

# CU STAYWISE

HOUSING TRANSPARENCY FOR STUDENTS,  
BY STUDENTS

Anagha Sridhar, Arnav Goenka, Dhruv Shah, Ria Chhabra, Stuti Johri

# PROBLEM STATEMENT

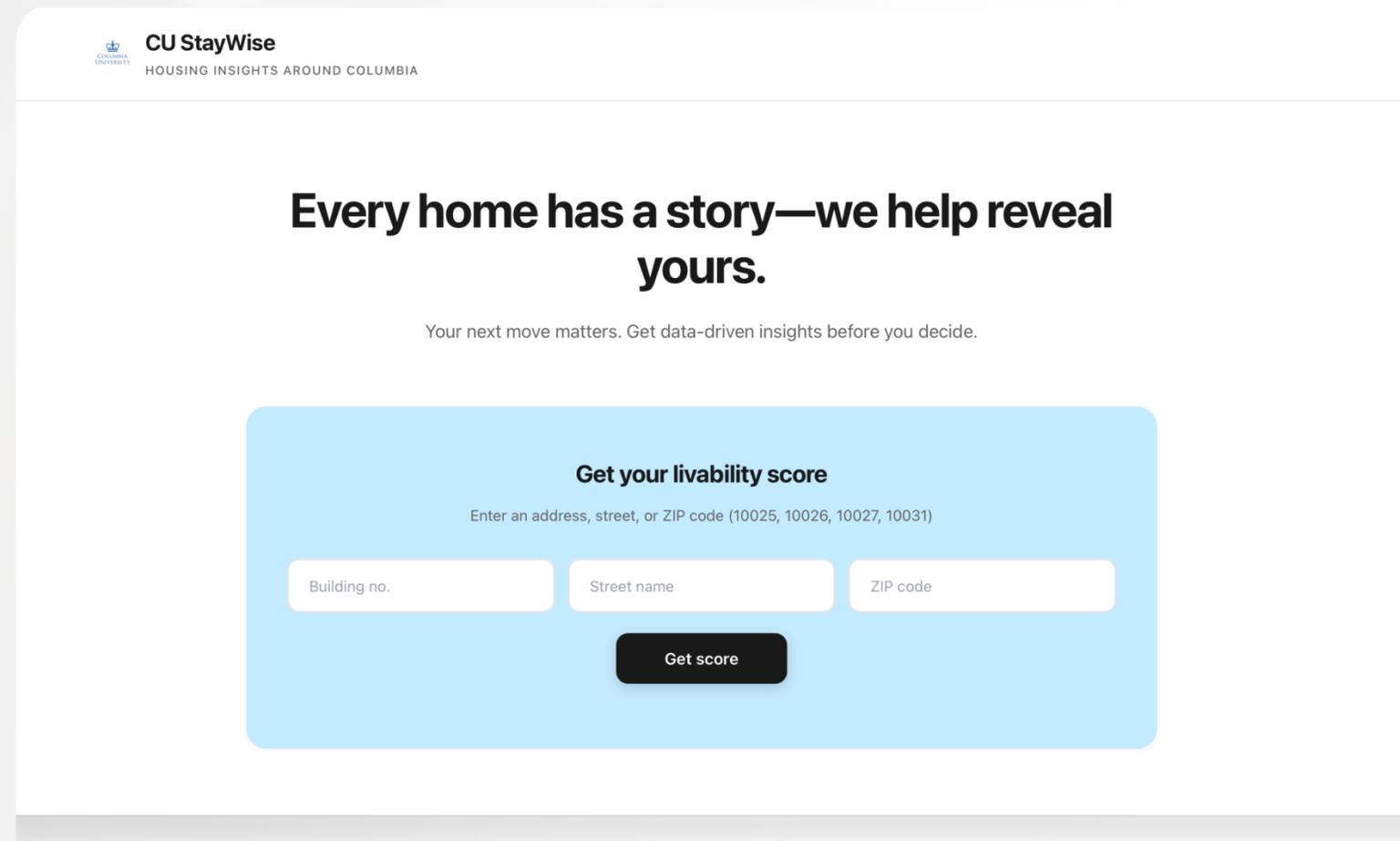
A large portion of Columbia graduate students prefer to live off-campus, because of the affordability and flexibility it provides, yet housing quality data is fragmented and often unreliable.

Platforms like Zillow and StreetEasy emphasize price and size but not livability. Complaints about heating, noise, or pests surface only after students move in.



**HOW CAN COLUMBIA STUDENTS MAKE  
INFORMED HOUSING CHOICES USING  
PUBLIC CITY DATA ON SAFETY AND  
LIVABILITY?**

**CU StayWise** addresses this gap by creating a decision-support tool that helps users:



The screenshot shows the CU StayWise website interface. At the top left, there is a logo for CU StayWise and the text "HOUSING INSIGHTS AROUND COLUMBIA". The main heading reads "Every home has a story—we help reveal yours." Below this, a sub-heading says "Your next move matters. Get data-driven insights before you decide." The central feature is a light blue rounded rectangle titled "Get your livability score". Inside this rectangle, there is a prompt: "Enter an address, street, or ZIP code (10025, 10026, 10027, 10031)". Below the prompt are three input fields: "Building no.", "Street name", and "ZIP code". A dark blue button labeled "Get score" is positioned below the input fields.

1

Compare buildings and neighborhoods using safety-related public data

2

Evaluate building comfort (heating/cooling, bedbug complaints, water issues)

3

Identify patterns in building conditions and neighborhood trends

4

Quickly summarize complex city data into an intuitive score

# DATA SOURCES

Datasets procured from NYC Open Data, filtered from 2025 onwards and merged at the BBL(Block Borough Lot) level.

## BUILDING FOOTPRINTS

Serves as the base building table with accurate BBLs, defining each NYC building with a unique identifier, physical attributes, and geospatial location.

Provides the foundation to anchor all 311 complaints to exact physical buildings.

BASE DATA

## 311 COMPLAINTS

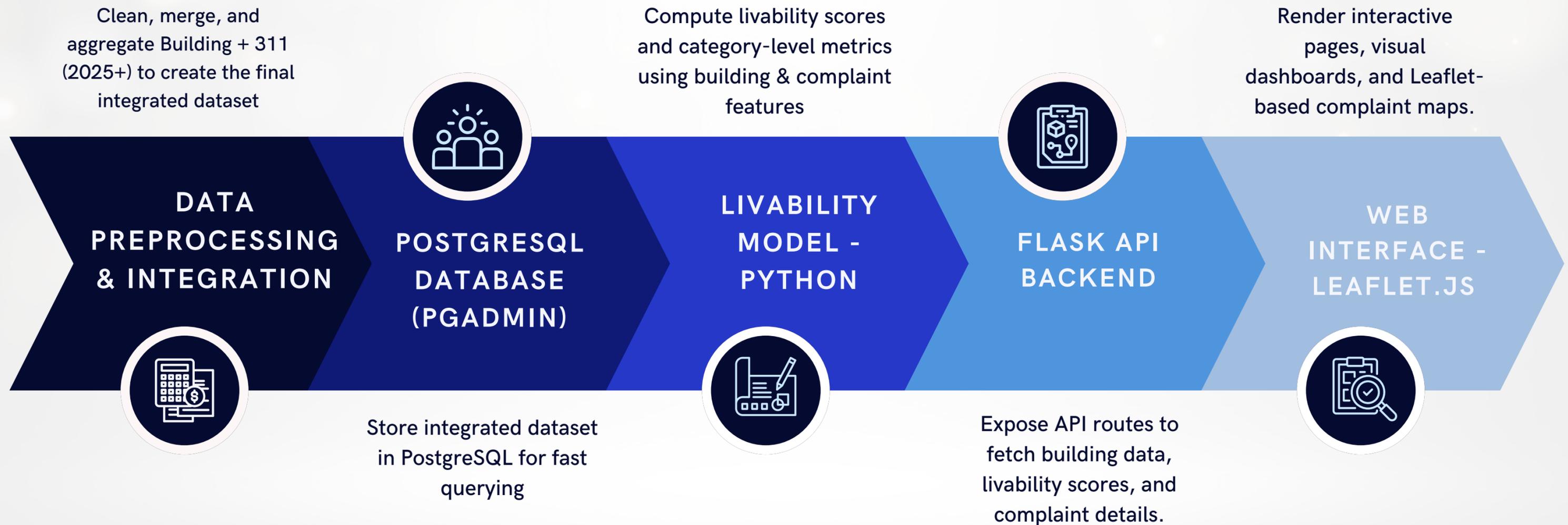
Capture all citizen-reported issues( 311 service requests) in 2025 to quantify building quality, safety, and livability.

COMPLAINTS DATA

JOIN  
on BBL

# ETL PROCESS

Raw Building + 311 Data (2025+) → Data Cleaning & Standardization → BBL-Based Merging → Complaint Categorization & Aggregation → PostgreSQL Database → Livability Scoring → Flask API Endpoints → Web Dashboard & Leaflet Map



# TECHNICAL & DATA CONSIDERATIONS

## DATA QUALITY

**Accuracy:** Relies on user-reported complaints – potential bias or incomplete data, but verified by NYC agencies.

**BBL-Level Granularity:** One BBL can contain multiple buildings: limits building-level accuracy and may misrepresent specific addresses.

## LICENSING & COST

**NYC Open Data License:** Free to use, adapt, and share with attribution. No restrictions for academic projects.

**Data:** Free (public dataset).

**Tools:** Python, PostgreSQL, Flask, Leaflet > all open source.

**Hosting:** Minimal cost; local or low-tier cloud deployment is sufficient.

## SCALABILITY

**Backend:** PostgreSQL supports millions of 311 rows + BBL joins efficiently.

**Processing:** Python ETL pipeline scales to larger time windows easily.

**Frontend:** Flask + Leaflet map handles filtered, geo-based rendering at scale.

# PROJECT SUMMARY

311 complaints reveal useful patterns on heating, noise, sanitation, and safety.

Python > PostgreSQL > Flask/Leaflet pipeline works end-to-end for BBL-level insights.

Provides a simple, data-driven way for students to compare housing areas.

# ROADMAP AHEAD

Add more datasets (Restaurants, 911 Crime) for better granularity.

Improve building-level accuracy beyond BBL.

Enhance UI with filters, clustering, and scoring.

Deploy on cloud for wider testing.



# CU STAYWISE

## Home Page



**CU StayWise**

HOUSING INSIGHTS AROUND COLUMBIA

## Every home has a story—we help reveal yours.

Your next move matters. Get data-driven insights before you decide.

### Get your livability score

Enter an address, street, or ZIP code (10025, 10026, 10027, 10031)

Get score

# CU STAYWISE

## Neighborhood Snapshot



CU StayWise HOUSING INSIGHTS AROUND COLUMBIA

### Neighborhood insights at a glance

A data-backed snapshot of complaint patterns near campus—so you know what to look out for before you sign a lease.

Livability score

Interactive map

311 COMPLAINTS ANALYZED

90,109

BUILDINGS COVERED

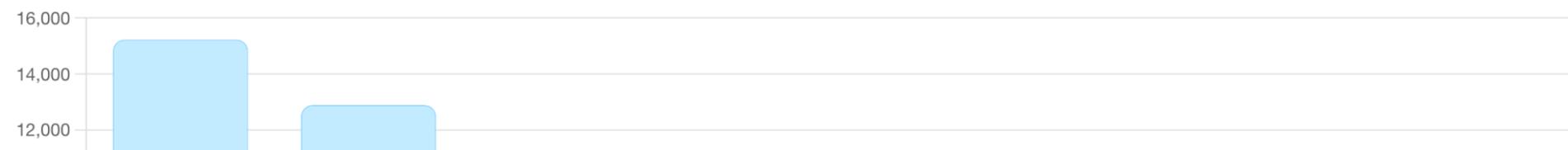
4,897

ZIP CODES NEAR CAMPUS

4

### Most common housing issues

These are the top complaint categories filed around Columbia. Noise and building maintenance issues dominate.



# CU STAYWISE

## Interactive Map

 **CU StayWise**  
HOUSING INSIGHTS AROUND COLUMBIA

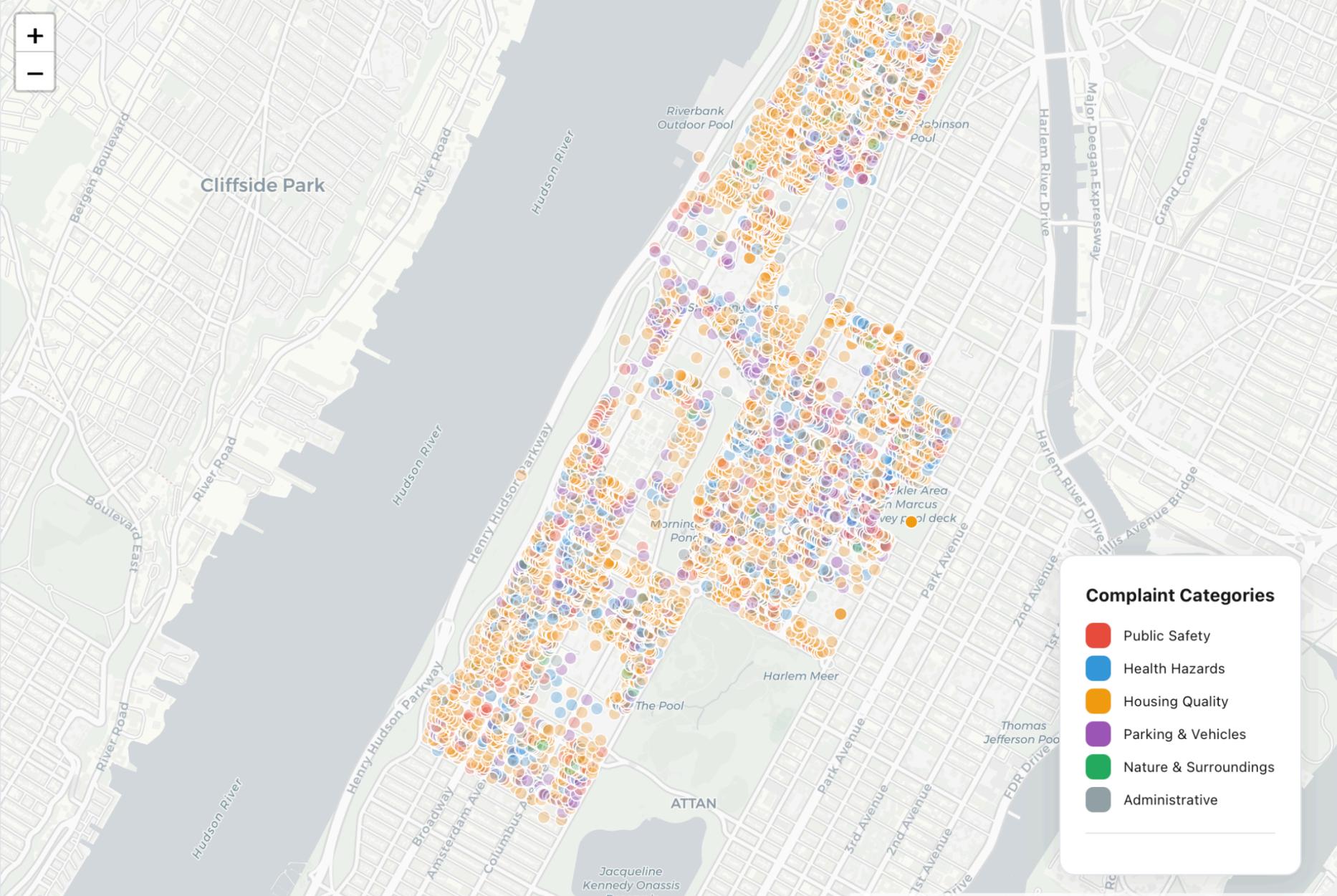
Explore housing complaints and safety information by building or area.

**Building View** | Zip Code View

Select Complaint Categories

Select All | Clear All

- Public Safety
- Health Hazards
- Housing Quality
- Parking & Vehicles
- Nature & Surroundings
- Administrative



**Complaint Categories**

- Public Safety
- Health Hazards
- Housing Quality
- Parking & Vehicles
- Nature & Surroundings
- Administrative

A top-down view of a desk with various items: a white cup of coffee, a silver laptop, a pen, a pair of glasses, and a notebook. The background is a light, neutral color.

**THANK YOU**