

# Portland Culture Study

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## Context and Motivation

The neighborhood culture study project started in 2023 in St. Johns with the St. Johns Neighborhood Association. The Arbor Lodge neighborhood replicated the study summer 2024, integrating the feedback and tailoring it to their community's needs. The Historic Parkrose neighborhood replicated the study in Spring 2025. Each neighborhood asked residents similar questions, allowing the results to be compared.

As residents of the Portland Metro area, we were motivated to work with real, unique data that could be used to help community leaders better understand their communities' uniqueness and better serve them. We recognized that the community response feedback makes most sense in conjunction with additional data sources, such as census and housing data, and we wanted to see if we could surface additional information that could be used by Portland leaders to improve the quality of life in the neighborhoods that chose to participate.

## Clear Analytical Questions

How do the communities compare in terms of comfort, recommend, and connection scores?

### *Geographical Differences*

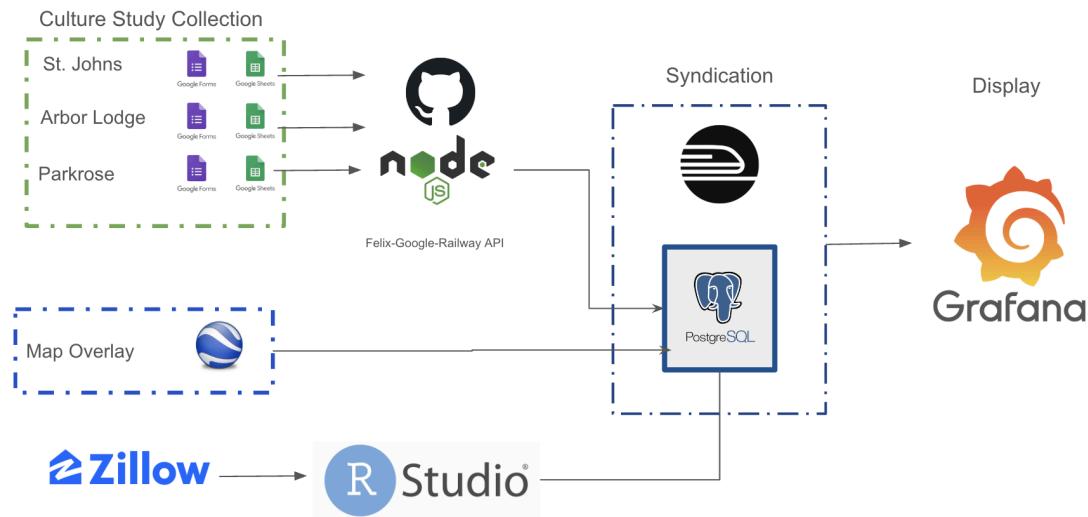
Each community has sections that are nicer and more neglected than other sections. Some areas are considered safer, while others are less safe. Communities overall, and specific zones within those neighborhoods have varying degrees of affordability and general housing prices.

### *Tenure*

Community members will have differing experiences within zones will also vary based on how long they've been a part of the community, and how long they've had to develop relationships or experience positive or negative events.

## Lists Final Data Sources Used

# Data Pipeline



Data sources used included:

- **Zillow** research data for housing prices over time
- **Neighborhood Survey Data** for comfort, recommend, and connection score data
  - St.Johns (2023)
  - Arbor lodge (2024)
  - Greater Historic Parkrose area (2025)
- **Google Earth .klm export** for visual display of the zones and neighborhood boundaries in the Grafana map

## Describes Injection Process

Zillow data was downloaded as a csv then cleaned and wrangled using Rstudio. Tables were created within postgresql using pgadmin for the cleaned Zillow data.

The neighborhood survey data was published as csv's through google sheets. An express api was built in a node.js project that was pushed to a github repository. The github repository was linked to Railway.com as a web service and a postgresql plugin was deployed within Railway which connected to pgadmin4. This api parsed the published csv data from google sheets and inserted it into a postgresql plugin within railway. A grafana dashboard was then linked to the postgresql server through Railway.

## Describes Transformation Process

The zillow data was filtered and cleaned using Rstudio to only St.johns, Parkrose and Arbor Lodge neighborhoods. The data was changed from wide format to a long format. The average price of homes in those neighborhoods were found and then separated to before 2008, between 2008 and 2018, between 2018 and 2022 as well as 2023. Three tables were made from this for

their respective neighborhoods. These tables were then created using queries in pgadmin which was linked to the postgresql plugin on Railway.

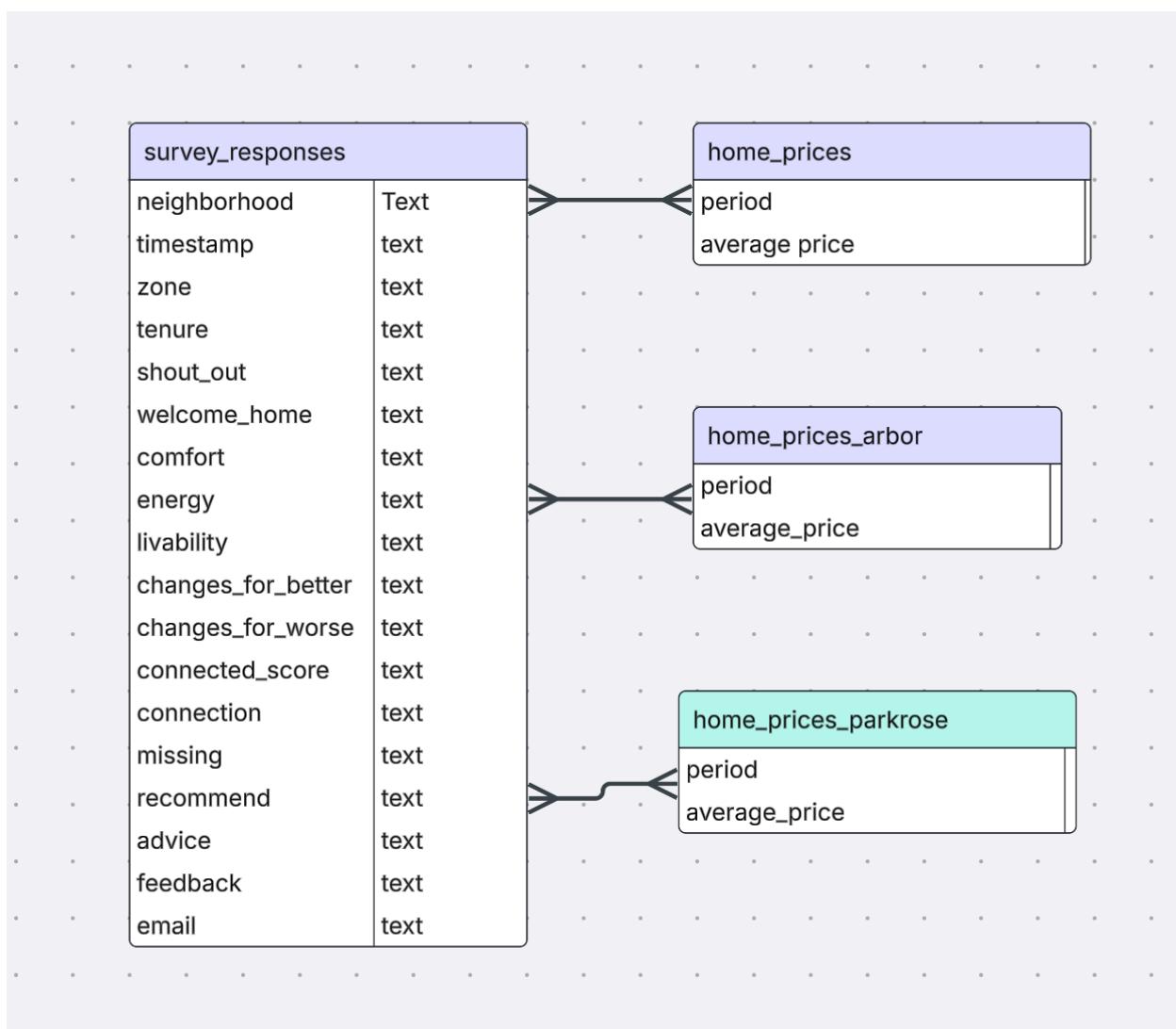
## Describes Data Model

Culture Study Collection

Google Earth Overlay

Zillow

## ER Diagram



## **Evidence of Scripting for Database Creation, Modification and Constructing Analysis**

```

const express = require('express');
const { Pool } = require('pg');
const fetch = require('node-fetch');
const csv = require('csvtojson');
require('dotenv').config();

const app = express();
const port = process.env.PORT || 3000;

// PostgreSQL connection
const pool = new Pool({
  connectionString: process.env.DATABASE_URL,
  ssl: { rejectUnauthorized: false },
});

// Your Google Sheet CSV link
const SHEET_URL =
'https://docs.google.com/spreadsheets/d/e/2PACX-1vQtoFSwwiIsfd7eI4ovgvmnAfn0BAkqs1I7Qt4P3HFHAqxIhrmNh6VYy2rjD0r7xRe3ux7ub?gid=1133048017&single=true&output=csv';

app.get('/import-sheet', async (req, res) => {
  try {
    const response = await fetch(SHEET_URL);
    const csvData = await response.text();
    const rows = await csv().fromString(csvData);

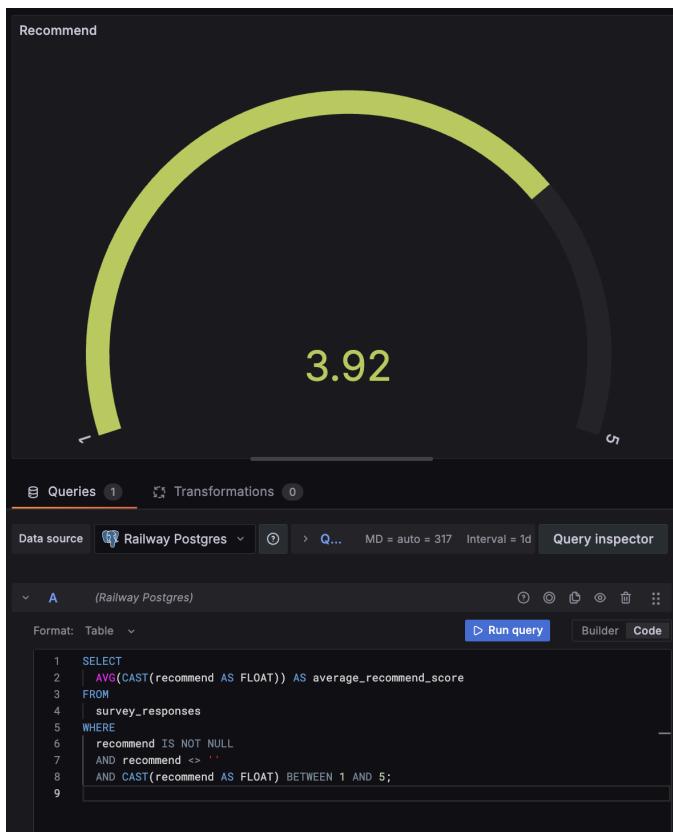
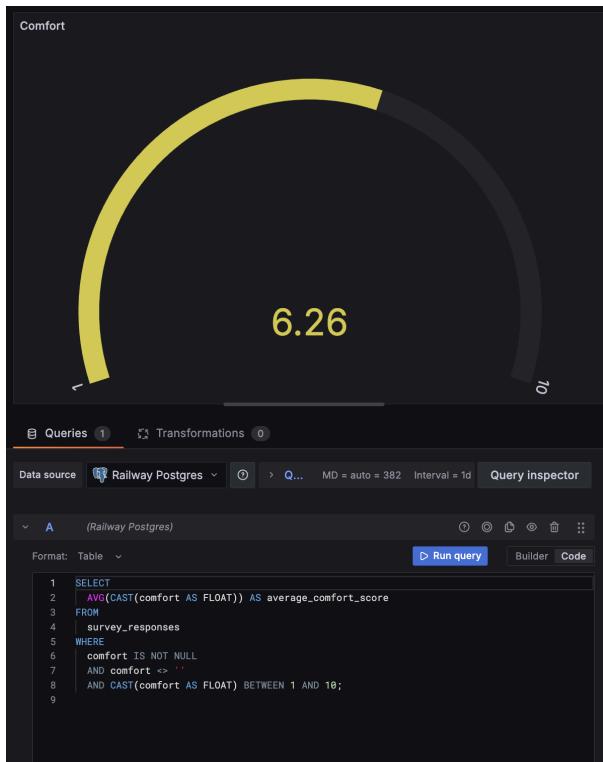
    for (const row of rows) {
      await pool.query(
        `INSERT INTO survey_responses (
          neighborhood, timestamp, zone, tenure, shout_out,
          welcome_home, comfort, energy, memory, livability,
          changes_for_better, changes_for_worse, connected_score,
          connection, missing, recommend, advice, email, feedback
        ) VALUES (
          $1, $2, $3, $4, $5,
          $6, $7, $8, $9, $10,
          $11, $12, $13,
          $14, $15, $16, $17, $18, $19
        )`,
        [
          row['Neighborhood'],
          row['Timestamp'],
          row['Zone'],
          row['Tenure'],
          row['Shout-Out'],
          row['Welcome Home'],
          row['Comfort'],
          row['Energy'],
          row['Memory'],
          row['Livability'],
          row['Changes for Better'],
          row['Changes for Worse'],
          row['Connected Score'],
          row['Connection'],
          row['Missing'],
          row['Recommend'],
          row['Advice'],
          row['[Optional] Include your email address if you\'d like to subscribe to the SJNA newsletter.'],
          row['Feedback']
        ]
      );
    }

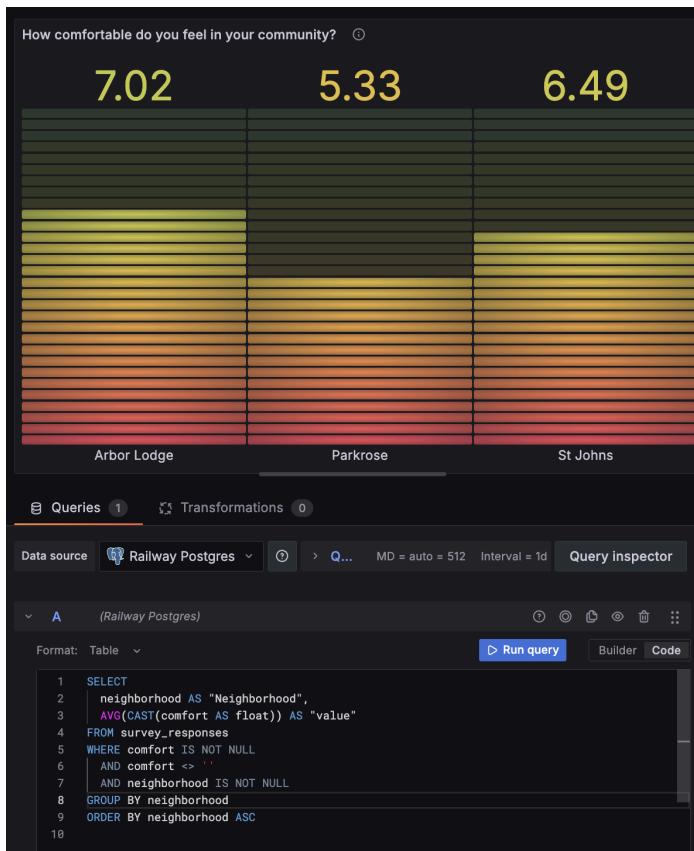
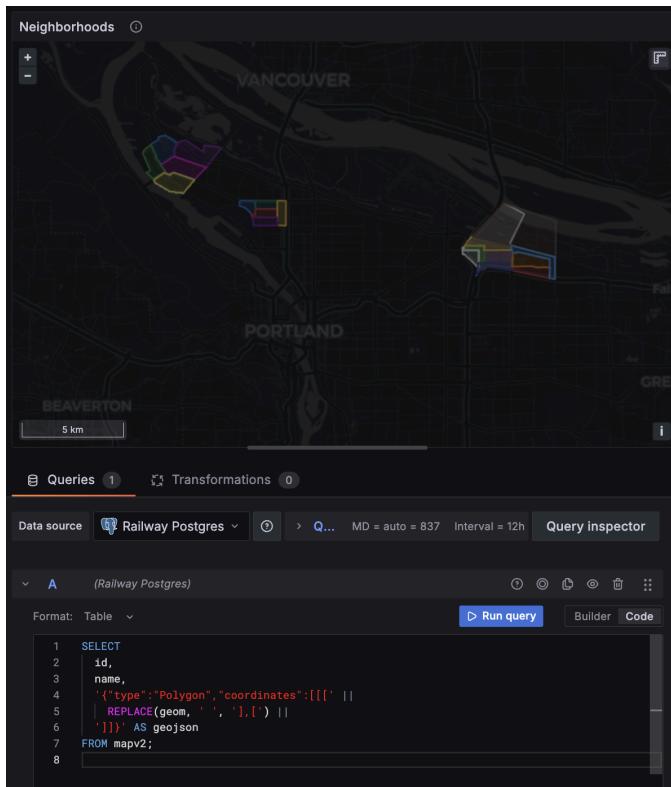
    res.send('✅ Survey data imported into PostgreSQL!');
  } catch (err) {
    console.error('❌ Error:', err);
    res.status(500).send('Something went wrong.');
  }
});

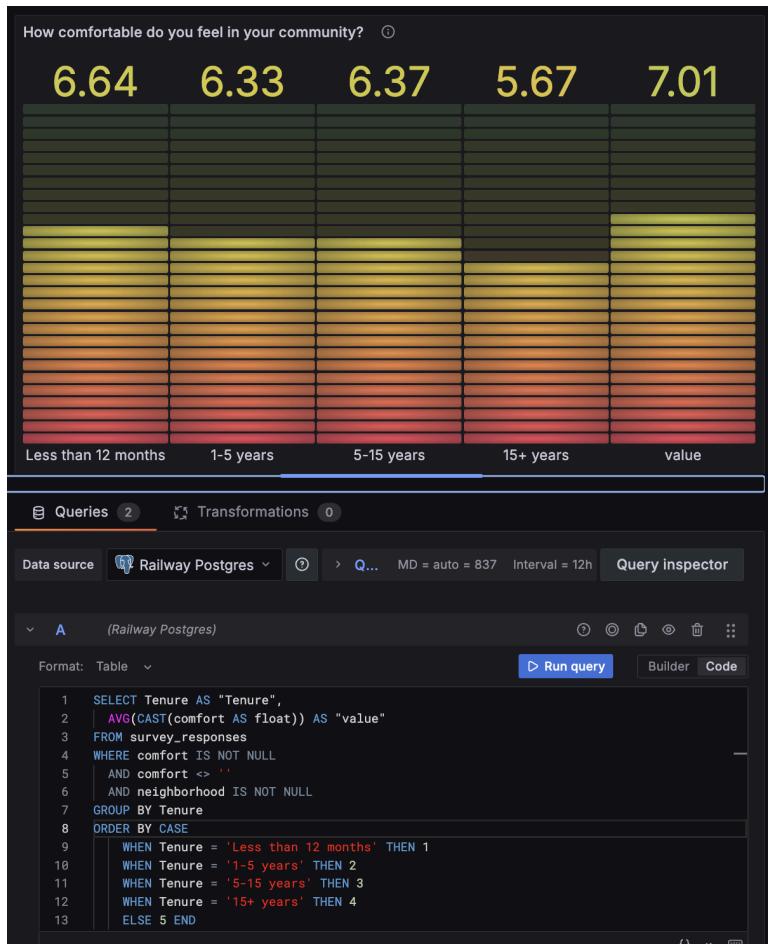
app.listen(port, () => {
  console.log(`✅ Server running on port ${port}`);
});

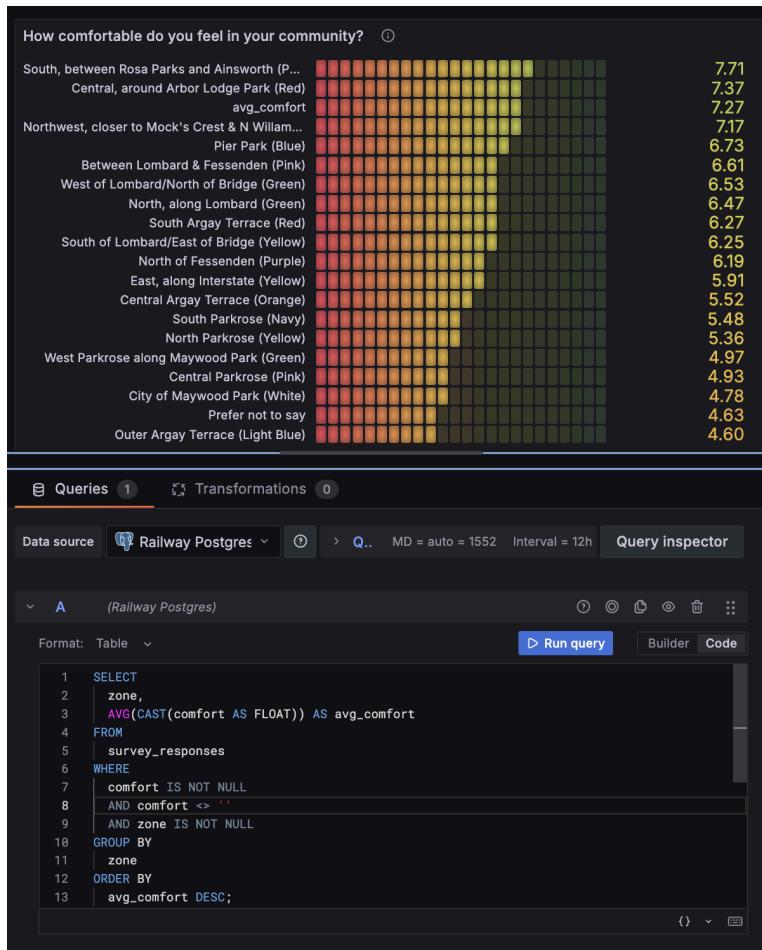
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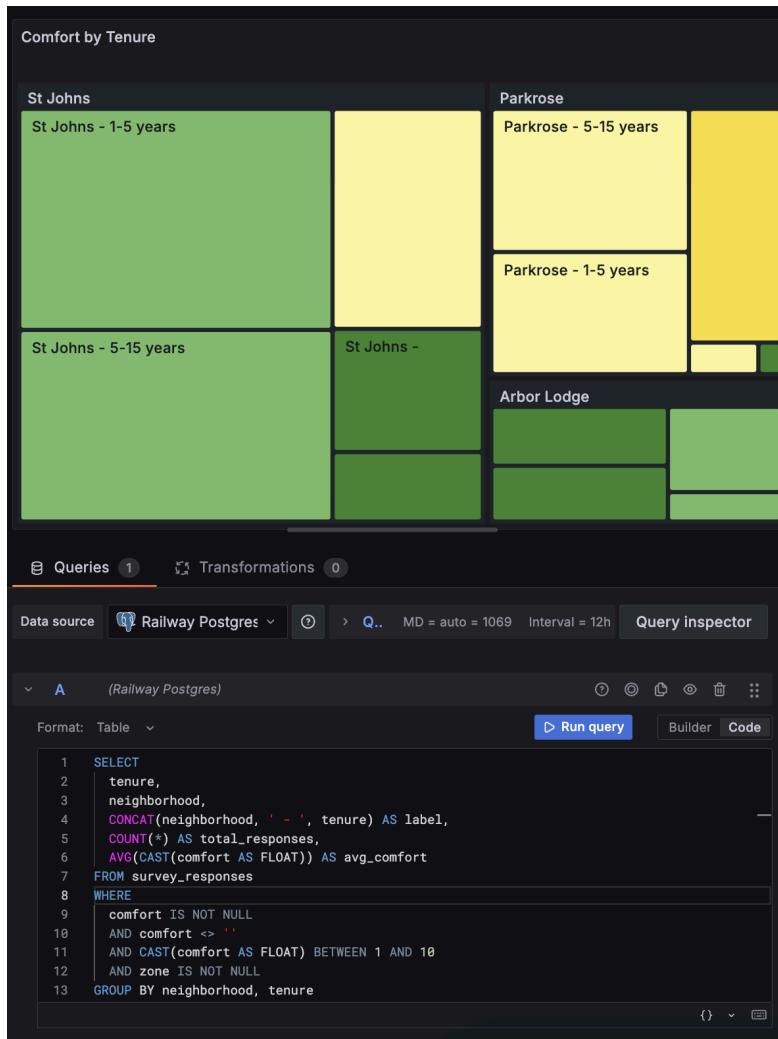
node.js script for parsing data from google sheets to postgresql in Railway

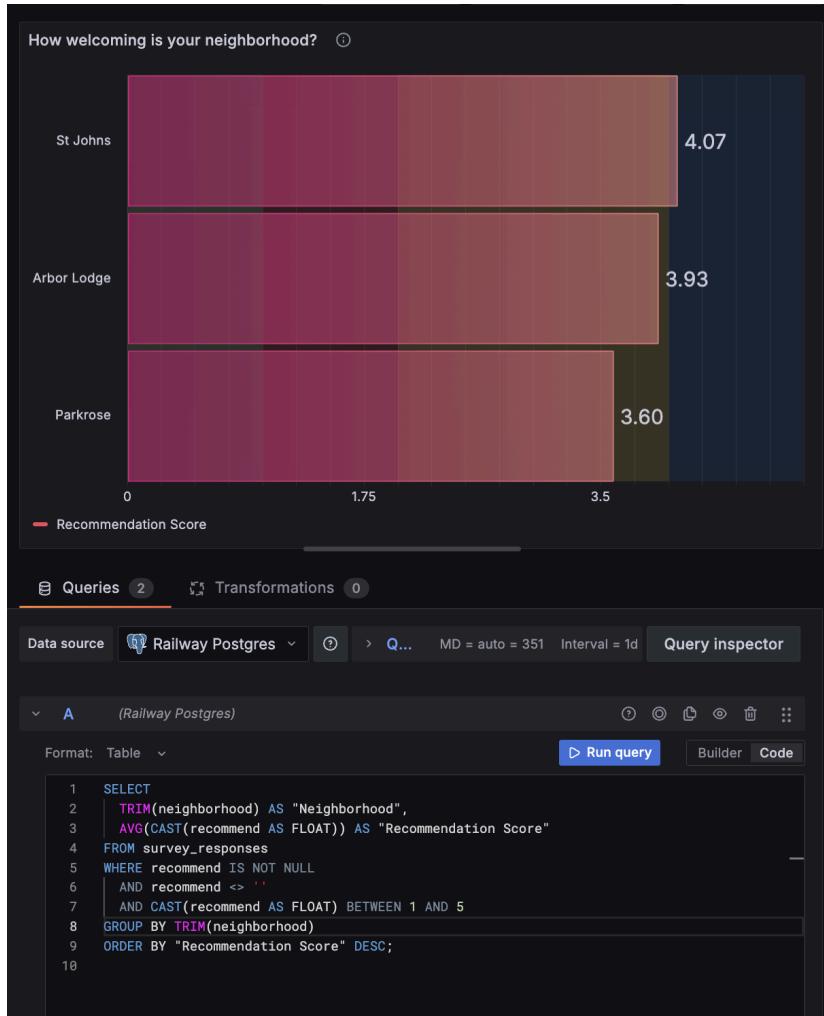


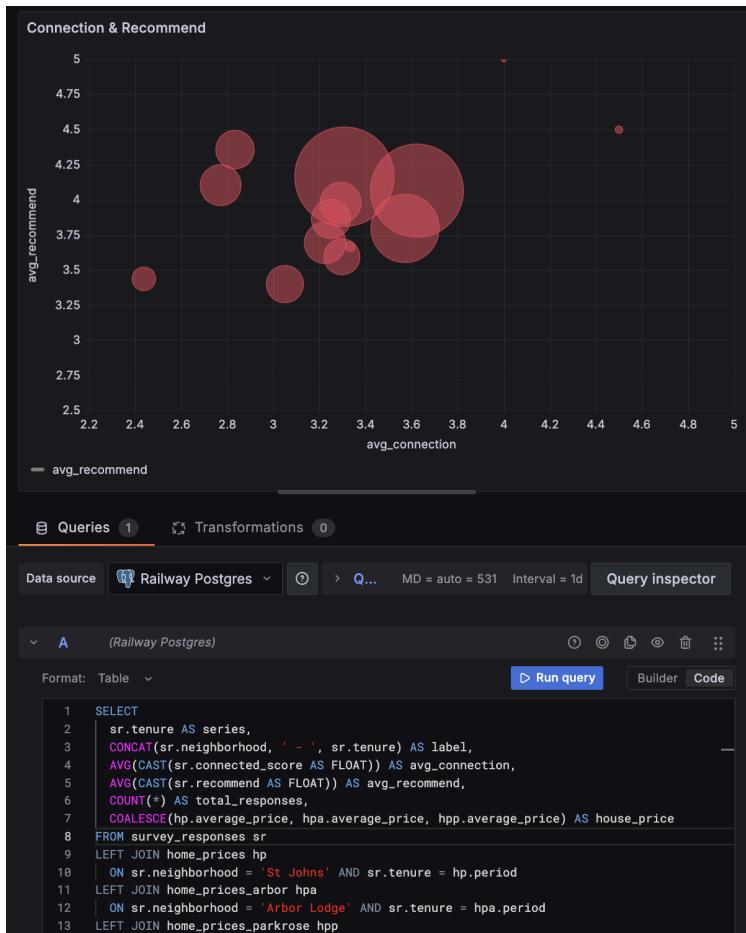












## Evidence of Data Serving Dashboard



