U.S.A Domestic Airlines Data set

Data Modeling

&

Storytelling with Tableau

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Table of Contents:

1. Database overview including Objectives, Scope and User Requirements:

The following dataset contains information of domestic flights performance, their source and destination airports along with some other information regarding flights for the year 2015. From this data we would like to get various source and destination airports of flights of different airlines, number of passengers travelled in a flight and we can also get time taken by flight to travel from a source to destination airport.

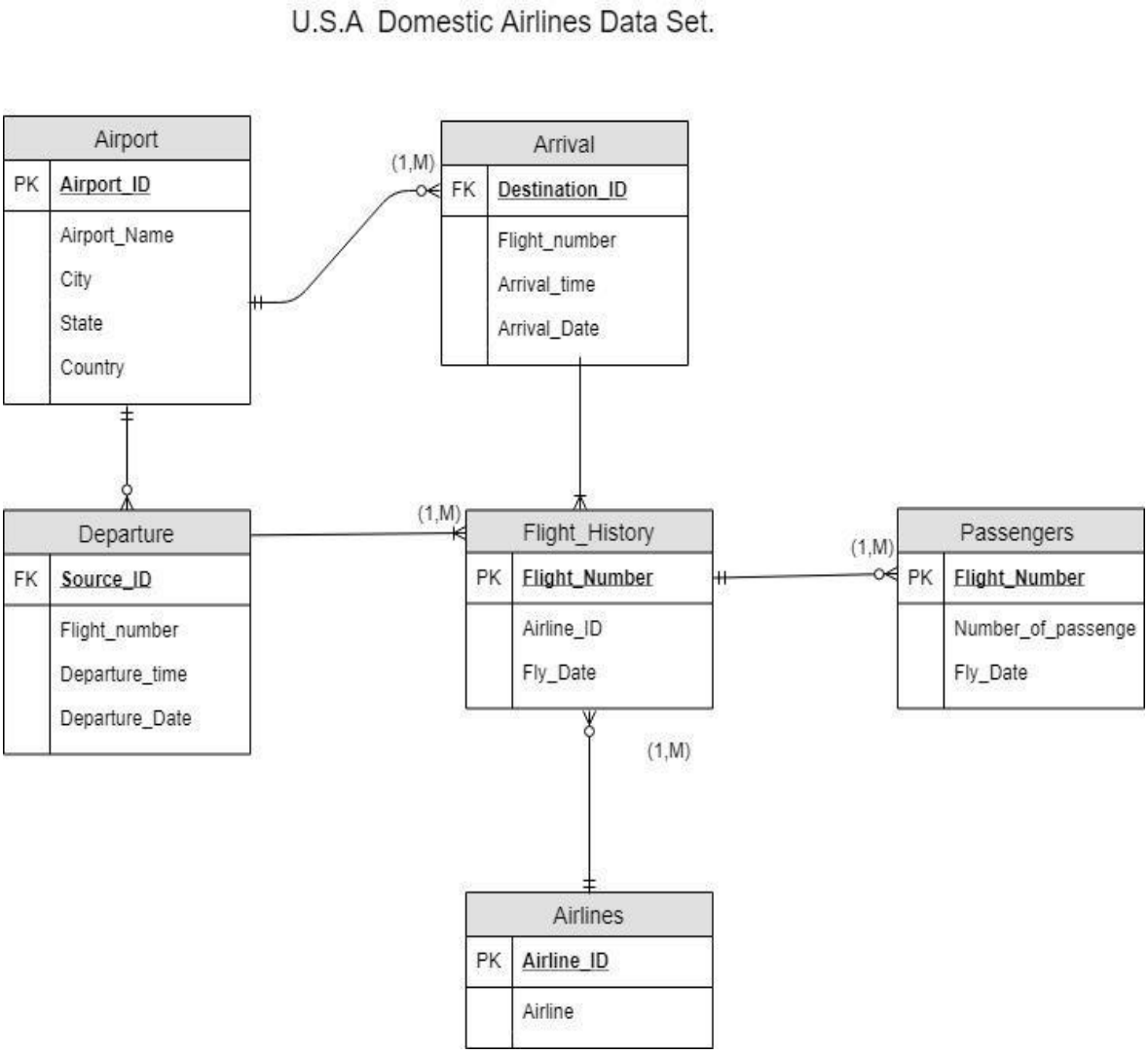
Users will be able to know which airports are having highest number of flights flying in a day/week/month/year. Users will be able to know about time taken by different airlines to travel from same source and destination airports from this users can choose the airline based on their requirement.

In future this project has scope to include other factors like delay timings from actual arrival or departure timings of different airlines, prices of different airlines to travel from same source and destination and cancelations of flights due to different reasons from this user can choose an efficient flight which matches his requirement.

2. Business Rules:

1) One Airline can have many Flights.
2) One Flight belongs to only one Airline.
3) One Flight can fly from many Airports.
4) One Airport will have many flights flying.
5) One flight can have only one departure time.
6) A departure time can have many Flights flying.
7) One flight can have only one Arrival time.
8) A arrival time can have many flights landing.

3. Entity-Relationship Diagram:



4. Data Dictionary:

TABLE	ATTRIBUTE'S	DATATYPE	FORMAT	CONSTR-AINT	REFERENCE	REQUI-RED
AIRLINES	AIRLINE_ID	VARCHAR(5)	XXXXXXX	PK		Y
	AIRLINE	VARCHAR(45)	XXXXXXX			Y
AIRPORT	AIRPORT_ID	VARCHAR(3)	XXXXXXX	PK		Y
	AIPORT_NAME	VARCHAR(100)	XXXXXXX			Y
	CITY	VARCHAR(60)	XXXXXXX			Y
	STATE	VARCHAR(10)	XXXXXXX			Y
	COUNTRY	VARCHAR(5)	XXXXXXX			Y
FLIGHT_HISTORY	FLIGHT_NUMBER	VARCHAR(6)	XXXXXXXX	PK		Y
	AIRLINE_ID	VARCHAR(2)	XXXXXXX			Y
	FLY_DATE	DATE	YYYY-MM-DD			Y
PASSENGERS	FLIGHT_NUMBER	VARCHAR(6)	XXXXXX	FK	FLIGHT_HISTORY	Y
	NUMBER_OF_PASSENGERS	INT	999999			Y
	FLY_DATE	DATE	YYY-MM-DD			Y
DEPARTURE	SOURCE_ID	VARCHAR(6)	XXXXXX	FK	AIRPORT	Y
	FLIGHT_NUMBER	VARCHAR(6)	XXXXXX	FK	FLIGHT_HISTORY	Y
	DEPARTURE_DATE	DATE	YYYY-MM-DD			Y
	DEPARTURE_TIME	TIME	HH:MM:SS			Y
ARRIVAL	DESTINATION_ID	VARCHAR(6)	XXXXXX	FK	AIRPORT	Y
	FLIGHT_NUMBER	VARCHAR(6)	XXXXXX	FK	FLIGHT_HISTORY	Y
	ARRIVAL_DATE	DATE	YYY-MM-DD			Y
	ARRIVAL_TIME	TIME	HH:MM:SS			Y

5. Database creation MySQL statements in a .TXT file with screenshots of successful database creation along with insert statements using DB Fiddle:

A. /* Creating Airlines Table */

```
CREATE TABLE AIRLINES (AIRLINE_ID VARCHAR (5) PRIMARY KEY,
AIRLINE VARCHAR (45));
```

/*Inserting values into Incident Table*/

```
INSERT INTO AIRLINES VALUES("UA", "UNITED AIR LINES INC");
INSERT INTO AIRLINES VALUES("AA", "AMERICAN AIRLINES INC");
INSERT INTO AIRLINES VALUES("US", "US AIRWAYS INC");
INSERT INTO AIRLINES VALUES("F9", "FRONTIER AIRLINES INC");
INSERT INTO AIRLINES VALUES("B6", "JETBLUE AIRWAYS");
INSERT INTO AIRLINES VALUES("OO", "SKYWEST AIRLINES INC");
INSERT INTO AIRLINES VALUES("AS", "ALASKA AIRLINES INC");
INSERT INTO AIRLINES VALUES("NK", "SPIRIT AIR LINES");
INSERT INTO AIRLINES VALUES("WN", "SOUTHWEST AIRLINES CO");
INSERT INTO AIRLINES VALUES("DL", "DELTA AIR LINES INC");
INSERT INTO AIRLINES VALUES("EV", "ATLANTIC SOUTHEAST AIRLINES");
INSERT INTO AIRLINES VALUES("HA", "HAWAIIAN AIRLINES INC");
INSERT INTO AIRLINES VALUES("MQ", "AMERICAN EAGLE AIRLINES INC");
INSERT INTO AIRLINES VALUES("VX", "VIRGIN AMERICA");
```

/*Query Results*/

Query #1 Execution time: 1ms

AIRLINE_ID	AIRLINE
AA	AMERICAN AIRLINES INC
AS	ALASKA AIRLINES INC
B6	JETBLUE AIRWAYS
DL	DELTA AIR LINES INC
EV	ATLANTIC SOUTHEAST AIRLINES
F9	FRONTIER AIRLINES INC
HA	HAWAIIAN AIRLINES INC
MQ	AMERICAN EAGLE AIRLINES INC
NK	SPIRIT AIR LINES
OO	SKYWEST AIRLINES INC
UA	UNITED AIR LINES INC
US	US AIRWAYS INC
VX	VIRGIN AMERICA
WN	SOUTHWEST AIRLINES CO

B. /* Creating Airport Table*/

CREATE TABLE AIRPORT(AIRPORT_ID VARCHAR(3),AIRPORT_NAME VARCHAR(100),CITY VARCHAR(60),STATE VARCHAR(10),COUNTRY VARCHAR(5),PRIMARY KEY(AIRPORT_ID));

/*Inserting values into Airport Table*/

INSERT INTO AIRPORT VALUES ("ABE", "LEHIGH VALLEY INTERNATIONAL AIRPORT", "ALLENTOWN", "PA", "USA");
INSERT INTO AIRPORT VALUES("ABI", "ABILENE REGIONAL AIRPORT", "ABILENE", "TX", "USA");
INSERT INTO AIRPORT VALUES("ABQ", "ALBUQUERQUE INTERNATIONAL SUNPORT", "ALBUQUERQUE", "NM", "USA");
INSERT INTO AIRPORT VALUES("ABR", "ABERDEEN REGIONAL AIRPORT", "ABERDEEN", "SD", "USA");

INSERT INTO AIRPORT VALUES("ABY", "SOUTHWEST GEORGIA REGIONAL AIRPORT", "ALBANY", "GA", "USA");
INSERT INTO AIRPORT VALUES("ACK", "NANTUCKET MEMORIAL AIRPORT", "NANTUCKET", "MA", "USA");
INSERT INTO AIRPORT VALUES("ACT", "WACO REGIONAL AIRPORT", "WACO", "TX", "USA");
INSERT INTO AIRPORT VALUES("ACV", "ARCATA AIRPORT", "ARCATA/EUREKA", "CA", "USA");
INSERT INTO AIRPORT VALUES("ACY", "ATLANTIC CITY INTERNATIONAL AIRPORT", "ATLANTIC CITY", "NJ", "USA");
INSERT INTO AIRPORT VALUES("ADK", "ADAK AIRPORT", "ADAK", "AK", "USA");
INSERT INTO AIRPORT VALUES("ADQ", "KODIAK AIRPORT", "KODIAK", "AK", "USA");
INSERT INTO AIRPORT VALUES("AEX", "ALEXANDRIA INTERNATIONAL AIRPORT", "ALEXANDRIA", "LA", "USA");
INSERT INTO AIRPORT VALUES("AGS", "AUGUSTA REGIONAL AIRPORTÂ (BUSH FIELD)", "AUGUSTA", "GA", "USA");
INSERT INTO AIRPORT VALUES("AKN", "KING SALMON AIRPORT", "KING SALMON", "AK", "USA");
INSERT INTO AIRPORT VALUES("ALB", "ALBANY INTERNATIONAL AIRPORT", "ALBANY", "NY", "USA");
INSERT INTO AIRPORT VALUES("ALO", "WATERLOO REGIONAL AIRPORT", "WATERLOO", "IA", "USA");
INSERT INTO AIRPORT VALUES("AMA", "RICK HUSBAND AMARILLO INTERNATIONAL AIRPORT", "AMARILLO", "TX", "USA");
INSERT INTO AIRPORT VALUES("ANC", "TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT", "ANCHORAGE", "AK", "USA");
INSERT INTO AIRPORT VALUES("APN", "ALPENA COUNTY REGIONAL AIRPORT", "ALPENA", "MI", "USA");

INSERT INTO AIRPORT VALUES("ASE", "ASPEN-PITKIN COUNTY AIRPORT", "ASPEN", "CO", "USA");
INSERT INTO AIRPORT VALUES("ATL", "HARTSFIELD-JACKSON ATLANTA INTERNATIONAL AIRPORT", "ATLANTA", "GA", "USA");

/* Query Results*/

Query #1 Execution time: 6ms

AIRPORT_ID	AIRPORT_NAME	CITY	STATE	COUNTRY
ABE	LEHIGH VALLEY INTERNATIONAL AIRPORT	ALLENTOWN	PA	USA
ABI	ABILENE REGIONAL AIRPORT	ABILENE	TX	USA
ABQ	ALBUQUERQUE INTERNATIONAL SUNPORT	ALBUQUERQUE	NM	USA
ABR	ABERDEEN REGIONAL AIRPORT	ABERDEEN	SD	USA
ABY	SOUTHWEST GEORGIA REGIONAL AIRPORT	ALBANY	GA	USA
ACK	NANTUCKET MEMORIAL AIRPORT	NANTUCKET	MA	USA
ACT	WACO REGIONAL AIRPORT	WACO	TX	USA
ACV	ARCATA AIRPORT	ARCATA/EUREKA	CA	USA
ACY	ATLANTIC CITY INTERNATIONAL AIRPORT	ATLANTIC CITY	NJ	USA
ADK	ADAK AIRPORT	ADAK	AK	USA
ADQ	KODIAK AIRPORT	KODIAK	AK	USA
AEX	ALEXANDRIA INTERNATIONAL AIRPORT	ALEXANDRIA	LA	USA

C. /* Creating FLIGHT_HISTORY Table*/

CREATE TABLE FLIGHT_HISTORY(FLIGHT_NUMBER VARCHAR(6),AIRLINE_ID VARCHAR(2),FLY_DATE DATE,PRIMARY KEY(FLIGHT_NUMBER));

/*Inserting Values into FLIGHT_HISTORY Table*/

INSERT INTO FLIGHT_HISTORY VALUES ("N407AS", "AS", "2015-01-01");

INSERT INTO FLIGHT_HISTORY VALUES ("N415UA", "UA", "2015-01-05");

INSERT INTO FLIGHT_HISTORY VALUES ("N5DKAA", "AA", "2015-01-03");

INSERT INTO FLIGHT_HISTORY VALUES ("N566UW", "US", "2015-01-10");

INSERT INTO FLIGHT_HISTORY VALUES ("N559UW", "US", "2015-01-17");

```
INSERT INTO FLIGHT_HISTORY VALUES ("N372DA", "DL", "2015-02-07");
INSERT INTO FLIGHT_HISTORY VALUES ("N3DHAA", "AA", "2015-02-21");
INSERT INTO FLIGHT_HISTORY VALUES ("N373NW", "DL", "2015-02-28");
INSERT INTO FLIGHT_HISTORY VALUES ("N611NK", "NK", "2015-02-14");
INSERT INTO FLIGHT_HISTORY VALUES ("N568UW", "US", "2015-02-21");
INSERT INTO FLIGHT_HISTORY VALUES ("N632NK", "NK", "2015-03-07");
INSERT INTO FLIGHT_HISTORY VALUES ("N162UW", "US", "2015-03-07");
INSERT INTO FLIGHT_HISTORY VALUES ("N3MGAA", "AA", "2015-03-07");
INSERT INTO FLIGHT_HISTORY VALUES ("N3KEAA", "AA", "2015-03-07");
INSERT INTO FLIGHT_HISTORY VALUES ("N663DN", "DL", "2015-03-07");
```

Query #1 Execution time: 0ms

FLIGHT_NUMBER	AIRLINE_ID	FLY_DATE
N162UW	US	2015-03-07
N372DA	DL	2015-02-07
N373NW	DL	2015-02-28
N3DHAA	AA	2015-02-21
N3KEAA	AA	2015-03-07
N3MGAA	AA	2015-03-07
N407AS	AS	2015-01-01
N415UA	UA	2015-01-05
N559UW	US	2015-01-17
N566UW	US	2015-01-10
N568UW	US	2015-02-21
N5DKAA	AA	2015-01-03

D. /* Creating PASSENGERS Table*/

```
CREATE TABLE PASSENGERS(FLIGHT_NUMBER
VARCHAR(6),NUMBER_OF_PASSENGERS INT,FLY_DATE DATE);
```

/*Inserting values into PASSENGERS Table*/

```
INSERT INTO PASSENGERS VALUES ("N407AS", "150", "2015-01-01");

INSERT INTO PASSENGERS VALUES ("N415UA", "250", "2015-01-05");

INSERT INTO PASSENGERS VALUES ("N5DKAA", "200", "2015-01-03");

INSERT INTO PASSENGERS VALUES ("N566UW", "100", "2015-01-10");

INSERT INTO PASSENGERS VALUES ("N559UW", "170", "2015-01-17");

INSERT INTO PASSENGERS VALUES ("N372DA", "79", "2015-02-07");

INSERT INTO PASSENGERS VALUES ("N3DHAA", "207", "2015-02-21");

INSERT INTO PASSENGERS VALUES ("N373NW", "298", "2015-02-28");

INSERT INTO PASSENGERS VALUES ("N611NK", "298", "2015-02-14");

INSERT INTO PASSENGERS VALUES ("N568UW", "78", "2015-02-21");

INSERT INTO PASSENGERS VALUES ("N632NK", "88", "2015-03-07");

INSERT INTO PASSENGERS VALUES ("N162UW", "65", "2015-03-07");

INSERT INTO PASSENGERS VALUES ("N3MGAA", "98", "2015-03-07");

INSERT INTO PASSENGERS VALUES ("N3KEAA", "76", "2015-03-07");

INSERT INTO PASSENGERS VALUES ("N663DN", "76", "2015-03-07");
```

/*Query Results*/

Query #1 Execution time: 1ms

FLIGHT_NUMBER	NUMBER_OF_PASSENGERS	FLY_DATE
N407AS	150	2015-01-01
N415UA	250	2015-01-05
N5DKAA	200	2015-01-03
N566UW	100	2015-01-10
N559UW	170	2015-01-17
N372DA	79	2015-02-07
N3DHAA	207	2015-02-21
N373NW	298	2015-02-28
N611NK	298	2015-02-14
N568UW	78	2015-02-21
N632NK	88	2015-03-07
N162UW	65	2015-03-07

E. /* Creating ARRIVAL Table*/

```
CREATE TABLE ARRIVAL(DESTINATION_ID VARCHAR(6),FLIGHT_NUMBER
VARCHAR(6),ARRIVAL_TIME TIME,ARRIVAL_DATE DATE,FOREIGN KEY
(FLIGHT_NUMBER) REFERENCES
FLIGHT_HISTORY(FLIGHT_NUMBER),FOREIGN KEY (DESTINATION_ID)
REFERENCES AIRPORT(AIRPORT_ID));
```

/*Inserting ARRIVAL Table value*/

```
INSERT INTO ARRIVAL VALUES ("SEA", "N407AS", "12:00:00","2015-01-01");
INSERT INTO ARRIVAL VALUES ("IAH", "N415UA", "14:00:00","2015-01-05");
```

```
INSERT INTO ARRIVAL VALUES ("DFW", "N5DKAA", "11:00:00","2015-01-03");
INSERT INTO ARRIVAL VALUES ("CLT", "N566UW", "11:00:00","2015-01-10");
INSERT INTO ARRIVAL VALUES ("CLT", "N559UW", "12:00:00","2015-01-17");
INSERT INTO ARRIVAL VALUES ("SEA", "N372DA", "12:00:00","2015-02-07");
INSERT INTO ARRIVAL VALUES ("DFW", "N3DHAA", "17:00:00","2015-02-21");
INSERT INTO ARRIVAL VALUES ("MSP", "N373NW", "19:00:00","2015-02-28");
INSERT INTO ARRIVAL VALUES ("MSP", "N611NK", "17:00:00","2015-02-14");
INSERT INTO ARRIVAL VALUES ("CLT", "N568UW", "17:00:00","2015-02-21");
INSERT INTO ARRIVAL VALUES ("MSP", "N632NK", "18:00:00","2015-03-07");
INSERT INTO ARRIVAL VALUES ("CLT", "N162UW", "18:00:00","2015-03-07");
INSERT INTO ARRIVAL VALUES ("ORD", "N3MGAA", "19:00:00","2015-03-07");
INSERT INTO ARRIVAL VALUES ("DFW", "N3KEAA", "17:00:00","2015-03-07");
INSERT INTO ARRIVAL VALUES ("MSP", "N663DN", "17:00:00","2015-03-07");
```

Query #1 **Execution time: 1ms**

DESTINATION_ID	FLIGHT_NUMBER	ARRIVAL_TIME	ARRIVAL_DATE
SEA	N407AS	12:00:00	2015-01-01
IAH	N415UA	14:00:00	2015-01-05
DFW	N5DKAA	11:00:00	2015-01-03
CLT	N566UW	11:00:00	2015-01-10
CLT	N559UW	12:00:00	2015-01-17
SEA	N372DA	12:00:00	2015-02-07
DFW	N3DHAA	17:00:00	2015-02-21
MSP	N373NW	19:00:00	2015-02-28
MSP	N611NK	17:00:00	2015-02-14
CLT	N568UW	17:00:00	2015-02-21
MSP	N632NK	18:00:00	2015-03-07
CLT	N162UW	18:00:00	2015-03-07

F. /*Creating DEPARTURE Table*/

```
CREATE TABLE DEPARTURE(SOURCE_ID VARCHAR(6),FLIGHT_NUMBER
VARCHAR(6),DEPARTURE_TIME TIME,DEPARTURE_DATE DATE,FOREIGN KEY
(SOURCE_ID) REFERENCES AIRPORT(AIRPORT_ID),FOREIGN KEY
(FLIGHT_NUMBER) REFERENCES FLIGHT_HISTORY(FLIGHT_NUMBER));
```

/*Inserting value into DEPARTURE Table*/

```
INSERT INTO DEPARTURE VALUES ("ANC", "N407AS", "09:00:00","2015-01-01");

INSERT INTO DEPARTURE VALUES ("LAS", "N415UA", "10:00:00","2015-01-05");

INSERT INTO DEPARTURE VALUES ("LAX", "N5DKAA", "11:00:00","2015-01-03");

INSERT INTO DEPARTURE VALUES ("PHX", "N566UW", "12:00:00","2015-01-10");

INSERT INTO DEPARTURE VALUES ("SLC", "N559UW", "13:00:00","2015-01-17");

INSERT INTO DEPARTURE VALUES ("ANC", "N372DA", "14:00:00","2015-02-07");

INSERT INTO DEPARTURE VALUES ("LAX", "N3DHAA", "15:00:00","2015-02-21");

INSERT INTO DEPARTURE VALUES ("SMF", "N373NW", "16:00:00","2015-02-28");

INSERT INTO DEPARTURE VALUES ("LAS", "N611NK", "17:00:00","2015-02-14");

INSERT INTO DEPARTURE VALUES ("SFO", "N568UW", "18:00:00","2015-02-21");

INSERT INTO DEPARTURE VALUES ("LAS", "N632NK", "19:00:00","2015-03-07");

INSERT INTO DEPARTURE VALUES ("SFO", "N162UW", "20:00:00","2015-03-07");

INSERT INTO DEPARTURE VALUES ("LAS", "N3MGAA", "21:00:00","2015-03-07");

INSERT INTO DEPARTURE VALUES ("SFO", "N3KEAA", "22:00:00","2015-03-07");

INSERT INTO DEPARTURE VALUES ("PDX", "N663DN", "23:00:00","2015-03-07");
```

/*Query Result*/

Query #1 Execution time: 1ms

SOURCE_ID	FLIGHT_NUMBER	DEPARTURE_TIME	DEPARTURE_DATE
ANC	N407AS	09:00:00	2015-01-01
LAS	N415UA	10:00:00	2015-01-05
LAX	N5DKAA	11:00:00	2015-01-03
PHX	N566UW	12:00:00	2015-01-10
SLC	N559UW	13:00:00	2015-01-17
ANC	N372DA	14:00:00	2015-02-07
LAX	N3DHAA	15:00:00	2015-02-21
SMF	N373NW	16:00:00	2015-02-28
LAS	N611NK	17:00:00	2015-02-14
SFO	N568UW	18:00:00	2015-02-21
LAS	N632NK	19:00:00	2015-03-07
SFO	N162UW	20:00:00	2015-03-07

6. MYSQL Query Statements:

1) Query #1. Details of flight whose Arrival date is 2015-01-01.

SELECT SOURCE_ID, DESTINATION_ID, D.FLIGHT_NUMBER,

DEPART URE_DATE, DEPARTURE_TIME, ARRIVAL_DATE, ARRIVAL_TIME FROM DEPARTURE D JOIN ARRIVAL A ON D.FLIGHT_NUMBER = A.FlIGHT_NUMBER WHERE ARRIVAL_DATE = "2015-01-01";

Result:

Query #1 Execution time: 1ms

SOURCE_ID	FLIGHT_NUMBER	DEPARTURE_DATE	DEPARTURE_TIME	DESTINATION_ID	ARRIVAL_DATE	ARRIVAL_TIME
ANC	N407AS	2015-01-01	09:00:00	SEA	2015-01-01	12:00:00

2) Query #2. Flight numbers of an Airline ex: “US”

SELECT A.AIRLINE_ID,AIRLINE,FLIGHT_NUMBER FROM AIRLINES A JOIN FLIGHT_HISTORY H ON A.AIRLINE_ID = H.AIRLINE_ID WHERE A.AIRLINE_ID = "US";

Result:

Query #2 Execution time: 0ms

AIRLINE_ID	AIRLINE	FLIGHT_NUMBER
US	US AIRWAYS INC	N162UW
US	US AIRWAYS INC	N559UW
US	US AIRWAYS INC	N566UW
US	US AIRWAYS INC	N568UW

3) Query #3 Number of Flights numbers for Individual Airline

SELECT A.AIRLINE_ID, COUNT(FH.FLIGHT_NUMBER) FROM AIRLINES A JOIN FLIGHT_HISTORY FH ON A.AIRLINE_ID = FH.AIRLINE_ID GROUP BY A.AIRLINE_ID;

Result:

Query #3 Execution time: 0ms

AIRLINE_ID	COUNT(FH.FLIGHT_NUMBER)
AA	4
AS	1
DL	3
NK	2
UA	1
US	4

4) Query #4 Name of Airports which start with letter "DA%"

```
SELECT * FROM AIRPORT WHERE AIRPORT_NAME LIKE 'DA%';
```

Result:

Query #4 Execution time: 1ms

AIRPORT_ID	AIRPORT_NAME	CITY	STATE	COUNTRY
DAB	DAYTONA BEACH INTERNATIONAL AIRPORT	DAYTONA BEACH	FL	USA
DAL	DALLAS LOVE FIELD	DALLAS	TX	USA
DFW	DALLAS/FORT WORTH INTERNATIONAL AIRPORT	DALLAS-FORT WORTH	TX	USA
MSN	DANE COUNTY REGIONAL AIRPORT	MADISON	WI	USA

5) Query #5 Flight_number in which highest number of people travelled.

```
SELECT * FROM FLIGHT_HISTORY WHERE FLIGHT_NUMBER IN (SELECT
FLIGHT_NUMBER FROM PASSENGERS WHERE NUMBER_OF_PASSENGERS IN
(SELECT MAX(NUMBER_OF_PASSENGERS) FROM PASSENGERS));
```

Query #1 Execution time: 0ms

FLIGHT_NUMBER	AIRLINE_ID	FLY_DATE
N373NW	DL	2015-02-28
N611NK	NK	2015-02-14

7. All the queries worked good in DB Fiddle. Below is the link to check.

https://www.db-fiddle.com/f/3sjH9TcECvWMQ5VeQwQRxH/7

8. Conclusion:

Finally, through this database we can fetch any required information regarding flights. In future if we could include actual departure and arrival timings, we can find delay of flights and also if we could include flight prices then any users can choose their flights based on previous history of airlines.

9. Storytelling with Tableau

Tableau Functionalities:

Calculated fields: Following are the various calculated fields we used to create dashboards and story.

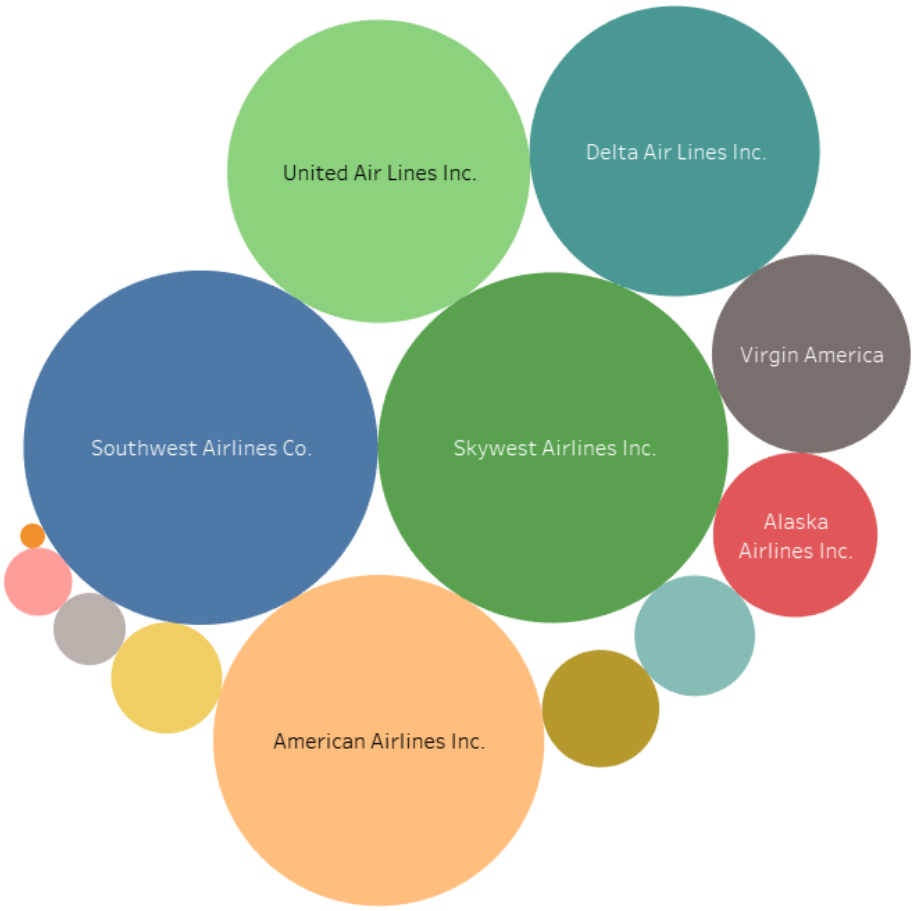
1. **Arrival delay time:**
   Arrival delay time/1440
2. **Cancelled Reason:**
   CASE [Cancellation Reason]
   WHEN "A" THEN "Airline/Carrier"
   WHEN "B" THEN "Weather"
   WHEN "C" THEN "National Air System"
   WHEN "D" THEN "Security"
   END
3. **Orgin - Dest:**
   [Origin Airport] +"🚀"+ [Destination Airport]
4. **Path ID:**
   if RIGHT ([Table Name],1) == "1" THEN 2 ELSE 1 END

Table manipulations:

Filters(customized): I have used filters wherever applicable. Some of them are Airports, Airlines, Cancel reason.

STORY

Overview of flight services provided by airlines at given airport	We could observe number of flights, number of cancelled flights for each airline at a given airport	The below trend lines shows number of cancelled flights in a week	Below trend lines shows number of cancelled flights throughout the year based on cancellation reason	State wise report on airline cancellations	Airports ordered by cancellations based on Cancel reason	To ra rea



Airport

Los Angeles Inter...

Choose Airline

- Southwest Airli..
- Skywest Airline..
- American Airline..
- United Air Lines ..
- Delta Air Lines I..
- Virgin America
- Alaska Airlines I..
- Spirit Air Lines
- JetBlue Airways
- US Airways Inc.
- Hawaiian Airline..
- Frontier Airlines..
- American Eagle ..

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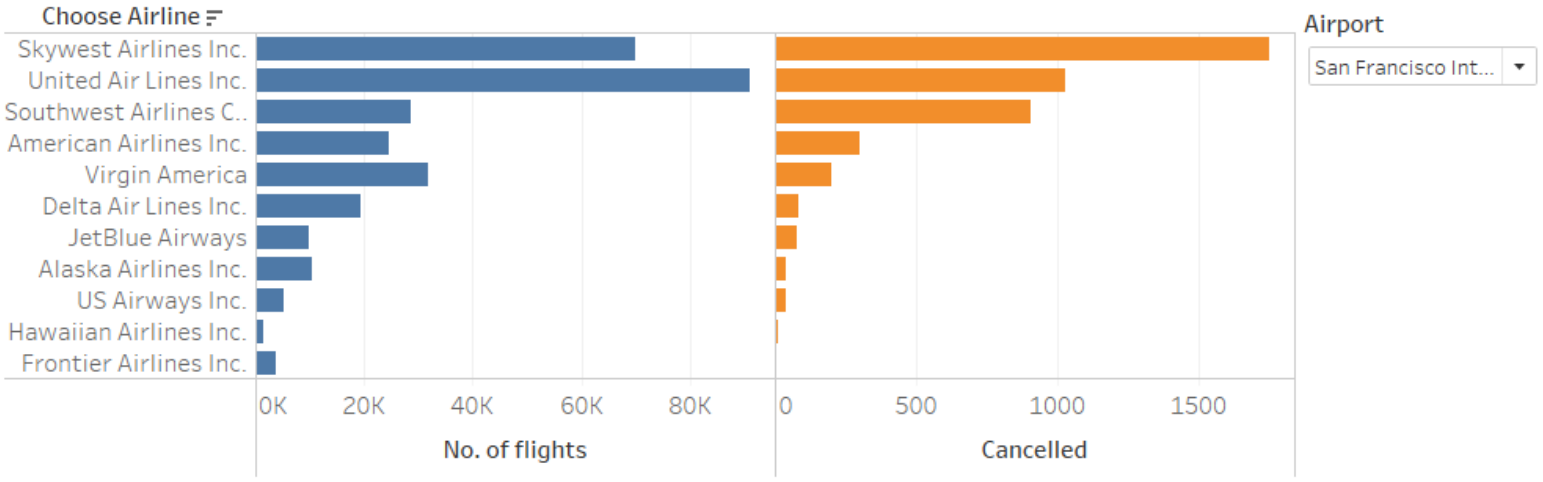

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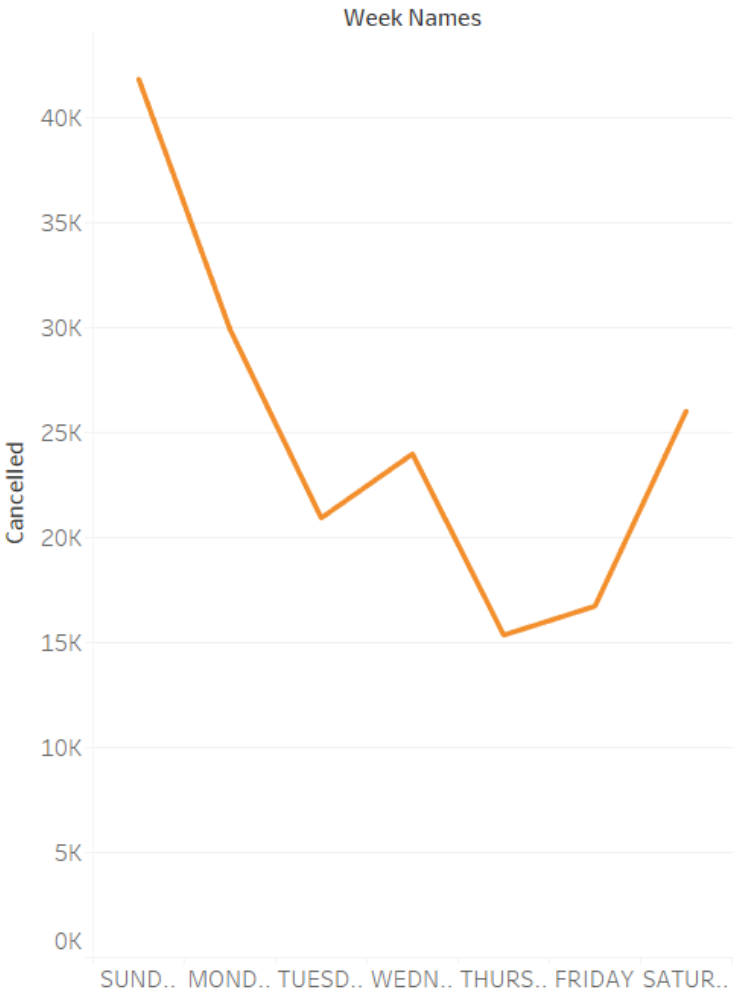

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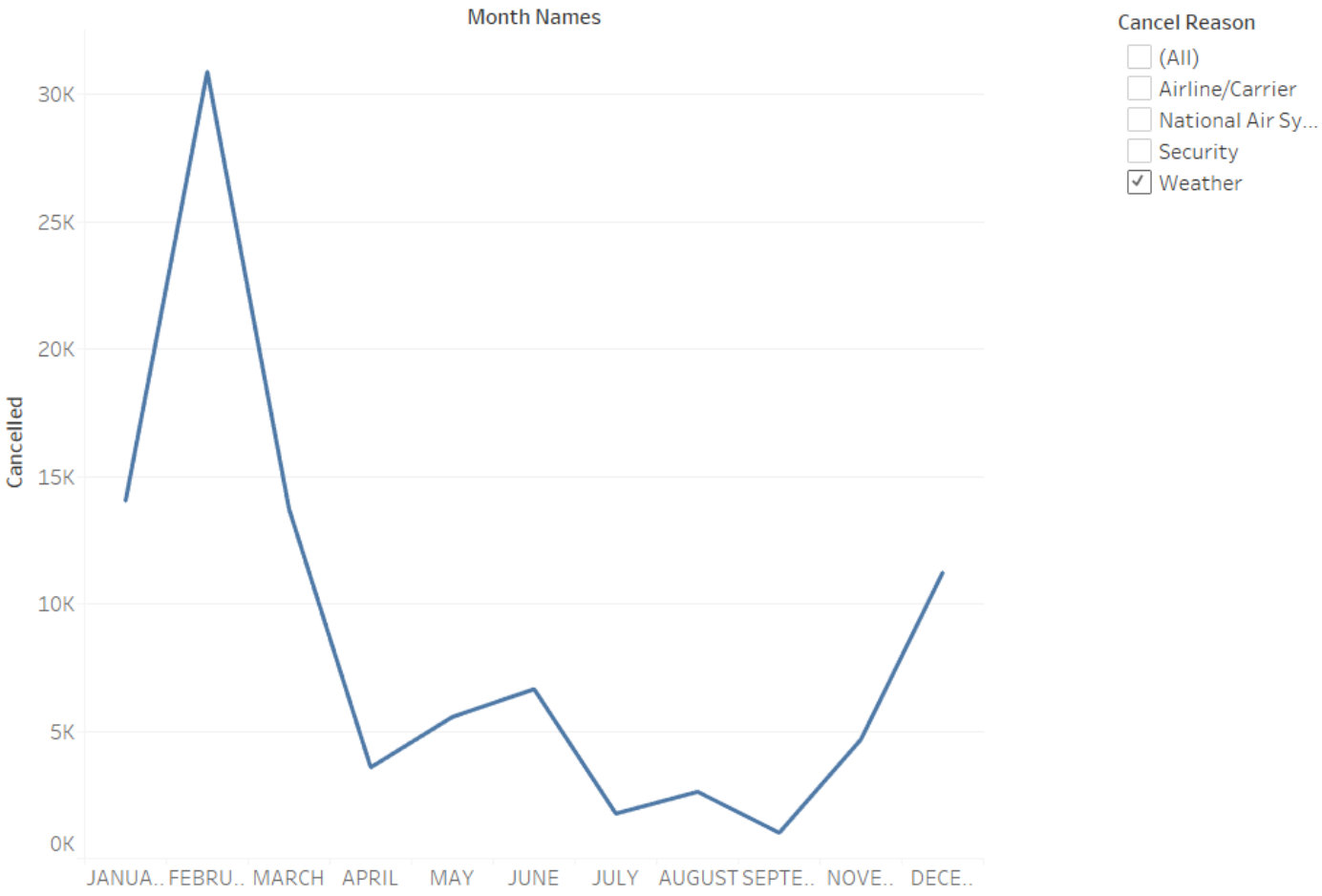

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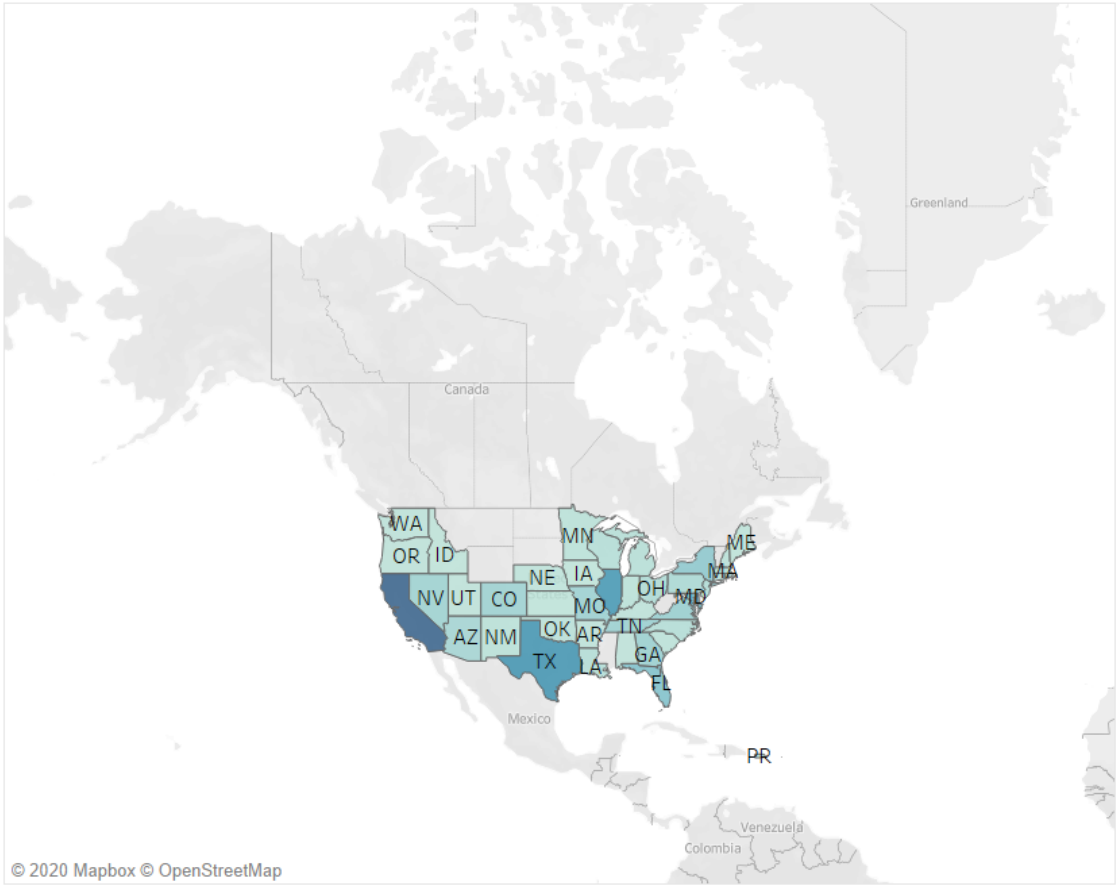
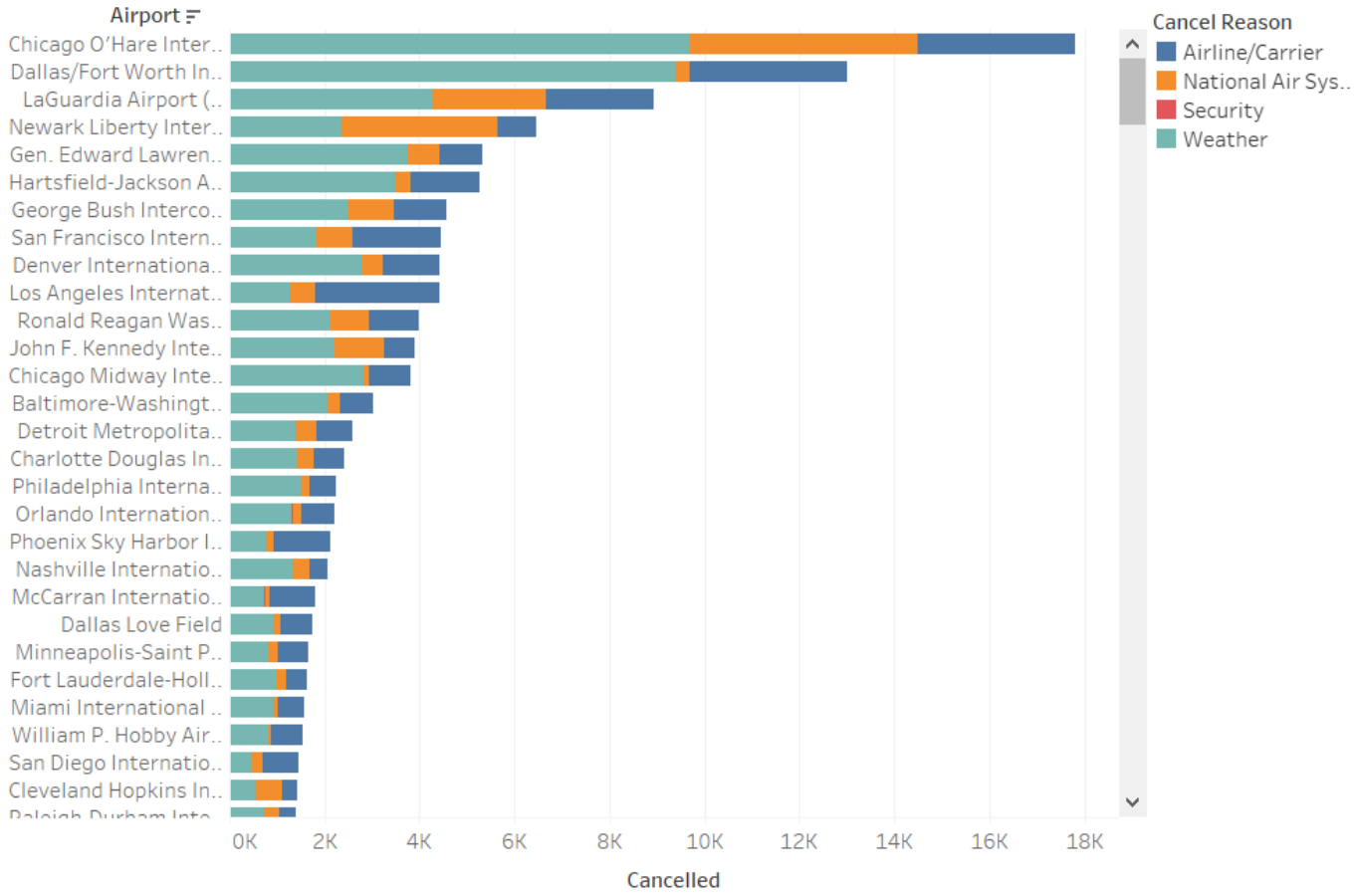


STORY

nt d en	We could observe number of flights, number of cancelled flights for each airline at a given airport	The below trend lines shows number of cancelled flights in a week	Below trend lines shows number of cancelled flights throughout the year based on cancellation reason	State wise report on airline cancellations	Airports ordered by cancellations based on Cancel reason	Top 10 airpots ranked by cancel reason



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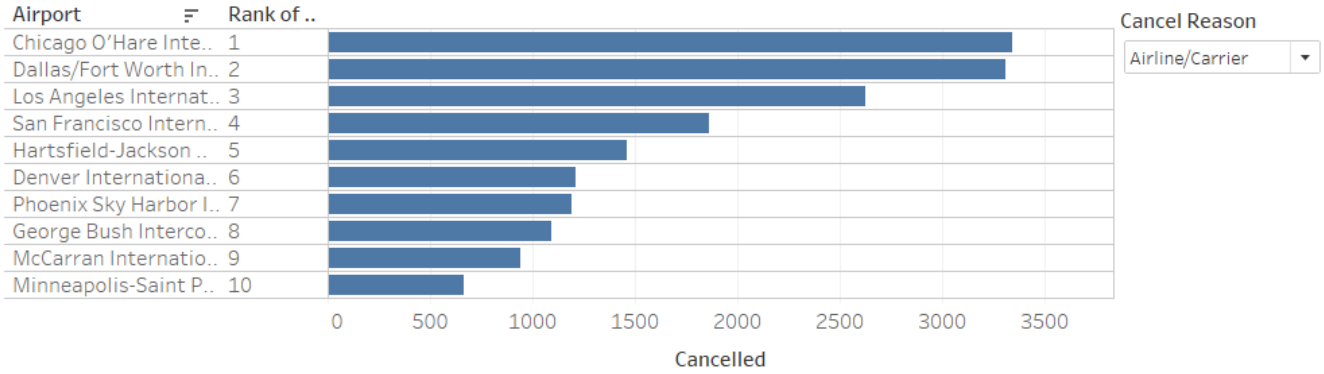

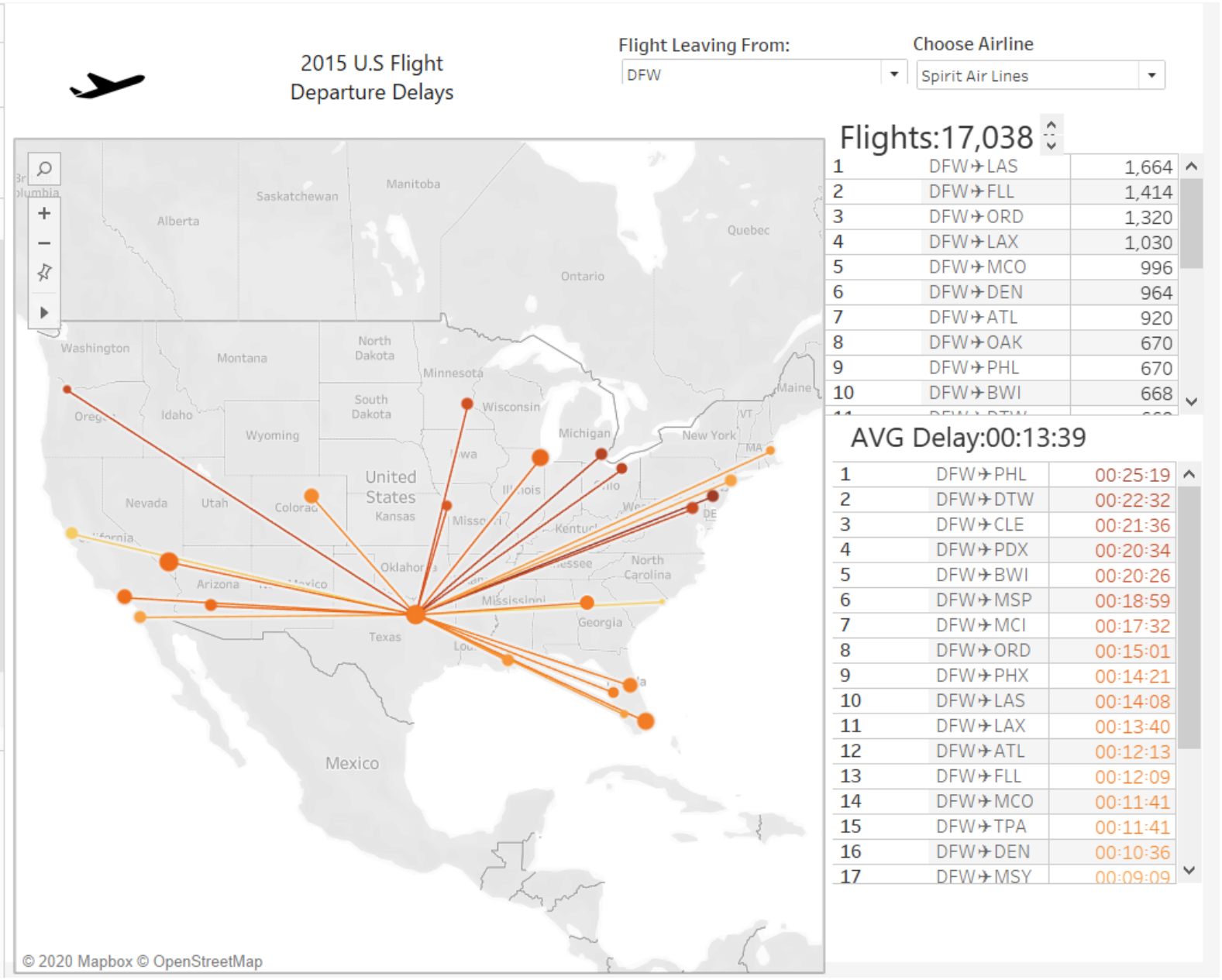
2015 U.S Flight
Departure Delays
Flight Leaving From:
DFW
Choose Airline
Spirit Air Lines
Flights:17,038
1 DFW✈LAS 1,664
2 DFW✈FLL 1,414
3 DFW✈ORD 1,320
4 DFW✈LAX 1,030
5 DFW✈MCO 996
6 DFW✈DEN 964
7 DFW✈ATL 920
8 DFW✈OAK 670
9 DFW✈PHL 670
10 DFW✈BWI 668
AVG Delay:00:13:39
1 DFW✈PHL 00:25:19
2 DFW✈DTW 00:22:32
3 DFW✈CLE 00:21:36
4 DFW✈PDX 00:20:34
5 DFW✈BWI 00:20:26
6 DFW✈MSP 00:18:59
7 DFW✈MCI 00:17:32
8 DFW✈ORD 00:15:01
9 DFW✈PHX 00:14:21
10 DFW✈LAS 00:14:08
11 DFW✈LAX 00:13:40
12 DFW✈ATL 00:12:13
13 DFW✈FLL 00:12:09
14 DFW✈MCO 00:11:41
15 DFW✈TPA 00:11:41
16 DFW✈DEN 00:10:36
17 DFW✈MSY 00:09:09
Saskatchewan
Manitoba
Alberta
Quebec
Ontario
Washington
Montana
North Dakota
Minnesota
Wisconsin
Michigan
New York
Maine
Idaho
South Dakota
Wyoming
United States
Nevada
Utah
Kansas
Arizona
Texas
North Carolina
Georgia
Mexico
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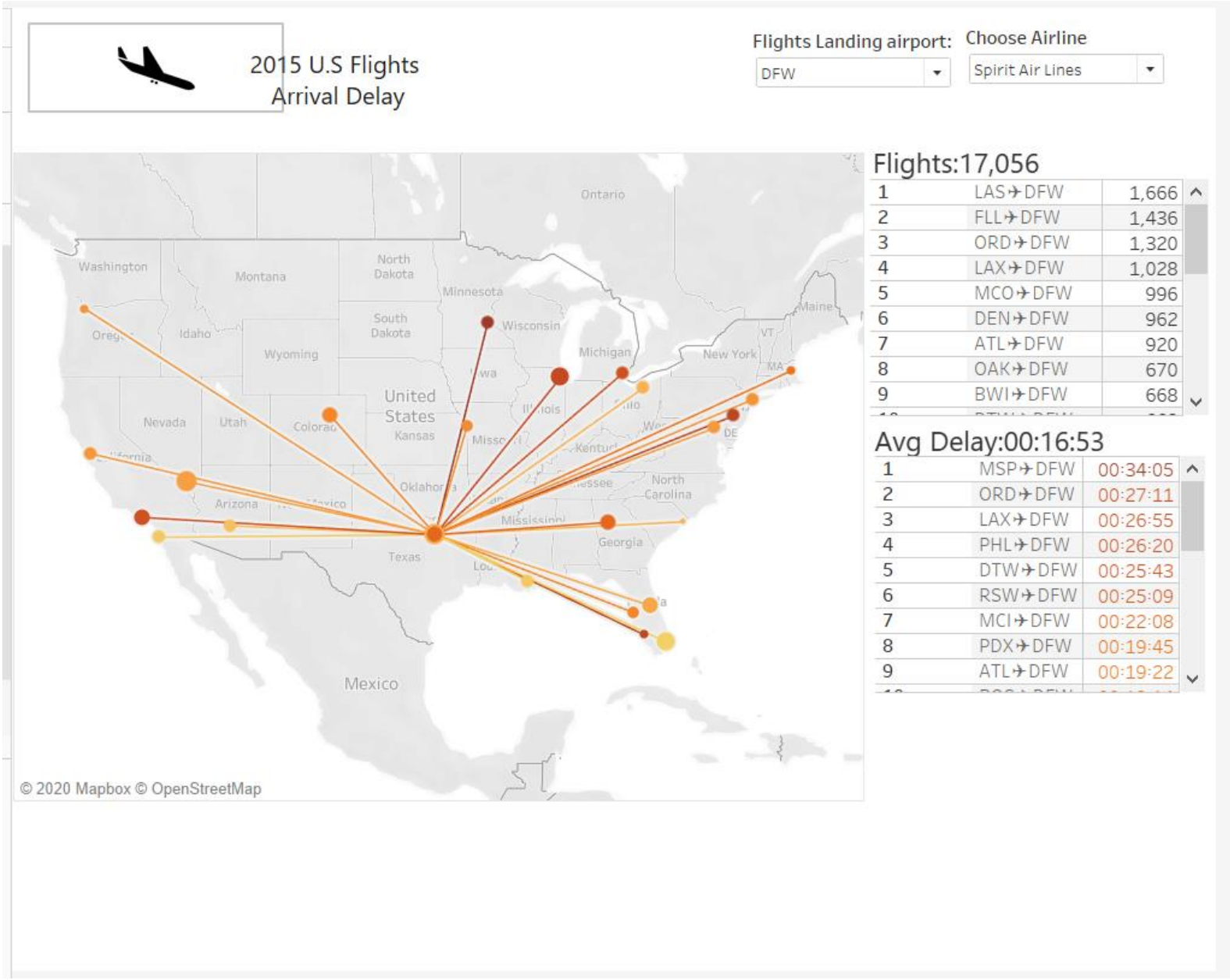
2015 U.S Flights
Arrival Delay
Flights Landing airport:
DFW
Choose Airline
Spirit Air Lines
Flights:17,056
1 LAS✈DFW 1,666
2 FLL✈DFW 1,436
3 ORD✈DFW 1,320
4 LAX✈DFW 1,028
5 MCO✈DFW 996
6 DEN✈DFW 962
7 ATL✈DFW 920
8 OAK✈DFW 670
9 BWI✈DFW 668
Avg Delay:00:16:53
1 MSP✈DFW 00:34:05
2 ORD✈DFW 00:27:11
3 LAX✈DFW 00:26:55
4 PHL✈DFW 00:26:20
5 DTW✈DFW 00:25:43
6 RSW✈DFW 00:25:09
7 MCI✈DFW 00:22:08
8 PDX✈DFW 00:19:45
9 ATL✈DFW 00:19:22
Ontario
Washington
Montana
North Dakota
Minnesota
Maine
Idaho
South Dakota
Wisconsin
Wyoming
Michigan
New York
United States
Nevada
Utah
Kansas
Arizona
North Carolina
Georgia
Texas
Mexico
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