

Code & Output

Code:

Tableau/Power BI

No code

Python

```
# Julia Cuellar
# DSC 640
# Executive Summary

import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

# Will use in Executive Summary
def read_file():
    air = pd.read_csv('air-safety.csv')
    print("Display data with null:\n", air.isnull())
    print("Display counts of null from data:\n", air.isnull().sum())
    print('Data:\n', air)
    # plt.hist(air)
    plt.title('Histogram of Air')
    # plt.show()

def read_file2():
    dom = pd.read_excel('Domestic Passenger Revenue as a Percent of Total
System Revenue.xls', index_col=0)
    print("Display data with null:\n", dom.isnull())
    print("Display counts of null from data:\n", dom.isnull().sum())
    dom = dom.fillna(" ")
    print("Display data with replaced nulls:\n", dom)
    print("Display recounts of null from data:\n", dom.isnull().sum())
    print('Data:\n', dom)
    dom.to_csv('Domestic PR.csv')

def read_file3():
    fin = pd.read_csv('Financial_Results__1947-Present_Full_Data_data.csv')
    print("Display data with null:\n", fin.isnull())
    print("Display counts of null from data:\n", fin.isnull().sum())
    fin = fin.fillna(" ")
    print("Display data with replaced nulls:\n", fin)
    print("Display recounts of null from data:\n", fin.isnull().sum())
    print('Data:\n', fin)
    # plt.hist(fin)
    plt.title('Histogram of Financial Results')
    # plt.show()

def read_file4():
    inter = pd.read_excel('International Passenger Revenue as a Percent of
```

```

Total System Revenue.xls', index_col=0)
    print("Display data with null:\n", inter.isnull())
    print("Display counts of null from data:\n", inter.isnull().sum())
    inter = inter.fillna(" ")
    print("Display data with replaced nulls:\n", inter)
    print("Display recounts of null from data:\n", inter.isnull().sum())
    print('Data:\n', inter)
    inter.to_csv('International PR.csv')

# Will use in Executive Summary
def read_file5():
    pas = pd.read_excel('Passenger Revenue -- Domestic Operations.xls',
index_col=0)
    print("Display data with null:\n", pas.isnull())
    print("Display counts of null from data:\n", pas.isnull().sum())
    pas = pas.fillna(" ")
    print("Display data with replaced nulls:\n", pas)
    print("Display recounts of null from data:\n", pas.isnull().sum())
    print('Data:\n', pas)
    pas.to_csv('PR Domestic.csv')

# Will use in Executive Summary
def read_file6():
    pas = pd.read_excel('Passenger Revenue -- International Operations.xls',
index_col=0)
    print("Display data with null:\n", pas.isnull())
    print("Display counts of null from data:\n", pas.isnull().sum())
    pas = pas.fillna(" ")
    print("Display data with replaced nulls:\n", pas)
    print("Display recounts of null from data:\n", pas.isnull().sum())
    print('Data:\n', pas)
    pas.to_csv('PR International.csv')

def read_file7():
    pas = pd.read_excel('Passenger Revenue -- Total System Operations.xls',
index_col=0)
    print("Display data with null:\n", pas.isnull())
    print("Display counts of null from data:\n", pas.isnull().sum())
    pas = pas.fillna(" ")
    print("Display data with replaced nulls:\n", pas)
    print("Display recounts of null from data:\n", pas.isnull().sum())
    print('Data:\n', pas)
    pas.to_csv('PR Total.csv')

# Will use in Executive Summary
def read_file8():
    enp = pd.read_excel('System Total Enplaned Passengers.xls', index_col=0)
    print("Display data with null:\n", enp.isnull())
    print("Display counts of null from data:\n", enp.isnull().sum())
    enp = enp.fillna(" ")
    print("Display data with replaced nulls:\n", enp)
    print("Display recounts of null from data:\n", enp.isnull().sum())
    print('Data:\n', enp)

```

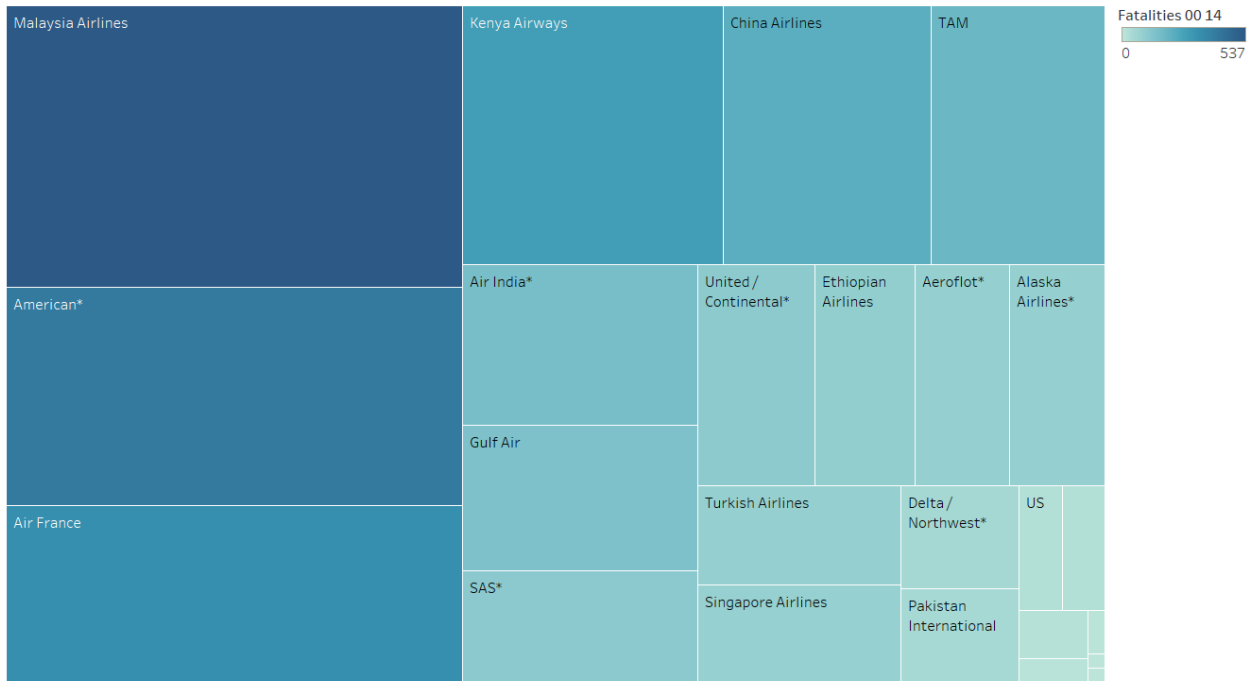
```
enp.to_csv('Total Enplanned.csv')
```

```
if __name__ == "__main__":  
    read_file()  
    read_file2()  
    read_file3()  
    read_file4()  
    read_file5()  
    read_file6()  
    read_file7()  
    read_file8()
```

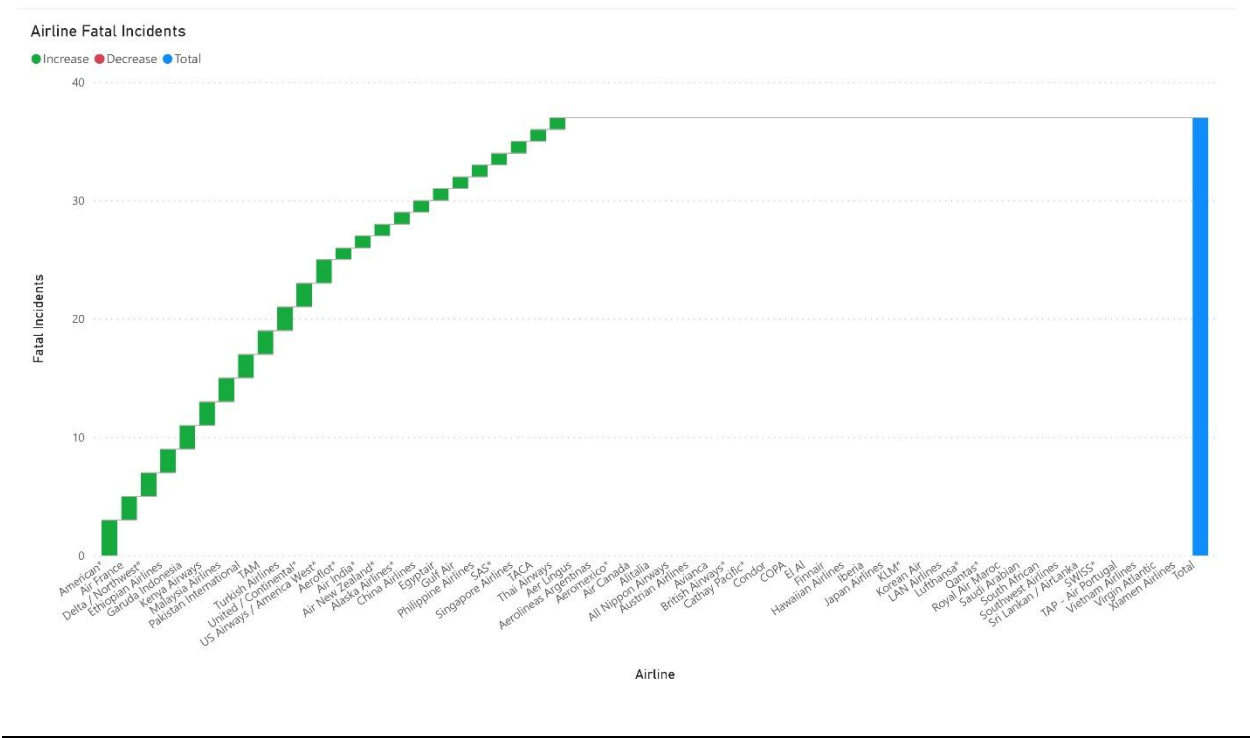
Output:

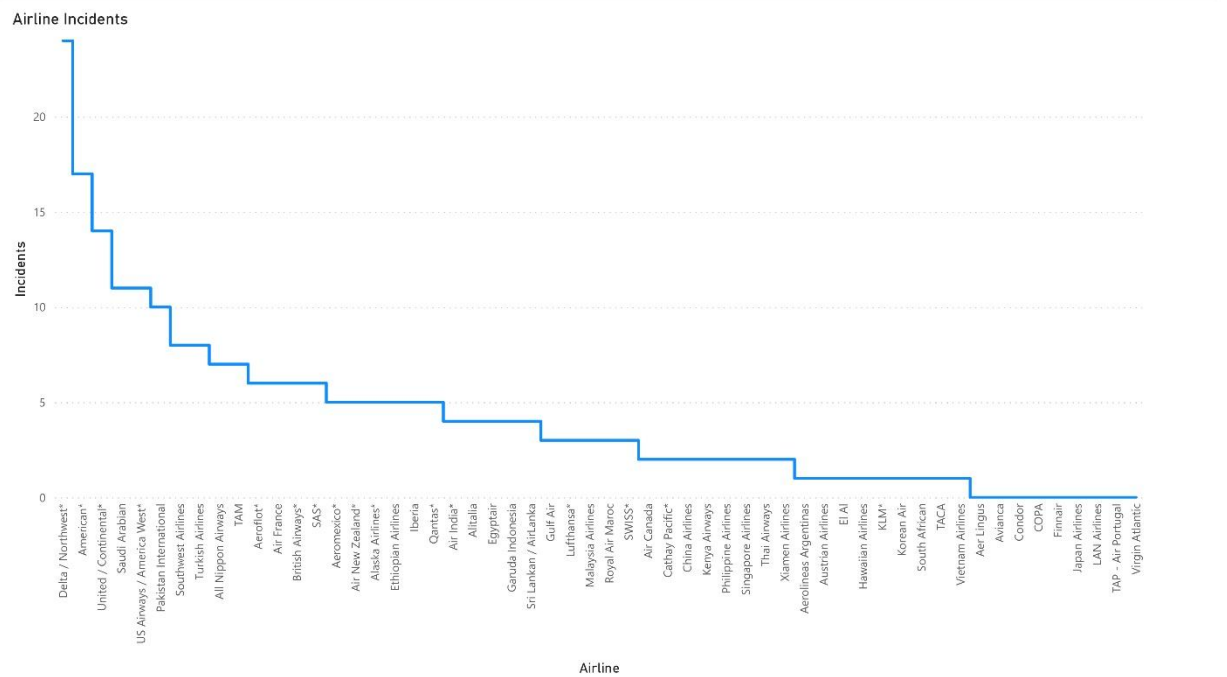
Tableau/Power BI

AIRLINE FATALITIES

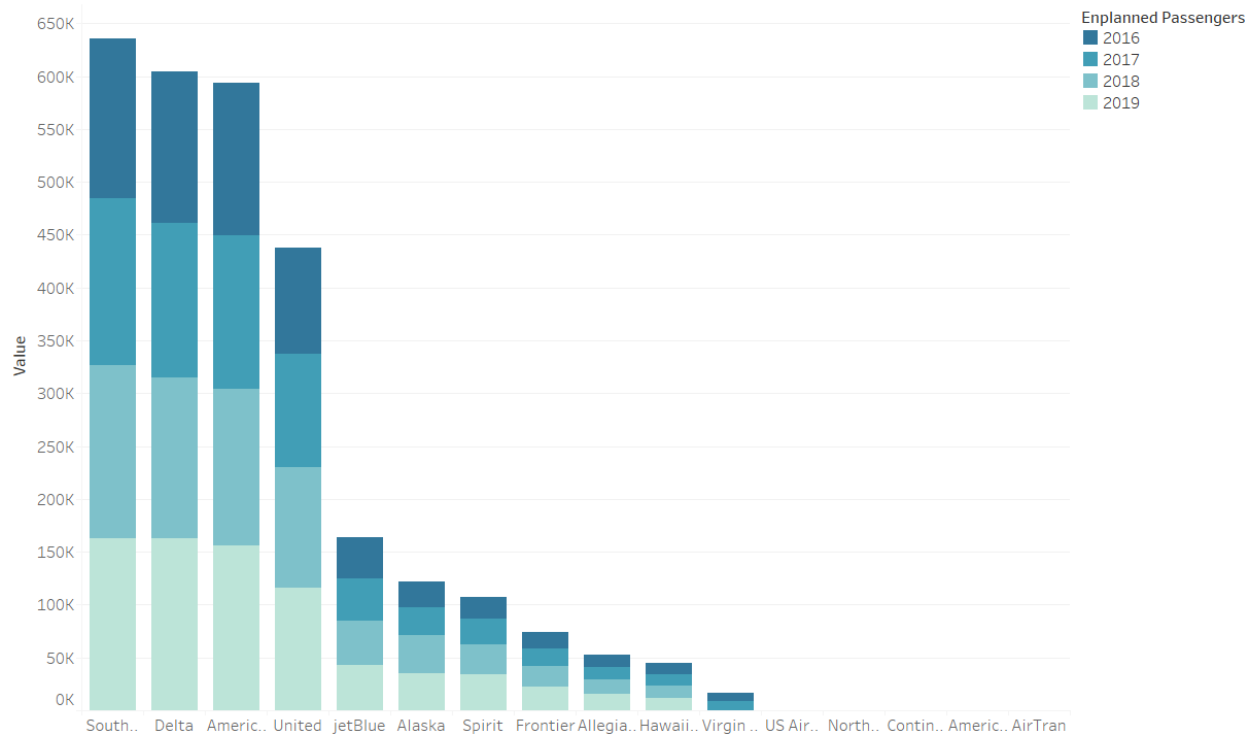


Airline. Color shows sum of Fatalities 00 14. Size shows sum of Fatalities 00 14. The marks are labeled by Airline.



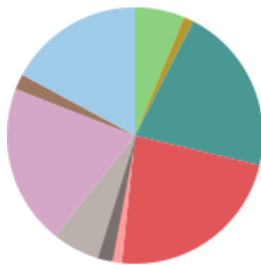


US AIRLINES ENPLANED PASSENGERS 2016-2019



2016, 2017, 2018 and 2019 for each System Total Enplaned Passengers. Color shows details about 2016, 2017, 2018 and 2019. The view is filtered on System Total Enplaned Passengers, which keeps 16 of 23 members.

US AIR- LINES PAS- SENGER REVENUE DOMESTIC 2019



2019

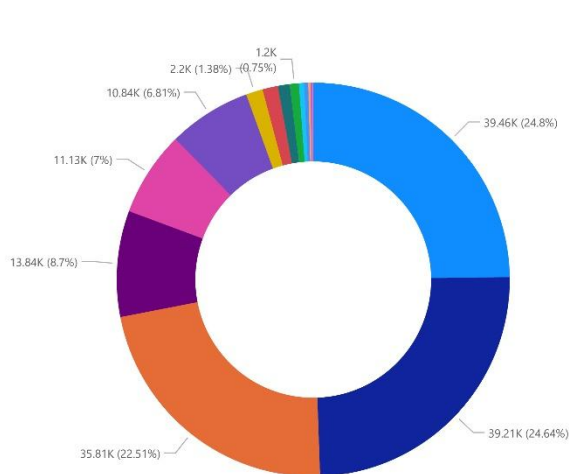
95,871

Passenger Revenue -- Domestic Operations

- AirTran
- Alaska
- Allegiant
- America West
- American
- Continental
- Delta
- Frontier
- Hawaiian
- jetBlue
- Millions
- Northwest
- Southwest
- Spirit
- United
- US Airways
- Virgin America

Passenger Revenue -- Domestic Operations (color) and sum of Unnamed: 26 (size). The view is filtered on Passenger Revenue -- Domestic Operations, which excludes 7 members.

US Airlines Passenger Revenue International 2019



Passenger Revenue -- International Operations

- Total Industry
- Total All Sectors
- sub Network
- United
- American
- Delta
- sub LCC
- jetBlue
- sub Other
- Hawaiian
- Southwest
- Alaska
- Spirit
- Frontier
- AirTran
- Allegiant
- America West
- Continental
- Northwest
- US Airways
- Virgin America

Python

Display data with null:

	airline	avail_seat	km_per_week ...	fatal_accidents_00_14	fatalities_00_14
0	False	False	...	False	False
1	False	False	...	False	False
2	False	False	...	False	False
3	False	False	...	False	False
4	False	False	...	False	False
5	False	False	...	False	False
6	False	False	...	False	False
7	False	False	...	False	False
8	False	False	...	False	False
9	False	False	...	False	False
10	False	False	...	False	False
11	False	False	...	False	False
12	False	False	...	False	False
13	False	False	...	False	False
14	False	False	...	False	False
15	False	False	...	False	False
16	False	False	...	False	False
17	False	False	...	False	False
18	False	False	...	False	False
19	False	False	...	False	False
20	False	False	...	False	False
21	False	False	...	False	False
22	False	False	...	False	False
23	False	False	...	False	False
24	False	False	...	False	False

25	False	False ...	False	False
26	False	False ...	False	False
27	False	False ...	False	False
28	False	False ...	False	False
29	False	False ...	False	False
30	False	False ...	False	False
31	False	False ...	False	False
32	False	False ...	False	False
33	False	False ...	False	False
34	False	False ...	False	False
35	False	False ...	False	False
36	False	False ...	False	False
37	False	False ...	False	False
38	False	False ...	False	False
39	False	False ...	False	False
40	False	False ...	False	False
41	False	False ...	False	False
42	False	False ...	False	False
43	False	False ...	False	False
44	False	False ...	False	False
45	False	False ...	False	False
46	False	False ...	False	False
47	False	False ...	False	False
48	False	False ...	False	False
49	False	False ...	False	False
50	False	False ...	False	False
51	False	False ...	False	False
52	False	False ...	False	False

53	False	False ...	False	False
54	False	False ...	False	False
55	False	False ...	False	False

[56 rows x 8 columns]

Display counts of null from data:

```

airline          0
avail_seat_km_per_week  0
incidents_85_99    0
fatal_accidents_85_99  0
fatalities_85_99    0
incidents_00_14    0
fatal_accidents_00_14  0
fatalities_00_14    0

```

dtype: int64

Data:

	airline ...	fatalities_00_14
0	Aer Lingus ...	0
1	Aeroflot* ...	88
2	Aerolineas Argentinas ...	0
3	Aeromexico* ...	0
4	Air Canada ...	0
5	Air France ...	337
6	Air India* ...	158
7	Air New Zealand* ...	7
8	Alaska Airlines* ...	88
9	Alitalia ...	0
10	All Nippon Airways ...	0

11	American* ...	416
12	Austrian Airlines ...	0
13	Avianca ...	0
14	British Airways* ...	0
15	Cathay Pacific* ...	0
16	China Airlines ...	225
17	Condor ...	0
18	COPA ...	0
19	Delta / Northwest* ...	51
20	Egyptair ...	14
21	El Al ...	0
22	Ethiopian Airlines ...	92
23	Finnair ...	0
24	Garuda Indonesia ...	22
25	Gulf Air ...	143
26	Hawaiian Airlines ...	0
27	Iberia ...	0
28	Japan Airlines ...	0
29	Kenya Airways ...	283
30	KLM* ...	0
31	Korean Air ...	0
32	LAN Airlines ...	0
33	Lufthansa* ...	0
34	Malaysia Airlines ...	537
35	Pakistan International ...	46
36	Philippine Airlines ...	1
37	Qantas* ...	0
38	Royal Air Maroc ...	0

39	SAS* ...	110	
40	Saudi Arabian ...	0	
41	Singapore Airlines ...	83	
42	South African ...	0	
43	Southwest Airlines ...	0	
44	Sri Lankan / AirLanka ...	0	
45	SWISS* ...	0	
46	TACA ...	3	
47	TAM ...	188	
48	TAP - Air Portugal ...	0	
49	Thai Airways ...	1	
50	Turkish Airlines ...	84	
51	United / Continental* ...	109	
52	US Airways / America West* ...	23	
53	Vietnam Airlines ...	0	
54	Virgin Atlantic ...	0	
55	Xiamen Airlines ...	0	

[56 rows x 8 columns]

Display data with null:

Unnamed: 1 ... Unnamed: 26

Domestic Passenger Revenue as a Percent of Tota... ...

NaN	True ...	True
NaN	True ...	True
NaN	True ...	False
NaN	True ...	True
American	True ...	False
Continental	True ...	True

Delta	True ...	False	
Northwest	True ...	True	
United	True ...	False	
US Airways	True ...	True	
America West	True ...	True	
--sub Network	True ...	False	
NaN	True ...	True	
Southwest	True ...	False	
jetBlue	True ...	False	
AirTran	True ...	True	
Frontier	True ...	False	
Virgin America	True ...	True	
-- sub LCC	True ...	False	
NaN	True ...	True	
Alaska	True ...	False	
Hawaiian	True ...	False	
Spirit	True ...	False	
Allegiant	True ...	False	
-- sub Other	True ...	False	
NaN	True ...	True	
NaN	True ...	True	
Total All Sectors	True ...	False	
NaN	True ...	True	
Source: US DOT Form 41 via BTS, schedule P12.	True ...	True	

[30 rows x 26 columns]

Display counts of null from data:

Unnamed: 1 30

```
Unnamed: 2    13
Unnamed: 3    13
Unnamed: 4    12
Unnamed: 5    12
Unnamed: 6    12
Unnamed: 7    11
Unnamed: 8    11
Unnamed: 9    11
Unnamed: 10   11
Unnamed: 11   10
Unnamed: 12   10
Unnamed: 13   11
Unnamed: 14   10
Unnamed: 15   10
Unnamed: 16   10
Unnamed: 17   11
Unnamed: 18   11
Unnamed: 19   13
Unnamed: 20   13
Unnamed: 21   13
Unnamed: 22   14
Unnamed: 23   14
Unnamed: 24   14
Unnamed: 25   15
Unnamed: 26   15
```

```
dtype: int64
```

Display data with replaced nulls:

Unnamed: 1 ... Unnamed: 26

Domestic Passenger Revenue as a Percent of Tota...	...
NaN	...
NaN	...
NaN	... 2019.0
NaN	...
American	... 0.646073
Continental	...
Delta	... 0.670085
Northwest	...
United	... 0.542637
US Airways	...
America West	...
--sub Network	... 0.621304
NaN	...
Southwest	... 0.972607
jetBlue	... 0.785284
AirTran	...
Frontier	... 0.919403
Virgin America	...
-- sub LCC	... 0.922773
NaN	...
Alaska	... 0.953389
Hawaiian	... 0.727547
Spirit	... 0.885754
Allegiant	... 1.0
-- sub Other	... 0.900602
NaN	...
NaN	...

Total All Sectors ... 0.70975

NaN ...

Source: US DOT Form 41 via BTS, schedule P12. ...

[30 rows x 26 columns]

Display recounts of null from data:

Unnamed: 1 0

Unnamed: 2 0

Unnamed: 3 0

Unnamed: 4 0

Unnamed: 5 0

Unnamed: 6 0

Unnamed: 7 0

Unnamed: 8 0

Unnamed: 9 0

Unnamed: 10 0

Unnamed: 11 0

Unnamed: 12 0

Unnamed: 13 0

Unnamed: 14 0

Unnamed: 15 0

Unnamed: 16 0

Unnamed: 17 0

Unnamed: 18 0

Unnamed: 19 0

Unnamed: 20 0

Unnamed: 21 0

Unnamed: 22 0

Unnamed: 23 0

Unnamed: 24 0

Unnamed: 25 0

Unnamed: 26 0

dtype: int64

Data:

Unnamed: 1 ... Unnamed: 26

Domestic Passenger Revenue as a Percent of Total Revenue ...

NaN ...

NaN ...

NaN ... 2019.0

NaN ...

American ... 0.646073

Continental ...

Delta ... 0.670085

Northwest ...

United ... 0.542637

US Airways ...

America West ...

--sub Network ... 0.621304

NaN ...

Southwest ... 0.972607

jetBlue ... 0.785284

AirTran ...

Frontier ... 0.919403

Virgin America ...

-- sub LCC ... 0.922773

NaN ...

Alaska	...	0.953389
Hawaiian	...	0.727547
Spirit	...	0.885754
Allegiant	...	1.0
-- sub Other	...	0.900602
NaN	...	
NaN	...	
Total All Sectors	...	0.70975
NaN	...	

Source: US DOT Form 41 via BTS, schedule P12. ...

[30 rows x 26 columns]

Display data with null:

	Year	_Item	Type	_Path	...	Pax (mils)	PLF	RPKs (mils)
0	False	False	False	...	False	True	False	
1	False	False	False	...	False	True	False	
2	False	False	False	...	False	True	False	
3	False	False	False	...	False	False	False	
4	False	False	False	...	False	False	False	
..		
68	False	False	False	...	False	False	False	
69	False	False	False	...	False	False	False	
70	False	False	False	...	False	False	False	
71	False	False	False	...	False	False	False	
72	False	False	False	...	False	False	False	

[73 rows x 19 columns]

Display counts of null from data:

Year	0
_Item Type	0
_Path	0
Title	0
Aircraft Deps (000)	13
Aircraft KMs (mils)	0
ASKs (mils)	3
Cargo RTKs (mils)	0
Freight RTKs (mils)	0
Freight Tonnes (mils)	22
Mail RTKs (mils)	0
NetMargin	0
NetProfit (mils)	0
Number of Records	0
OpProfit (mils)	0
OpRevenues (mils)	0
Pax (mils)	0
PLF	3
RPKs (mils)	0

dtype: int64

Display data with replaced nulls:

	Year	_Item Type	...	PLF	RPKs (mils)
0	1947	Item	...		1.900000e+04
1	1948	Item	...		2.100000e+04
2	1949	Item	...		2.400000e+04
3	1950	Item	...	0.608696	2.800000e+04
4	1951	Item	...	0.636364	3.500000e+04
..

68	2015	Item ...	0.802386	6.652791e+06
69	2016	Item ...	0.802855	7.144498e+06
70	2017	Item ...	0.814775	7.716542e+06
71	2018	Item ...	0.817701	8.278782e+06
72	2019	Item ...	0.823993	8.685667e+06

[73 rows x 19 columns]

Display recounts of null from data:

Year	0
_Item Type	0
_Path	0
Title	0
Aircraft Deps (000)	0
Aircraft KMs (mils)	0
ASKs (mils)	0
Cargo RTKs (mils)	0
Freight RTKs (mils)	0
Freight Tonnes (mils)	0
Mail RTKs (mils)	0
NetMargin	0
NetProfit (mils)	0
Number of Records	0
OpProfit (mils)	0
OpRevenues (mils)	0
Pax (mils)	0
PLF	0
RPKs (mils)	0
dtype:	int64

Data:

	Year	_Item Type	...	PLF	RPKs (mils)
0	1947	Item	...		1.900000e+04
1	1948	Item	...		2.100000e+04
2	1949	Item	...		2.400000e+04
3	1950	Item	...	0.608696	2.800000e+04
4	1951	Item	...	0.636364	3.500000e+04
..
68	2015	Item	...	0.802386	6.652791e+06
69	2016	Item	...	0.802855	7.144498e+06
70	2017	Item	...	0.814775	7.716542e+06
71	2018	Item	...	0.817701	8.278782e+06
72	2019	Item	...	0.823993	8.685667e+06

[73 rows x 19 columns]

Display data with null:

	Unnamed: 1	...	Unnamed: 26
International Passenger Revenue as a Percent of...		...	
NaN	True	...	True
NaN	True	...	True
NaN	True	...	False
NaN	True	...	True
American	True	...	False
Continental	True	...	True
Delta	True	...	False
Northwest	True	...	True
United	True	...	False
US Airways	True	...	True

America West	True ...	True
--sub Network	True ...	False
NaN	True ...	True
Southwest	True ...	False
jetBlue	True ...	False
AirTran	True ...	True
Frontier	True ...	False
Virgin America	True ...	True
-- sub LCC	True ...	False
NaN	True ...	True
Alaska	True ...	False
Hawaiian	True ...	False
Spirit	True ...	False
Allegiant	True ...	False
-- sub Other	True ...	False
NaN	True ...	True
NaN	True ...	True
Total All Sectors	True ...	False
NaN	True ...	True
Source: US DOT Form 41 via BTS, schedule P12.	True ...	True

[30 rows x 26 columns]

Display counts of null from data:

```

Unnamed: 1    30
Unnamed: 2    13
Unnamed: 3    13
Unnamed: 4    12
Unnamed: 5    12

```

Unnamed: 6 12
Unnamed: 7 11
Unnamed: 8 11
Unnamed: 9 11
Unnamed: 10 11
Unnamed: 11 10
Unnamed: 12 10
Unnamed: 13 11
Unnamed: 14 10
Unnamed: 15 10
Unnamed: 16 10
Unnamed: 17 11
Unnamed: 18 11
Unnamed: 19 13
Unnamed: 20 13
Unnamed: 21 13
Unnamed: 22 14
Unnamed: 23 14
Unnamed: 24 14
Unnamed: 25 15
Unnamed: 26 15

dtype: int64

Display data with replaced nulls:

	Unnamed: 1 ... Unnamed: 26
International Passenger Revenue as a Percent of...	...
NaN	...
NaN	...
NaN	... 2019.0

NaN	...	
American	...	0.353927
Continental	...	
Delta	...	0.329915
Northwest	...	
United	...	0.457363
US Airways	...	
America West	...	
--sub Network	...	0.378696
NaN	...	
Southwest	...	0.027393
jetBlue	...	0.214716
AirTran	...	
Frontier	...	0.080597
Virgin America	...	
-- sub LCC	...	0.077227
NaN	...	
Alaska	...	0.046611
Hawaiian	...	0.272453
Spirit	...	0.114246
Allegiant	...	0.0
-- sub Other	...	0.099398
NaN	...	
NaN	...	
Total All Sectors	...	0.29025
NaN	...	
Source: US DOT Form 41 via BTS, schedule P12.	...	

[30 rows x 26 columns]

Display recounts of null from data:

Unnamed: 1	0
Unnamed: 2	0
Unnamed: 3	0
Unnamed: 4	0
Unnamed: 5	0
Unnamed: 6	0
Unnamed: 7	0
Unnamed: 8	0
Unnamed: 9	0
Unnamed: 10	0
Unnamed: 11	0
Unnamed: 12	0
Unnamed: 13	0
Unnamed: 14	0
Unnamed: 15	0
Unnamed: 16	0
Unnamed: 17	0
Unnamed: 18	0
Unnamed: 19	0
Unnamed: 20	0
Unnamed: 21	0
Unnamed: 22	0
Unnamed: 23	0
Unnamed: 24	0
Unnamed: 25	0
Unnamed: 26	0

dtype: int64

Data:

	Unnamed: 1	...	Unnamed: 26
International Passenger Revenue as a Percent of...		...	
NaN		...	
NaN		...	
NaN	...	2019.0	
NaN		...	
American	...	0.353927	
Continental		...	
Delta	...	0.329915	
Northwest		...	
United	...	0.457363	
US Airways		...	
America West		...	
--sub Network	...	0.378696	
NaN		...	
Southwest	...	0.027393	
jetBlue	...	0.214716	
AirTran		...	
Frontier	...	0.080597	
Virgin America		...	
-- sub LCC	...	0.077227	
NaN		...	
Alaska	...	0.046611	
Hawaiian	...	0.272453	
Spirit	...	0.114246	
Allegiant	...	0.0	

-- sub Other	...	0.099398
NaN	...	
NaN	...	
Total All Sectors	...	0.29025
NaN	...	

Source: US DOT Form 41 via BTS, schedule P12. ...

[30 rows x 26 columns]

Display data with null:

	Unnamed: 1 ...	Unnamed: 26
Passenger Revenue -- Domestic Operations		...
Millions	True ...	True
NaN	True ...	True
NaN	True ...	False
NaN	True ...	True
American	True ...	False
Continental	True ...	False
Delta	True ...	False
Northwest	True ...	False
United	True ...	False
US Airways	True ...	False
America West	True ...	False
--sub Network	True ...	False
NaN	True ...	True
Southwest	True ...	False
jetBlue	True ...	False
AirTran	True ...	False
Frontier	True ...	False

Virgin America	True ...	False
-- sub LCC	True ...	False
NaN	True ...	True
Alaska	True ...	False
Hawaiian	True ...	False
Spirit	True ...	False
Allegiant	True ...	False
-- sub Other	True ...	False
NaN	True ...	True
NaN	True ...	True
Total All Sectors	True ...	False
NaN	True ...	True
Total Industry	True ...	False
NaN	True ...	True
Source: US DOT Form 41 via BTS, schedule P12.	True ...	True

[32 rows x 26 columns]

Display counts of null from data:

Unnamed: 1	32
Unnamed: 2	10
Unnamed: 3	10
Unnamed: 4	10
Unnamed: 5	10
Unnamed: 6	10
Unnamed: 7	10
Unnamed: 8	10
Unnamed: 9	10
Unnamed: 10	10

```

Unnamed: 11    10
Unnamed: 12    10
Unnamed: 13    10
Unnamed: 14    10
Unnamed: 15    10
Unnamed: 16    10
Unnamed: 17    10
Unnamed: 18    10
Unnamed: 19    10
Unnamed: 20    10
Unnamed: 21    10
Unnamed: 22    10
Unnamed: 23    10
Unnamed: 24    10
Unnamed: 25    10
Unnamed: 26    10

```

```
dtype: int64
```

Display data with replaced nulls:

```

                Unnamed: 1  ...  Unnamed: 26
Passenger Revenue -- Domestic Operations      ...
Millions                                     ...
NaN                                           ...
NaN                                           ...    2019.0
NaN                                           ...
American                                     ...    20315.50285
Continental                                 ...         0.0
Delta                                       ...    22010.90145
Northwest                                  ...         0.0

```

United	...	16425.06478
US Airways	...	0.0
America West	...	0.0
--sub Network	...	58751.46908
NaN	...	
Southwest	...	19365.237
jetBlue	...	5641.03703
AirTran	...	0.0
Frontier	...	1255.60364
Virgin America	...	0.0
-- sub LCC	...	26261.87767
NaN	...	
Alaska	...	6008.757
Hawaiian	...	1767.71396
Spirit	...	1881.10723
Allegiant	...	1200.40962
-- sub Other	...	10857.98781
NaN	...	
NaN	...	
Total All Sectors	...	95871.33456
NaN	...	
Total Industry	...	105039.16651
NaN	...	
Source: US DOT Form 41 via BTS, schedule P12.	...	

[32 rows x 26 columns]

Display recounts of null from data:

Unnamed: 1 0

Unnamed: 2 0
Unnamed: 3 0
Unnamed: 4 0
Unnamed: 5 0
Unnamed: 6 0
Unnamed: 7 0
Unnamed: 8 0
Unnamed: 9 0
Unnamed: 10 0
Unnamed: 11 0
Unnamed: 12 0
Unnamed: 13 0
Unnamed: 14 0
Unnamed: 15 0
Unnamed: 16 0
Unnamed: 17 0
Unnamed: 18 0
Unnamed: 19 0
Unnamed: 20 0
Unnamed: 21 0
Unnamed: 22 0
Unnamed: 23 0
Unnamed: 24 0
Unnamed: 25 0
Unnamed: 26 0

dtype: int64

Data:

Unnamed: 1 ... Unnamed: 26

Passenger Revenue -- Domestic Operations	...
Millions	...
NaN	...
NaN	... 2019.0
NaN	...
American	... 20315.50285
Continental	... 0.0
Delta	... 22010.90145
Northwest	... 0.0
United	... 16425.06478
US Airways	... 0.0
America West	... 0.0
--sub Network	... 58751.46908
NaN	...
Southwest	... 19365.237
jetBlue	... 5641.03703
AirTran	... 0.0
Frontier	... 1255.60364
Virgin America	... 0.0
-- sub LCC	... 26261.87767
NaN	...
Alaska	... 6008.757
Hawaiian	... 1767.71396
Spirit	... 1881.10723
Allegiant	... 1200.40962
-- sub Other	... 10857.98781
NaN	...
NaN	...

Total All Sectors ... 95871.33456

NaN ...

Total Industry ... 105039.16651

NaN ...

Source: US DOT Form 41 via BTS, schedule P12. ...

[32 rows x 26 columns]

Display data with null:

Unnamed: 1 ... Unnamed: 26

Passenger Revenue -- International Operations ...

Millions True ... True

NaN True ... True

NaN True ... False

NaN True ... True

American True ... False

Continental True ... False

Delta True ... False

Northwest True ... False

United True ... False

US Airways True ... False

America West True ... False

--sub Network True ... False

NaN True ... True

Southwest True ... False

jetBlue True ... False

AirTran True ... False

Frontier True ... False

Virgin America True ... False

-- sub LCC	True ...	False
NaN	True ...	True
Alaska	True ...	False
Hawaiian	True ...	False
Spirit	True ...	False
Allegiant	True ...	False
-- sub Other	True ...	False
NaN	True ...	True
NaN	True ...	True
Total All Sectors	True ...	False
NaN	True ...	True
Total Industry	True ...	False
NaN	True ...	True
Source: US DOT Form 41 via BTS, schedule P12.	True ...	True

[32 rows x 26 columns]

Display counts of null from data:

Unnamed: 1	32
Unnamed: 2	10
Unnamed: 3	10
Unnamed: 4	10
Unnamed: 5	10
Unnamed: 6	10
Unnamed: 7	10
Unnamed: 8	10
Unnamed: 9	10
Unnamed: 10	10
Unnamed: 11	10

Unnamed: 12 10
Unnamed: 13 10
Unnamed: 14 10
Unnamed: 15 10
Unnamed: 16 10
Unnamed: 17 10
Unnamed: 18 10
Unnamed: 19 10
Unnamed: 20 10
Unnamed: 21 10
Unnamed: 22 10
Unnamed: 23 10
Unnamed: 24 10
Unnamed: 25 10
Unnamed: 26 10
dtype: int64

Display data with replaced nulls:

	Unnamed: 1 ...	Unnamed: 26
Passenger Revenue -- International Operations		...
Millions	...	
NaN	...	
NaN	...	2019.0
NaN	...	
American	...	11129.10709
Continental	...	0.0
Delta	...	10837.03345
Northwest	...	0.0
United	...	13843.90121

US Airways	...	0.0
America West	...	0.0
--sub Network	...	35810.04175
NaN	...	
Southwest	...	545.409
jetBlue	...	1542.39524
AirTran	...	0.0
Frontier	...	110.06978
Virgin America	...	0.0
-- sub LCC	...	2197.87402
NaN	...	
Alaska	...	293.77
Hawaiian	...	661.97671
Spirit	...	242.62907
Allegiant	...	0.0
-- sub Other	...	1198.37578
NaN	...	
NaN	...	
Total All Sectors	...	39206.29155
NaN	...	
Total Industry	...	39458.1905
NaN	...	
Source: US DOT Form 41 via BTS, schedule P12.	...	

[32 rows x 26 columns]

Display recounts of null from data:

Unnamed: 1 0

Unnamed: 2 0

Unnamed: 3 0
Unnamed: 4 0
Unnamed: 5 0
Unnamed: 6 0
Unnamed: 7 0
Unnamed: 8 0
Unnamed: 9 0
Unnamed: 10 0
Unnamed: 11 0
Unnamed: 12 0
Unnamed: 13 0
Unnamed: 14 0
Unnamed: 15 0
Unnamed: 16 0
Unnamed: 17 0
Unnamed: 18 0
Unnamed: 19 0
Unnamed: 20 0
Unnamed: 21 0
Unnamed: 22 0
Unnamed: 23 0
Unnamed: 24 0
Unnamed: 25 0
Unnamed: 26 0

dtype: int64

Data:

Unnamed: 1 ... Unnamed: 26

Passenger Revenue -- International Operations ...

Millions	...	
NaN	...	
NaN	...	2019.0
NaN	...	
American	...	11129.10709
Continental	...	0.0
Delta	...	10837.03345
Northwest	...	0.0
United	...	13843.90121
US Airways	...	0.0
America West	...	0.0
--sub Network	...	35810.04175
NaN	...	
Southwest	...	545.409
jetBlue	...	1542.39524
AirTran	...	0.0
Frontier	...	110.06978
Virgin America	...	0.0
-- sub LCC	...	2197.87402
NaN	...	
Alaska	...	293.77
Hawaiian	...	661.97671
Spirit	...	242.62907
Allegiant	...	0.0
-- sub Other	...	1198.37578
NaN	...	
NaN	...	
Total All Sectors	...	39206.29155

NaN	...
Total Industry	... 39458.1905
NaN	...
Source: US DOT Form 41 via BTS, schedule P12.	...

[32 rows x 26 columns]

Display data with null:

	Unnamed: 1 ...	Unnamed: 26
Passenger Revenue -- Total System Operations		...
Millions	True ...	True
NaN	True ...	True
NaN	True ...	False
NaN	True ...	True
American	True ...	False
Continental	True ...	False
Delta	True ...	False
Northwest	True ...	False
United	True ...	False
US Airways	True ...	False
America West	True ...	False
--sub Network	True ...	False
NaN	True ...	True
Southwest	True ...	False
jetBlue	True ...	False
AirTran	True ...	False
Frontier	True ...	False
Virgin America	True ...	False
-- sub LCC	True ...	False

NaN	True ...	True
Alaska	True ...	False
Hawaiian	True ...	False
Spirit	True ...	False
Allegiant	True ...	False
-- sub Other	True ...	False
NaN	True ...	True
NaN	True ...	True
Total All Sectors	True ...	False
NaN	True ...	True
Total Industry	True ...	False
NaN	True ...	True
Source: US DOT Form 41 via BTS, schedule P12.	True ...	True

[32 rows x 26 columns]

Display counts of null from data:

Unnamed: 1	32
Unnamed: 2	10
Unnamed: 3	10
Unnamed: 4	10
Unnamed: 5	10
Unnamed: 6	10
Unnamed: 7	10
Unnamed: 8	10
Unnamed: 9	10
Unnamed: 10	10
Unnamed: 11	10
Unnamed: 12	10

Unnamed: 13 10
 Unnamed: 14 10
 Unnamed: 15 10
 Unnamed: 16 10
 Unnamed: 17 10
 Unnamed: 18 10
 Unnamed: 19 10
 Unnamed: 20 10
 Unnamed: 21 10
 Unnamed: 22 10
 Unnamed: 23 10
 Unnamed: 24 10
 Unnamed: 25 10
 Unnamed: 26 10

dtype: int64

Display data with replaced nulls:

	Unnamed: 1 ...	Unnamed: 26
Passenger Revenue -- Total System Operations		...
Millions	...	
NaN	...	
NaN	...	2019.0
NaN	...	
American	...	31444.60994
Continental	...	0.0
Delta	...	32847.9349
Northwest	...	0.0
United	...	30268.96599
US Airways	...	0.0

America West	...	0.0
--sub Network	...	94561.51083
NaN	...	
Southwest	...	19910.646
jetBlue	...	7183.43227
AirTran	...	0.0
Frontier	...	1365.67342
Virgin America	...	0.0
-- sub LCC	...	28459.75169
NaN	...	
Alaska	...	6302.527
Hawaiian	...	2429.69067
Spirit	...	2123.7363
Allegiant	...	1200.40962
-- sub Other	...	12056.36359
NaN	...	
NaN	...	
Total All Sectors	...	135077.62611
NaN	...	
Total Industry	...	144497.35701
NaN	...	

Source: US DOT Form 41 via BTS, schedule P12. ...

[32 rows x 26 columns]

Display recounts of null from data:

Unnamed: 1 0

Unnamed: 2 0

Unnamed: 3 0

Unnamed: 4 0
Unnamed: 5 0
Unnamed: 6 0
Unnamed: 7 0
Unnamed: 8 0
Unnamed: 9 0
Unnamed: 10 0
Unnamed: 11 0
Unnamed: 12 0
Unnamed: 13 0
Unnamed: 14 0
Unnamed: 15 0
Unnamed: 16 0
Unnamed: 17 0
Unnamed: 18 0
Unnamed: 19 0
Unnamed: 20 0
Unnamed: 21 0
Unnamed: 22 0
Unnamed: 23 0
Unnamed: 24 0
Unnamed: 25 0
Unnamed: 26 0

dtype: int64

Data:

Unnamed: 1 ... Unnamed: 26

Passenger Revenue -- Total System Operations ...

Millions ...

NaN	...	
NaN	...	2019.0
NaN	...	
American	...	31444.60994
Continental	...	0.0
Delta	...	32847.9349
Northwest	...	0.0
United	...	30268.96599
US Airways	...	0.0
America West	...	0.0
--sub Network	...	94561.51083
NaN	...	
Southwest	...	19910.646
jetBlue	...	7183.43227
AirTran	...	0.0
Frontier	...	1365.67342
Virgin America	...	0.0
-- sub LCC	...	28459.75169
NaN	...	
Alaska	...	6302.527
Hawaiian	...	2429.69067
Spirit	...	2123.7363
Allegiant	...	1200.40962
-- sub Other	...	12056.36359
NaN	...	
NaN	...	
Total All Sectors	...	135077.62611
NaN	...	

Total Industry ... 144497.35701

NaN ...

Source: US DOT Form 41 via BTS, schedule P12. ...

[32 rows x 26 columns]

Display data with null:

Unnamed: 1 ... Unnamed: 26

System Total Enplaned Passengers ...

Thousands True ... True

NaN True ... True

NaN True ... False

NaN True ... True

American True ... False

Continental True ... False

Delta True ... False

Northwest True ... False

United True ... False

US Airways True ... False

America West True ... False

--sub Network True ... False

NaN True ... True

Southwest True ... False

jetBlue True ... False

AirTran True ... False

Frontier True ... False

Virgin America True ... False

--sub LCC True ... False

NaN True ... True

Alaska	True ...	False
Hawaiian	True ...	False
Spirit	True ...	False
Allegiant	True ...	False
-- sub Other	True ...	False
NaN	True ...	True
NaN	True ...	True
Total All Sectors	True ...	False
NaN	True ...	True
Data Source: US DOT Form 41 via BTS, Schedule T1.	True ...	True

[30 rows x 26 columns]

Display counts of null from data:

Unnamed: 1	30
Unnamed: 2	9
Unnamed: 3	9
Unnamed: 4	9
Unnamed: 5	9
Unnamed: 6	9
Unnamed: 7	9
Unnamed: 8	9
Unnamed: 9	9
Unnamed: 10	9
Unnamed: 11	9
Unnamed: 12	9
Unnamed: 13	9
Unnamed: 14	9
Unnamed: 15	9

Unnamed: 16 9
 Unnamed: 17 9
 Unnamed: 18 9
 Unnamed: 19 9
 Unnamed: 20 9
 Unnamed: 21 9
 Unnamed: 22 9
 Unnamed: 23 9
 Unnamed: 24 9
 Unnamed: 25 9
 Unnamed: 26 9
 dtype: int64

Display data with replaced nulls:

	Unnamed: 1	...	Unnamed: 26
System Total Enplaned Passengers			...
Thousands			...
NaN			...
NaN	...		2019.0
NaN			...
American	...		155821.23
Continental	...		0.0
Delta	...		162777.114
Northwest	...		0.0
United	...		116378.1
US Airways	...		0.0
America West	...		0.0
--sub Network	...		434976.444
NaN			...

Southwest	...	162711.584
jetBlue	...	42837.163
AirTran	...	0.0
Frontier	...	22687.107
Virgin America	...	0.0
--sub LCC	...	228235.854
NaN	...	
Alaska	...	35529.908
Hawaiian	...	11530.675
Spirit	...	33873.212
Allegiant	...	15121.937
-- sub Other	...	96055.732
NaN	...	
NaN	...	
Total All Sectors	...	759268.03
NaN	...	
Data Source: US DOT Form 41 via BTS, Schedule T1.	...	

[30 rows x 26 columns]

Display recounts of null from data:

Unnamed: 1	0
Unnamed: 2	0
Unnamed: 3	0
Unnamed: 4	0
Unnamed: 5	0
Unnamed: 6	0
Unnamed: 7	0
Unnamed: 8	0

Unnamed: 9 0
Unnamed: 10 0
Unnamed: 11 0
Unnamed: 12 0
Unnamed: 13 0
Unnamed: 14 0
Unnamed: 15 0
Unnamed: 16 0
Unnamed: 17 0
Unnamed: 18 0
Unnamed: 19 0
Unnamed: 20 0
Unnamed: 21 0
Unnamed: 22 0
Unnamed: 23 0
Unnamed: 24 0
Unnamed: 25 0
Unnamed: 26 0
dtype: int64

Data:

	Unnamed: 1 ... Unnamed: 26
System Total Enplaned Passengers	...
Thousands	...
NaN	...
NaN	... 2019.0
NaN	...
American	... 155821.23
Continental	... 0.0

Delta	...	162777.114	
Northwest	...	0.0	
United	...	116378.1	
US Airways	...	0.0	
America West	...	0.0	
--sub Network	...	434976.444	
NaN	...		
Southwest	...	162711.584	
jetBlue	...	42837.163	
AirTran	...	0.0	
Frontier	...	22687.107	
Virgin America	...	0.0	
--sub LCC	...	228235.854	
NaN	...		
Alaska	...	35529.908	
Hawaiian	...	11530.675	
Spirit	...	33873.212	
Allegiant	...	15121.937	
-- sub Other	...	96055.732	
NaN	...		
NaN	...		
Total All Sectors	...	759268.03	
NaN	...		
Data Source: US DOT Form 41 via BTS, Schedule T1.	...		

[30 rows x 26 columns]