

Food Waste Management – Key Insights Report

◆ Project Overview

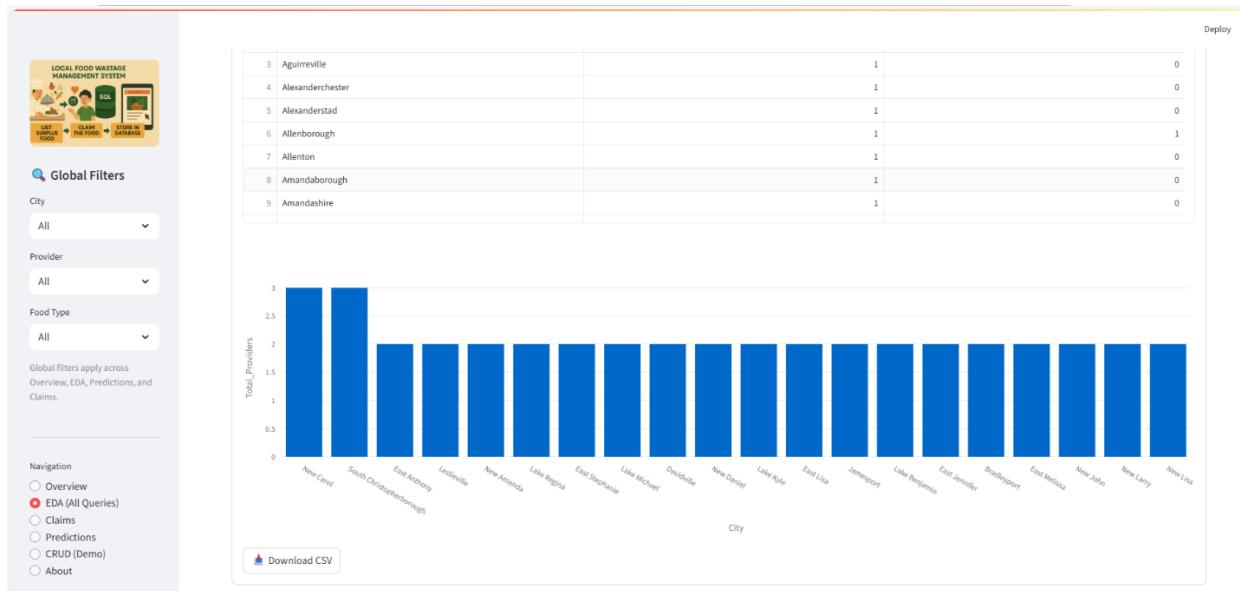
This project analyzes food donation and claims data to understand provider contributions, receiver demand, and overall distribution efficiency. A Streamlit-powered dashboard was built with CRUD functionality, SQL-driven analysis, and 15 key queries for actionable insights.

Key Insights from Analysis

1. Provider & Receiver Distribution

- Providers are more widely distributed than receivers across cities.
- Some cities (e.g., *Adambury, Adamsview*) have only providers and no receivers, indicating imbalance in food flow.

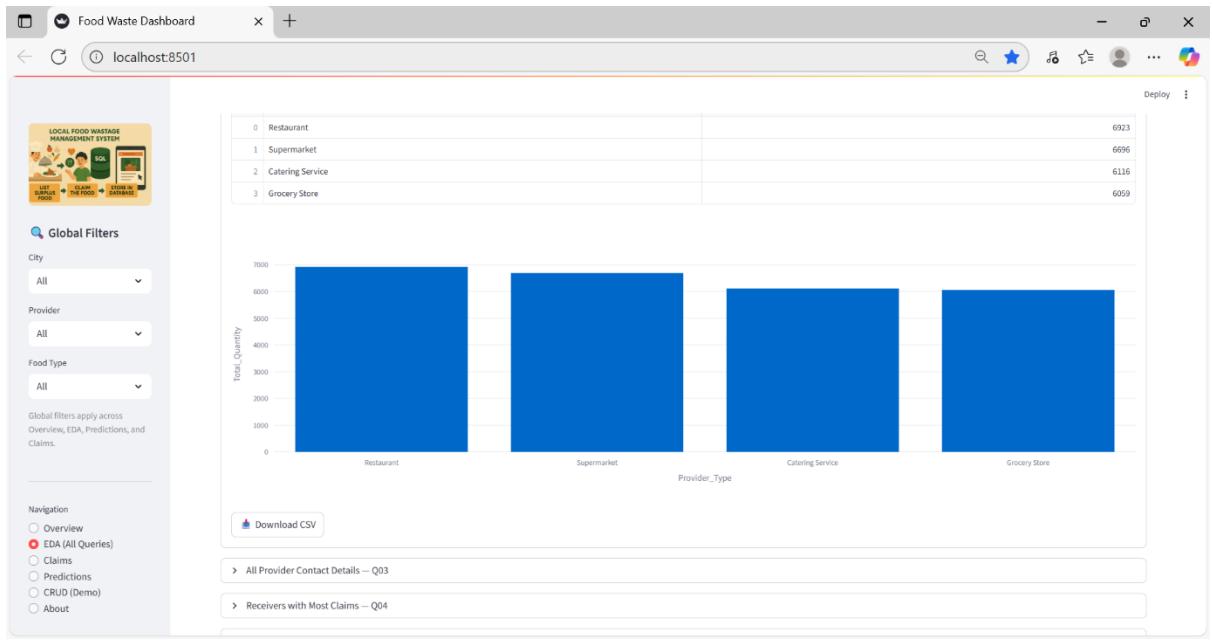
 *Map/Bar chart of Providers vs Receivers*



2. Contribution by Provider Type

- **Restaurants** are the top contributors, donating the highest food quantity compared to other provider types.

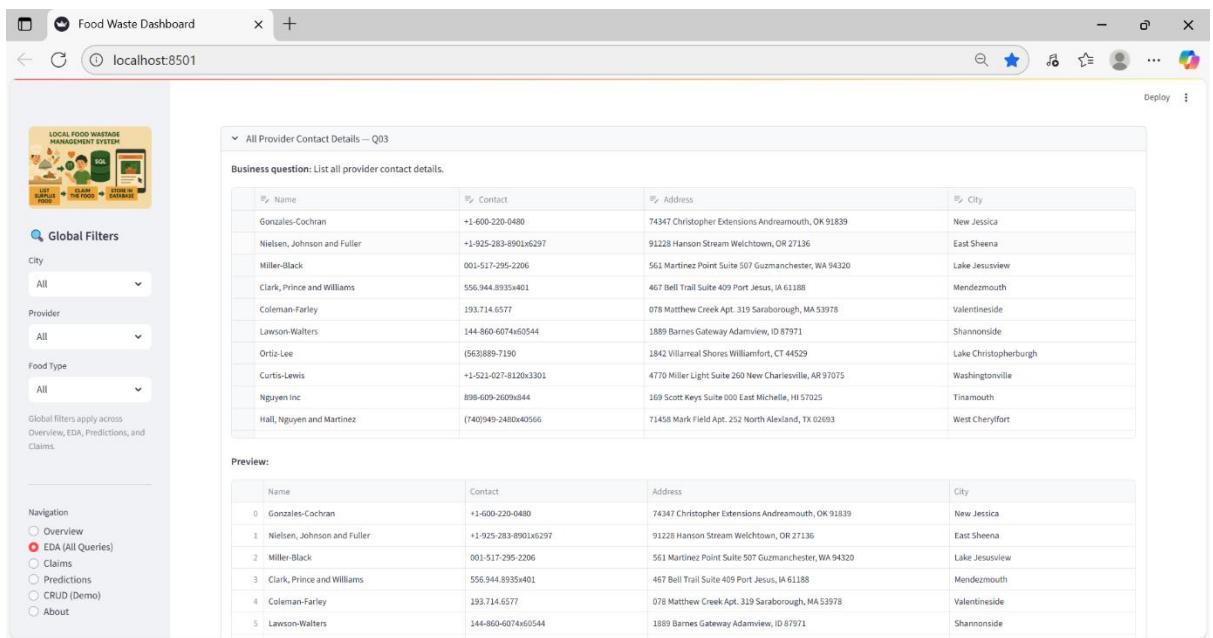
 *Bar chart of Provider Types and Contributions*



3. Contact Directory

- A complete directory of providers and receivers (with contacts and addresses) was created to improve connectivity and logistics.

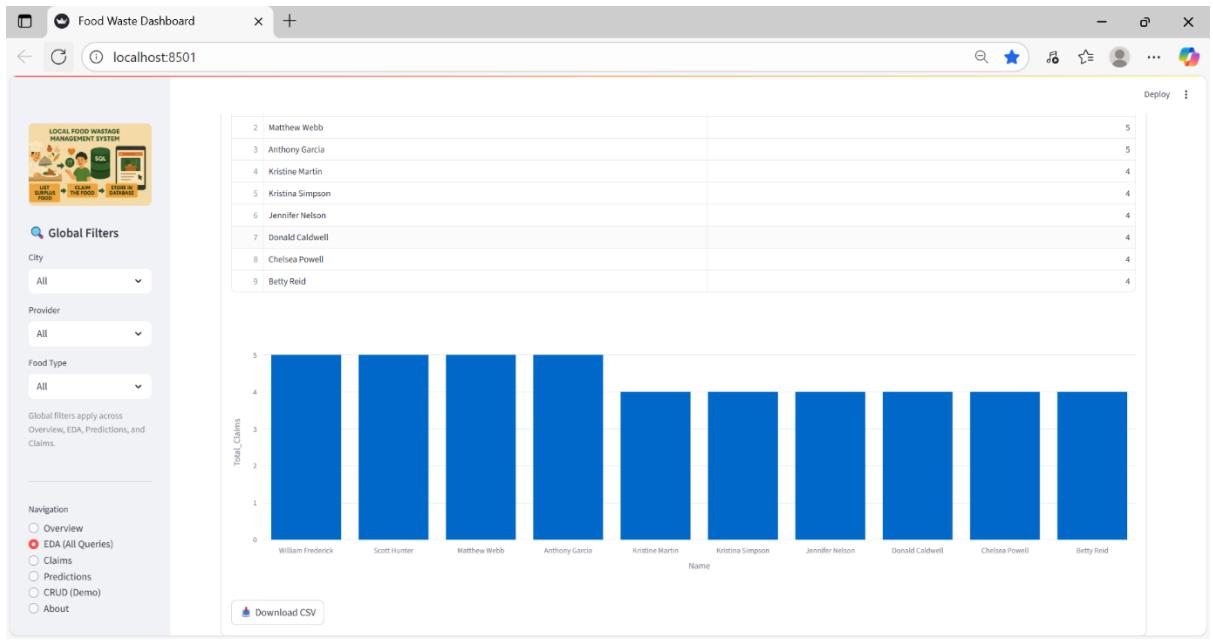
Provider–Receiver Directory Table



4. Receiver Demand

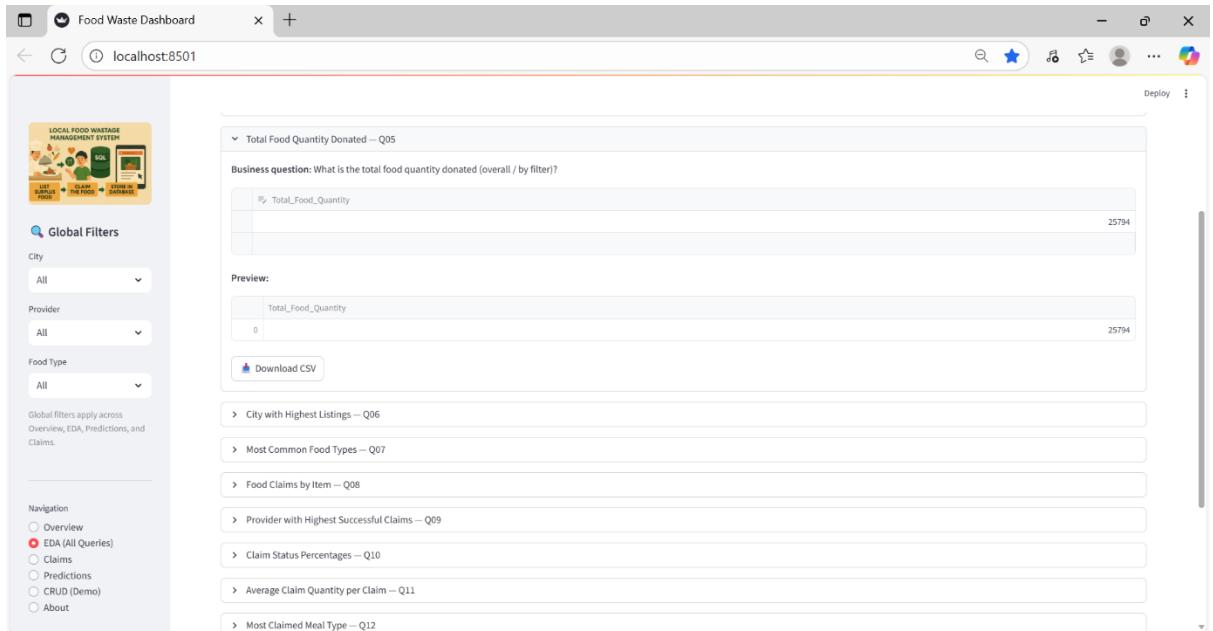
- Certain receivers (*William Frederick, Scott Hunter*) made **5 claims each**, reflecting high dependency on food support.

Receiver Claim Frequency Table



5. Total Food Supply

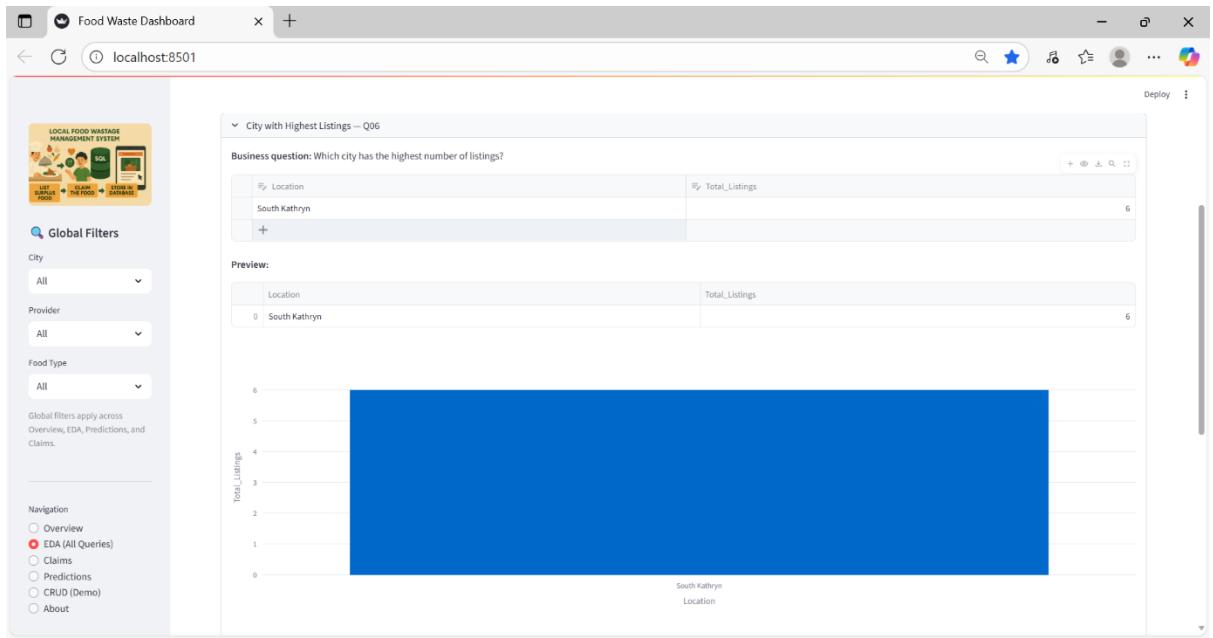
- Total food quantity available in the dataset: **25,794 units**.
- KPI Card – Total Food Quantity**



6. Listings Hotspots

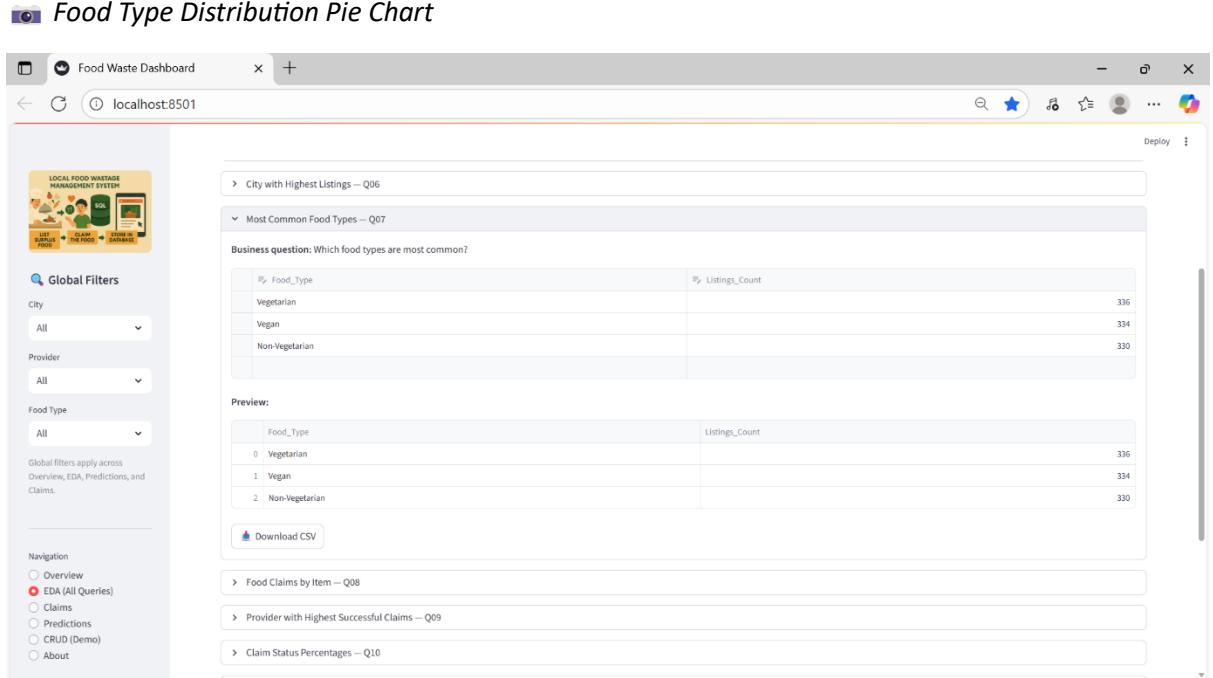
- South Kathryn** recorded the highest number of listings (6), making it a major hub for food activity.

City-wise Listings Chart



7. Food Type Trends

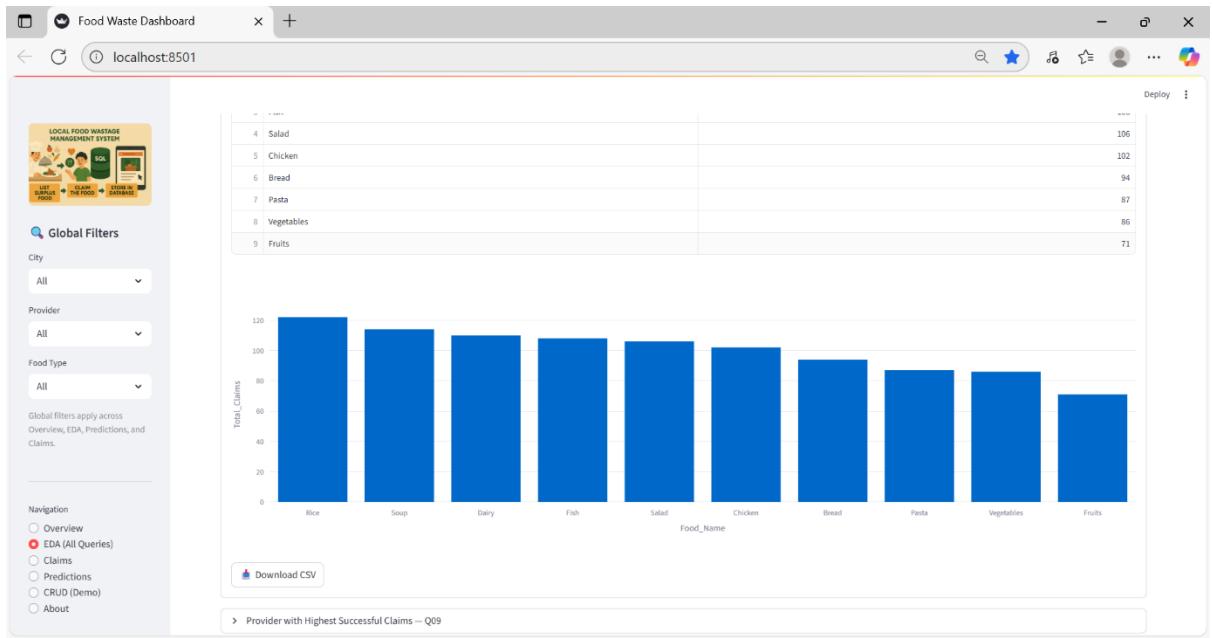
- **Vegetarian** items are the most common, with **336 listings**.
- Vegan and non-veg options are present but in fewer numbers.



8. Most Claimed Items

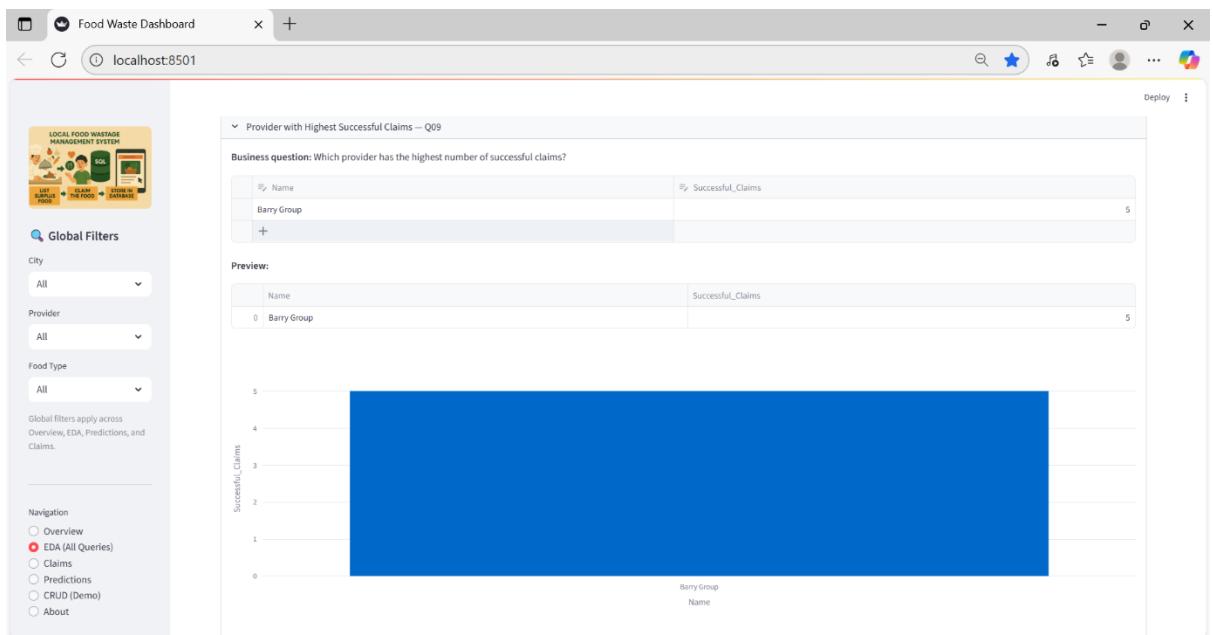
- **Rice** (122 claims) and **Soup** (114 claims) are the most demanded food items.

Top Food Items by Claims



9. Provider Success in Claims

- **Barry Group** leads with the highest successful claims (5).
- Provider Success Ranking*



10. Claim Status Patterns

- Roughly **one-third** of claims fall under each status: *Cancelled*, *Completed*, *In Progress*.
- Claim Status Pie/Bar Chart*

Claim Status Percentages — Q10

Business question: What are the percentages of claim statuses (Cancelled, Completed, etc.)?

Status	Count_Status	Percentage
Cancelled	336	33.6
Completed	339	33.9
Pending	325	32.5

Preview:

Status	Count_Status	Percentage
0 Cancelled	336	33.6
1 Completed	339	33.9
2 Pending	325	32.5

[Download CSV](#)

[Average Claim Quantity per Claim — Q11](#)

[Most Claimed Meal Type — Q12](#)

[Quantity Donated per Provider — Q13](#)

[Most Demanded Food Type per City — Q14](#)

11. Average Quantity Trends

- Average claim quantity per receiver is around **50 units**, highlighting standardized distribution patterns.

Average Claim Quantity Graph

Avg. Quantity_Claimed

Name	Avg. Quantity_Claimed
Nancy Sibley	50
Lisa Pitts	50
Christopher Wright	50
Thomas Villanueva	50
Freddy Knight	50
Daniel Williams	50
Nancy Jones	50
Timothy Patel DVM	49
Scott Brown	49
Melissa Little	49

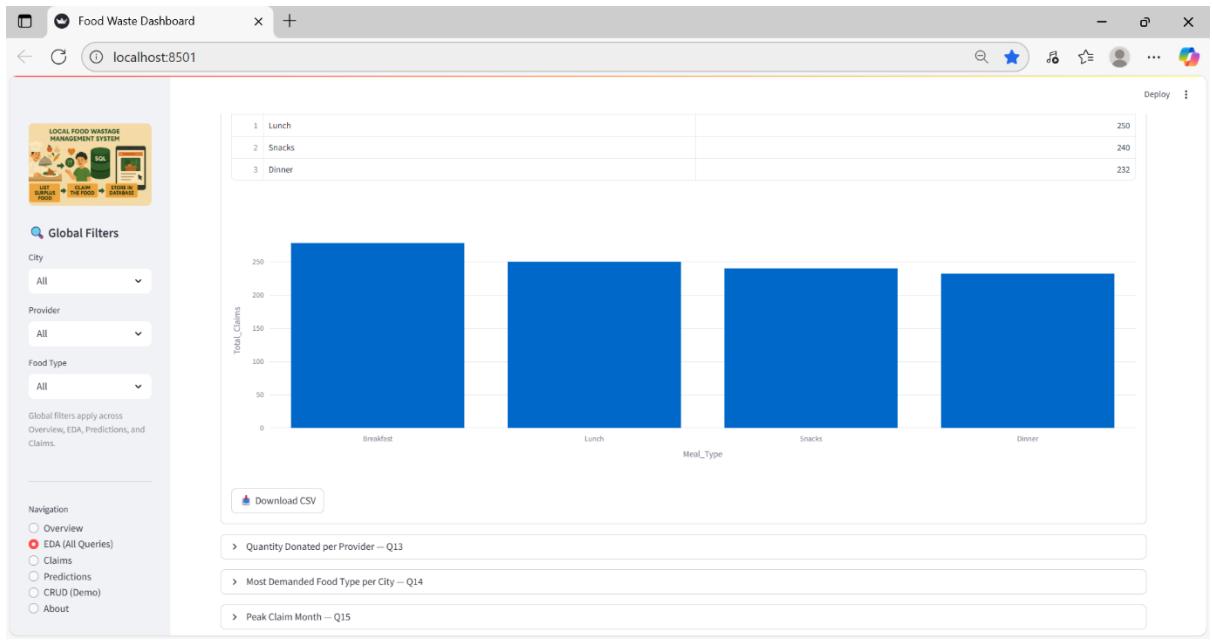
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[Most Claimed Meal Type — Q12](#)

12. Popular Meal Times

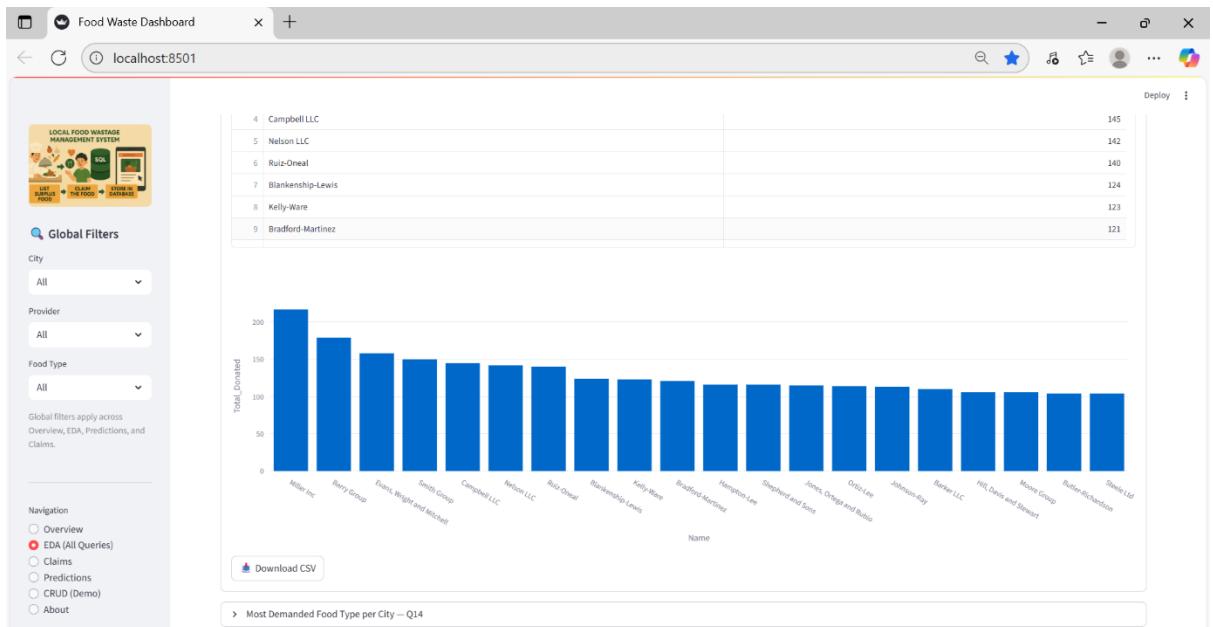
- Breakfast** (278 claims) slightly surpasses **Lunch** (250 claims) as the most demanded meal type.

Meal Type Popularity Chart



13. Provider Donations

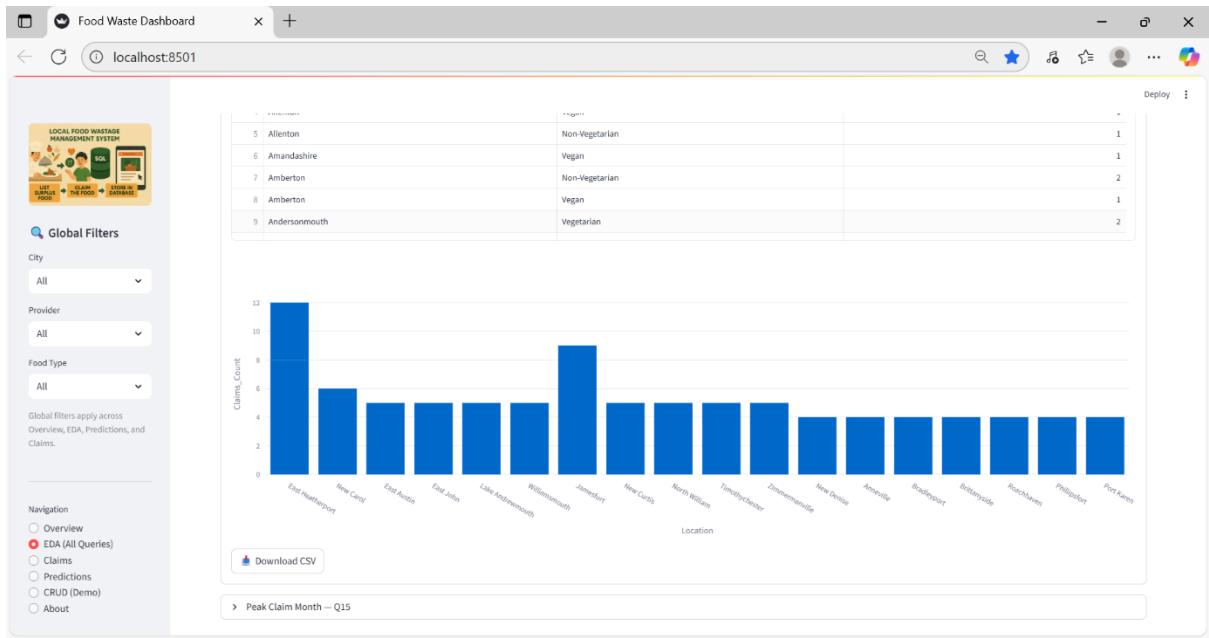
- Miller Inc and Barry Group are the top donors, contributing 217 and 179 units respectively.
- Provider Donation Volumes*



14. Demand by Food Type & Location

- Non-Vegetarian meals dominate in *Adambury*, while Vegetarian options are most demanded in *Alexanderchester*.

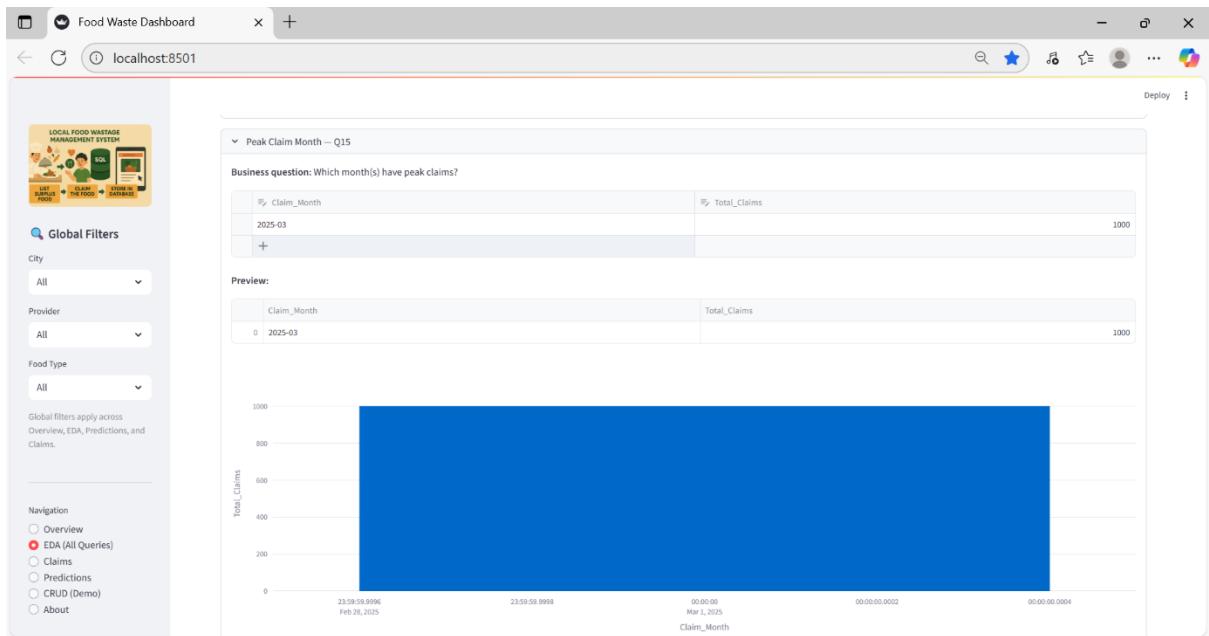
Heatmap/Bar chart of Food Type vs Location



15. Seasonal Demand

- **March 2025** recorded the highest claim peak with **1000 claims**, indicating strong seasonal demand.

Claims by Month Line Chart



Strategic Recommendations

1. Balance Provider-Receiver Distribution

- Expand receiver networks in provider-heavy cities.
- Encourage collaborations across nearby regions.

2. Strengthen Restaurant Partnerships

- Incentivize restaurants to contribute further, as they already lead in supply.

3. Focus on High-Demand Items

- Prioritize stock and distribution of Rice and Soup.

4. Target Peak Demand Periods

- Prepare for seasonal surges, especially around March.

5. Improve Claim Efficiency

- Reduce cancellations by improving logistics and matching supply-demand earlier.

Deliverables Achieved

-  Data cleaned and stored in CSV format
-  15 SQL-powered queries executed
-  Streamlit app with global/local filters
-  CRUD (demo mode) implemented
-  Dashboard built with interactive charts and KPIs
-  Screenshots integrated into report (see figures above)
-  Insights consolidated into this report

Final Note

This project provides **data-driven insights into food donations and claims**. By optimizing provider-receiver connections, focusing on high-demand items, and preparing for seasonal peaks, food wastage can be reduced while improving accessibility for receivers.