



Journey Range: 01 Jan 2024 - 30 Apr 2024

Departure Station

All

Arrival Destination

All

Date of Journey

1/1/2024

4/30/2024

Clear Filter

Overview

Detailed

Summary

REVENUE

After Refund

\$703.22K

Total Transaction

31.65K

Refund Rate

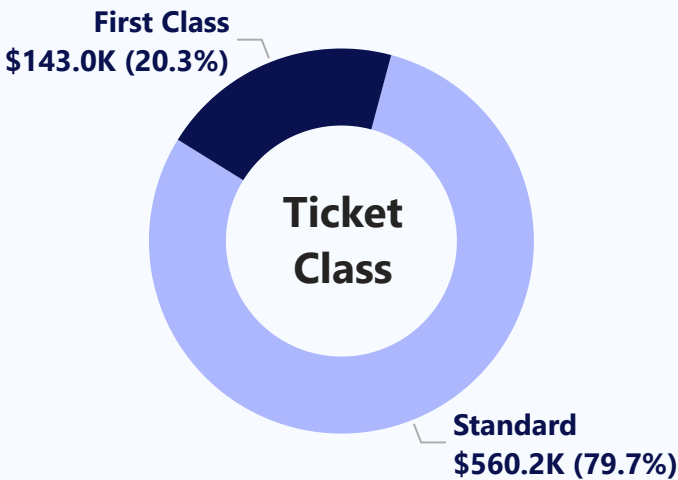
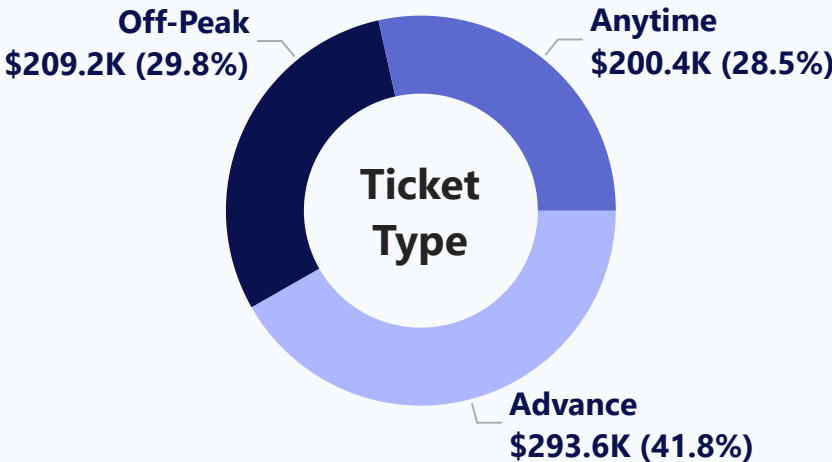
4%

Last M to M %

\*Revenue

Mar to Apr

-3.3%



3 Most Popular Routes

Route	Avg. Daily	Total
Manchester Piccadilly - Liverpool Lime Street	37	4537
London Euston - Birmingham New Street	34	4126
London Kings Cross - York	32	3840

Peak Day

Transaction

Wed

267

Peak Hour

Transaction

18

25

6

25

Last M to M %

Transaction

Mar to Apr

-3.8%

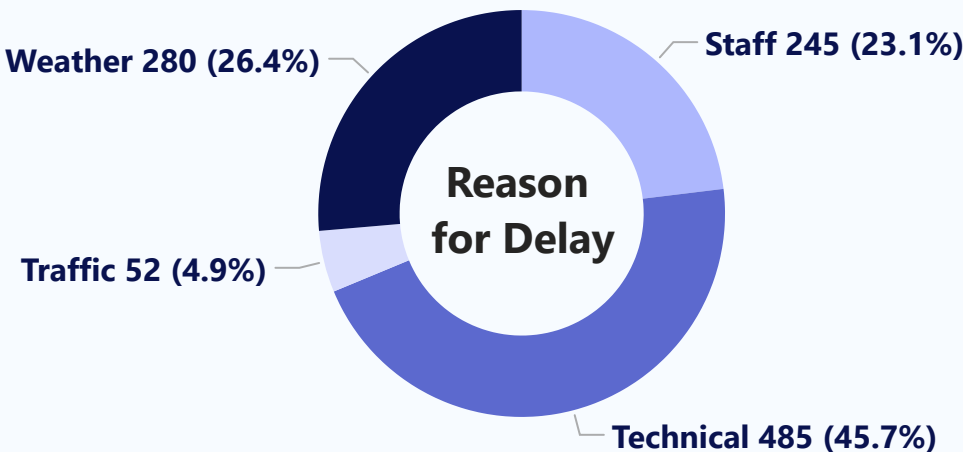
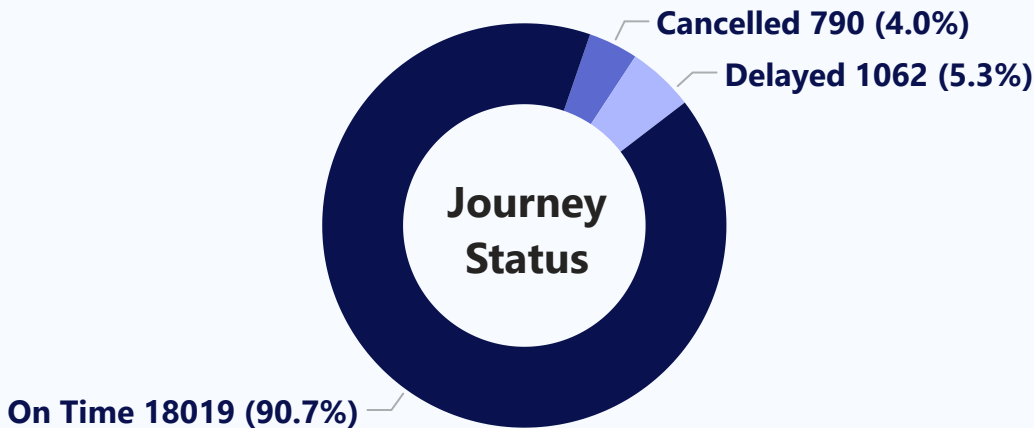
ON TIME PERCENTAGE


94%

Avg. Delay Time

\*Minute

26





REVENUE

REVENUE  
After Refund

\$703.22K

TOTAL  
TRANSACTION

31653

AVG. REVENUE  
/Transaction


\$23.4


LAST M TO M %  
\*Revenue

Mar to Apr

-3.3% ▼

Revenue Transaction





PAYMENT AND TICKET PREFERENCES

RAILCARD  
HOLDER

None 20918 (66.09%)

Adult 4846 (15.31%)

Disabled 3089 (9.76%)

Senior 2800 (8.85%)

No 66.1%

Yes 33.9%

PAYMENT  
METHOD

Debit Card 1683 (5.32%)

Credit Card 19136 (60.46%)

Contactless 10834 (34.23%)

PURCHASE  
TYPE

Station 13132 (41.5%)

Online 18521 (58.5%)

TICKET  
CLASS

First Class 3058 (9.7%)


Standard 28595 (90.3%)

TICKET  
TYPE

Anytime 5340 (16.9%)

Advance 17561 (55.5%)

Off-Peak 8752 (27.6%)



REFUND

REFUND  
RATE

4%

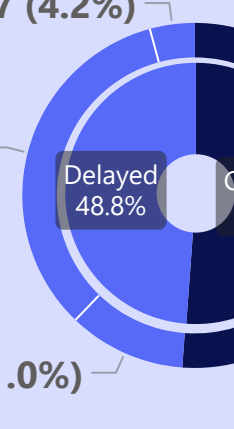
REFUNDED  
FUNDS

\$38,702


REFUNDED  
TRANSACTION

1118

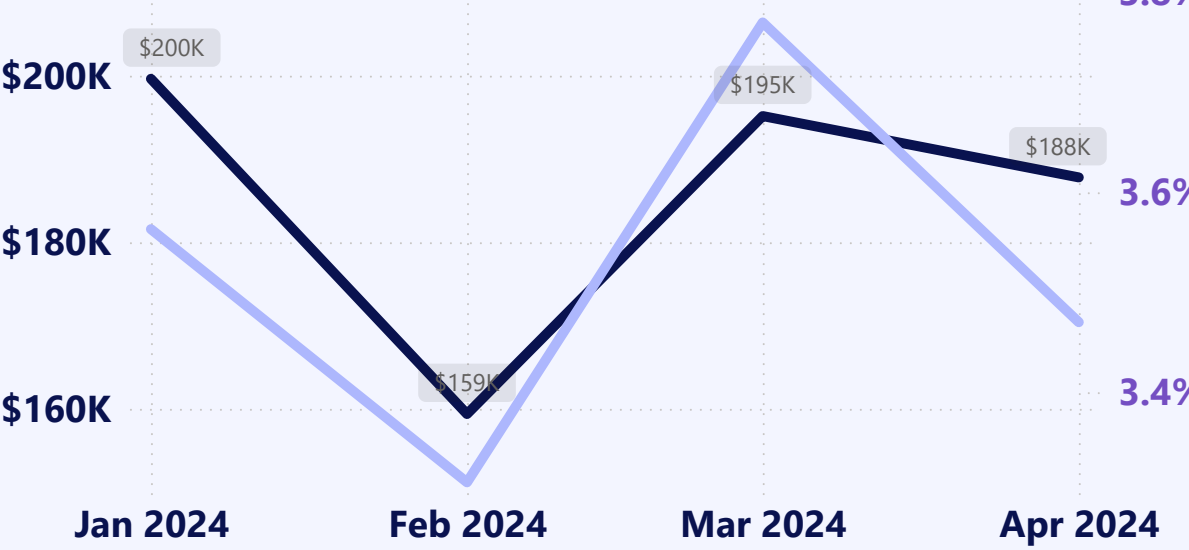
REASON FOR REFUND



Total Transaction and Refund Rate by Journey - Purchase ,day



Monthly Refunded Funds and Refund Rate



TICKET TYPE

Advance

611 Transaction

3.5% % from Total

\$15,673 Amount Lost

Anytime

138 Transaction

2.6% % from Total

\$8,914 Amount Lost

Off-Peak

369 Transaction

4.2% % from Total

\$14,115 Amount Lost

TICKET CLASS

First Class

113 Transaction

3.7% % from Total


\$6,364 Amount Lost

Standard

1005 Transaction

3.5% % from Total

\$32,338 Amount Lost



ROUTE

04. TOTAL TRIP

19871

04. NUMBER OF  
ROUTE

65

ON TIME  
PERCENTAGE

94%

AVG. DELAY  
TIME  
\*Minute

26

10 Most Popular Routes

Route	Total Transaction
Manchester Piccadilly - Liverpool Lime Street	4628
London Euston - Birmingham New Street	4209
London Kings Cross - York	3922
London Paddington - Reading	3873
London St Pancras - Birmingham New Street	3471
Liverpool Lime Street - Manchester Piccadilly	3002
Liverpool Lime Street - London Euston	1097
London Euston - Manchester Piccadilly	712
Birmingham New Street - London St Pancras	702
London Paddington - Oxford	485

3 Most Popular Departure Station

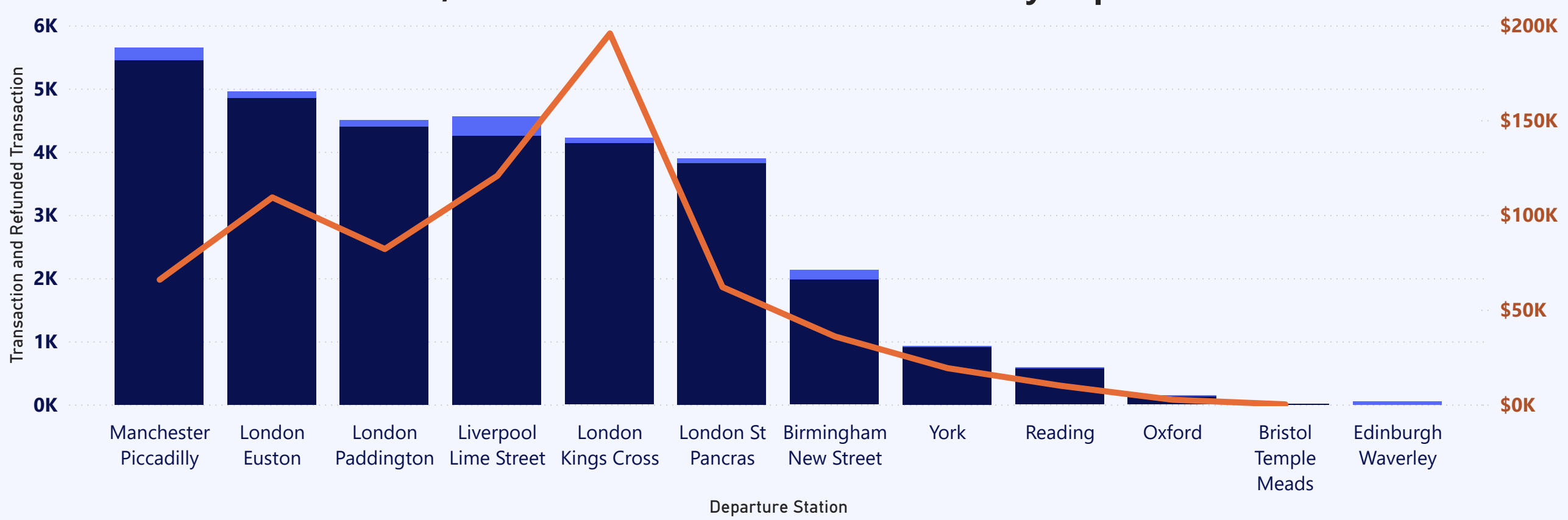
Departure Station	Total Transaction
Manchester Piccadilly	5650
London Euston	4954
Liverpool Lime Street	4561

3 Most Popular Destination

Arrival Destination	Total Transaction
Birmingham New Street	7742
Liverpool Lime Street	5022
York	4019

AVERAGE HOURLY TRANSACTION																								
Journey Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	6	5	7	4	7	5	25	21	16	9	3	7	7	9	8	8	18	21	23	4	9	5	6	5
Tue	7	4	7	4	8	7	25	23	17	10	4	7	5	10	6	9	18	21	27	4	8	5	6	6
Wed	7	5	8	4	8	6	26	24	20	8	4	9	7	13	7	9	21	23	28	4	9	5	7	6
Thu	8	6	8	5	9	7	26	21	19	11	5	8	6	9	7	10	17	24	25	3	8	5	7	6
Fri	6	5	7	5	8	5	26	23	19	10	5	9	5	10	7	9	20	21	22	4	8	5	5	5
Sat	8	6	7	4	10	6	24	23	17	9	4	8	6	11	6	9	17	21	25	3	9	4	6	5
Sun	7	5	9	5	9	5	25	25	17	10	4	8	7	11	7	9	19	23	27	4	9	5	7	5

Transaction, Refunded Transaction and Revenue by Departure Station



ROUTE RELIABILITY							
Departure Station	Total Trip	Reliability	On Time	Avg. Delay, Min	Cancelled	Most Problem	Refund
Birmingham New Street	1394	88%	92%	24	4%	Technical	7%
Bristol Temple Meads	15	100%	100%	0	0%		0%
Edinburgh Waverley	43	0%	0%	15	0%	Staff	100%
Liverpool Lime Street	2997	87%	90%	25	3%	Weather	7%
London Euston	3059	94%	97%	32	4%	Technical	2%
London Kings Cross	2625	95%	98%	16	4%	Technical	2%
London Paddington	2643	93%	98%	34	5%	Technical	2%
London St Pancras	2332	96%	100%	0	4%	Technical	2%
Manchester Piccadilly	3521	85%	88%	27	4%	Technical	3%
Oxford	129	84%	88%	19	4%	Technical	13%
Reading	459	96%	100%	0	4%	Technical	3%
York	654	90%	93%	22	4%	Staff	2%

in





Objective

- 1. Determine peak travel times
- 2. Identify the most popular routes
- 3. Analyze revenue from different ticket types & classes
- 4. Diagnose on-time performance and contributing factors

Peak Travel Time

Based on a table representing average transactions by train departure time and day, it is evident that there is no single day with a significantly higher number of transactions than others, indicating a relatively balanced distribution. However, there is a slight tendency for more transactions to occur on Wednesdays and Sundays compared to other days. Meanwhile, in terms of hours, it is clear that **peak passenger times are divided into two periods: 6-8 am**, when most people begin their activities, and **4-6 pm**, when the majority of people finish their routines, such as work and other activities.

AVERAGE HOURLY TRANSACTION																								
Journey Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	6	5	7	4	7	5	25	21	16	9	3	7	7	9	8	8	18	21	23	4	9	5	6	5
Tue	7	4	7	4	8	7	25	23	17	10	4	7	5	10	6	9	18	21	27	4	8	5	6	6
Wed	7	5	8	4	8	6	26	24	20	8	4	9	7	13	7	9	21	23	28	4	9	5	7	6
Thu	8	6	8	5	9	7	26	21	19	11	5	8	6	9	7	10	17	24	25	3	8	5	7	6
Fri	6	5	7	5	8	5	26	23	19	10	5	9	5	10	7	9	20	21	22	4	8	5	5	5
Sat	8	6	7	4	10	6	24	23	17	9	4	8	6	11	6	9	17	21	25	3	9	4	6	5
Sun	7	5	9	5	9	5	25	25	17	10	4	8	7	11	7	9	19	23	27	4	9	5	7	5

Busiest Station

Birmingham New Street, Manchester Piccadilly, and Liverpool Lime Street have significantly higher levels of involvement in departures and arrivals compared to other stations.

Station	Total Involvement
Birmingham New Street	9878
Liverpool Lime Street	9583
London Euston	6521
Manchester Piccadilly	9618
York	4946

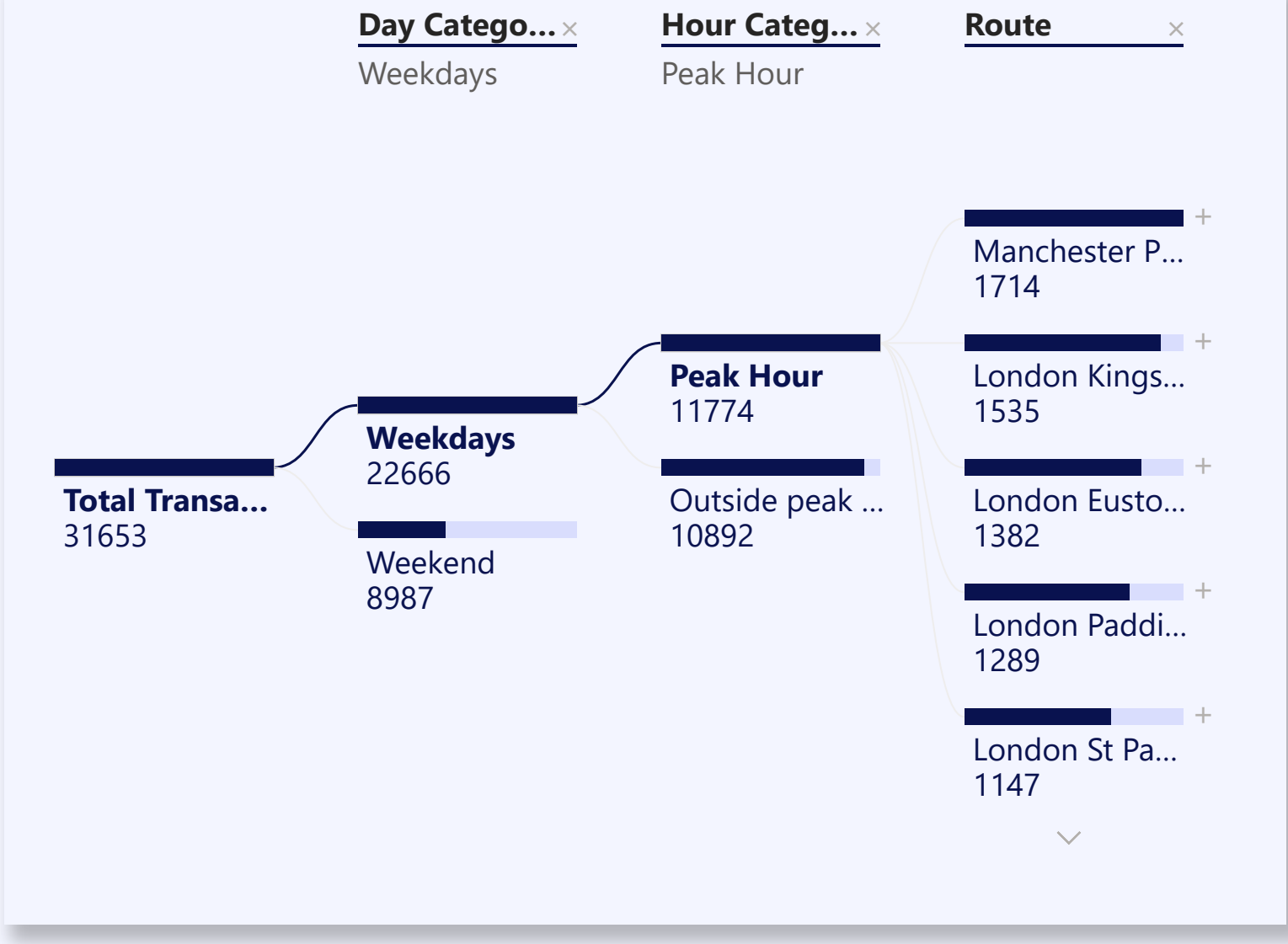
Popular Route

The Manchester Piccadilly—Liverpool Lime Street route is one of the most popular, as evidenced by the high number of transactions. Additionally, four of the five most popular routes originate from stations in London. Birmingham New Street, listed as one of the busiest stations, appears to function primarily as a destination station, with at least 75% of its involvement attributed to incoming traffic.

5 Most Popular Routes

Route	Total Transaction
Manchester Piccadilly - Liverpool Lime Street	4628
London Euston - Birmingham New Street	4209
London Kings Cross - York	3922
London Paddington - Reading	3873
London St Pancras - Birmingham New Street	3471

Further analysis using a Decomposition Tree was conducted to examine the relationship between Peak Time and popular routes. The findings revealed that over 70% of transactions occur on weekdays, with total peak-hour transactions surpassing those outside peak hours. Additionally, the analysis confirmed that the top five popular routes alone account for approximately 60% of all transactions.



REVENUE

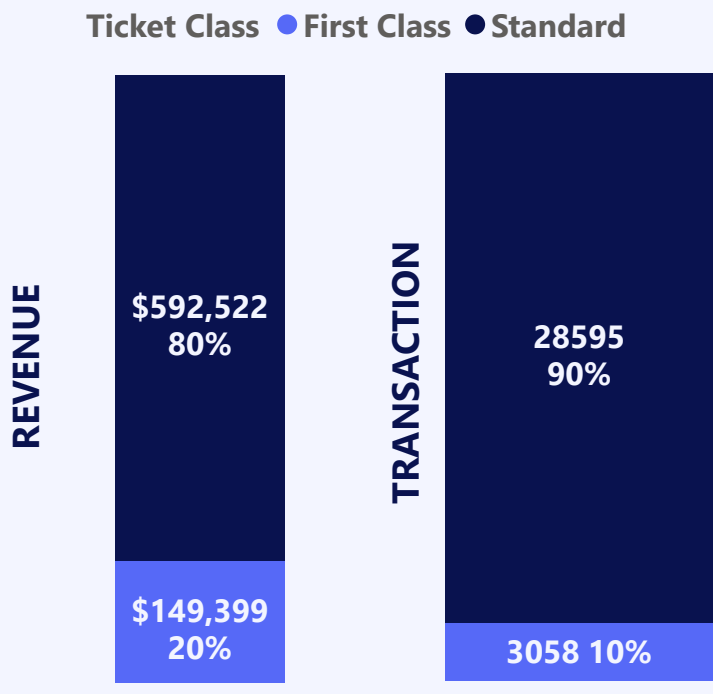
After Refund

\$703.2K

Total revenue is calculated by summing the ticket prices for each transaction, after first filtering out transactions with a "Refund" status.

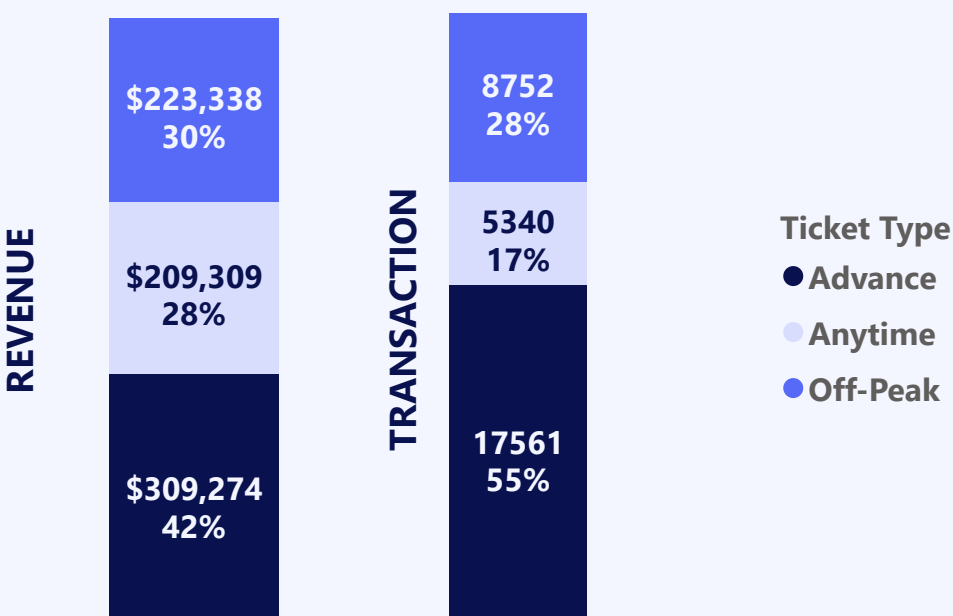
Ticket Class

The data shows that **Standard Class tickets dominate both in revenue and transaction volumes.** While they account for the majority of sales, First Class tickets, though fewer in number, still contribute significantly to overall revenue. This highlights the higher frequency of Standard Class purchases due to their lower price point, complemented by the substantial revenue from the premium pricing of First Class tickets.



04B. Tb. Ticket Prices for Non-Railcard Holders and Advance Ticket Passengers on Weekdays

Route	First Class	Standard
London Euston - Birmingham New Street	\$52	\$7
London Kings Cross - York	\$57	\$35
Manchester Piccadilly - Liverpool Lime Street	\$10	\$3



Ticket Type

The revenue distribution shows that Advance tickets contribute 42% to total revenue, while they account for 55% of total transactions. In contrast, Anytime tickets generate 28% of revenue but represent only 17% of transactions. This indicates that while Advance tickets are the most frequently purchased, Anytime tickets yield higher revenue per transaction.

ON TIME PERCENTAGE

94%

AVG. DELAY TIME

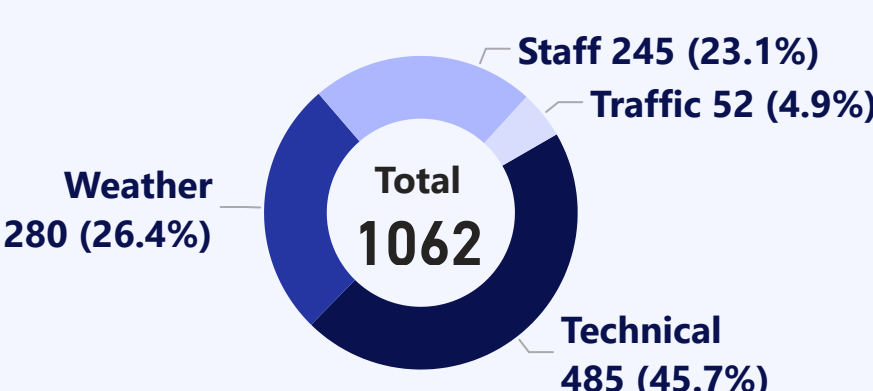
\*Minute

26

It was recorded that at least 6% of all trips experienced delays ranging from 1 to 59 minutes, with an average delay of 26 minutes.

Reason for Delay

Of the 1,062 trips that experienced delays, 45% were due to technical issues, and 23% were caused by staff-related factors. This indicates that delays can still be minimized by improving these areas of service.



Among the available routes, several with specific departure stations boast an on-time performance rate of up to 100%. One example is London St Pancras station, which has served 2,235 trips and functions as the departure station for at least three routes. This consistent on-time performance demonstrates a commitment to reliable service, ultimately enhancing user satisfaction and loyalty.

The information in the table further supports the conclusion that technical and staff-related factors are the primary causes of delays.

SUMMARY OF DELAYS FOR EACH DEPARTURE STATION

Departure Station	Total Trip	On Time	Avg. Delay, Min	Most Problem	Refund
Birmingham New Street	1335	92%	24	Technical	5%
Bristol Temple Meads	15	100%	0		0%
Edinburgh Waverley	43	0%	15	Staff	100%
Liverpool Lime Street	2893	90%	25	Weather	5%
London Euston	2936	97%	32	Technical	0%
London Kings Cross	2531	98%	16	Technical	0%
London Paddington	2506	98%	34	Technical	0%
London St Pancras	2235	100%	0		0%
Manchester Piccadilly	3394	88%	27	Weather	2%
Oxford	124	88%	19	Technical	11%
Reading	439	100%	0		0%
York	630	93%	22	Staff	0%