

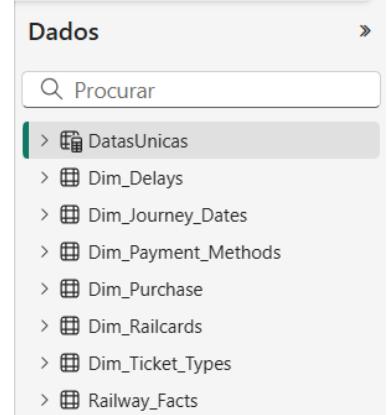
# Railway Analytics

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 | 7837fef9-5e1c-4a24-a6ac | 1 de janeiro de 2024 | 20:22:05         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 452320e9-a181-4457-821d | 2 de janeiro de 2024 | 20:18:10         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 93d61511-514a-4285-942f | 2 de janeiro de 2024 | 20:20:20         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | f526d406-784e-49d0-8d75 | 2 de janeiro de 2024 | 20:21:59         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 776063a2-0b90-4dcd-bdff | 3 de janeiro de 2024 | 20:19:31         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 618010b9-1aa5-4cbb-8cf3 | 3 de janeiro de 2024 | 20:20:58         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 9b54fbf2-bd79-465f-9efc | 3 de janeiro de 2024 | 20:24:24         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 64dd55ad-a2b7-43df-845d | 4 de janeiro de 2024 | 20:19:49         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 3ca247a8-1a9b-42ad-a6c5 | 4 de janeiro de 2024 | 20:21:02         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | a8b462e0-4b0c-4f55-896e | 4 de janeiro de 2024 | 20:28:04         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | ee2e3691-130d-4ca7-b0d2 | 5 de janeiro de 2024 | 14:07:32         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 5b030cc9-125b-4d4c-8d50 | 5 de janeiro de 2024 | 20:16:55         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 49b9f00c-6d57-4a46-a153 | 5 de janeiro de 2024 | 20:25:01         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 0a171269-5e90-4981-bc85 | 5 de janeiro de 2024 | 20:25:53         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | c21f7974-54ab-4198-a59a | 6 de janeiro de 2024 | 20:21:29         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | b5e16f73-bbf2-4042-a560 | 6 de janeiro de 2024 | 20:24:26         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 399d408b-f5d7-4232-9c8e | 7 de janeiro de 2024 | 20:23:11         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 8ba00430-9266-46f3-a6be | 7 de janeiro de 2024 | 20:26:33         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | a748e97e-dce1-41bc-821b | 7 de janeiro de 2024 | 20:27:17         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 35cc4dad-3bb5-4a41-9882 | 8 de janeiro de 2024 | 20:19:29         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 1a2df67e-02b6-465a-a1e2 | 8 de janeiro de 2024 | 20:20:39         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 5e0fd123-e5a9-49b1-af75 | 8 de janeiro de 2024 | 20:28:45         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | a0fa8764-720c-406e-a1d4 | 8 de janeiro de 2024 | 20:28:45         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | e192bd2d-4b39-46ba-8677 | 9 de janeiro de 2024 | 20:20:03         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | 9aa7bb2f-e4a2-46cc-8197 | 9 de janeiro de 2024 | 20:20:20         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |
| railway_2024-01.csv | c3979c95-1122-49b3-b032 | 9 de janeiro de 2024 | 20:20:51         | Online        | Credit Card    | No Railcard | Standard     | Advance     | € 0.00 |

# 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:

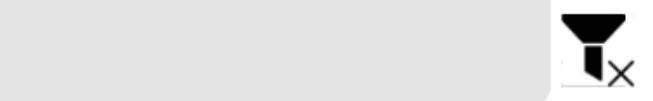
- Date of Journey
- Departure Time





Date

08-12-2023 30-04-2024



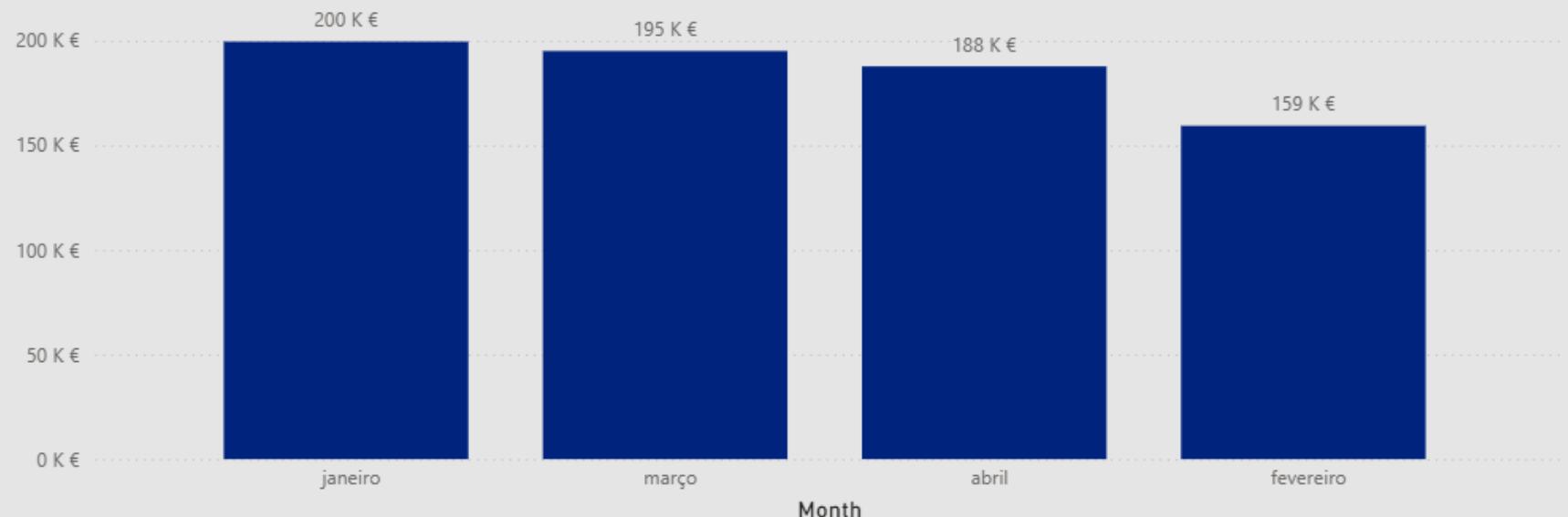
Total value of tickets sold

**742 K**

Total value of refunds granted

**4,35 K**

Total value for month

**Revenues**

Journeys

Purchases

Tickets

Delays

Details

TooltipRotas





Date  
08-12-2023 ⏴ 30-04-2024 ⏴

### Ticket Class

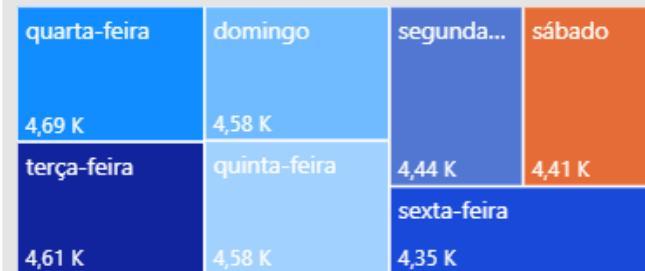
First Class

Standard

How many journeys were made?

**31,653 K**

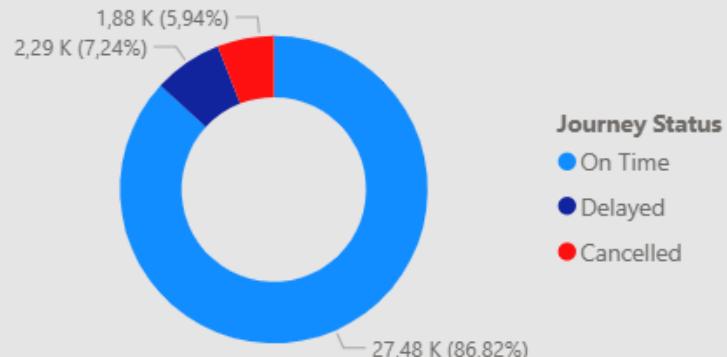
What day do people travel the most?



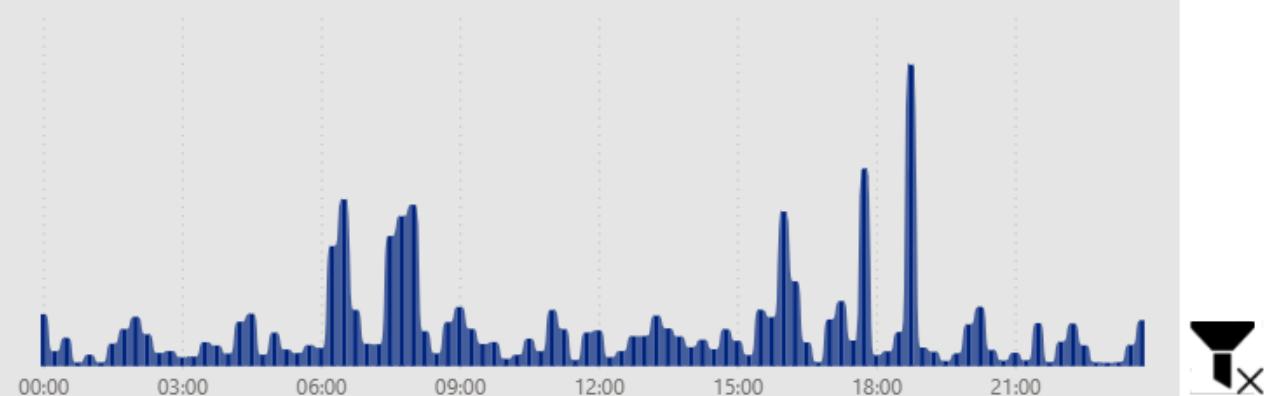
Which routes are the most popular?



Journey Status by Route



What are the peak travel times?



Revenues

Journeys X

Purchases

Tickets

Delays

Details

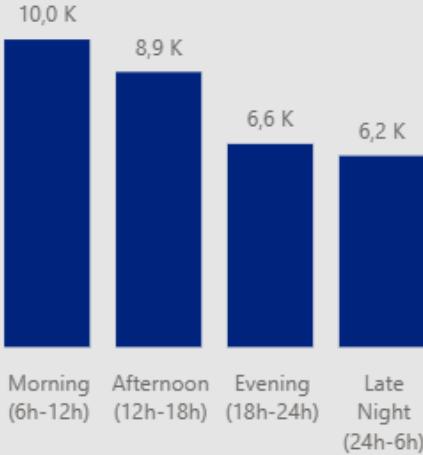
TooltipRotas



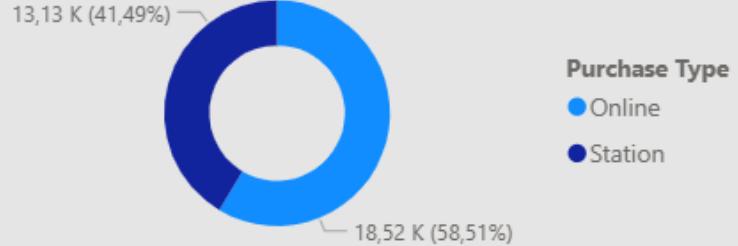


Which schedules are the most popular for shopping?

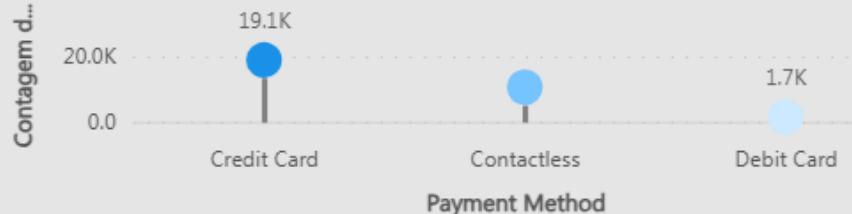
Online      Station



Where do people most often buy their tickets?

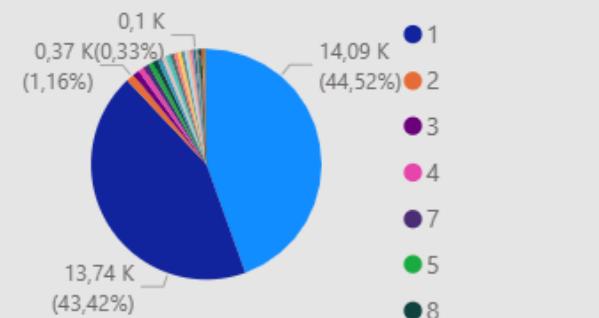


What is the most common payment method?



How many days in advance do people buy tickets?

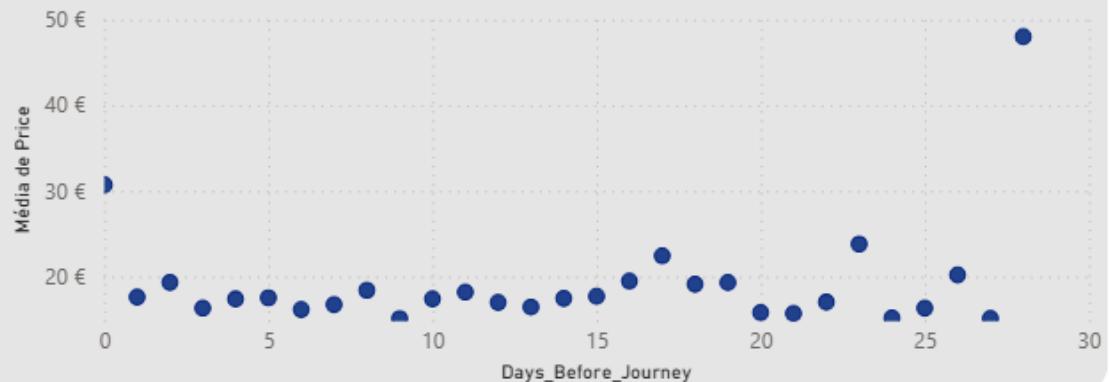
Days\_Before\_Jo...



Select a Route

Tudo

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



Revenues

Journeys

Purchases

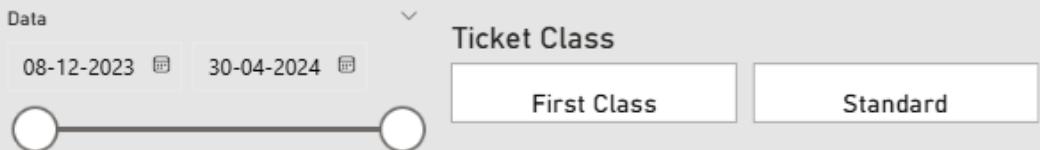
Tickets

Delays

Details

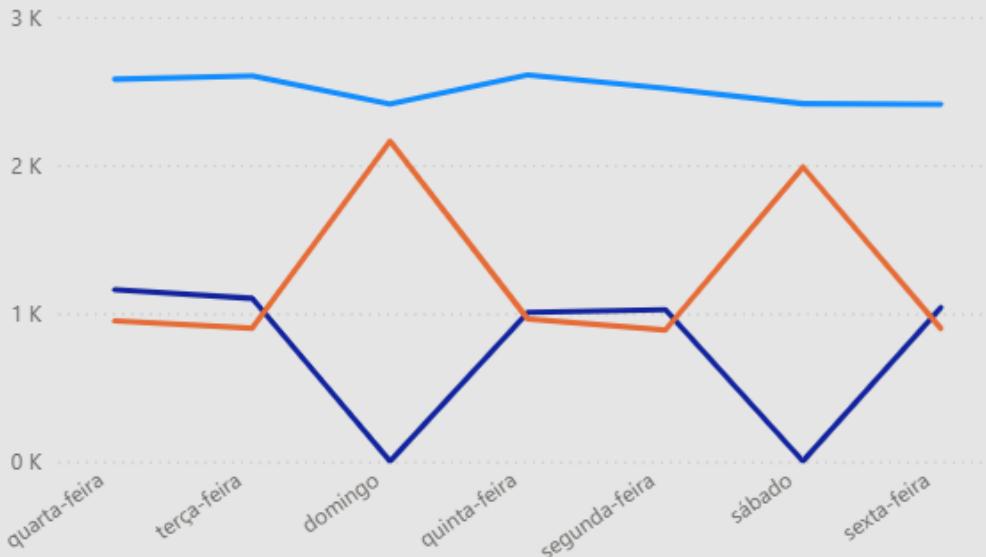
TooltipRotas



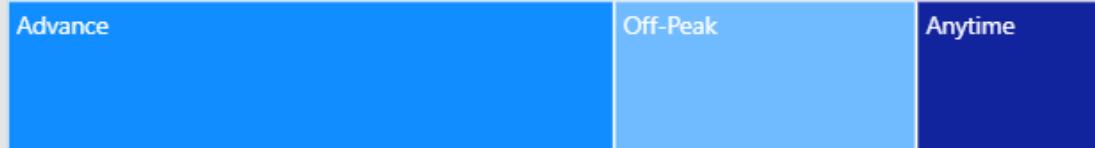


How does the number of tickets purchased vary across the days of the week for each ticket type?

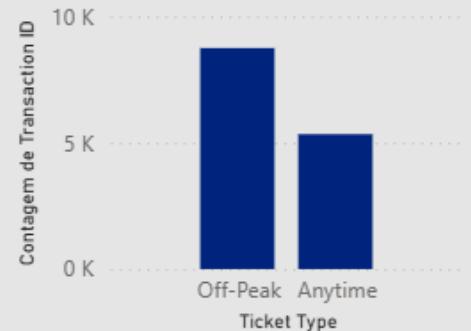
Ticket Type ● Advance ● Anytime ● Off-Peak



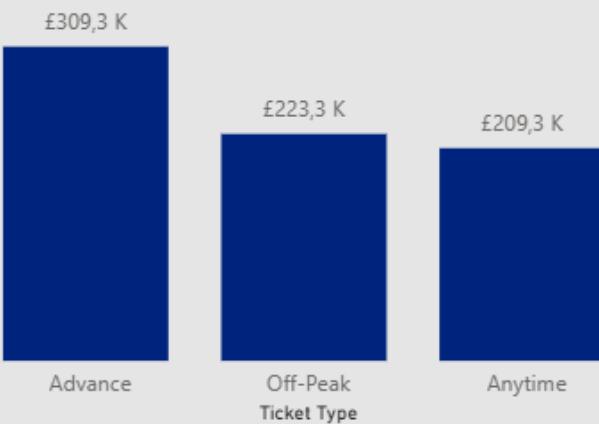
What is the distribution of tickets sold by ticket type?



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



How does revenue vary according to ticket types and classes?



Revenues

Journeys

Purchases

Tickets

Delays

Details

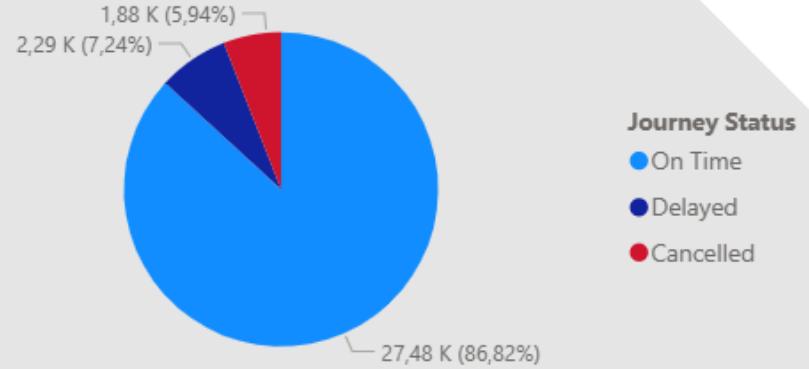
TooltipRotas





Data  
08-12-2023 30-04-2024

### What is the performance status of the journeys?



### What are the main reasons for delays?



### How many of the delays have been refunded?



### 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

Details

TooltipRotas

