype option on import or set low_memory=False.
  has_raised = await self.run_ast_nodes(code_ast.body, cell_name,

JFK 2017

JFK 2017

/Users/ketansand/Downloads/Flight_Data/2018/Atlanta.csv
Atlanta 2018

Atlanta 2018

/Users/ketansand/Downloads/Flight_Data/2018/Chicago.csv
Chicago 2018

Chicago 2018

/Users/ketansand/Downloads/Flight_Data/2018/Dallas.csv
Dallas 2018

Dallas 2018

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Denver 2018

Denver 2018

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LA 2018

LA 2018

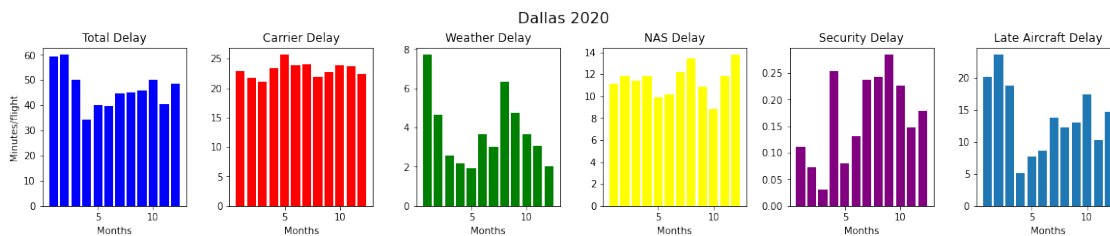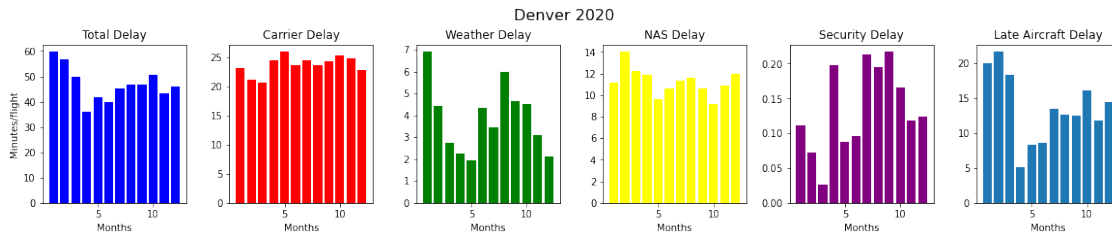/Users/ketansand/Downloads/Flight_Data/2018/JFK.csv
JFK 2018

JFK 2018

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Atlanta 2019

Atlanta 2019

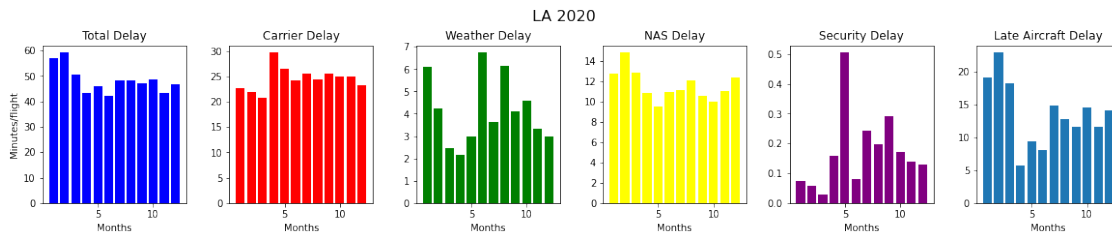/Users/ketansand/Downloads/Flight_Data/2019/Chicago.csv
Chicago 2019

Chicago 2019

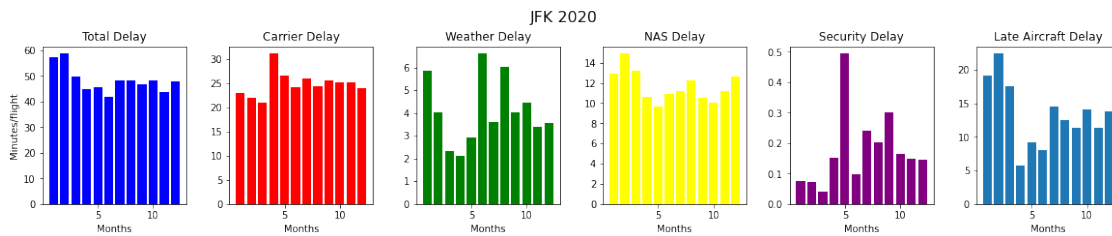/Users/ketansand/Downloads/Flight_Data/2019/Dallas.csv
Dallas 2019

Dallas 2019

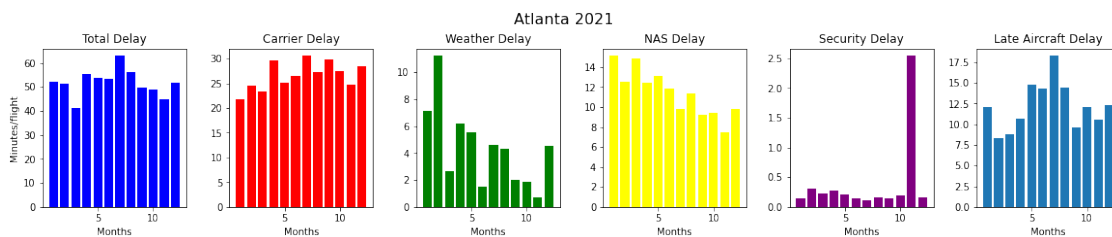/Users/ketansand/Downloads/Flight_Data/2019/Denver.csv
Denver 2019

Denver 2019

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LA 2019

LA 2019

/Users/ketansand/Downloads/Flight_Data/2019/JFK.csv
JFK 2019

JFK 2019

/Users/ketansand/Downloads/Flight_Data/2020/Atlanta.csv
Atlanta 2020

Atlanta 2020

/Users/ketansand/Downloads/Flight_Data/2020/Chicago.csv
Chicago 2020

Chicago 2020

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Dallas 2020

Dallas 2020

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Denver 2020

Denver 2020

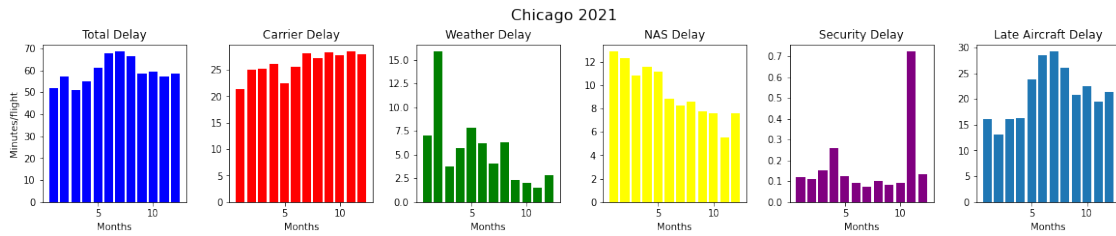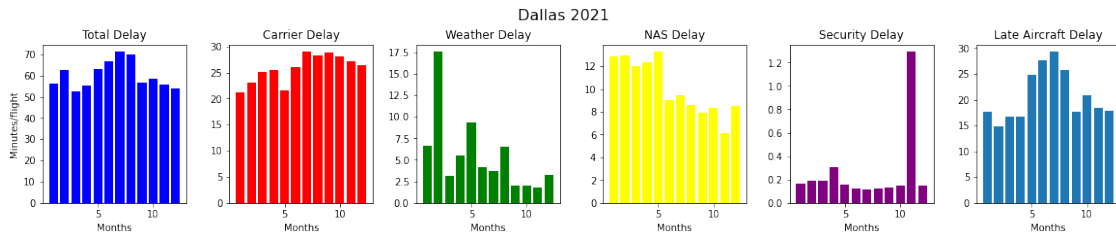/Users/ketansand/Downloads/Flight_Data/2020/LA.csv
LA 2020

LA 2020

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JFK 2020

JFK 2020

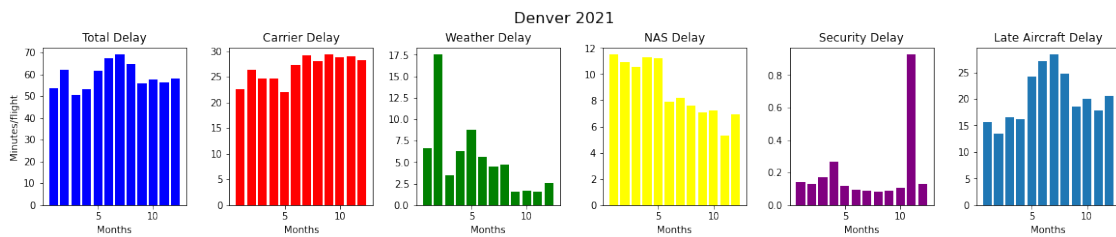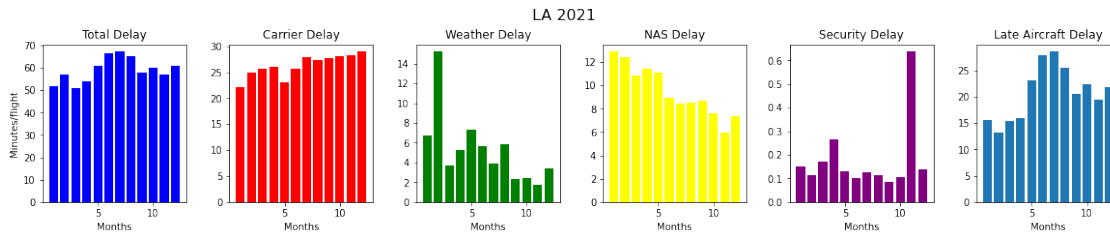/Users/ketansand/Downloads/Flight_Data/2021/Atlanta.csv
Atlanta 2021

Atlanta 2021

/Users/ketansand/Downloads/Flight_Data/2021/Chicago.csv
Chicago 2021

Chicago 2021

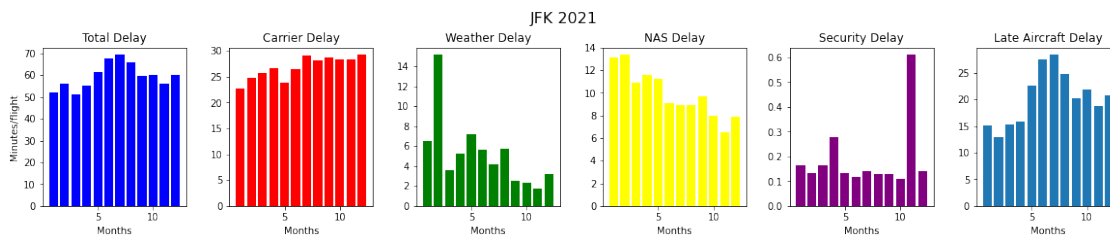/Users/ketansand/Downloads/Flight_Data/2021/Dallas.csv
Dallas 2021

Dallas 2021

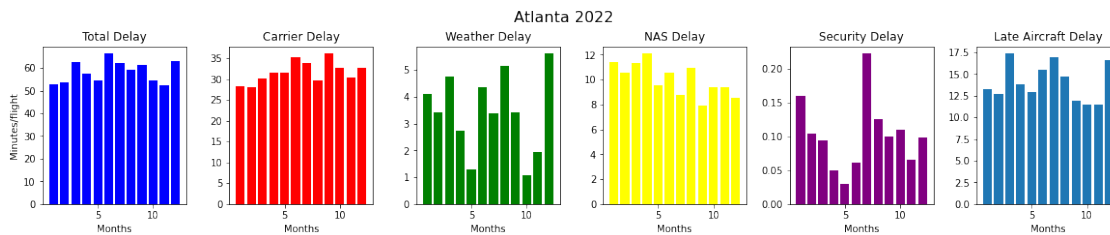/Users/ketansand/Downloads/Flight_Data/2021/Denver.csv
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Denver 2021

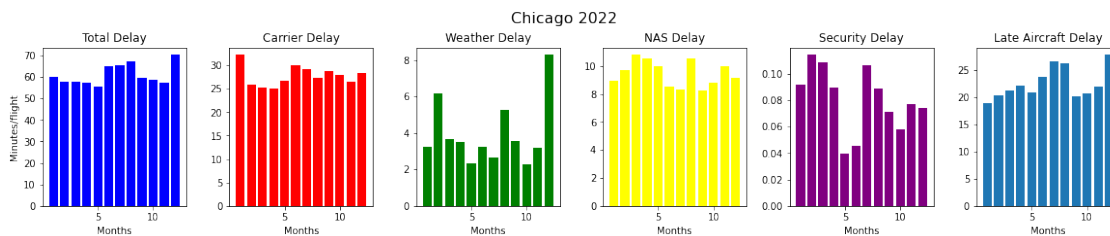/Users/ketansand/Downloads/Flight_Data/2021/LA.csv
LA 2021

LA 2021

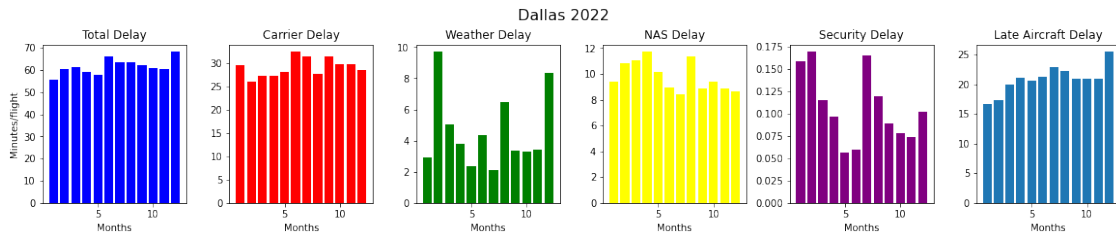/Users/ketansand/Downloads/Flight_Data/2021/JFK.csv
JFK 2021

JFK 2021

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Atlanta 2022

Atlanta 2022

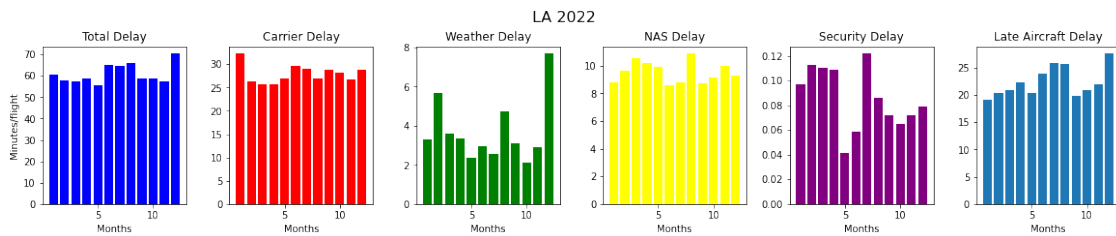/Users/ketansand/Downloads/Flight_Data/2022/Chicago.csv
Chicago 2022

Chicago 2022

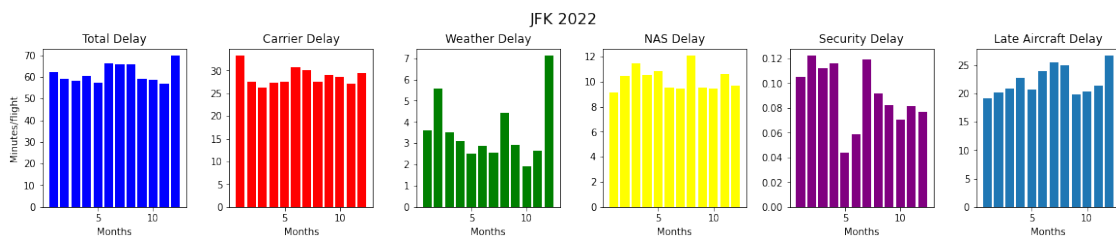/Users/ketansand/Downloads/Flight_Data/2022/Dallas.csv
Dallas 2022

Dallas 2022

/Users/ketansand/Downloads/Flight_Data/2022/Denver.csv
Denver 2022

Denver 2022

/Users/ketansand/Downloads/Flight_Data/2022/LA.csv
LA 2022

LA 2022

/Users/ketansand/Downloads/Flight_Data/2022/JFK.csv
JFK 2022

JFK 2022

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