

Reproducibility review of: Is it safe to be attractive? Disentangling the influence of streetscape features on the perceived safety and attractiveness of city streets

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Reviewed paper

Milias, V., Sharifi Noorian, S., Bozzon, A., and Psyllidis, A.: Is it safe to be attractive? Disentangling the influence of streetscape features on the perceived safety and attractiveness of city streets, AGILE GIScience Ser., 4, 8, <https://doi.org/10.5194/agile-giss-4-8-2023>, 2023

Summary

The code and data provided by the authors allow to **fully reproduce** their work as presented in the reviewed paper. The authors shared two repositories through github. The first one, called [subjectivity](#), aims to build and run a whole web application (with database and a front web application). This web application allows to collect annotations from surveyed persons by proposing them different pictures of places through a track (see Fig. 1). The screenshot from the manuscript Figure 1 could be partially reproduced by this web application since the data used by the authors are not publicly available. The second repository, [streetception](#), proposes two notebook in order to reproduce the analysis of the data collected by the authors through their web application. The authors have made significant efforts to improve their code and data sharing through the AGILE reproducibility process !

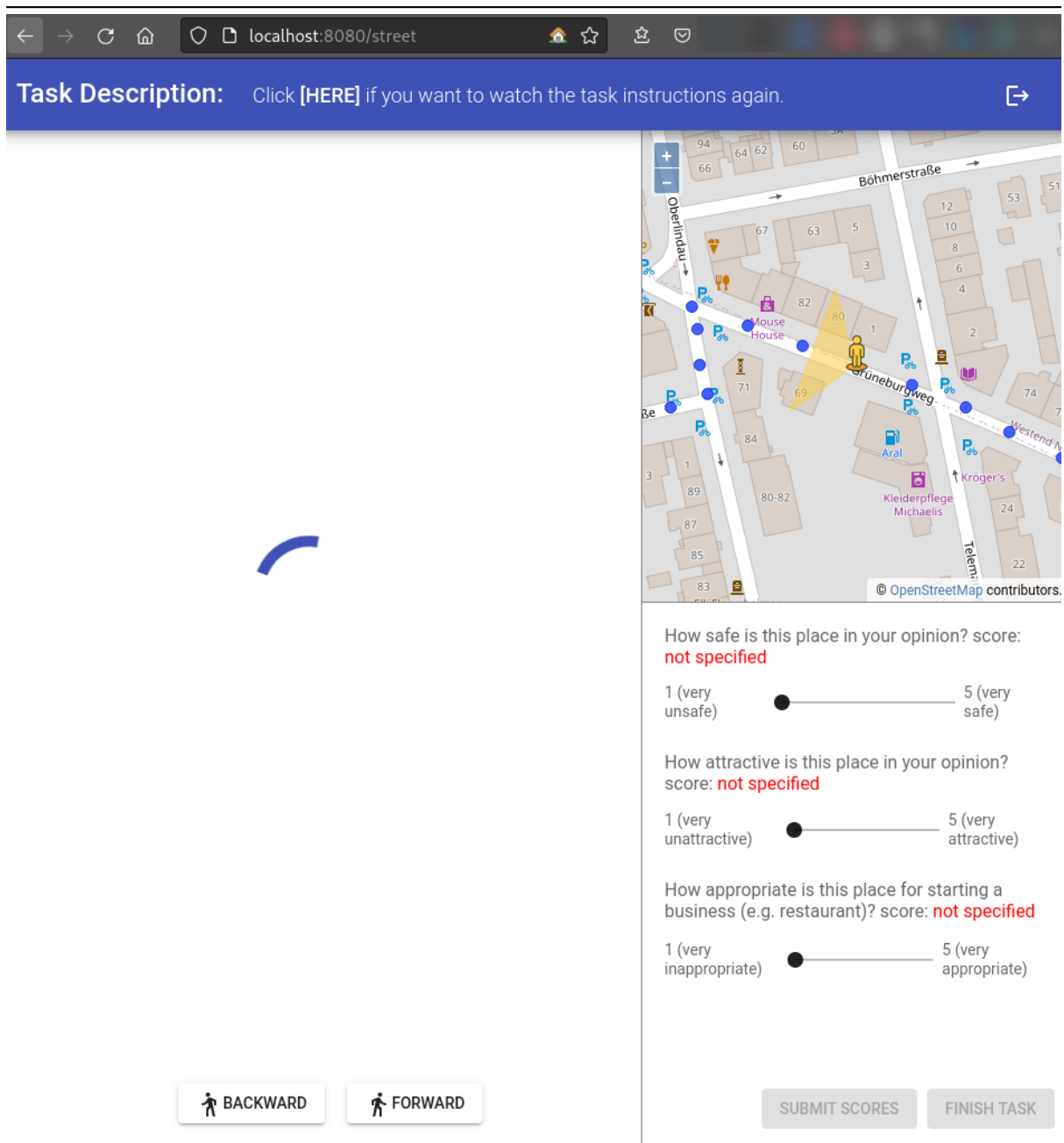


Figure 1. Subjectivity: Web application interface

Reproducibility reviewer notes

As the authors shared two repositories, my notes are divided into two sections.

1. Subjectivity

Thanks to the AGILE reproducibility process, the authors made significant efforts to make the web application easily reusable. Indeed, through the whole process, the authors added a README.md file (with guidelines on how to re-use the code), a license, and a docker-compose file. To help the authors to provide this docker-compose file, I made a [pull request](#) to their repository showing how a docker file could improve the reusability.

1.1 Installation

I forked the repository to the [AGILE organization](#) and applied a git clone in a terminal.

```
git clone https://github.com/reproducible-agile/2023-8664-1-subjectivity.git
```

Following the instructions provided by the authors' github repository, only one command-line is needed to build and start the web application. Requirements: Docker and docker-compose plugin have to be installed in your local machine.

```
sudo docker compose up
```

The previous command lasts 5 minutes and then a web server is launched in my local machine: <http://localhost:8080/>

1.2 Running the application

After opening a web browser to the URL <http://localhost:8080/>, an authentication is asked. Unfortunately, I could not find any default credentials in the README files but the authors sent it to me by e-mails (see fig. 2).

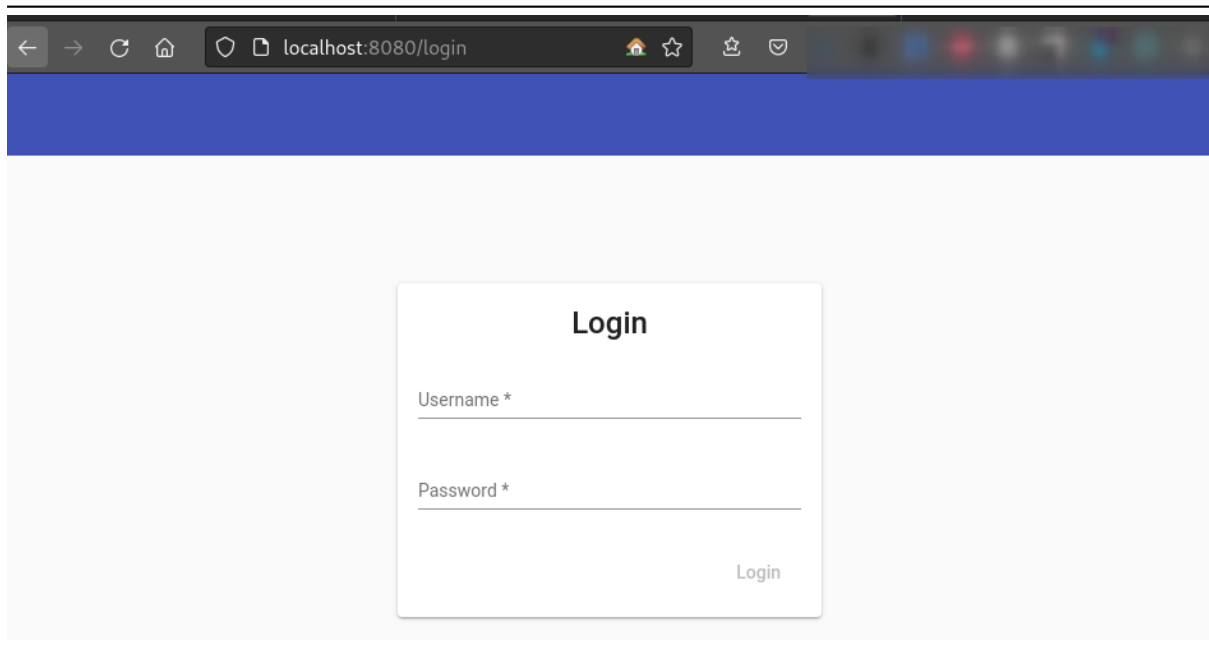


Figure 2. Subjectivity: credentials needed

After a period of inactivity on the site, a warning message appears indicating that the license of a software (LuciadRIA) is expired (see fig. 3)

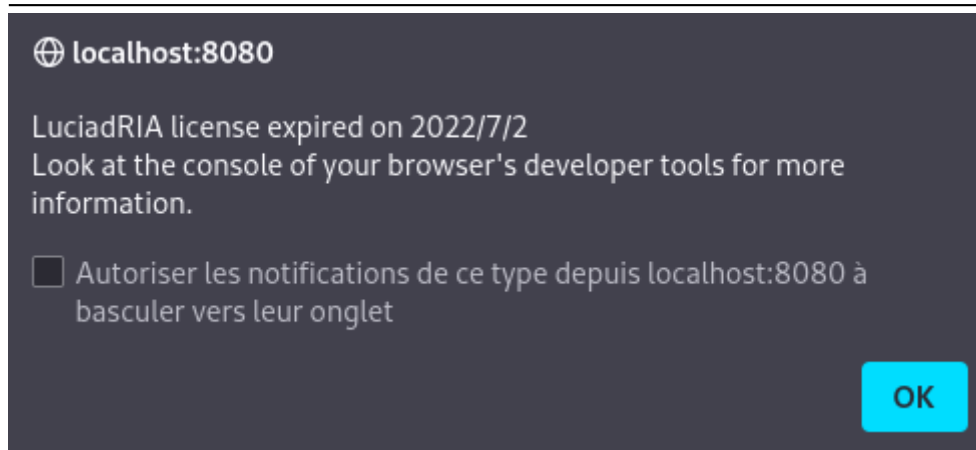


Figure 3. Subjectivity: Web application license warning

As the street-level images are not public, I could not visualize them in the web application, but the code is sufficient to see the platform developed and used by the authors to collect the perceptions of safety and attractiveness of city streets (see Fig. 1).

1.3 Suggestions

To further improve reusability of this application, I suggested three points:

- Provide default credentials (login and password) in the README file
- Solve the license warning
- Provide instructions on how other street-level images could be loaded (for example using [Mapillary database](#))

2. Streetception

Again, the authors improved significantly their code thanks to the AGILE reproducibility process. They now provide a README and a License file. They merged my [pull request](#) in order to correct some spelling mistakes. They asked and obtained an approval from their project ethic committee to share an anonymized dataset. This dataset has been uploaded to Zenodo and got a [DOI](#).

2.1 Installation

1. Github cloning

Using Github fork features, I forked the repository to the [AGILE organization](#) and git clone it in my local machine.

2. Creating a python developer environment

Using Conda, I installed all the packages needed in a compartmentalized environment (in order to not have conflict with my personal projects).

```
conda create --name agile-2023-8664-2-streetception
conda activate agile-2023-8664-2-streetception
conda install pip
pip install -r requirements.txt
```

And download a spacy model as described in the README file:

```
python -m spacy download en_core_web_lg
```

2.2 Running the application

Start the jupyter server

```
jupyter notebook
```

And then, run the two notebooks, I was able to reproduce the figure from the manuscript:

- `analysis_experimentation.ipynb`:
 - Figure 2. Histograms of the locations' average safety and attractiveness (see figures 5 and 6)
 - Figure 6. Only the curve in the middle: Average ratings by locations along urban path (see figure 4)
 - Figure 8. Linear regression between the average ratings of perceived safety and attractiveness of urban locations (see figure 7)
- `word_analysis.ipynb`
 - figure 3. The most frequent words participants used to explain their ratings for the locations they rated as safe, unsafe, attractive, or unattractive (see figure 8).

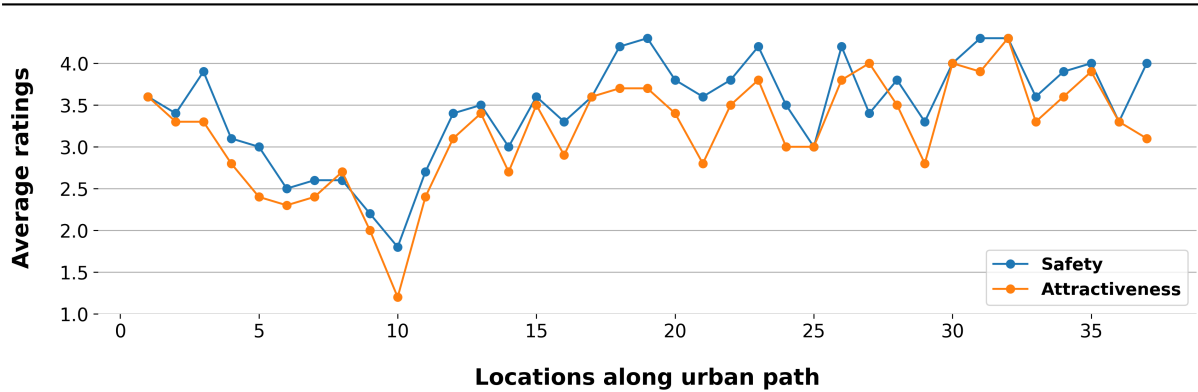


Figure 4. Streetception: The curve in the middle: Average ratings by locations along urban path. Corresponding to Manuscript Figure 6

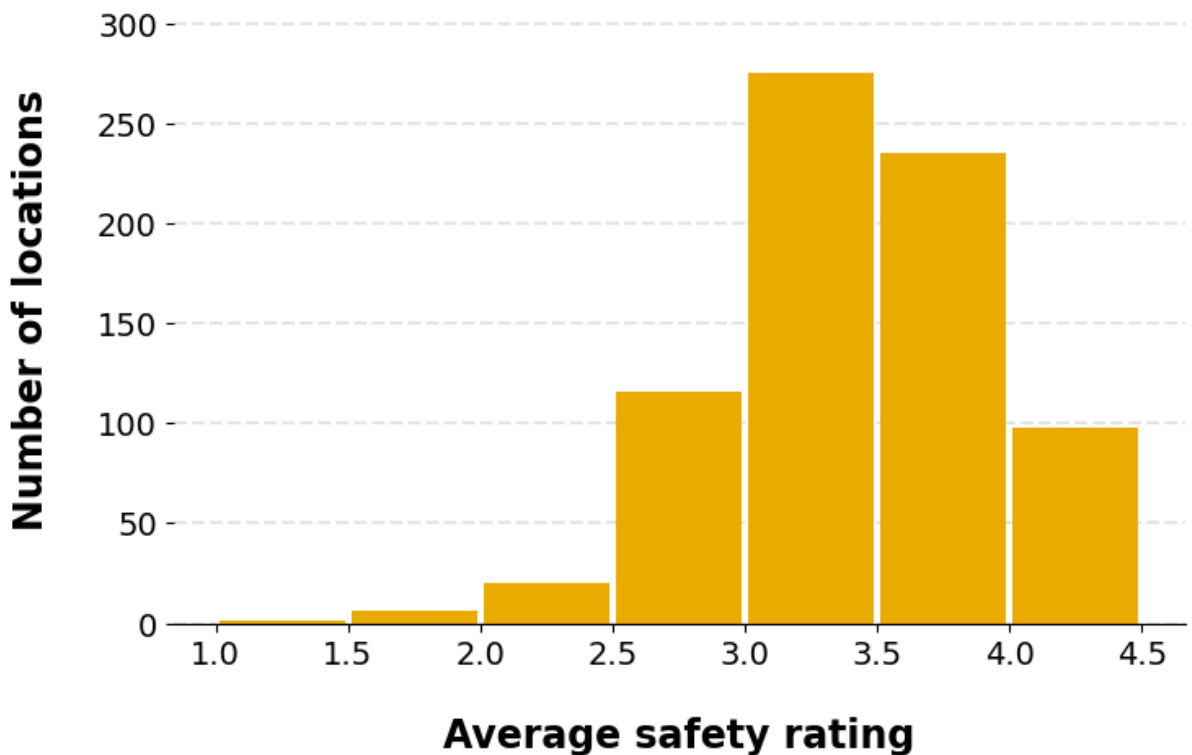


Figure 5. Streetception: Histograms of the locations' average safety and attractiveness. Corresponding to Manuscript Figure 8

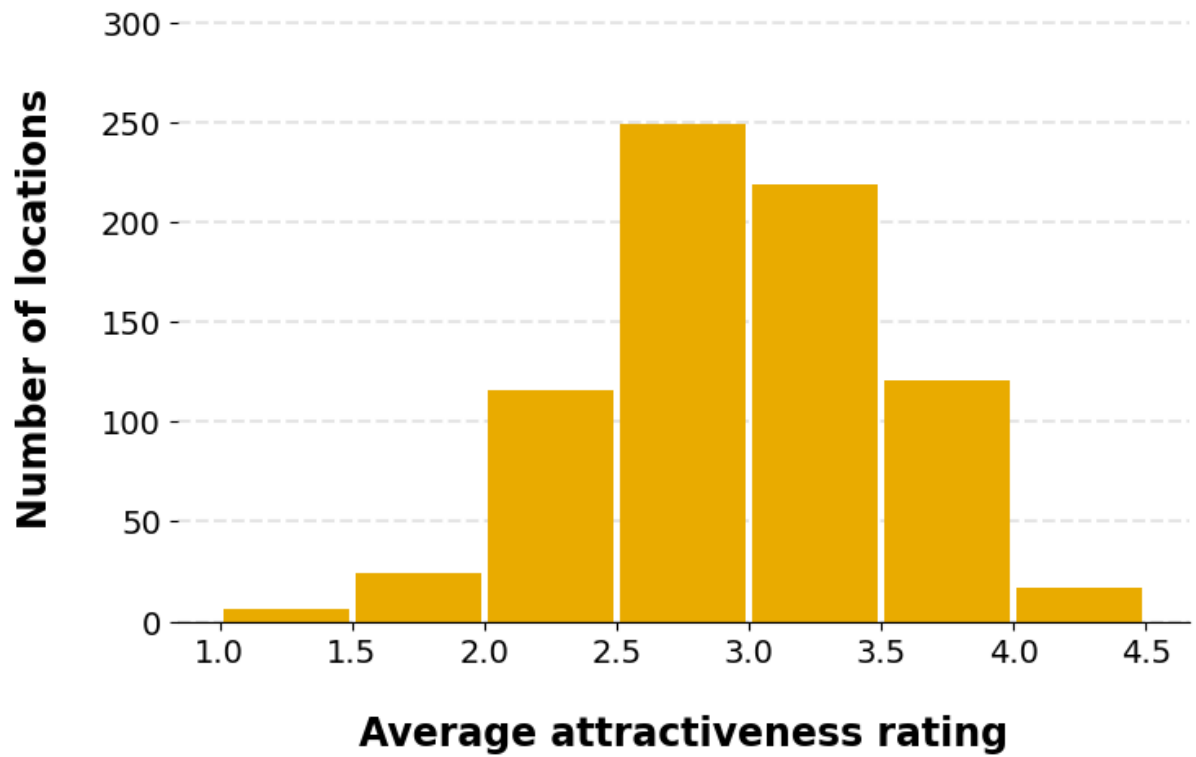


Figure 6. Streetception: Histograms of the locations' average safety and attractiveness. Corresponding to Manuscript Figure 2

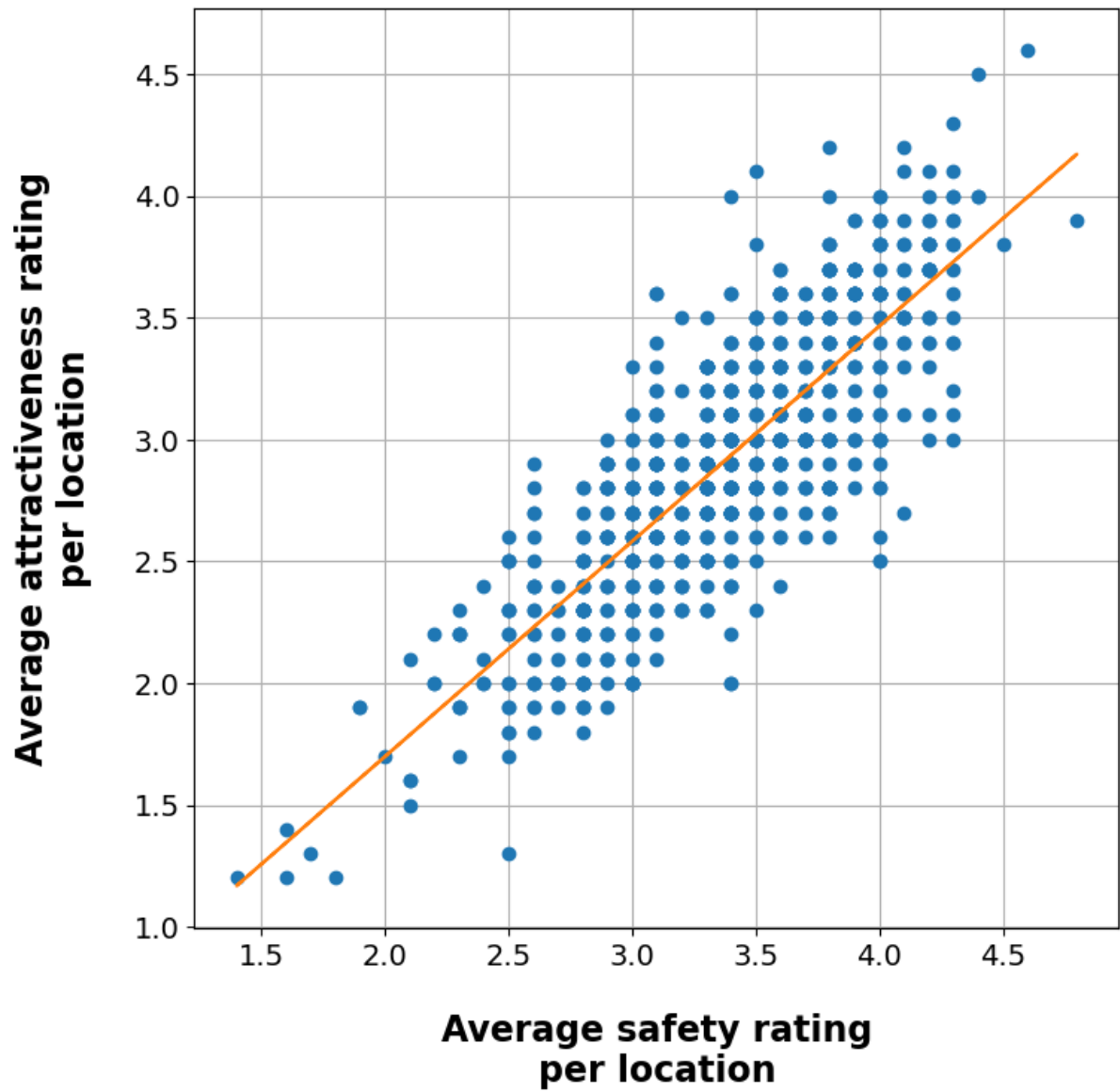


Figure 7. Streetception: Linear regression between the average ratings of perceived safety and attractiveness of urban locations. Corresponding to Manuscript Figure 8

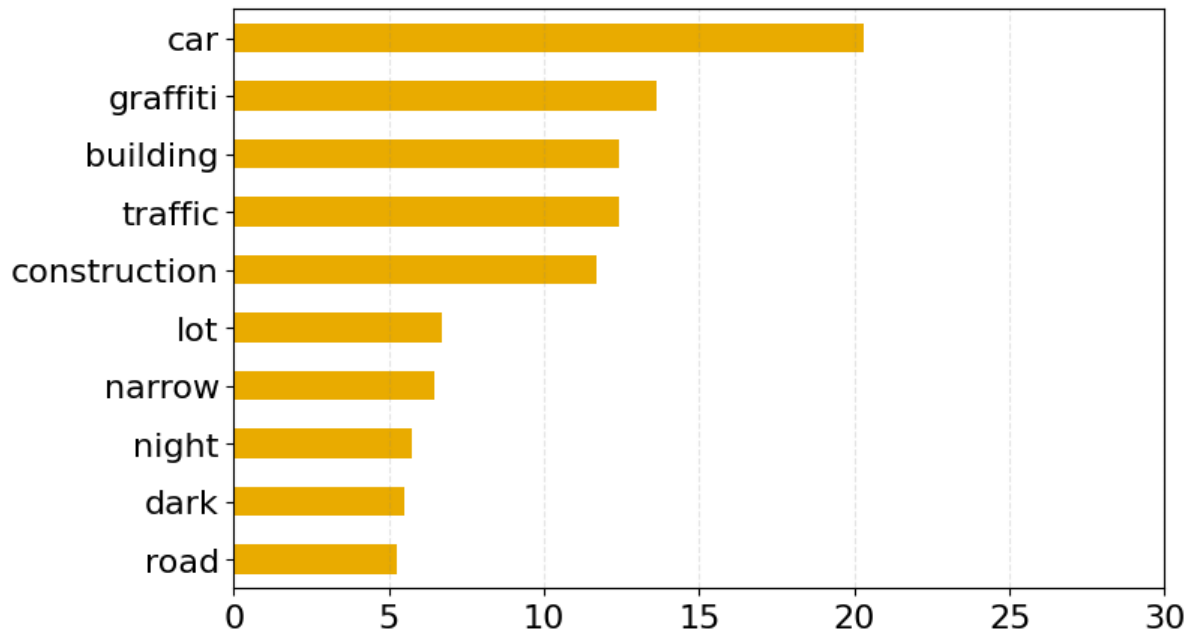


Figure 7. Streetception: The most frequent words participants used to explain their ratings for the locations they rated as safe, unsafe, attractive, or unattractive. Corresponding to Manuscript Figure 3
