

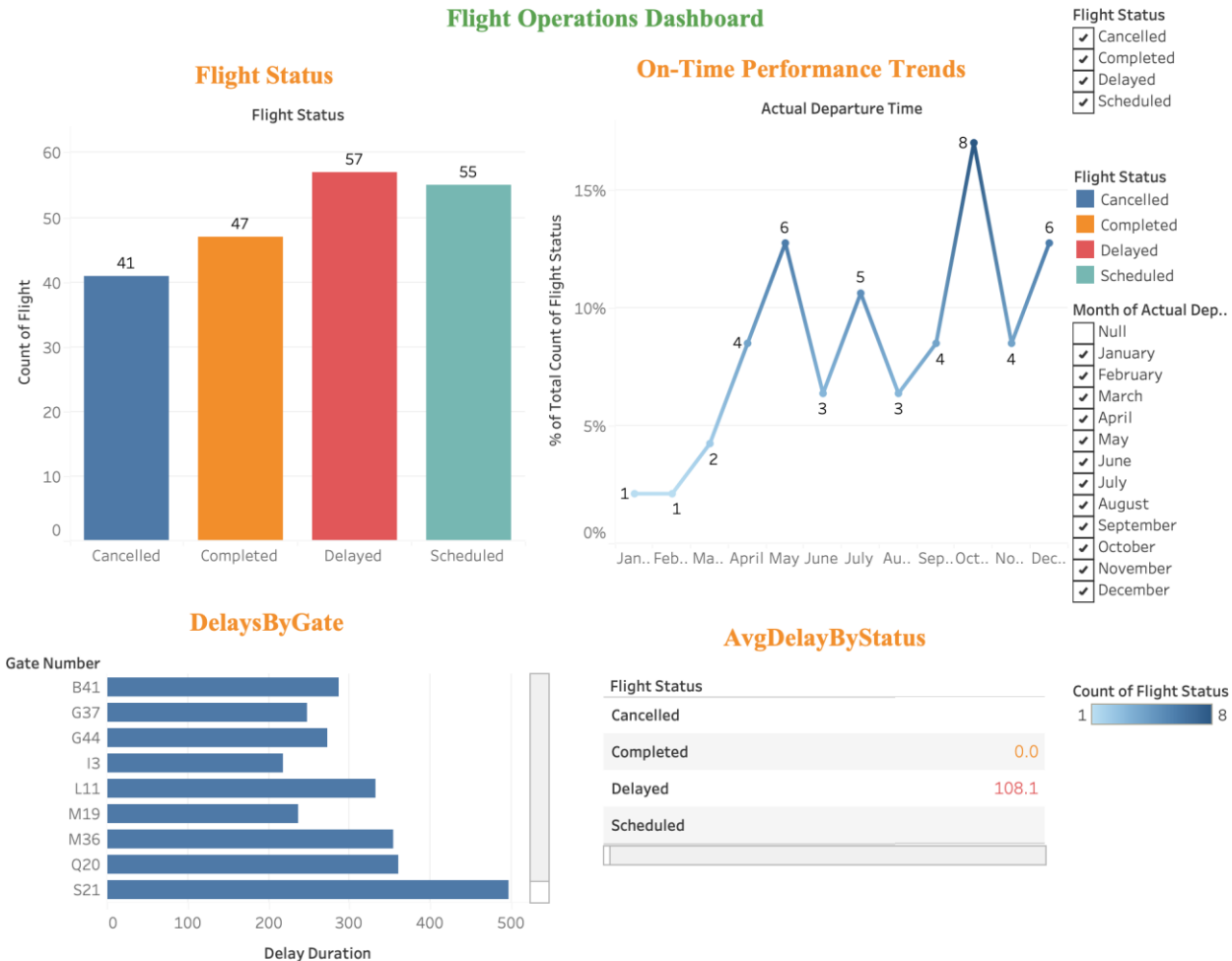
AIRPORT MANAGEMENT SYSTEM – GROUP2

VISUALIZATION DASHBOARD

1. Flight Operations Dashboard:

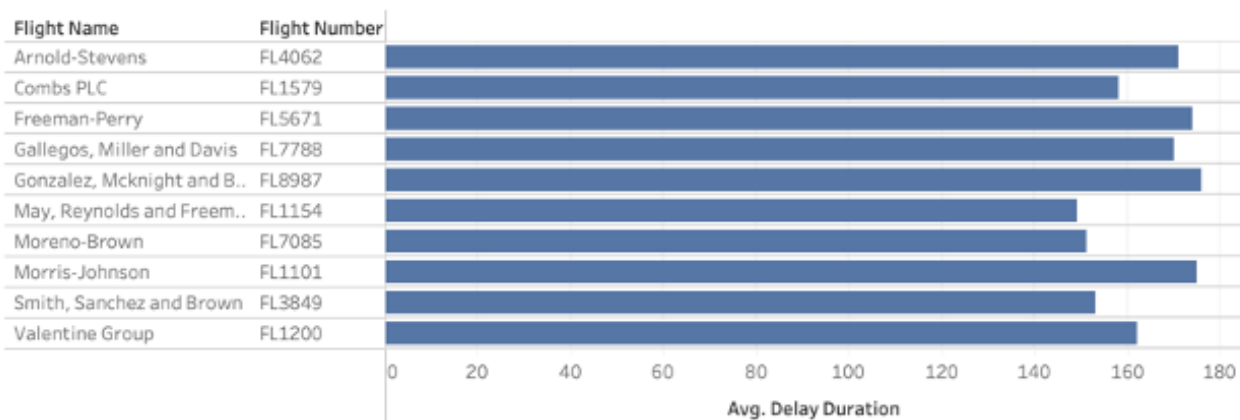
- Visualize flight statuses (Scheduled, Delayed, Cancelled, Completed) in real-time.
- Top delayed routes and delay reasons (Weather Delay, Technical Issue, Air Traffic).
- On-time performance trends over weeks/months.
- Top Delays by Gate and Average Delay Duration by Status

Flight Operations Dashboard



Flight Operations Dashboard

TopDelayedFlights



2. Passenger Insights Dashboard:
- a. Track passenger counts by destination and flight.

b. Loyalty Program statistics

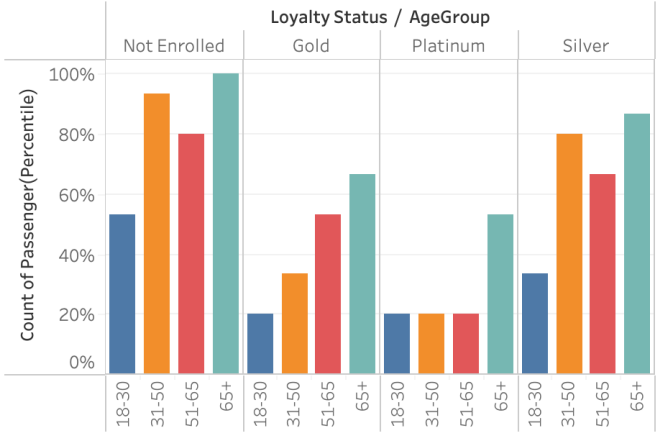
c. Passenger Demographics

Passenger Insights Dashboard

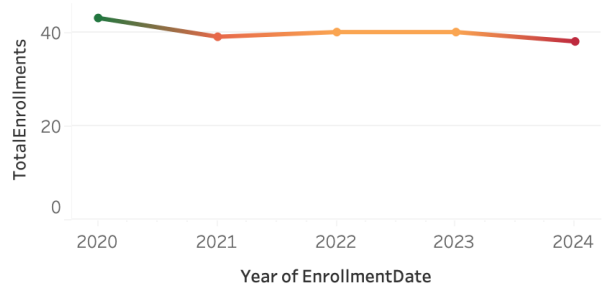
PassengerCountByFlightRoutes

Flight Number	RouteAirports	
FL1152	West Nicolehaven Airport To Lake Craig Airport	2
FL1200	South Anna Airport To Fischerberg Airport	2
FL1235	East Andrew Airport To Stephaniehaven Airport	2
FL1237	Lake Craig Airport To Austinshire Airport	5
FL1260	Brianaland Airport To Lake Adriana Airport	3
FL1283	Dianaside Airport To Thomaston Airport	2
FL1355	South Christopher Airport To West Andrea Airport	2
FL1435	East Andrew Airport To West Andrea Airport	2
FL1514	South Christopher Airport To Craighaven Airport	2
FL2298	Hooperland Airport To Craighaven Airport	3
FL2994	Hooperland Airport To West Nicolehaven Airport	4
FL3213	Austinshire Airport To Thomaston Airport	3
FL3614	Donnabury Airport To Austinshire Airport	5
FL4692	South Gregorychester Airport To Lake Adriana Airport	3
FL4804	West Nicolehaven Airport To South Anna Airport	4
FL5075	South Anna Airport To Austinshire Airport	3
FL5500	Lake Craig Airport To East Andrew Airport	4
FL6318	Austinshire Airport To Fischerberg Airport	4
FL6631	West Nicolehaven Airport To Simpsonbury Airport	3
FL7838	South Gregorychester Airport To Lake Adriana Airport	3
FL8500	Brianaland Airport To Hooperland Airport	3
FL8987	Monicaburgh Airport To North Kimberlyport Airport	3
FL9220	Thomaston Airport To Stephaniehaven Airport	3
FL9252	South Gregorychester Airport To East Andrew Airport	4
FL9471	South Anna Airport To Stephaniehaven Airport	3

PassengerDemographics



TrendsInLoyaltyProgram

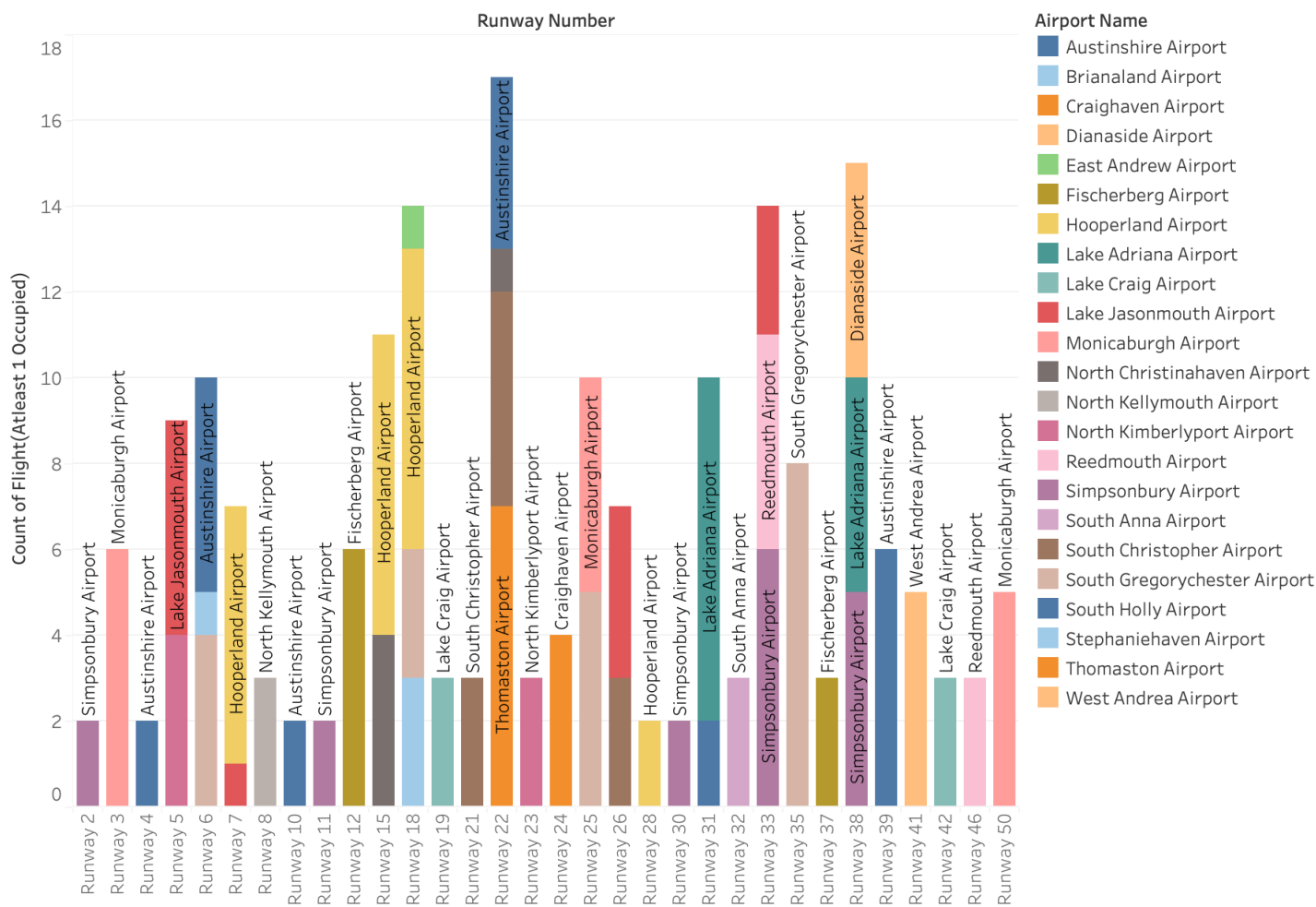


3. Airport Resource Utilization Dashboard:
- a. Gate, runway, and aircraft usage across the day.

b. Equipment and Ground Support operational metrics.

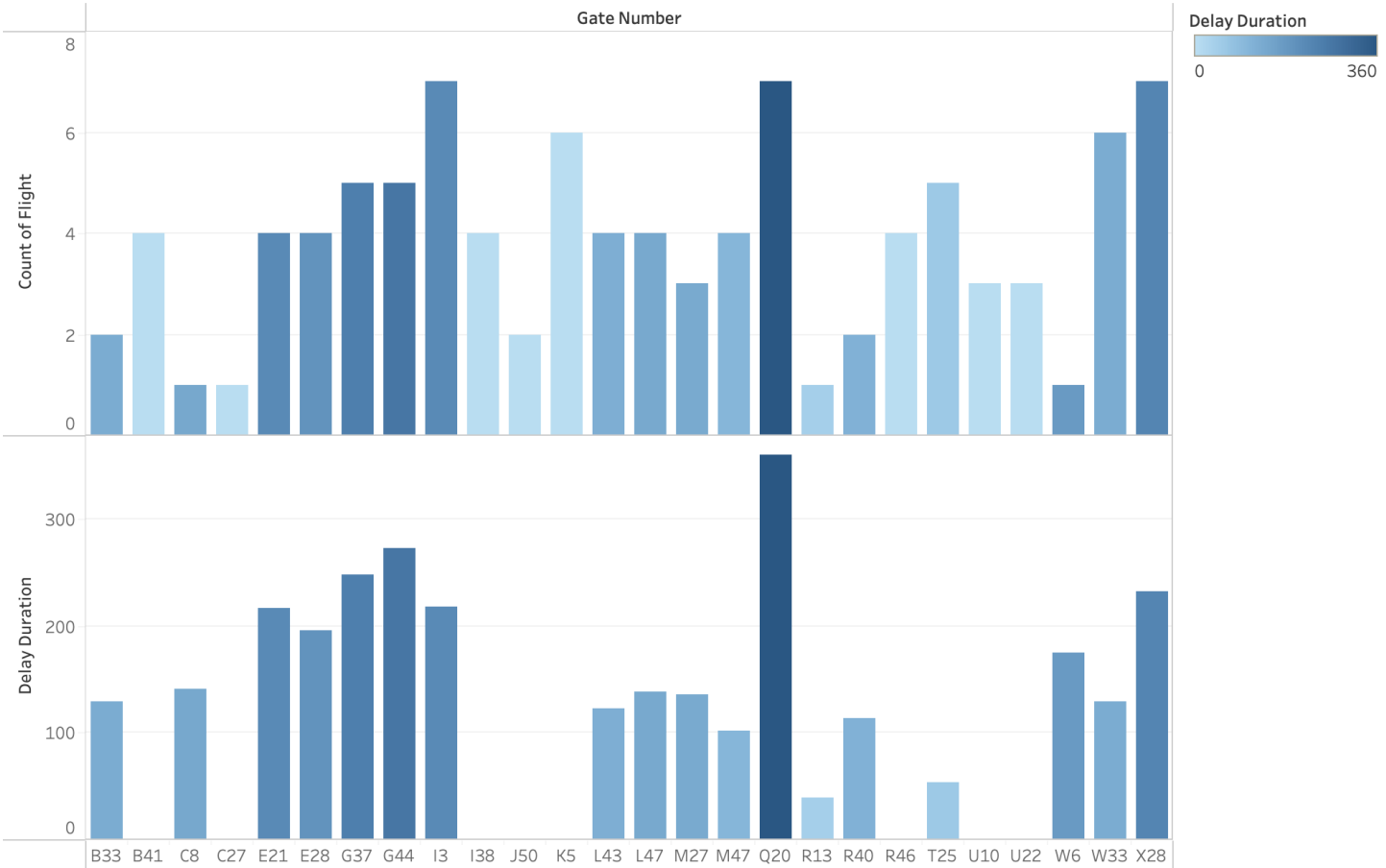
c. Upcoming maintenance schedules for assets.

Runway Utilization



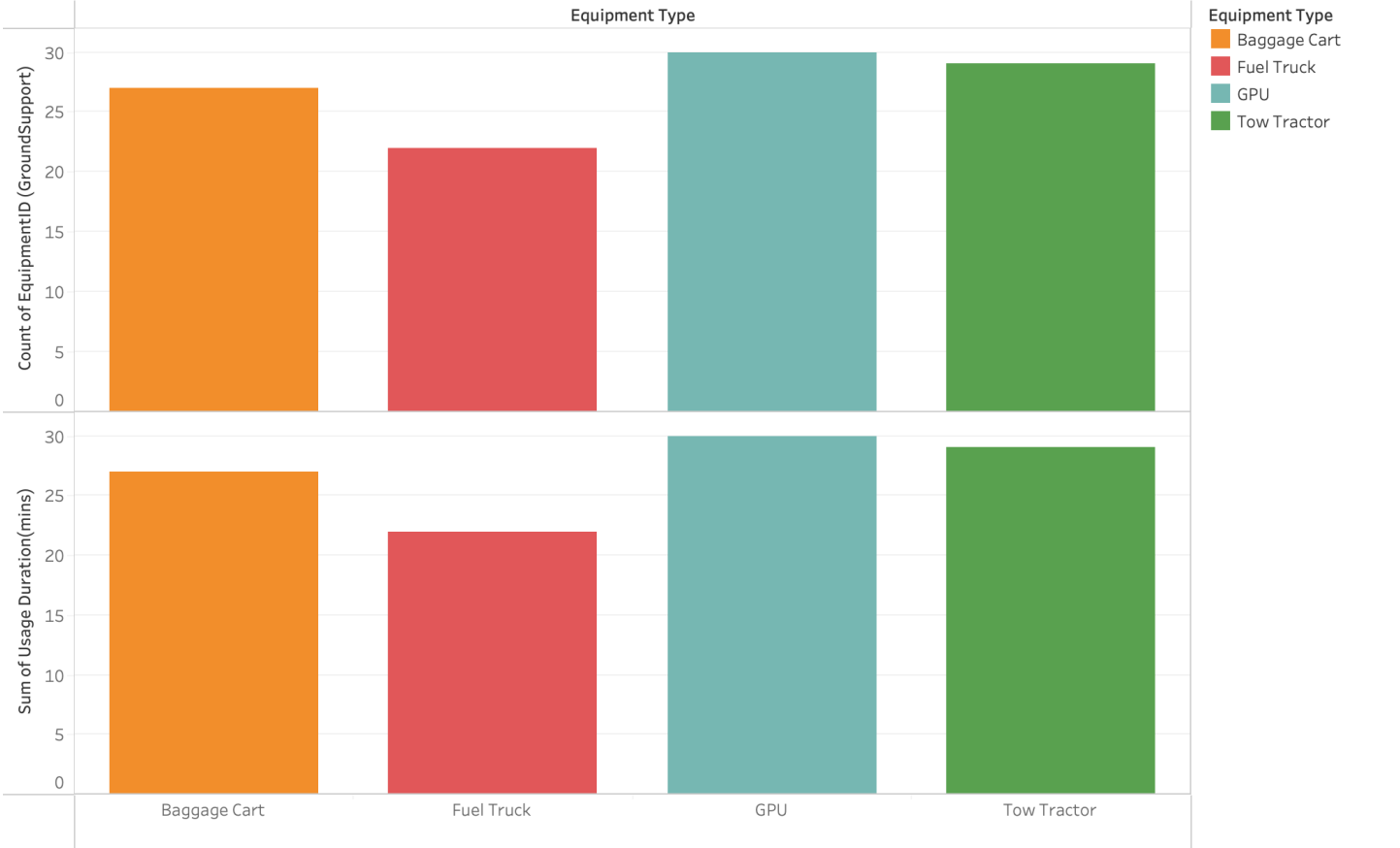
Count of Flight for each Runway Number. Color shows details about Airport Name. The marks are labeled by Airport Name. Details are shown for Airport Name. The view is filtered on count of Flight and Airport Name. The count of Flight filter includes values greater than or equal to 1. The Airport Name filter keeps 196 of 196 members.

Gate Occupancy and Delays



Count of Flight and sum of Delay Duration for each Gate Number. Color shows sum of Delay Duration. The data is filtered on Gate Status and AirportID (Airport). The Gate Status filter keeps Occupied. The AirportID (Airport) filter keeps 200 members.

Ground Support Equipment Usage Trends



Count of EquipmentID (GroundSupport) and count of Usage Duration for each Equipment Type. Color shows details about Equipment Type. The data is filtered on GSM Status, which keeps Operational.

Maintenance Status of Key Resources

Maintenance Status	Maintenance Type / Equipment Type										<div><div>Completed</div><div>In Progress</div><div>Pending</div></div>	
	Engine Check					Hydraulic System Maintenance			Routine Check			
	Baggage Cart		Fuel Truck	GPU	Tow Tractor	Fuel Truck	GPU	Tow Tractor	Baggage Cart	GPU		Tow Tractor
Completed			1	1	1	1	2	2		2	1	
In Progress	1		1	2			1	4	2	4	2	
Pending			3	4		1	1	2			3	

Count of EquipmentID (Maintenance) broken down by Maintenance Type and Equipment Type vs. Maintenance Status. Color shows details about Maintenance Status. The data is filtered on Maintenance Date Month and EquipmentID (Maintenance). The Maintenance Date Month filter keeps 11 members. The EquipmentID (Maintenance) filter keeps 125 members. The view is filtered on Maintenance Status and Equipment Type. The Maintenance Status filter keeps Completed, In Progress and Pending. The Equipment Type filter excludes Null.

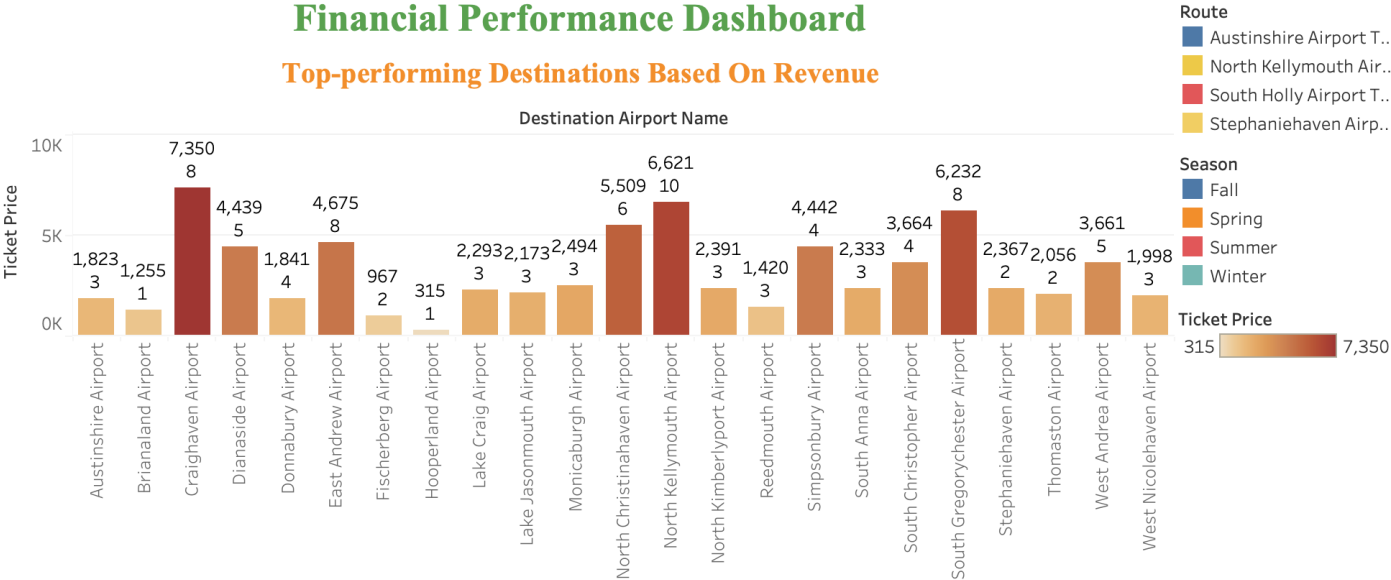
4. Financial Performance Dashboard:
- a. Revenue by airline, route, and season.

b. Average ticket prices and sales by flight.

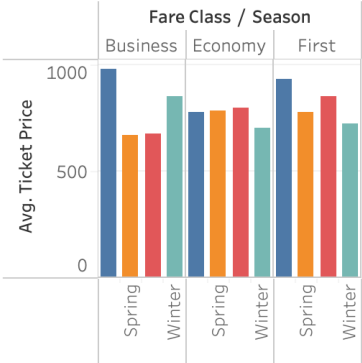
c. Top-performing destinations based on revenue.

Financial Performance Dashboard

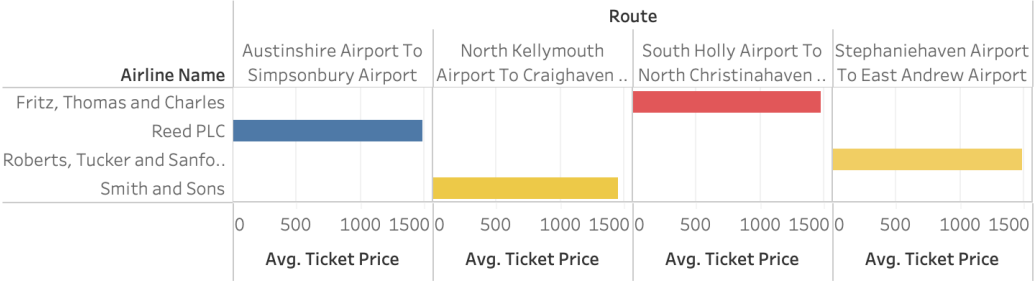
Top-performing Destinations Based On Revenue



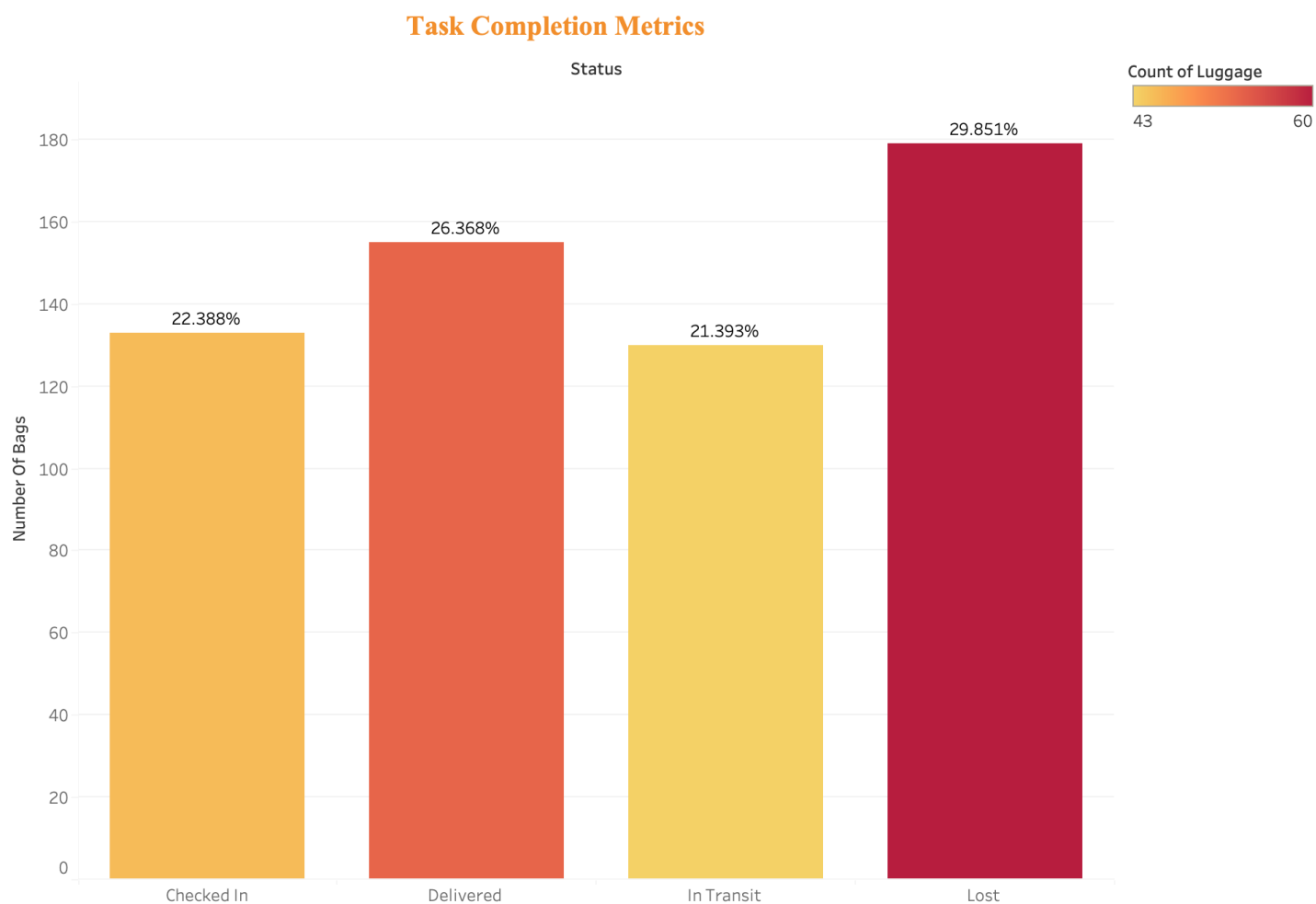
Average Ticket Prices by Flight Class and Season



Flight Revenue Trends by Airline and Route



5. **Productivity Dashboard:**
- a. Task completion metrics (e.g., luggage handling, check-ins).



Sum of Number Of Bags for each Status. Color shows count of Luggage. The marks are labeled by % of Total Count of Luggage. The view is filtered on Status, which keeps Checked In, Delivered, In Transit and Lost.

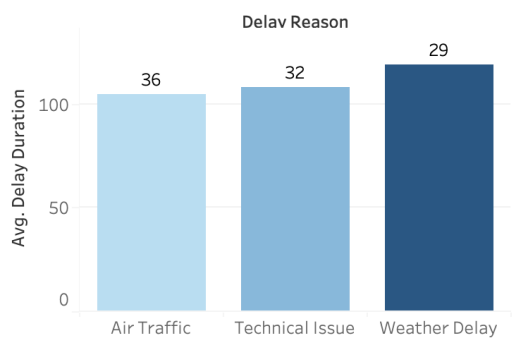
6. Monthly Delay Summary Report:
- a. Total delays by airline and route.

b. Average delay durations categorized by reason (e.g., Weather Delay).

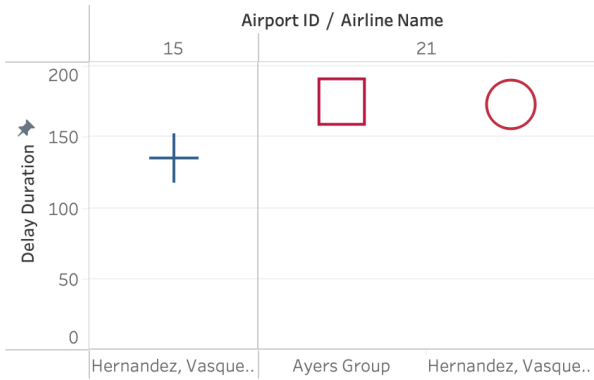
c. Recommendations for improving punctuality.

Monthly Delay Summary Report

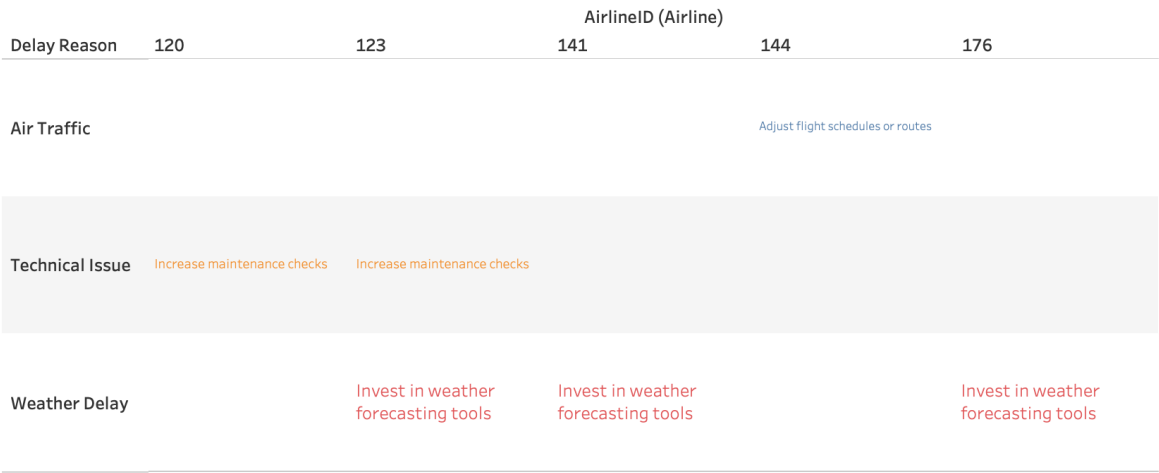
Average Delay Durations Categorized by Reason



Total Delays by Airline and Route(Monthly-Top2)



Recommendations for Improving Punctuality



Month of Actual Departur..

- ☐ Null
- ☒ January
- ☒ February
- ☒ March
- ☒ April
- ☒ May
- ☒ June
- ☒ July
- ☒ August
- ☒ September
- ☒ October
- ☒ November
- ☒ December

Delay Duration

135

175

Area (Destination)

☐ Fernandez Viaduct

☐ Moore Isle

☒ Tyler Pine

Avg. Delay Duration

104.46

119.18

- Recommendations
- ☒ Adjust flight schedule..
- ☒ General punctuality i..
- ☒ Increase maintenance..
- ☒ Invest in weather fore..

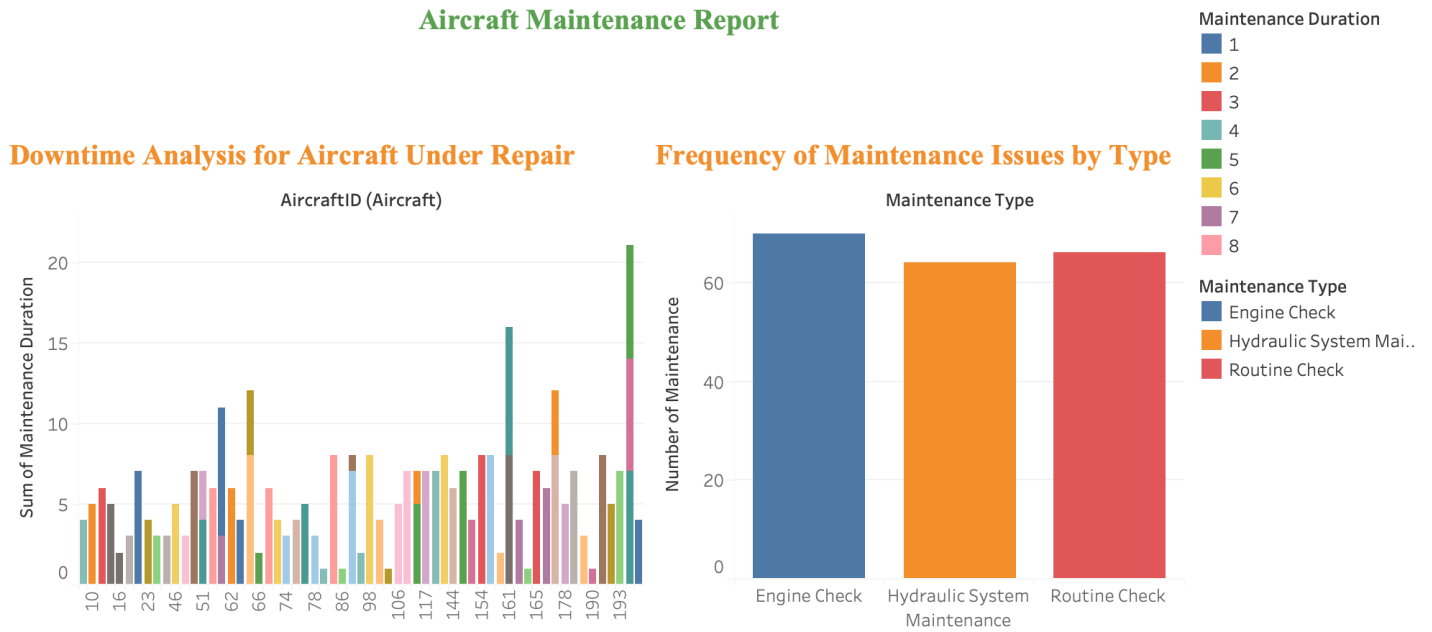
- Recommendations
- ☒ Adjust flight schedul..
- ☒ Increase maintenanc..
- ☒ Invest in weather for..

- Recommendations
- Abc Adjust flight schedu..
- Abc Increase maintenan..
- Abc Invest in weather fo..

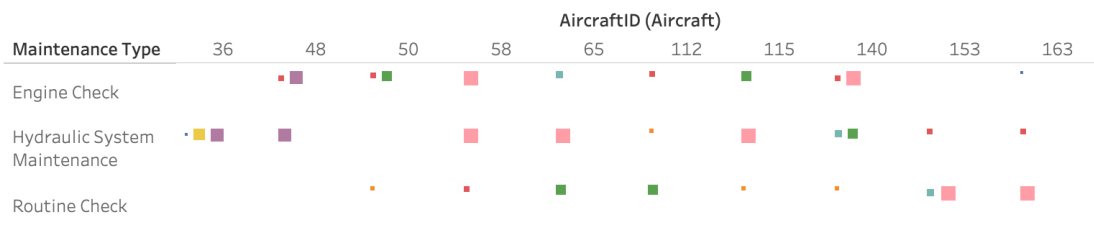
7. Aircraft Maintenance Report:

- Detailed records of maintenance activities per aircraft.
- Frequency of maintenance issues by type (e.g., mechanical, technical).
- Downtime analysis for aircraft under repair.

Aircraft Maintenance Report



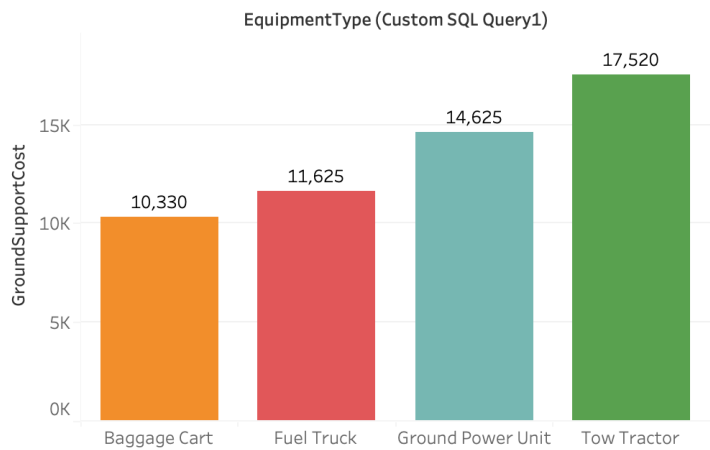
Detailed Records of Maintenance Activities(Top 10)



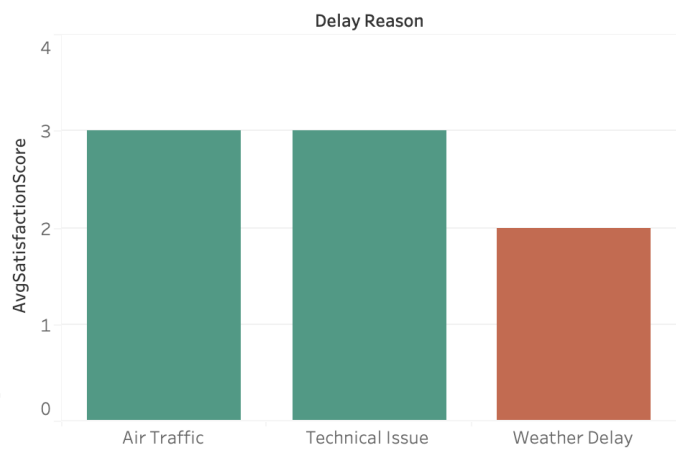
8. **Delay Impact Analysis:**
- a. Correlation between delays and passenger satisfaction (e.g., survey data).
 - b. Cost implications of delayed flights (fuel, labour, compensation).
 - c. Seasonal and weather-related delay trends.
 - d. Equipment Type Vs Ground Support Cost

Delay Impact Analysis

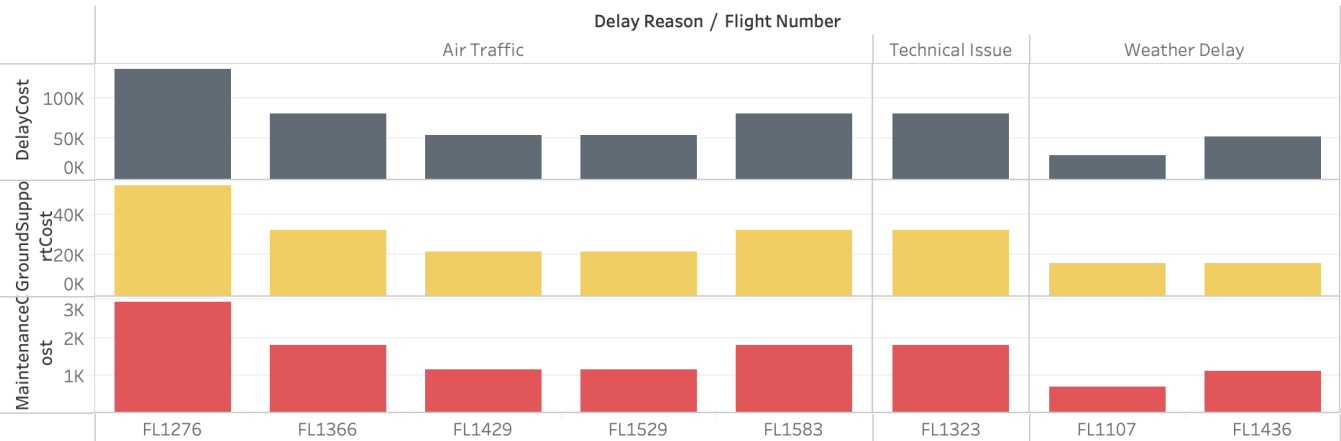
Equipment Type vs. Ground Support Cost



Correlation Between Delays and Passenger Satisfaction



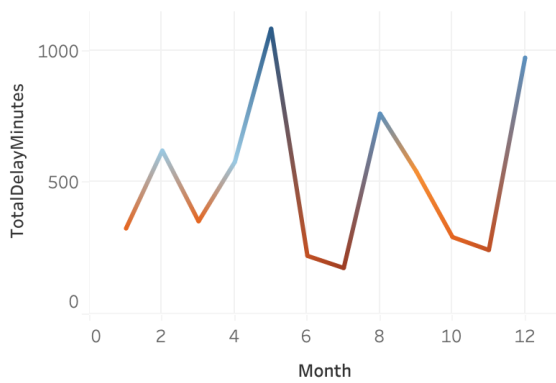
Cost Implications of Delayed Flights



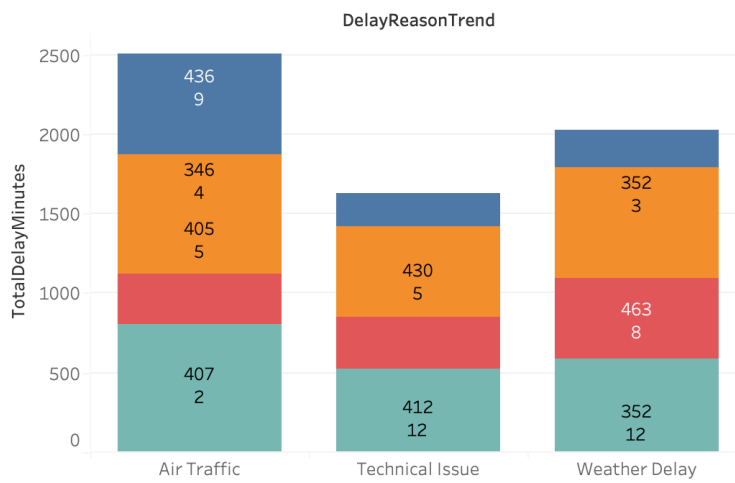
Seasonal and weather-related delay trends

DelayCount
1 10

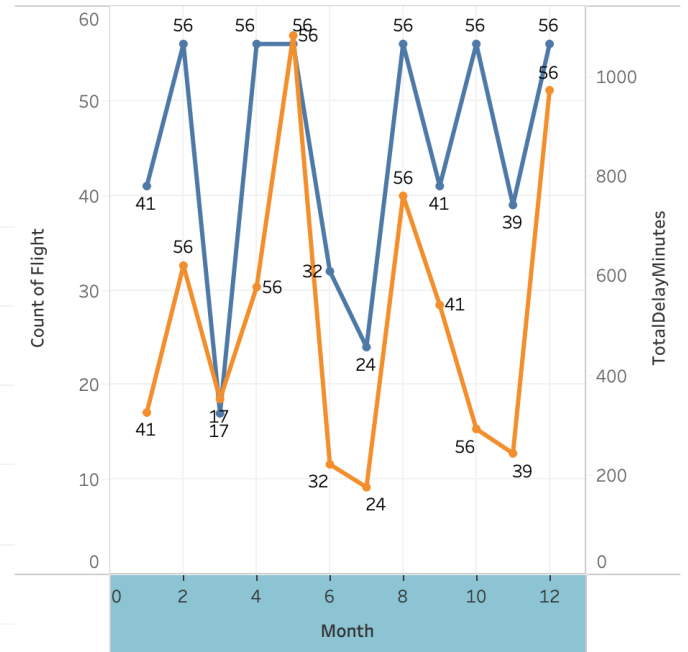
Seasonal Delay Trends



DelayBySeason



Monthly Trends

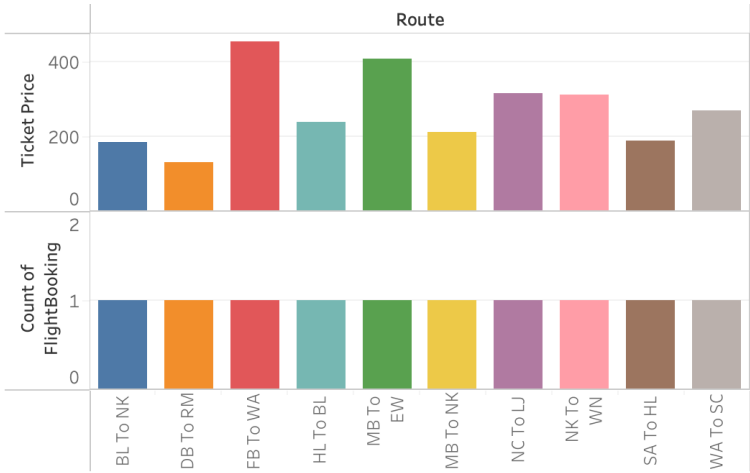


9. Revenue Optimization Analysis:

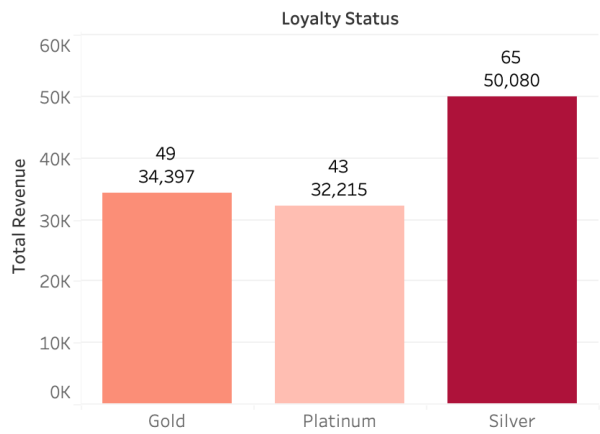
- a. Price elasticity insights: ticket price vs. demand for different routes(no of bookings).
- b. Identifying underperforming routes and proposing alternatives.
- c. Revenue from extending loyalty members.

Revenue Optimization Analysis

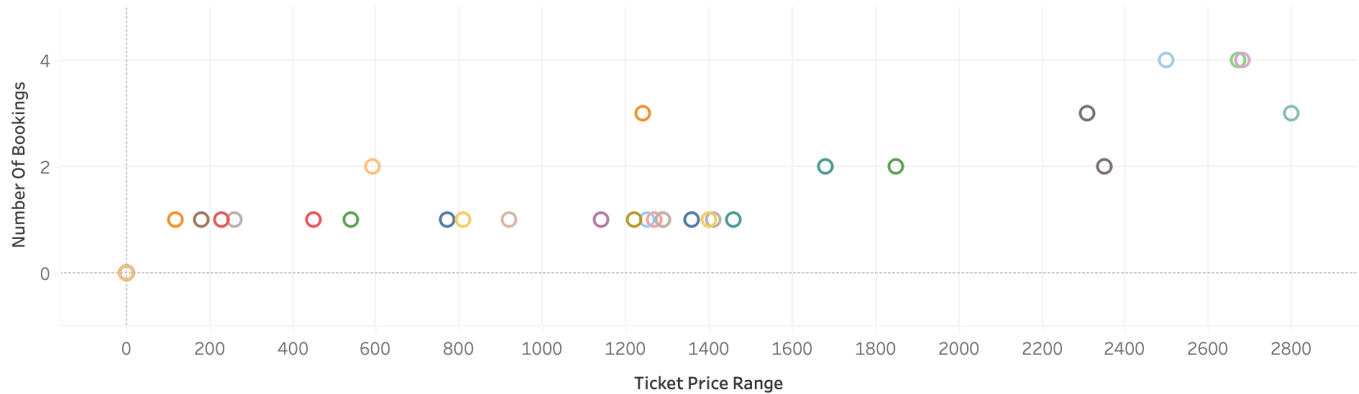
Identifying Underperforming Routes



Revenue from Loyalty Members



Price Elasticity Insights

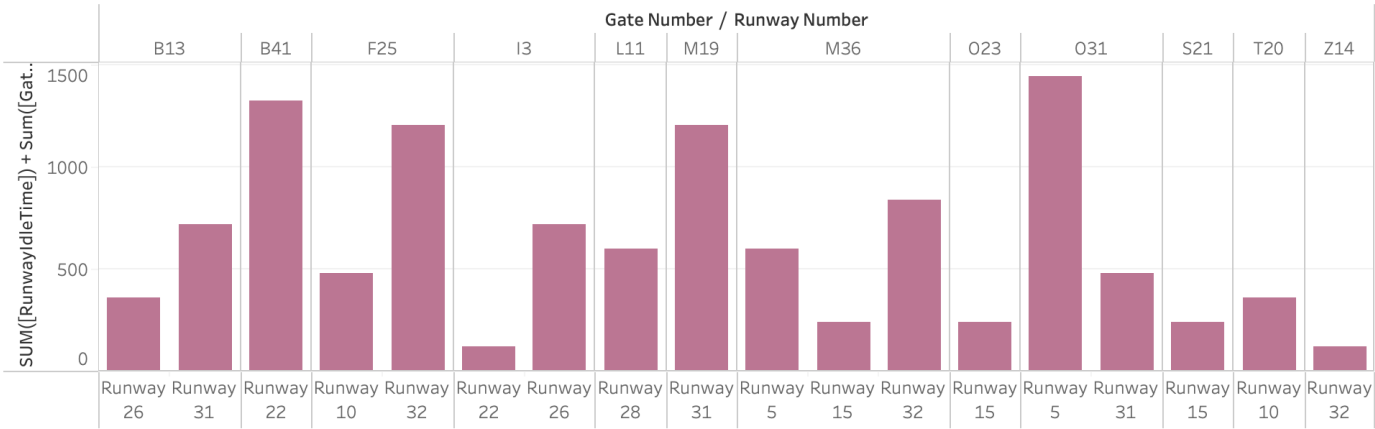


10. Resource Efficiency Analysis:

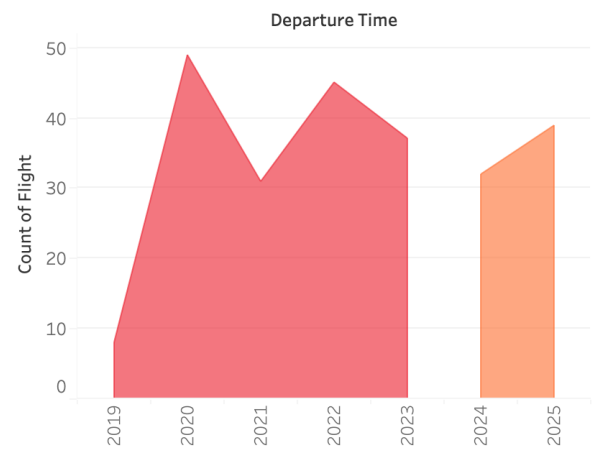
- Evaluation of gate and runway assignments for minimizing idle time.
- Equipment operational efficiency based on usage duration and maintenance frequency.
- Predictive analysis for optimizing resource allocation during peak hours.

Resource Efficiency Analysis

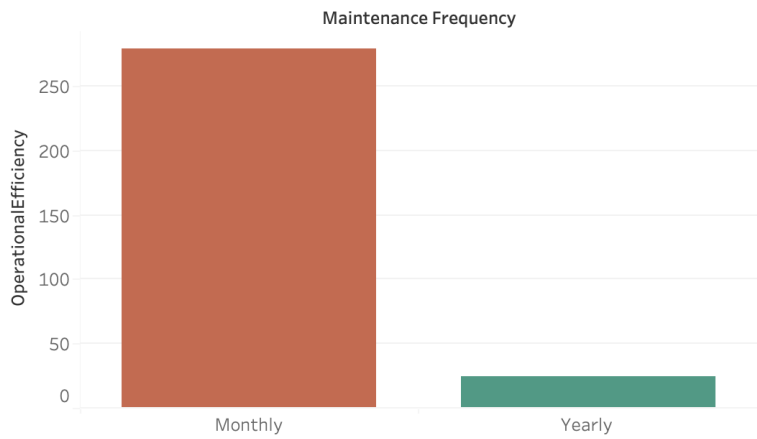
Evaluation of gate and runway assignments for minimizing idle time



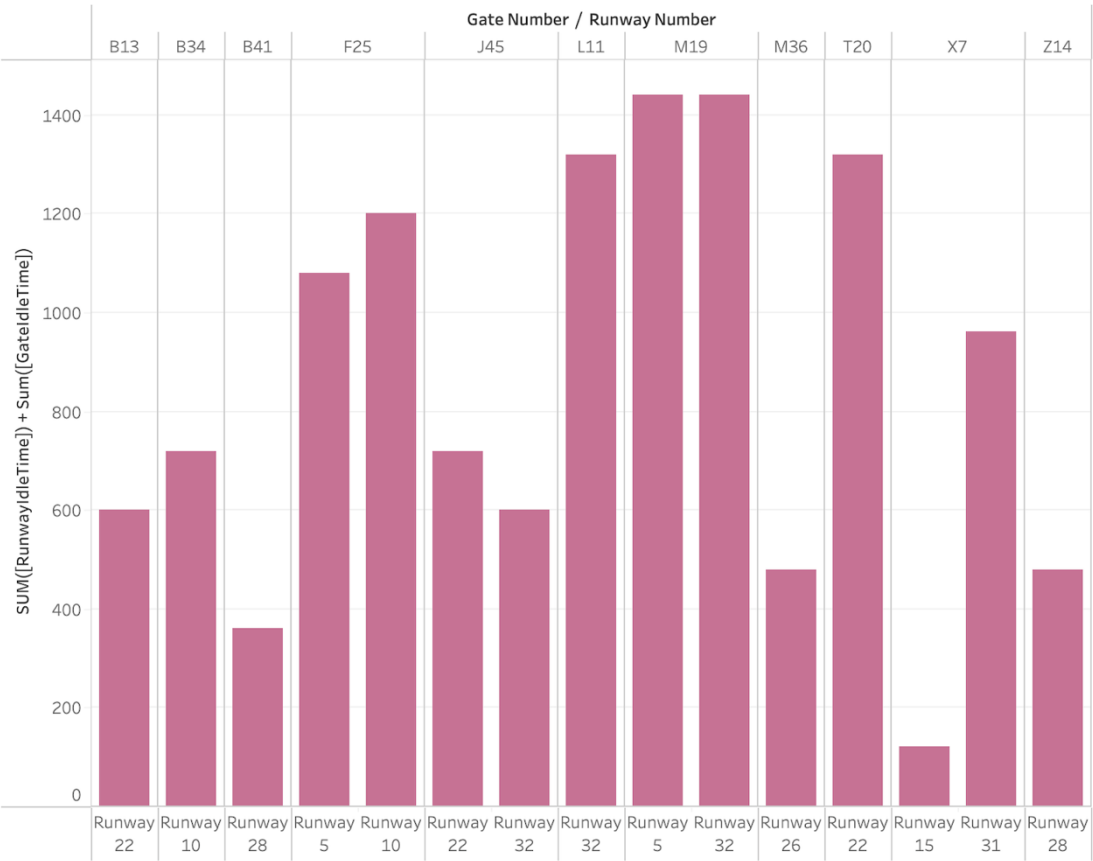
Predictive Analysis for Optimizing Resource Allocation During Peak Hours



Equipment Operational Efficiency



Evaluation of gate and runway assignments for minimizing idle time



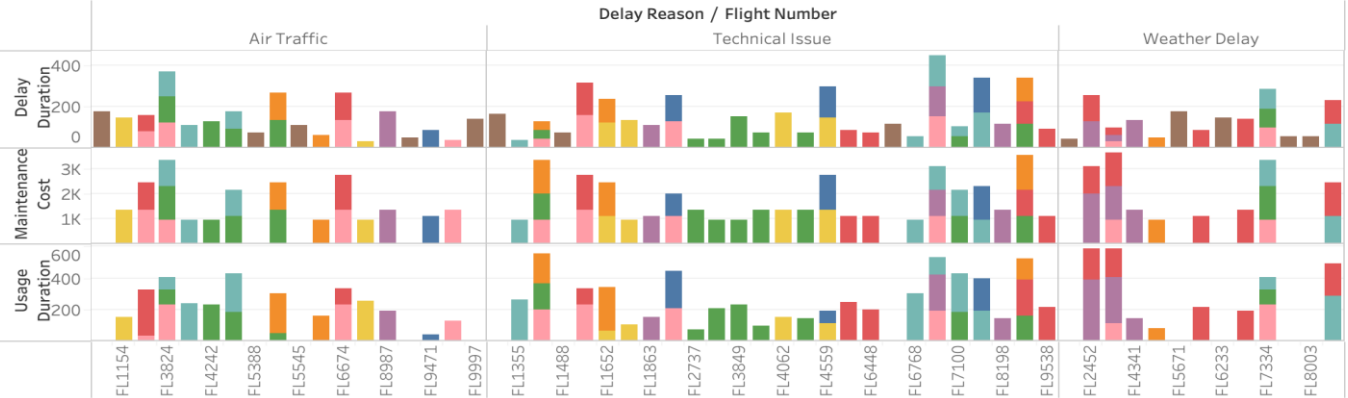
Gate Status

Available

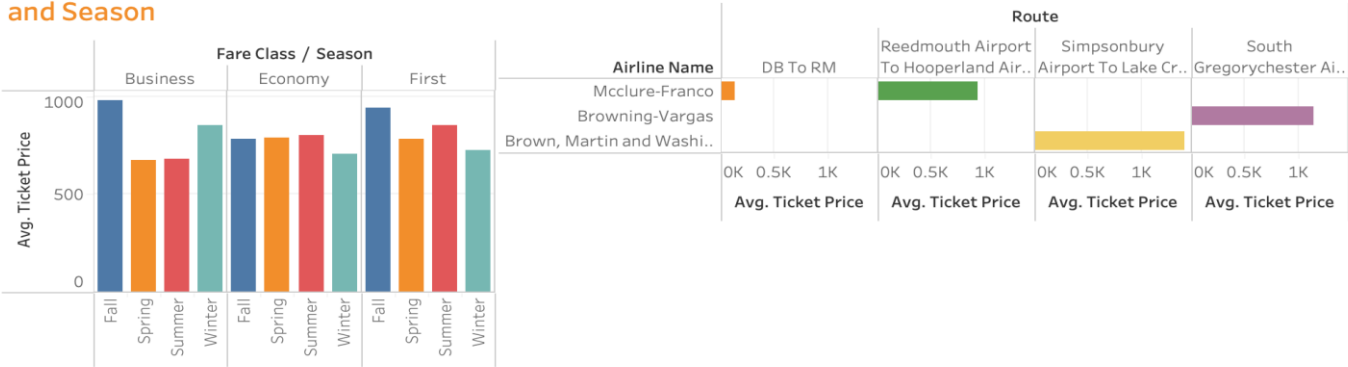
11. Additional Dashboards:

Revenue and Financial Performance Dashboard

Cost Related to Delay

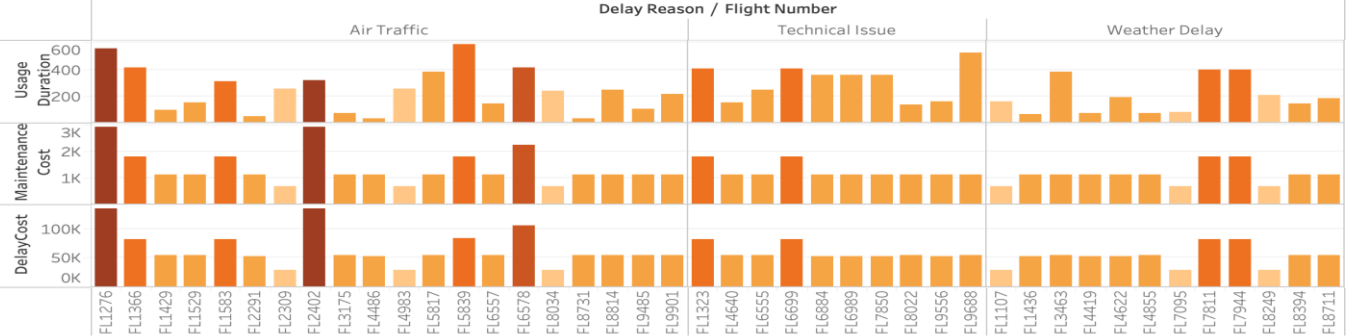


Average Ticket Prices by Flight Class and Season Flight Revenue Trends by Airline and Route

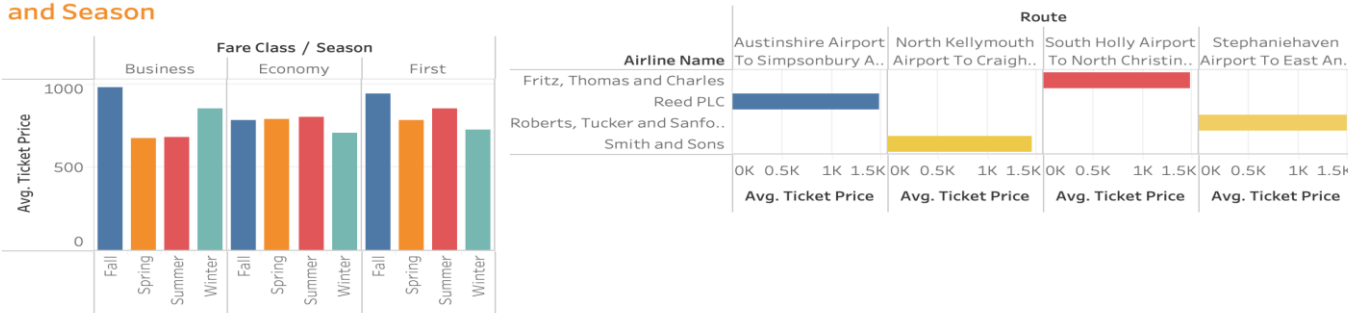


Revenue and Financial Performance Dashboard

Cost Related to Delay



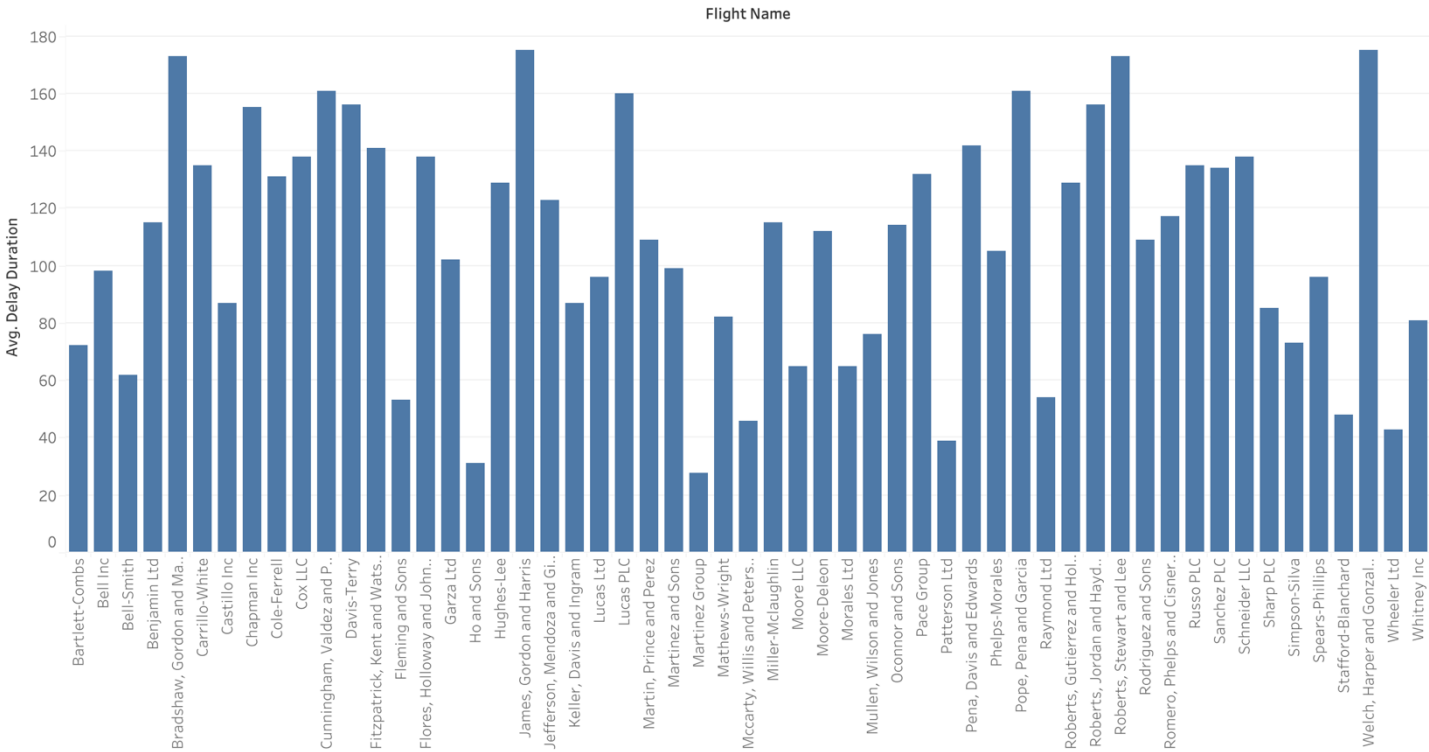
Average Ticket Prices by Flight Class and Season Flight Revenue Trends by Airline and Route



Live Flight Status Board:

Flight Status Board						
Flight ID	Flight Number	Gate Number	Terminal	Flight Status	Departure Time	Arrival Time
1	FL5278	A25	Terminal 3	Scheduled	2022-04-27 20:22:56	2022-04-28 03:22:56
2	FL6720	A25	Terminal 3	Scheduled	2023-10-29 19:27:31	2023-10-30 05:27:31
8	FL5284	B13	Terminal 2	Scheduled	2022-09-23 09:37:25	2022-09-23 15:37:25
9	FL6939	I38	Terminal 2	Scheduled	2020-11-08 05:51:03	2020-11-08 15:51:03
10	FL9080	M47	Terminal 3	Scheduled	2024-10-30 03:41:27	2024-10-30 07:41:27
19	FL4231	T25	Terminal 3	Scheduled	2020-10-16 15:45:31	2020-10-16 22:45:31
21	FL2987	A25	Terminal 3	Scheduled	2022-02-10 01:02:45	2022-02-10 10:02:45
24	FL1087	B41	Terminal 2	Scheduled	2019-12-25 16:06:50	2019-12-26 04:06:50
27	FL7197	B13	Terminal 2	Scheduled	2023-06-13 12:23:42	2023-06-13 14:23:42
29	FL4510	M19	Terminal 2	Scheduled	2023-02-07 07:10:18	2023-02-07 19:10:18
47	FL5252	G37	Terminal 2	Scheduled	2023-06-10 06:00:26	2023-06-10 17:00:26
49	FL2243	B41	Terminal 2	Scheduled	2024-11-15 22:20:06	2024-11-16 05:20:06
51	FL8064	X7	Terminal 2	Scheduled	2022-11-21 12:33:10	2022-11-21 21:33:10
55	FL6220	U22	Terminal 3	Scheduled	2024-03-23 14:20:06	2024-03-23 21:20:06
58	FL9500	Z14	Terminal 3	Scheduled	2022-05-31 18:19:24	2022-05-31 19:19:24
59	FL1748	X28	Terminal 3	Scheduled	2024-09-09 23:35:26	2024-09-10 05:35:26
63	FL6118	I3	Terminal 3	Scheduled	2022-10-20 04:07:42	2022-10-20 11:07:42
64	FL9328	U10	Terminal 3	Scheduled	2020-04-23 15:52:22	2020-04-23 21:52:22
65	FL4388	T31	Terminal 1	Scheduled	2020-11-01 23:11:12	2020-11-02 00:11:12
67	FL5901	L11	Terminal 3	Scheduled	2021-08-13 13:43:36	2021-08-13 22:43:36
73	FL5729	N36	Terminal 3	Scheduled	2020-09-01 03:16:41	2020-09-01 04:16:41
84	FL3186	J45	Terminal 1	Scheduled	2019-11-29 22:33:25	2019-11-29 23:33:25
85	FL4847	Q20	Terminal 2	Scheduled	2019-12-25 01:06:27	2019-12-25 09:06:27
88	FL6136	N36	Terminal 3	Scheduled	2022-02-06 01:50:29	2022-02-06 03:50:29
89	FL8265	K5	Terminal 3	Scheduled	2020-02-28 09:41:31	2020-02-28 19:41:31
91	FL1386	B41	Terminal 3	Scheduled	2022-11-03 14:01:04	2022-11-03 17:01:04
92	FL8256	R46	Terminal 2	Scheduled	2020-03-06 08:51:32	2020-03-06 20:51:32
99	FL1732	F25	Terminal 3	Scheduled	2022-08-16 22:12:02	2022-08-17 08:12:02

Average Turnaround Time per Flight



Average of Delay Duration for each Flight Name. The data is filtered on Flight Status, which keeps Completed and Delayed. The view is filtered on Flight Name and average of Delay Duration. The Flight Name filter excludes Buckley, Potts and Cardenas. The average of Delay Duration filter ranges from 1.0 to 176.0.