**Task 2**

**1. What is the total revenue and its distribution by ticket class?**

**Answer:** **The total revenue is** **742k**

Of this:

* First Class 149,399 (20.14%)
* Standard Class 592,522 (79.86%)

**2. How is the revenue distributed by ticket type?**

**Answer:**

* Advance tickets: 309,274 (41.69%)
* Off-peak tickets: 223,338 (30.1%)
* Anytime tickets: 209,309 (28.21%)

**3. What is the revenue distribution by railcard type?**

**Answer:**

* Adults: 86.3k (51.3%)
* Disabled: 52.3k (31.1%)
* Senior: 29.6k (17.6%)

**4. How is revenue distributed by payment method?**

**Answer:**

* Credit card: 469,511
* Contactless: 219,444
* Debit card: 52,966

**5. Which routes generated the most revenue?**

**Answer:**

* London Kings Cross / York
* Liverpool Lime Street / London Euston
* London Paddington / Reading
* London Euston / Manchester Piccadilly
* London St Pancras / Birmingham New Street

**6. Which departure stations generated the most revenue?**

**Answer:**

* London Kings Cross: 199,650
* Liverpool Lime Street: 135,274
* London Euston: 112,045
* London Paddington: 83,842
* Manchester Piccadilly: 75,314

**7. What is the proportion of purchases made online vs. at the station?**

**Answer:**

* Online purchases: 58.51%
* Station purchases: 41.49%

**8. What is the breakdown of ticket payment methods by number of transactions?**

**Answer:**

* Credit card: 19.1k (60.5%)
* Debit card: 1.7k (5.3%)
* Contactless: 10.8k (34.2%)

**9. How many railcard transactions occurred by genre?**

**Answer:**

* Adults: 4,846 transactions
* Seniors: 2,800 transactions
* Disabled: 3,089 transactions

**10. What percentage of trips were delayed, and which routes had the most delays?**

**Answer: 7.24%** of trips were delayed. The most delayed routes:

* Liverpool Lime Street / London Euston: **780** delays
* Manchester Piccadilly / Liverpool Lime Street: **354** delays
* London Euston / Birmingham New Street: **242** delays
* Manchester Piccadilly / London Euston: **240** delays
* London Kings Cross / York: **131** delays

**11. Which delay caused the highest number of trips?**

**Answer:** Weather conditions caused the most delays, impacting **927** trips.

* Technical issues: **472** trips
* Signal failure: **451** trips
* Staff shortage: **183** trips
* Staffing issues: **172** trips
* Traffic: **87** trips

**12. What percentage of trips arrived on time?**

**Answer:** 86.82% of trips arrived on time.

**13. What percentage of trips were cancelled?**

**Answer:** 5.94% of trips were cancelled.

**14. What are the refund request statistics based on journey status?**

**Answer:**

* On-time: 27,481 transactions, 0 refunds
* Delayed: 2,292 transactions
  + 546 refunds
  + 1,746 no refunds
* Cancelled: 1,880 transactions
  + 572 refunds
  + 1,308 no refunds

Overall refund requests: **1,118** (**3.5%**), No refunds: **30,535** (**96.5%**)

**15. What are the most popular routes by number of transactions?**

**Answer: The total is** **35k**

* Manchester Piccadilly / Liverpool Lime Street: **4,628**
* London Euston / Birmingham New Street: **4,209**
* London Kings Cross / York: **3,922**
* London Paddington / Reading: **3,873**
* London St Pancras / Birmingham New Street: **3,471**
* Liverpool Lime Street / Manchester Piccadilly: **3,002**
* Liverpool Lime Street / London Euston: **1,097**
* London Euston / Manchester Piccadilly: **712**
* Birmingham New Street / London St Pancras: **702**
* London Paddington / Oxford: **485**

**16. What are the peak travel hours?**

**Answer:** The peak hours are shown on the dashboard (exact times not specified in the document).