



Delivery Market Analysis

- **Database Used:** `takeaway.db` (Belgium food delivery dataset)
- **Objective:** Analyze restaurant performance, menu pricing, delivery coverage, and cuisine trends.
- **Key Analyses Performed:**
 - Price distribution of menu items
 - Distribution of restaurants per location
 - Top 10 pizza restaurants by rating
 - Mapping locations offering specific dishes and average prices
 - Identifying delivery “dead zones”
 - Vegetarian and vegan dish availability by area
 - World Hummus Order (top 3 hummus-serving restaurants)
 - Restaurants’ price-to-rating ratio
 - Cuisine types with highest average delivery fees per city
 - Original insight:

A “true price/rating” metric that also takes into account the delivery fee and estimated delivery time.

- **Tools & Methods:** SQL queries, Python (pandas, folium, matplotlib), interactive maps , data visualization

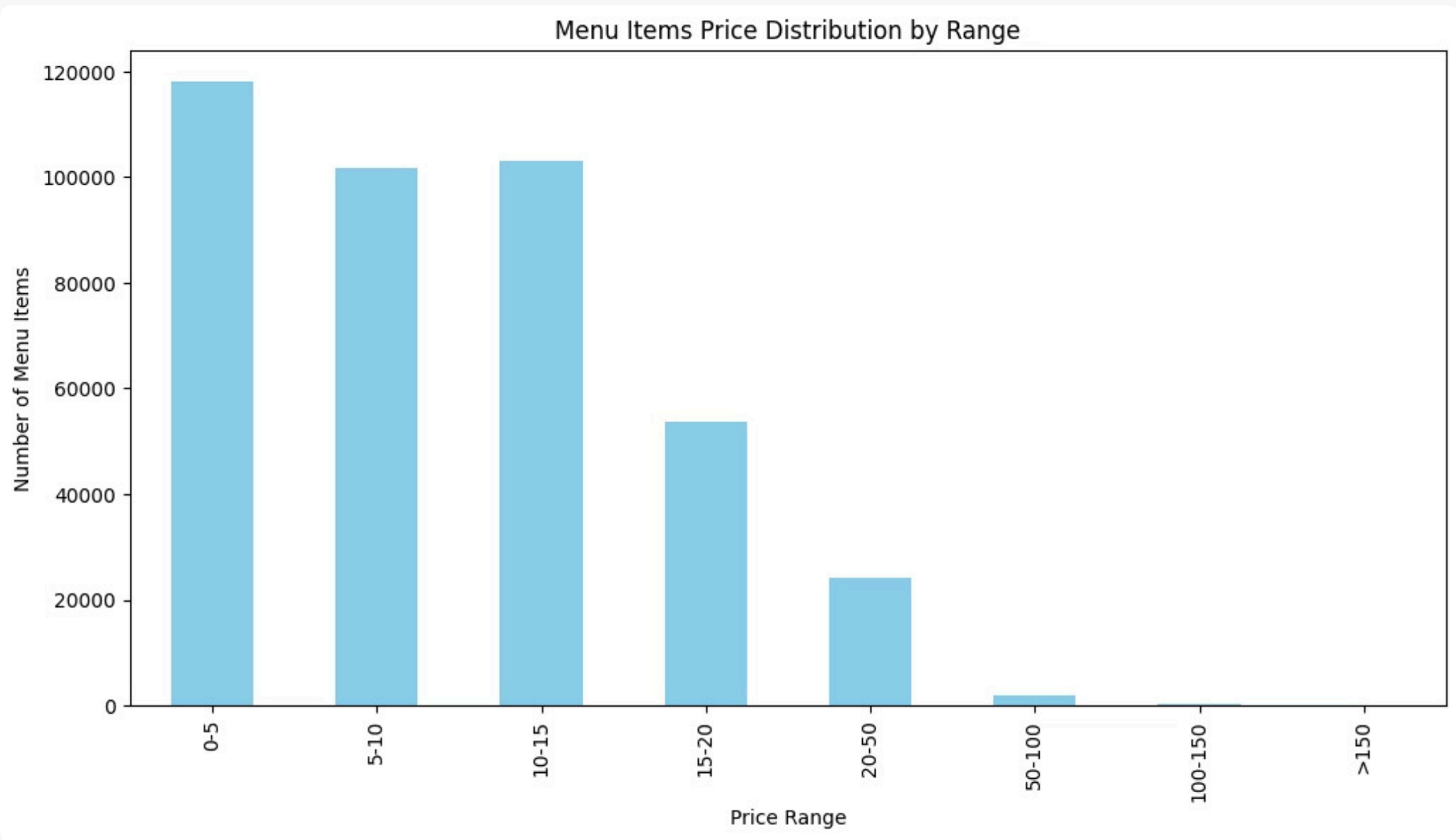
Q1: Menu Item Price Distribution

SQL:

This SQL query counts how many menu items fall into different price ranges. After fetching all prices from `menuitems`, we group them into bins (e.g., 0-5€, 5-10€, etc.) to visualize the overall **price distribution** of menu offerings.

Insight:

Most menu items **are priced under 20€**, indicating that the market is dominated by affordable options, while very few items are priced above 100€, **suggesting group menu or premium or specialty items are rare**. The bar chart clearly shows this concentration, helping restaurants and analysts understand pricing trends in the delivery market.



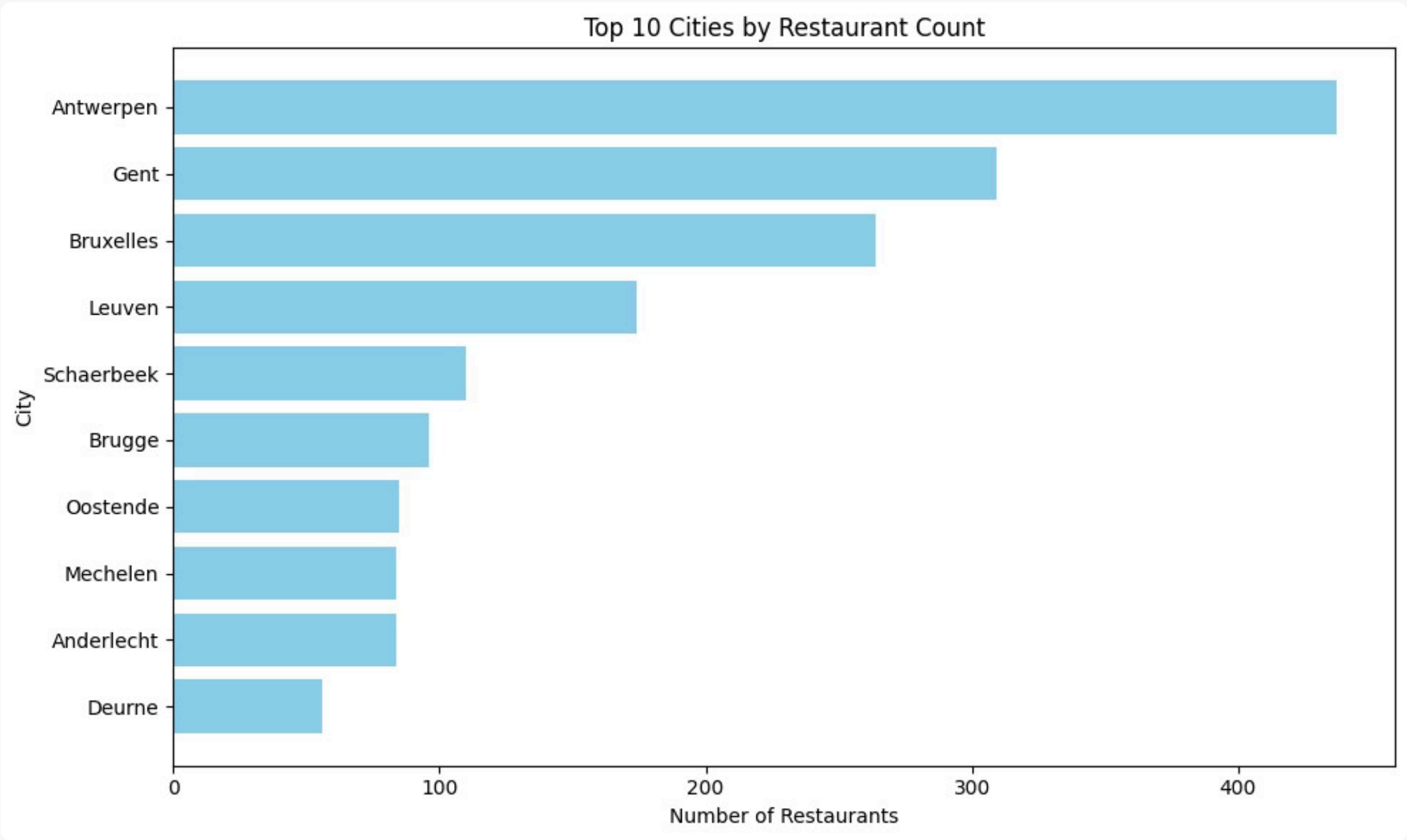
Q2: Restaurants per Location – Top 10 Cities

SQL:

Counted the number of restaurants per city and selected the top 10 cities with the highest density

Insight:

Large urban centers such as **Antwerpen, Gent, and Bruxelles** dominate the delivery market, while smaller cities have significantly fewer restaurant options. This suggests a strong concentration of delivery services in densely populated areas.



“Explore all restaurants interactively on the map”

Q3: Top 10 Pizza Restaurants by Rating

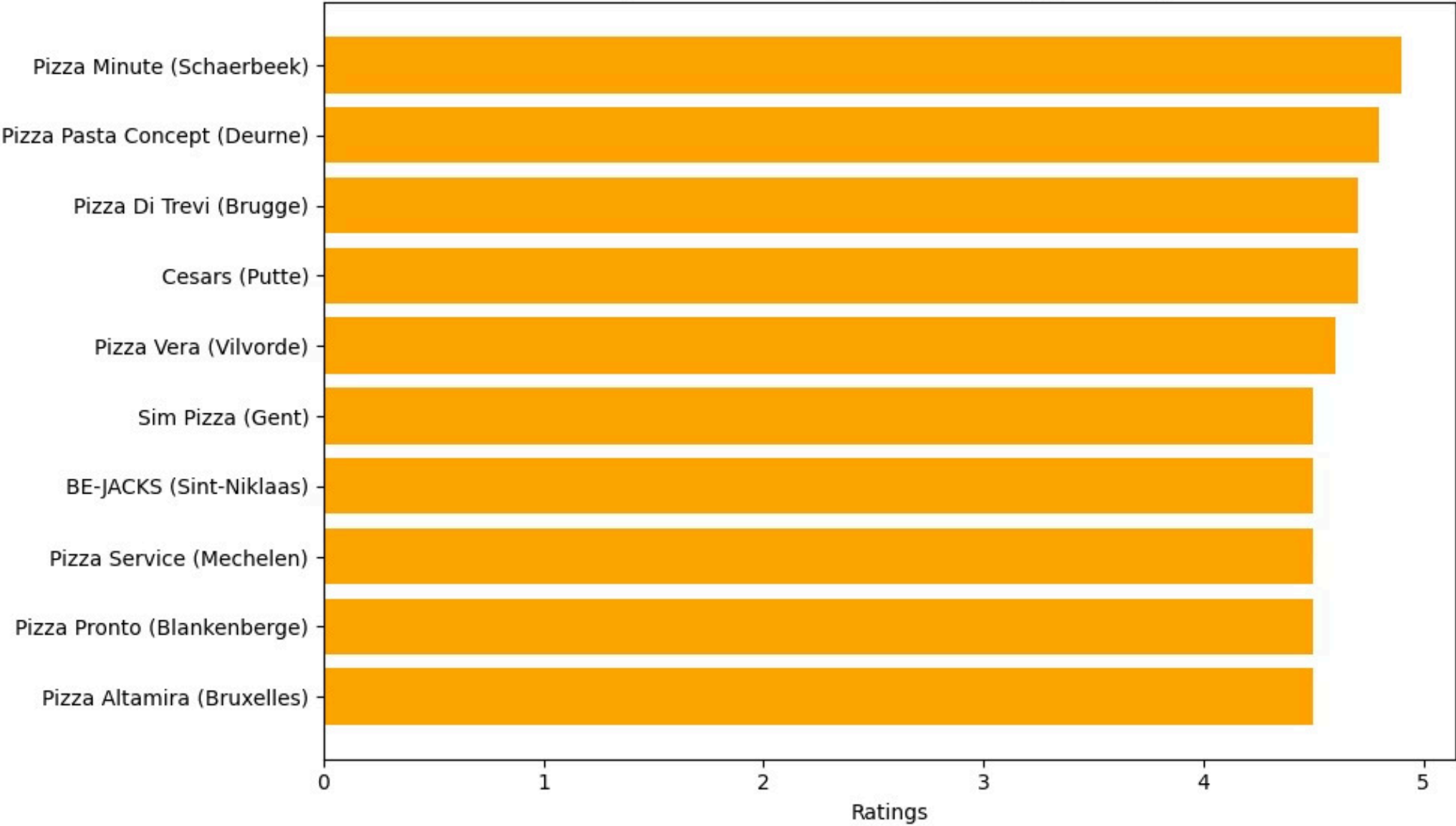
SQL:

This SQL query identifies pizza restaurants by filtering menu items that contain the word *"Pizza"*, then ranks them based on rating quality. To ensure reliability, it first selects the 50 most-voted restaurants and then filters for those with ratings of **4.5 or higher**, displaying the top 10.

Insight:

The results show that highly rated pizza restaurants are spread across multiple cities, not only major urban centers, indicating that **quality pizza options are accessible both in large cities and smaller towns.**

Top 10 Pizza Restaurants by Rating (with City)



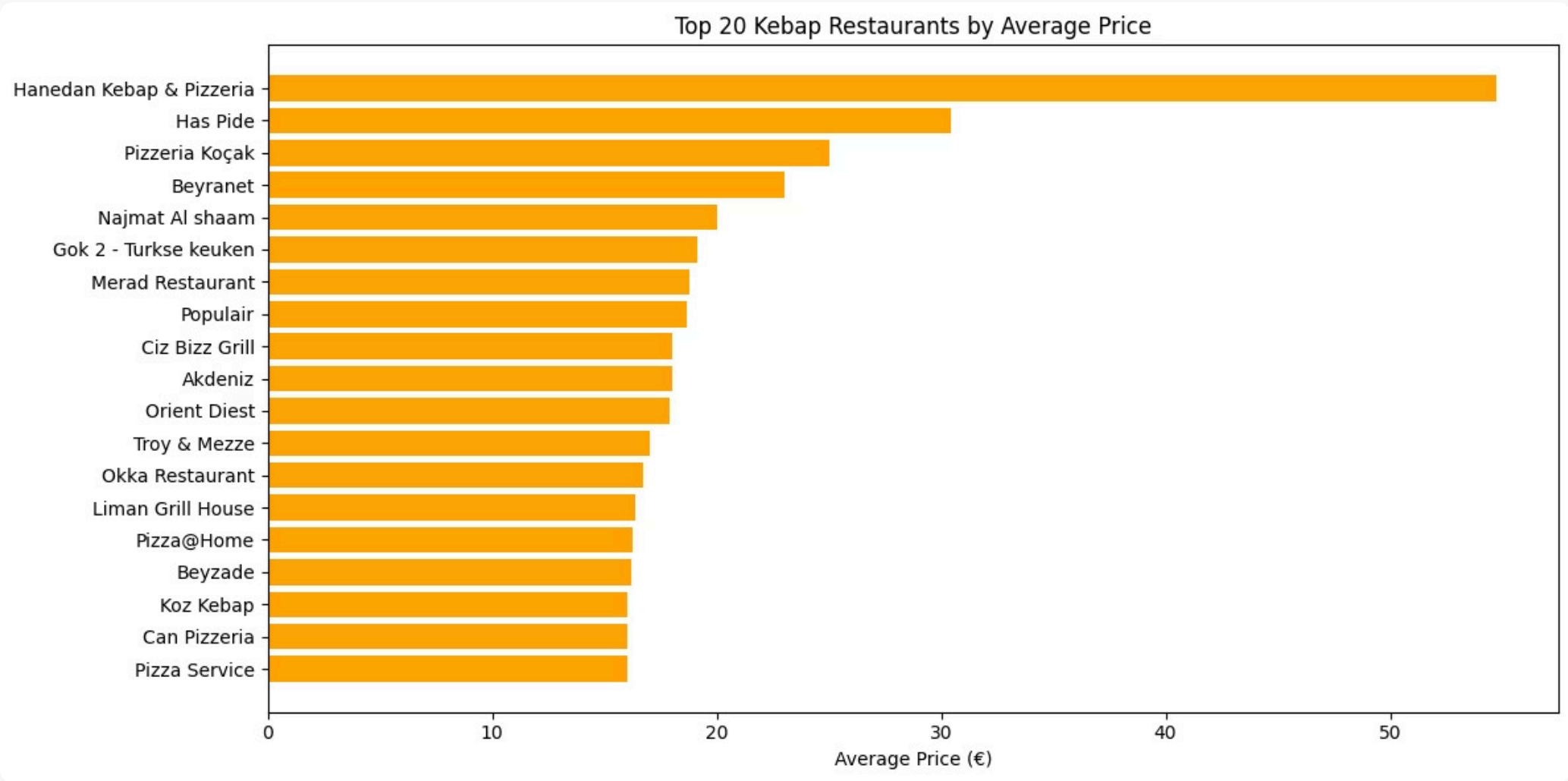
Q4: Map of Favorite Dish (Kebap)

SQL:

This analysis identifies restaurants offering *kebab* dishes by filtering menu items that contain the keyword “kebab” and calculating the average price per restaurant.

Insight:

Kebab restaurants are widely distributed across cities, but higher-priced kebab options tend to cluster in larger or more central urban areas, suggesting that **location and market demand influence kebab pricing**.



The interactive map shows **all kebab-serving restaurants and their geographic distribution**, while the bar chart highlights the **top 20 kebab restaurants with the highest average prices**.

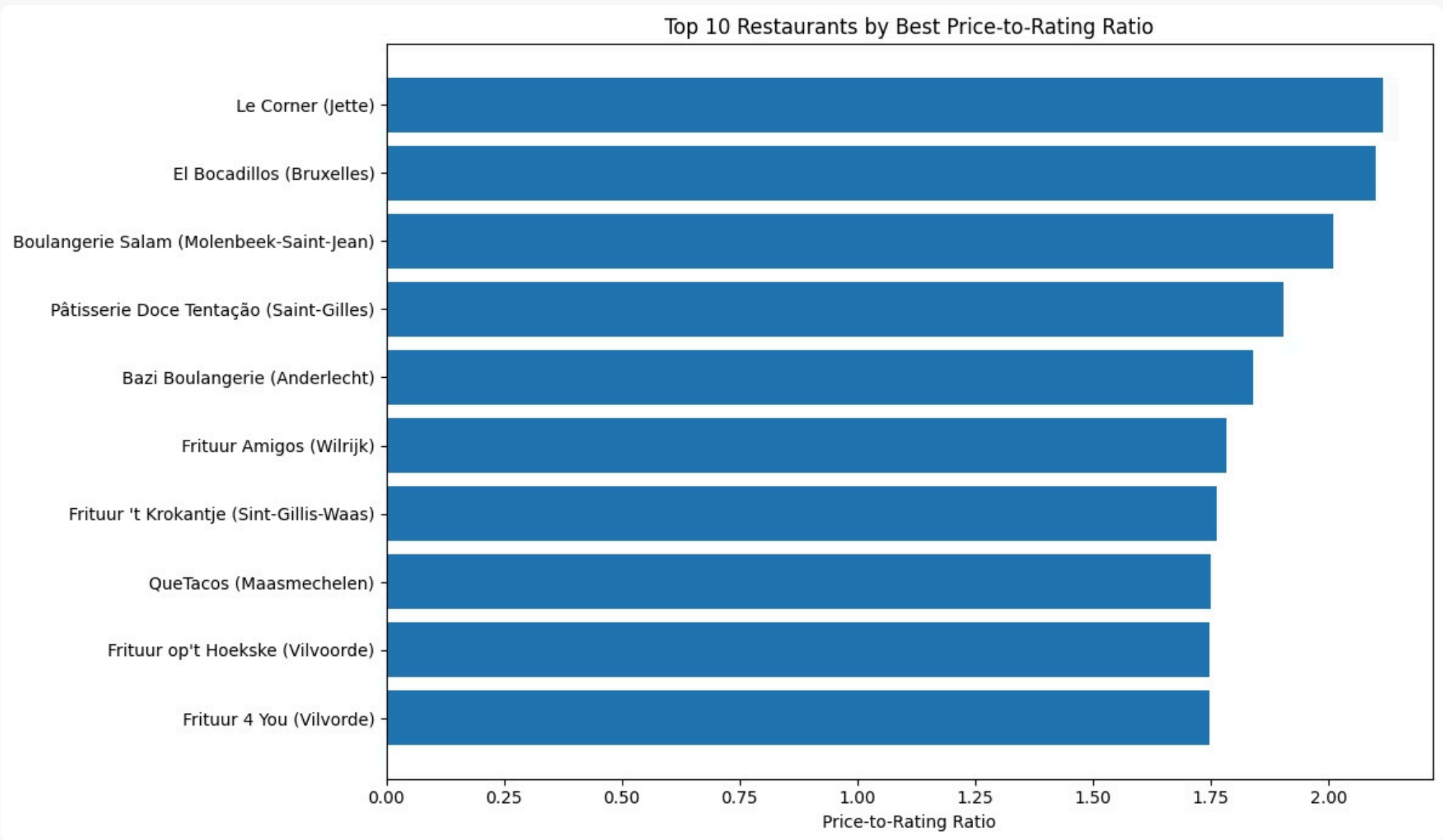
Q5: Best price-to-rating ratio

SQL:

Calculated the average menu price per restaurant and divides each restaurant's rating by this average to find the price-to-rating ratio, then selects the top 10 restaurants."

Insights:

Restaurants with a high price-to-rating ratio offer the best value for money—some small bakeries and casual eateries score very high, showing that excellent ratings don't always come with high prices."



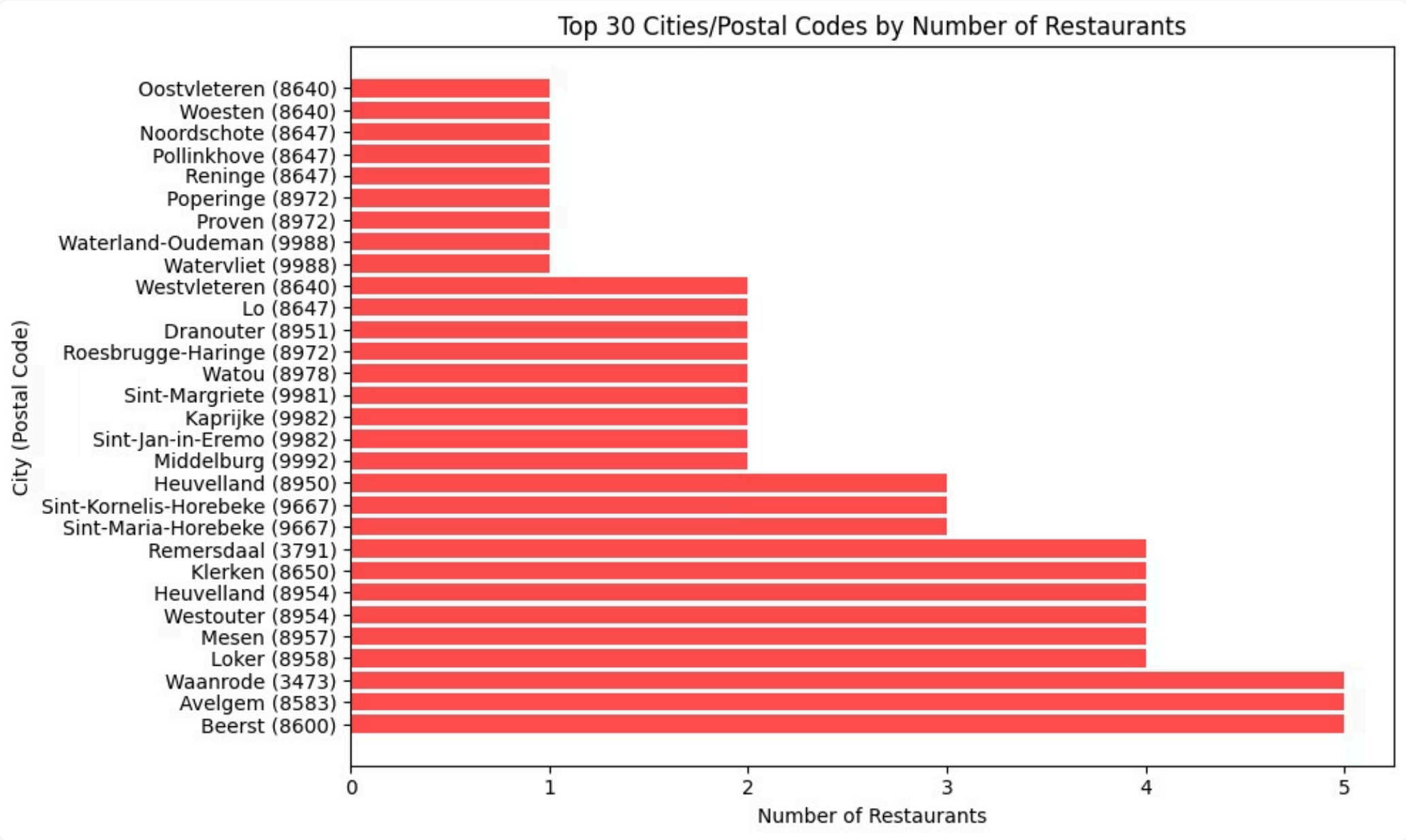
Q6: Delivery Dead Zones – Postal Code / City

SQL:

This query counts the number of restaurants in each postal code and city, ordering them to identify areas with the fewest restaurants

Insight:

The bar chart highlights the top 10 areas with minimal restaurant coverage, revealing potential delivery ‘dead zones’ where customers have limited options and there may be opportunities for market expansion.”



“The interactive map displays all locations with restaurant coverage, allowing exploration of areas with few or many restaurants.”

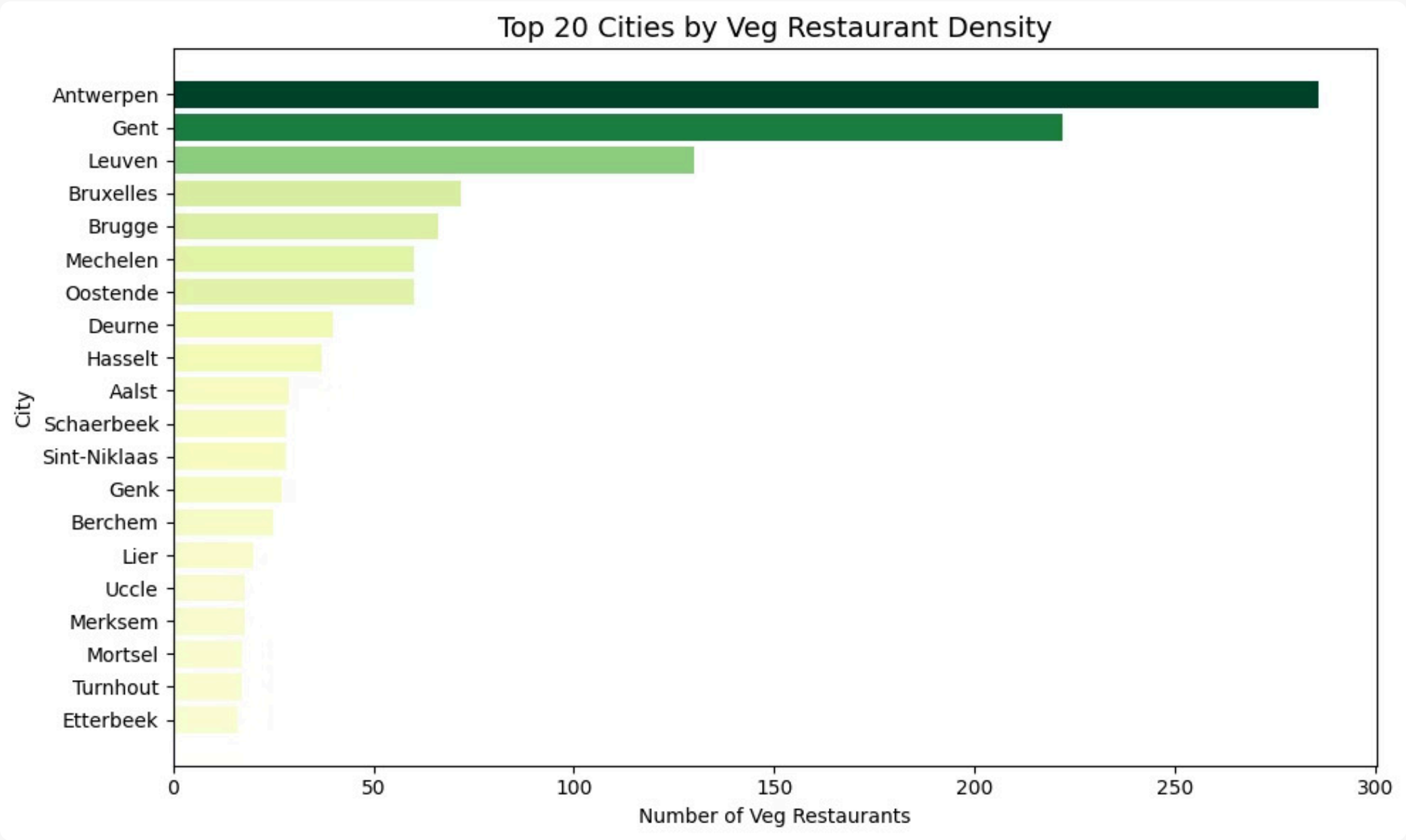
Q7: Vegetarian / Vegan Availability by City

SQL:

“This query counts the number of vegetarian and vegan restaurants per city, calculates their average menu price, and collects the restaurant and menu names for each city.”

Insight:

“The interactive map highlights cities with higher concentrations of vegetarian and vegan options. Some urban centers have dense veg restaurant coverage, while smaller towns show very few options, revealing areas with limited plant-based choices.”

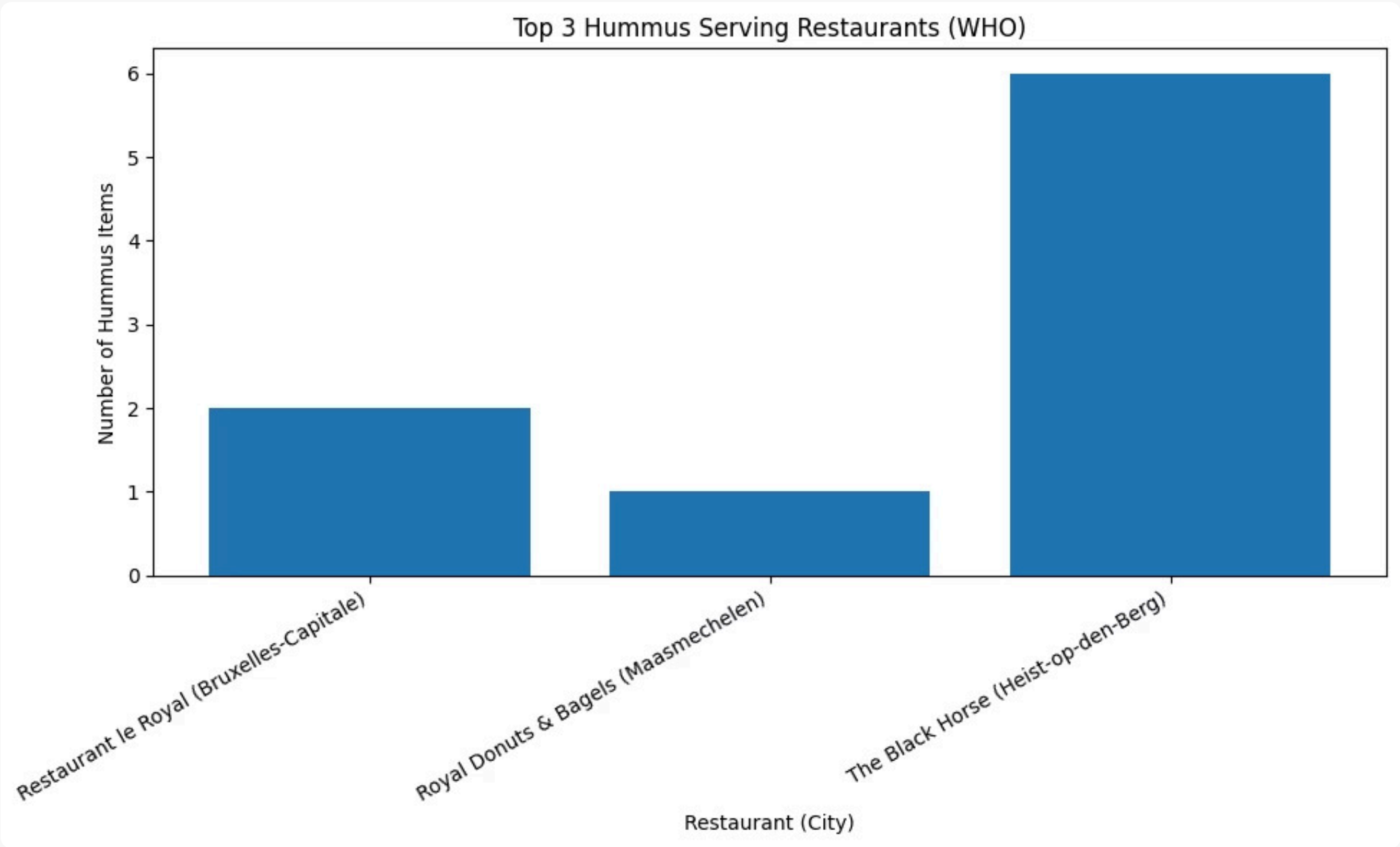


“The interactive map shows the density of vegetarian and vegan restaurants across cities, with pop-ups displaying restaurant names, veg items, and average prices.”

Q8: Top 3 Hummus Restaurants (WHO)

SQL: "This query identifies restaurants serving hummus, ranks them by number of ratings, filters for high-rated ones (≥ 4.5), and selects the top 3."

The bar chart shows these top 3 restaurants along with the number of hummus items they offer. It highlights where customers can find the most variety of highly rated hummus dishes in the delivery market."



Original Q1 : True Price-to-Rating

SQL: This query creates a *True Price-to-Rating* metric by combining three cost-related factors—average menu price, delivery fee, and estimated delivery time—and then normalizing this total by the restaurant’s rating. The analysis focuses on highly rated restaurants (rating > 4.5) with a large number of reviews to ensure reliability.

1. **Objective:**
Measure the **true value** of restaurants—not just by rating, but also factoring in **average menu price**, **delivery fee**, and **estimated delivery time** to create a “true price-to-rating” metric.
2. **Step 1 – Average menu price:**

```
AVG(m.price) AS avg_price
```

- Calculates the average price of all menu items per restaurant.
- This value contributes to the cost component of the metric.

1. **Step 2 – Average delivery duration:**

```
AVG((r.durationRangeMin + r.durationRangeMax) / 2) AS avg_duration
```

- Computes the midpoint of minimum and maximum delivery times.
- Faster deliveries improve the perceived value in the metric.

1. **Step 3 – True price-to-rating metric:**

```
(
  AVG(m.price)
  + r.deliveryFee
  + AVG((r.durationRangeMin + r.durationRangeMax) / 2.0)
) / r.ratings AS true_price_to_rating
```

- Combines average menu price, delivery fee, and delivery duration as the “total cost.”
- Dividing by the rating balances high-quality but expensive or slow restaurants, highlighting the **best value options**.

1. **Step 4 – Focus on top-reviewed restaurants:**

```
WHERE r.primarySlug IN (
  SELECT primarySlug
  FROM restaurants
  ORDER BY ratingsNumber DESC
  LIMIT 200
)
```

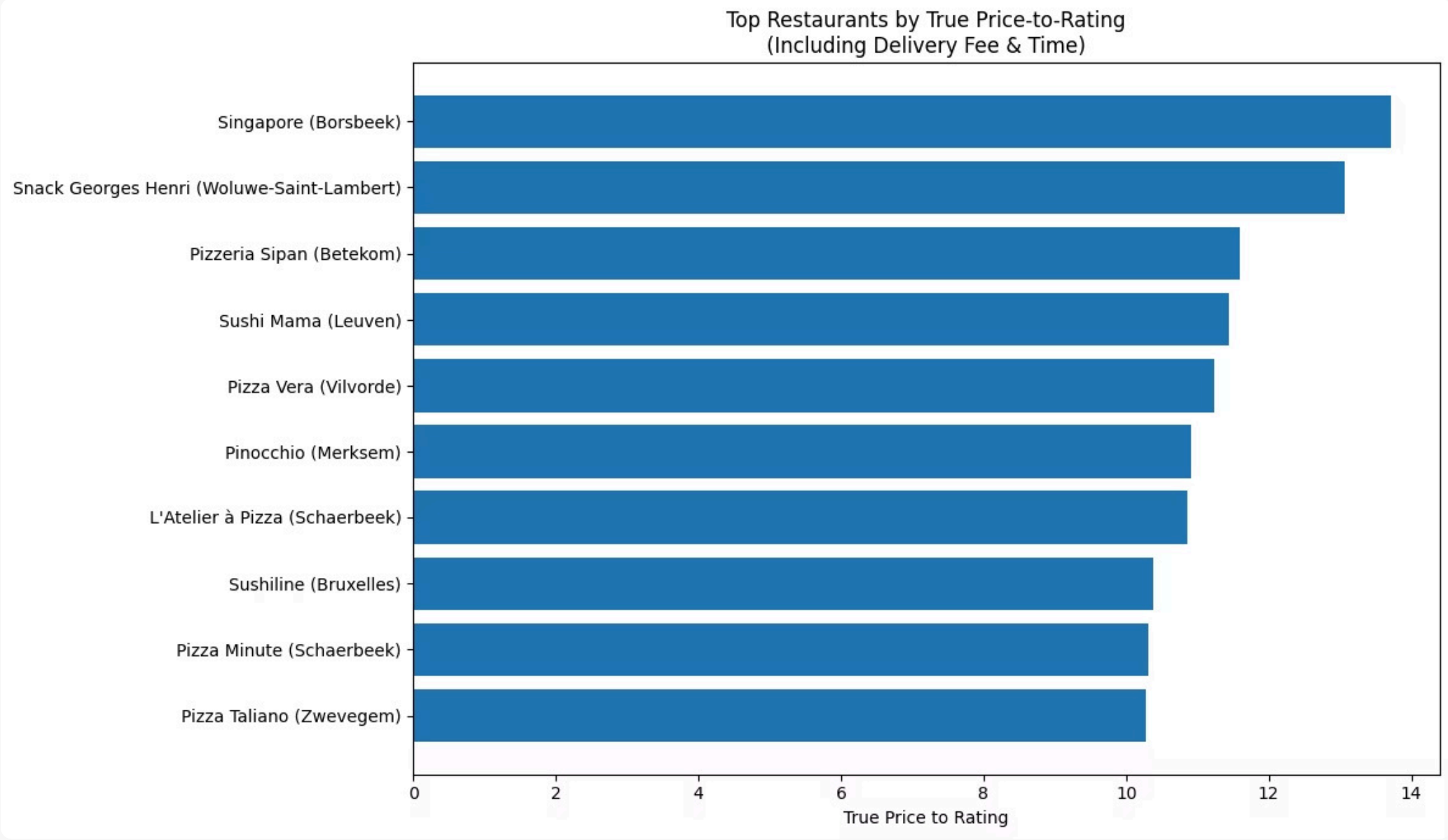
- Ensures only restaurants with a **high number of ratings** are considered, making the metric statistically meaningful.

1. **Step 5 – Filter and sort results:**

```
HAVING r.ratings > 4.5 AND AVG(m.price) > 0
ORDER BY true_price_to_rating DESC
LIMIT 10;
```

- Selects **highly rated restaurants** and ignores any with zero-priced menu items.
- Orders by the **true price-to-rating metric** in descending order and returns the **top 10** restaurants.

Insight:
“The bar chart highlights restaurants that provide the best balance of cost, delivery speed, and quality. Some highly rated eateries with low delivery fees and moderate menu prices emerge as top choices, showing that value isn’t just about price or rating alone.”



Original Q2: Highest Delivery Fee by Cuisine per City

This query calculates the **highest average delivery fee per cuisine type in each city**. The bar chart shows the **top 10 cities with the most expensive cuisine deliveries**, highlighting which cuisine commands higher delivery costs.

This insight helps understand **how cuisine type and location impact delivery pricing**.

Analyzed the most expensive cuisine types per city.

