Railway Analytics

Power BI Dashboard

Original Data

Source.Name	Transaction ID	Date of Purchase	Time of Purchase	Purchase Type	Payment Method	Railcard	Ticket Class	Ticket Type	Price
railway_2024-01.csv	7837fefa-5e1c-4a24-a6ac	1 de janeiro de 2024	20:22:05	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	452320e9-a181-4457-821d	2 de janeiro de 2024	20:18:10	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	93d61511-514a-4285-942f	2 de janeiro de 2024	20:20:20	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	f526d406-784e-49d0-8d75	2 de janeiro de 2024	20:21:59	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	776063a2-0b90-4dcd-bdff	3 de janeiro de 2024	20:19:31	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	618010b9-1aa5-4cbb-8cf3	3 de janeiro de 2024	20:20:58	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	9b54bfb2-bd79-465f-9efc	3 de janeiro de 2024	20:24:24	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	64dd55ad-a2b7-43df-845d	4 de janeiro de 2024	20:19:49	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	3ca247a8-1a9b-42ad-a6c5	4 de janeiro de 2024	20:21:02	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	a8b462e0-4b0c-4f55-896e	4 de janeiro de 2024	20:28:04	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	ee2e3691-130d-4ca7-b0d2	5 de janeiro de 2024	14:07:32	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	5b030cc9-125b-4d4c-8d50	5 de janeiro de 2024	20:16:55	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	49b9f00c-6d57-4a46-a153	5 de janeiro de 2024	20:25:01	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	0a171269-5e90-4981-bc85	5 de janeiro de 2024	20:25:53	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	c21f7974-54ab-4198-a59a	6 de janeiro de 2024	20:21:29	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	b5e16f73-bbf2-4042-a560	6 de janeiro de 2024	20:24:26	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	399d408b-f5d7-4232-9c8e	7 de janeiro de 2024	20:23:11	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	8ba00430-9266-46f3-a6be	7 de janeiro de 2024	20:26:33	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	a748e97e-dce1-41bc-821b	7 de janeiro de 2024	20:27:17	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	35cc4dad-3bb5-4a41-9882	8 de janeiro de 2024	20:19:29	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	1a2df67e-02b6-465a-a1e2	8 de janeiro de 2024	20:20:39	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	5e0fd123-e5a9-49b1-af75	8 de janeiro de 2024	20:28:45	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	a0fa8764-720c-406e-a1d4	8 de janeiro de 2024	20:28:45	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	e192bd2d-4b39-46ba-8677	9 de janeiro de 2024	20:20:03	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	9aa7bb2f-e4a2-46cc-8197	9 de janeiro de 2024	20:20:20	Online	Credit Card	No Railcard	Standard	Advance	
railway_2024-01.csv	c3979c95-1122-49b3-b032	9 de janeiro de 2024	20:20:51	Online	Credit Card	No Railcard	Standard	Advance	

Data division

Dim_Delays

Colunas

- **Reason_ID:** ID único do motivo do atraso
- **Reason_for_Delay:** Descrição do motivo do atraso (e.g., Falha técnica)
- **Refund_Policy:** Política de reembolso associada ao atraso

Novas métricas

- **Delay_Minutes**
- **Refund_Amount**
- **Refund_Granted** (para saber quanto é que a empresa efetivamente pagou em devoluções.)

Relacionamos com: Reason_for_Delay

Questões a responder

1. Qual é a percentagem de reembolsos concedidos nas viagens atrasadas ?
2. Qual é o desempenho dentro do prazo? (percentagem de viagens dentro do prazo e percentagem de viagens atrasadas)
3. Quais são os principais fatores contribuintes para os atrasos?
4. Quais os custos com compensação de atrasos?
5. Quais são os horários com maior frequência de atrasos?

analisamos com:
- Departure time
- Arrival Time
- Actual Arrival Time
- Reasons for Delay
- Refund Request

Dim_Journey_Dates

Colunas

- **Date_ID**: ID único da data (formato YYYYMMDD)
- **Date:** Data completa
- **Year:** Ano
- **Month:** Mês
- **Day:** Dia
- **Day_of_Week:** Dia da semana (segunda, terça, etc.)
- **Is_Weekend:** Indicação se é fim de semana (Sim/Não)

Novas métricas

**Relacionamos com:** Date_of_Journey

Questões a responder

1. Quantas viagens foram feitas por mês/ano?
2. Existe mais procura durante fins de semana?
3. Quais são os horários de ponta das viagens?

analisamos com:

- Date of Journey
- Departure Time

Final Dashboard

# Journeys

Date
08-12-2023 — 30-04-2024

Ticket Class
| First Class | Standard |
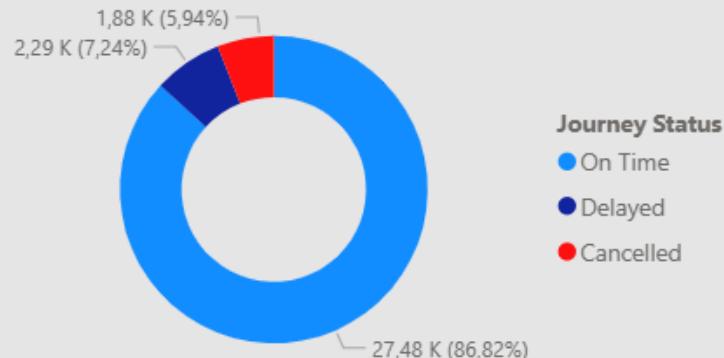
How many journeys were made?

31,653 K
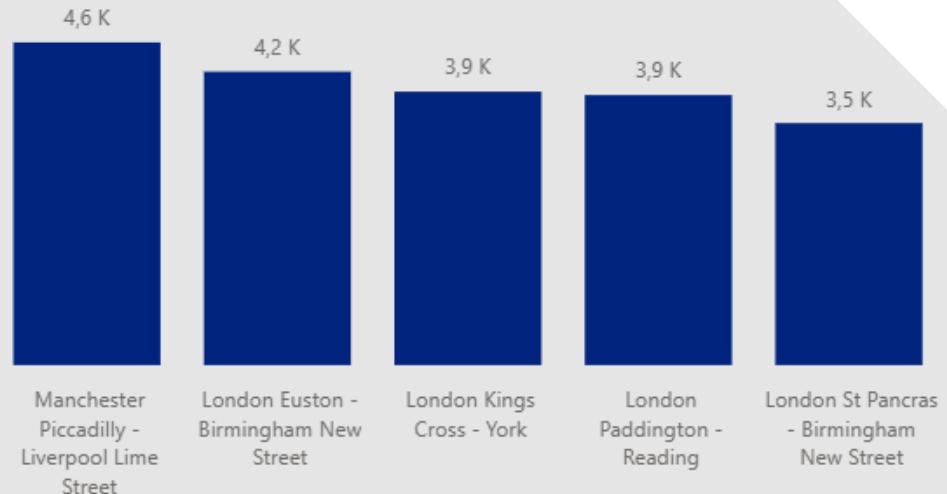
What day do people travel the most?

quarta-feira	domingo	segunda...	sábado
4,69 K	4,58 K	4,44 K	4,41 K

terça-feira	quinta-feira	sexta-feira	
4,61 K	4,58 K	4,35 K	
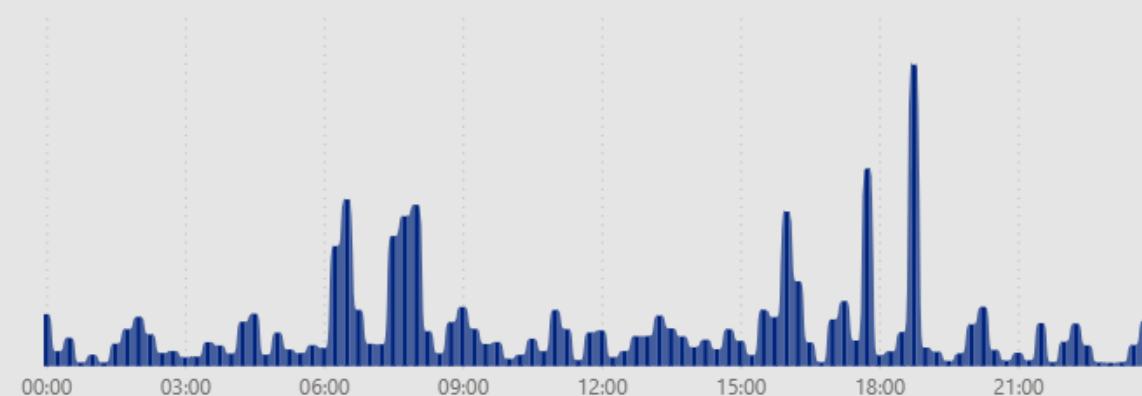
Which routes are the most popular?

- Manchester Piccadilly - Liverpool Lime Street — 4,6 K
- London Euston - Birmingham New Street — 4,2 K
- London Kings Cross - York — 3,9 K
- London Paddington - Reading — 3,9 K
- London St Pancras - Birmingham New Street — 3,5 K

Journey Status by Route

1,88 K (5,94%)
2,29 K (7,24%)
27,48 K (86,82%)

Journey Status
- On Time
- Delayed
- Cancelled
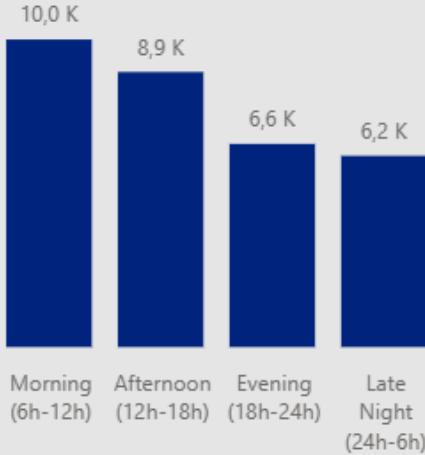
What are the peak travel times?

00:00   03:00   06:00   09:00   12:00   15:00   18:00   21:00

Revenues | Journeys ˣ | Purchases | Tickets | Delays | Details | TooltipRotas | +
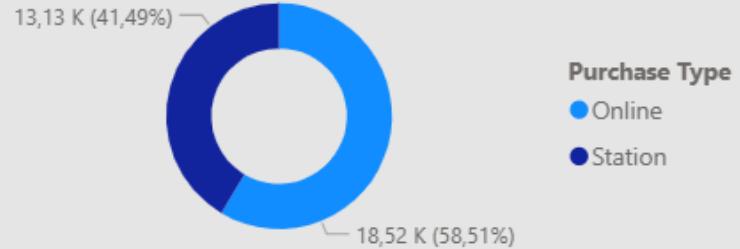
Which schedules are the most popular for shopping?

Online	Station

Chart values: Morning (6h-12h) 10,0 K; Afternoon (12h-18h) 8,9 K; Evening (18h-24h) 6,6 K; Late Night (24h-6h) 6,2 K
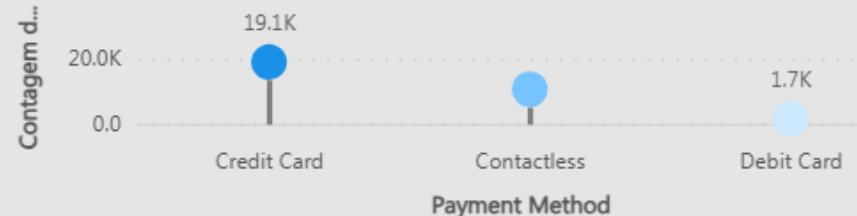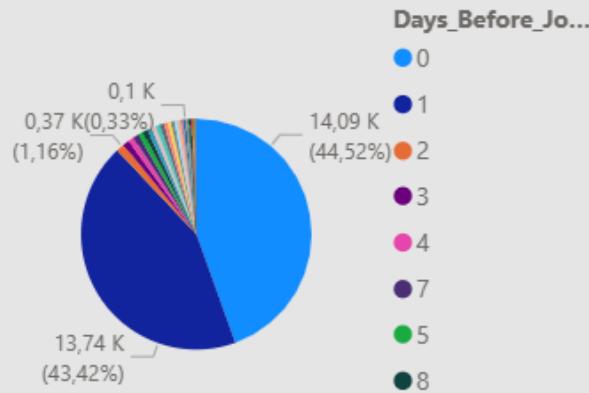
Where do people most often buy their tickets?

13,13 K (41,49%)
18,52 K (58,51%)

Purchase Type
- Online
- Station

What is the most common payment method?

Contagem d...

- Credit Card: 19.1K
- Contactless
- Debit Card: 1.7K

20.0K
0.0

Payment Method
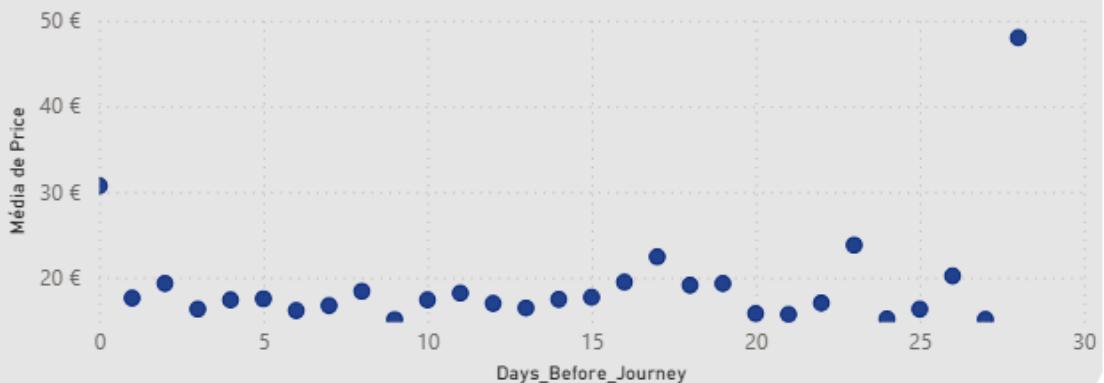
How many days in advance do people buy tickets?

Days_Before_Jo...
- 0
- 1
- 2
- 3
- 4
- 7
- 5
- 8

14,09 K (44,52%)
13,74 K (43,42%)
0,37 K (0,33%)
0,1 K (1,16%)

Select a Route

Tudo

What is the financial impact on the average ticket price, depending on how many days in advance you buy?

Média de Price

50 €
40 €
30 €
20 €

Days_Before_Journey: 0, 5, 10, 15, 20, 25, 30

08-12-2023   30-04-2024

Ticket Class

| First Class | Standard |
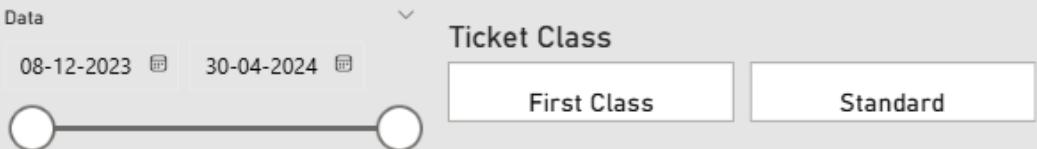
## How does the number of tickets purchased vary across the days of the week for each ticket type?

Ticket Type ● Advance ● Anytime ● Off-Peak

3 K

2 K

1 K
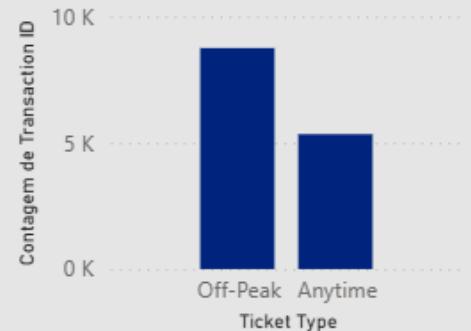
0 K

quarta-feira   terça-feira   domingo   quinta-feira   segunda-feira   sábado   sexta-feira

What type of ticket is most commonly bought on the day of travel?

Contagem de Transaction ID

10 K

5 K

0 K

Off-Peak   Anytime
Ticket Type

What is the distribution of tickets sold by ticket type?

| Advance | Off-Peak | Anytime |

How does revenue vary according to ticket types and classes?

£309,3 K

£223,3 K

£209,3 K

Advance   Off-Peak   Anytime
Ticket Type
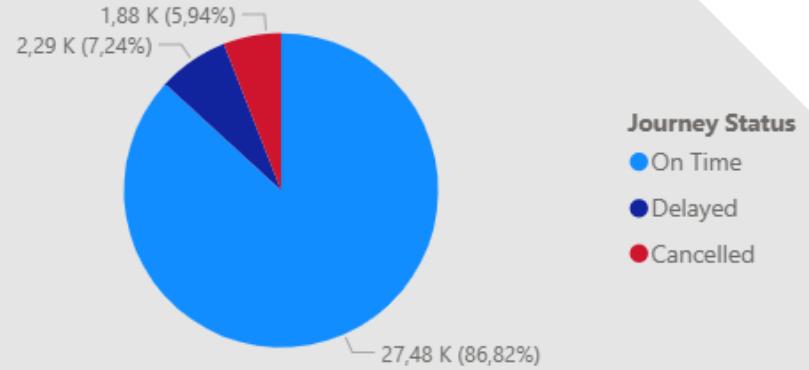
Revenues   Journeys   Purchases   **Tickets** ×   Delays   Details   TooltipRotas   +
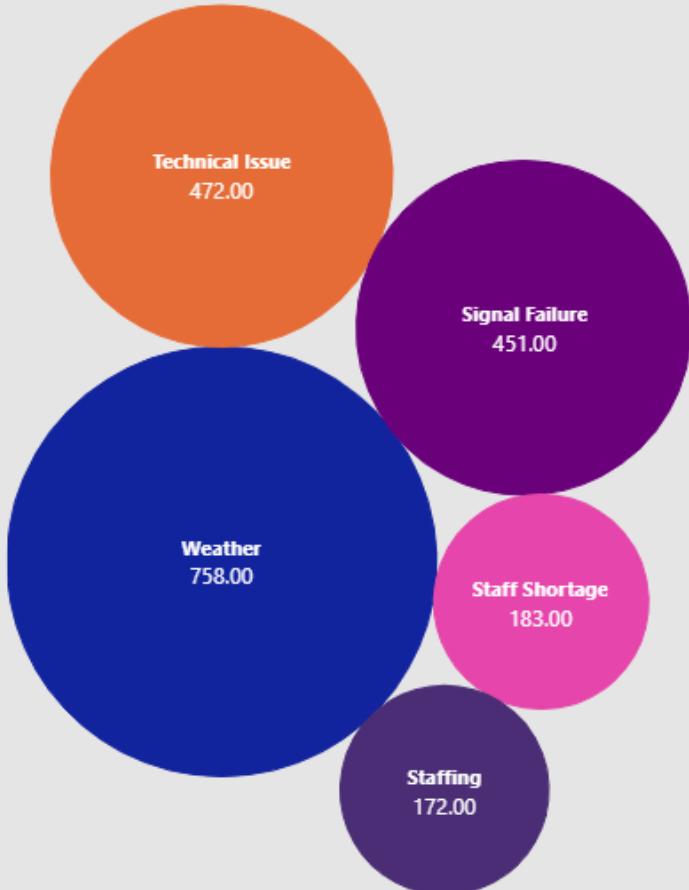
Data

08-12-2023 | 30-04-2024

What is the performance status of the journeys?

1,88 K (5,94%)
2,29 K (7,24%)

Journey Status
- ● On Time
- ● Delayed
- ● Cancelled

27,48 K (86,82%)

What are the main reasons for delays?

Technical Issue
472.00

Signal Failure
451.00

Weather
758.00

Staff Shortage
183.00

Staffing
172.00

How many of the delays have been refunded?

84,77%

15,23%

Not Granted | Granted

Refund Granted

Which routes have the highest average delay in minutes?

Route	Média de Delay (minutes)
Manchester Piccadilly - Leeds	65,24
Liverpool Lime Street - London Euston	28,59
Manchester Piccadilly - London Euston	16,93
Manchester Piccadilly - Liverpool Lime Street	5,48
London Euston - Birmingham New Street	3,33

◁ ▷ | Revenues | Journeys | Purchases | Tickets | **Delays** ˣ | Details | ✎ TooltipRotas | +