

USER CHURN PROJECT | Preliminary Data Summary

Prepared for the Waze Leadership Team



Overview

The Waze data team is executing a churn-prevention initiative to boost monthly active-user growth. *Churn* refers to users who have uninstalled the app or ceased using it.

This report summarizes Milestone 2--data compilation and initial exploratory analysis--and highlights key insights that will inform feature engineering and model development in the next phase.

Project Status

Milestone 2 - Compile Summary Information

Target Goal: Inspect user data and uncover key relationships between variables.

Methods:

- Constructed a clean DataFrame
- Generated preliminary descriptive statistics
- Performed exploratory analysis of usage patterns and behavior

Impact: Identified the variable relationships that will drive the next phase of analysis and model development.

Next Steps

Profile the 'Super Driver' segment:

- Enrich the data (vehicle type, trip purpose, route length, etc.) to understand why their needs diverge from typical commuters.
- Assess whether specialized features like commercial vehicle routing or rest stop alerts could improve retention

Deep-dive EDA and visualization:

- Conduct comprehensive exploratory data analysis
- Develop visuals that highlight usage patterns and surface variables for feature engineering in the churn model.

Key Findings

- **Class Balance:** 82% retained and 18% churned.
- **Data Integrity:** 12 unique variables (objects, floats, integers). The label column has 700 missing values with no indication that the omissions are systematic.
- **Usage Volume:** Churned users averaged **~3 more drives** in the last month than retained users.
- **Activity Span:** Retained users used Waze on **more than twice as many days** in the last month.
- **Monthly & Milage Time:** The median churned user logged **~200 kilometers and ~2.5 hours** more than the median retained user last month.
- **Drive Pattern:** Churned users made **more drives in fewer days**, and those drives were longer in both distance and duration--suggesting a distinct user segment worth deeper profiling
- **Per-Driving-Day Distance:** The median churned user covered **523 kilometers per driving day--about 1.9x** that of retained users.
- **Mileage Context:** Overall mileage levels are exceptionally high, indicating the sample likely skews toward heavy-duty or commercial drivers rather than typical commuters.