

Presented by: Metro Metrics

WALKABILITY SCORING TOOL

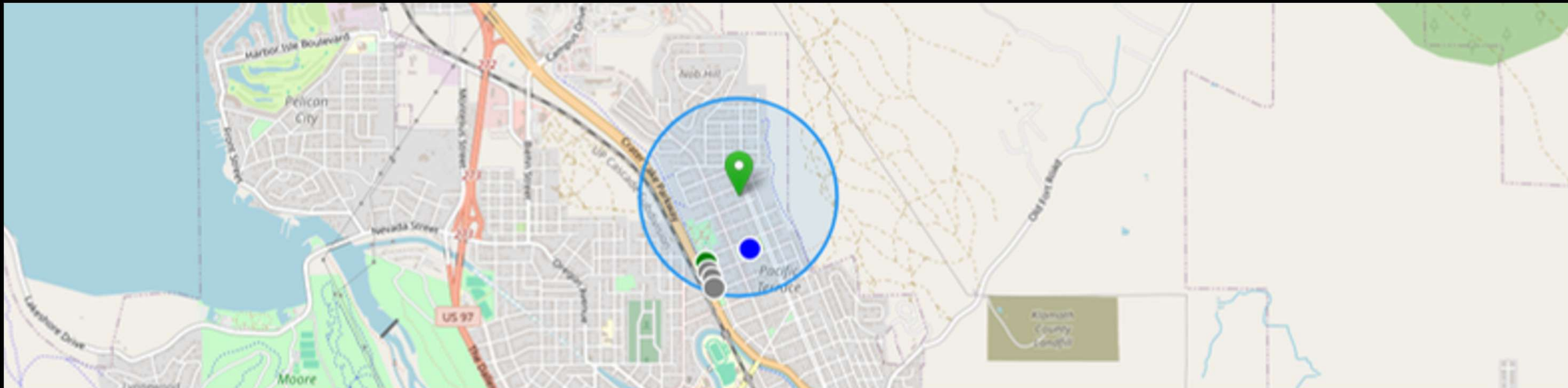
OIT Intro to Applied Computing Winter 2026

Communication Lead: Landon Hunter

Editor: Erin Uhl

Tech Lead: Anesti Audeh

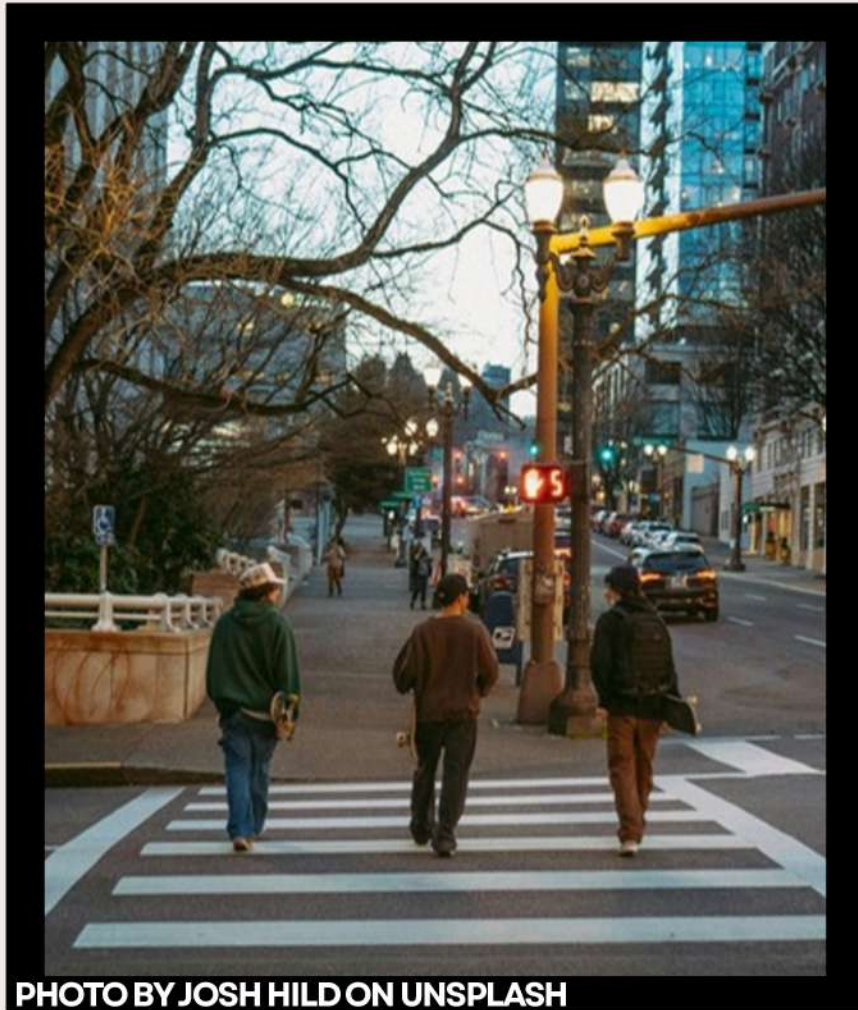
Project Manager: Ariella Marchuk



WHAT IS WALKABILITY?

Walkability measures how easily people can access everyday needs on foot.

- Many existing walkability scores are opaque or one-size-fits-all
- Our project introduces a transparent, customizable walkability score based on individuals priorities



HOW IT WORKS

DATA SOURCE: OSM via Overpass API (public)

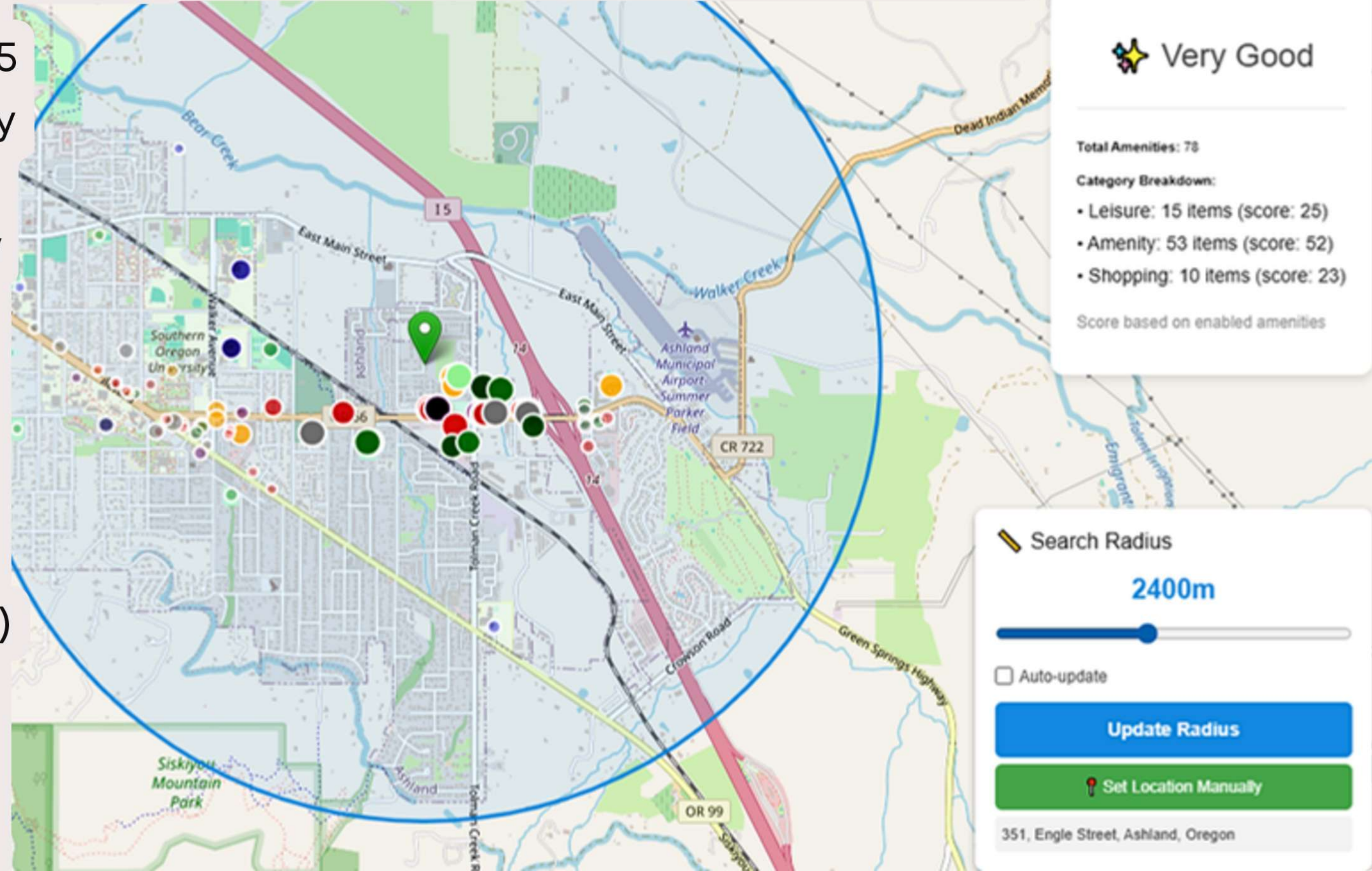
STEPS:

1. User selects location
2. System retrieves nearby amenities (OSM API)
3. Distances are calculated
4. Personalized weighted scoring model applied
5. Walkability score generated
6. User can save results + export graphs



CASE STUDY: ASHLAND, OREGON

- Amenities within ~0.5 miles contribute fully
- Contributions decay rapidly beyond that distance
- Repeated amenities contribute less (diminishing returns)



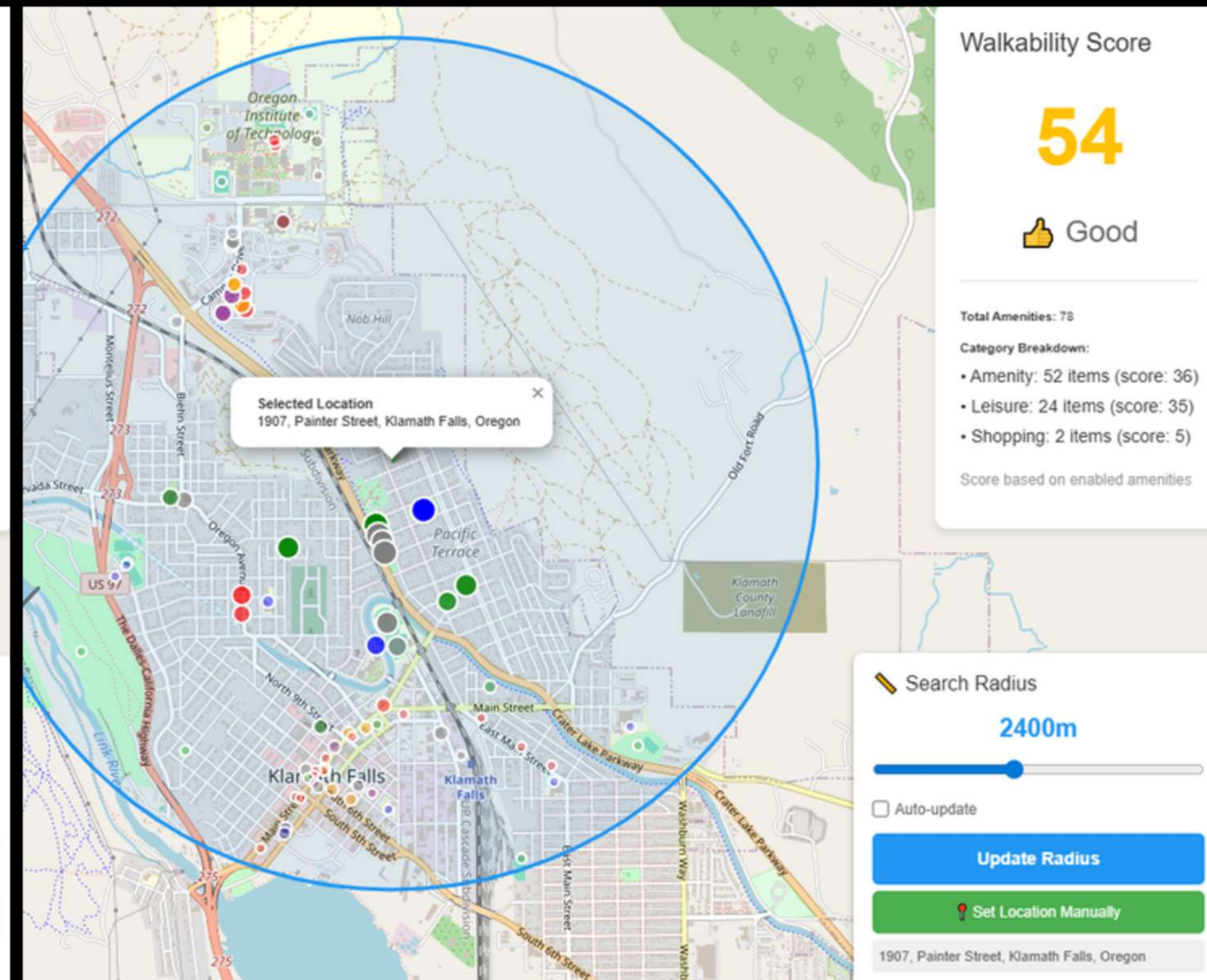
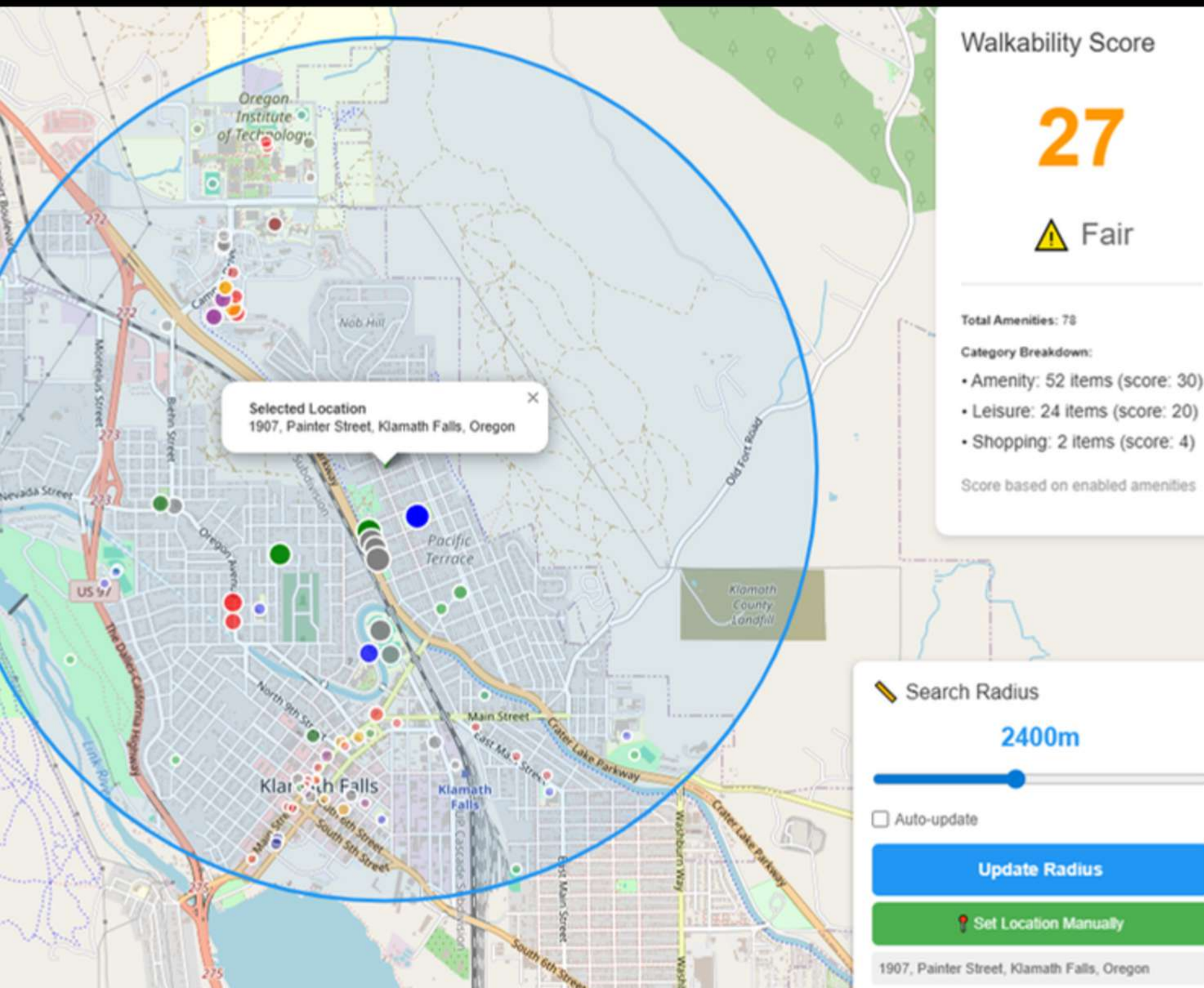
CASE STUDY: KLAMATH FALLS NEIGHBORHOOD

Before personalizing the score

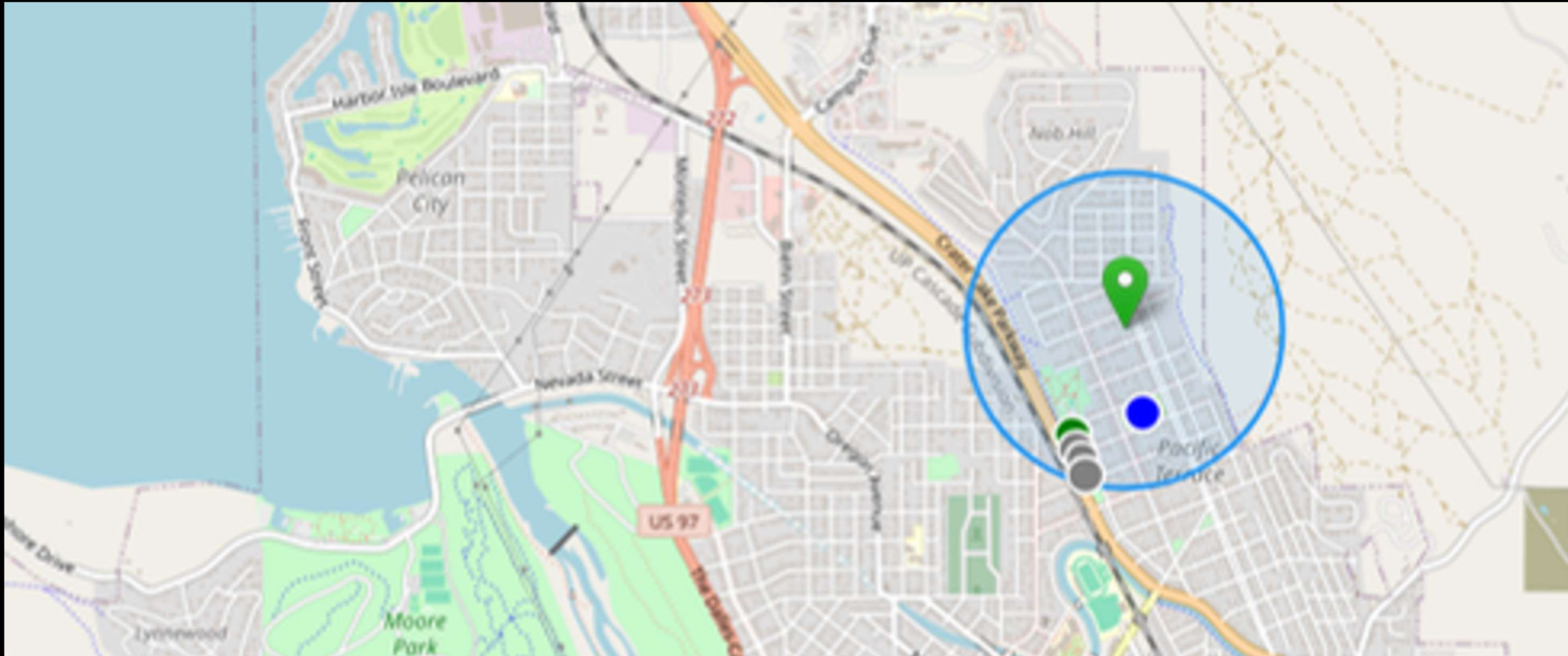
Neutral weight model

After personalizing the score

+ Food / grocery access + Exercise & recreation + Student Amenities



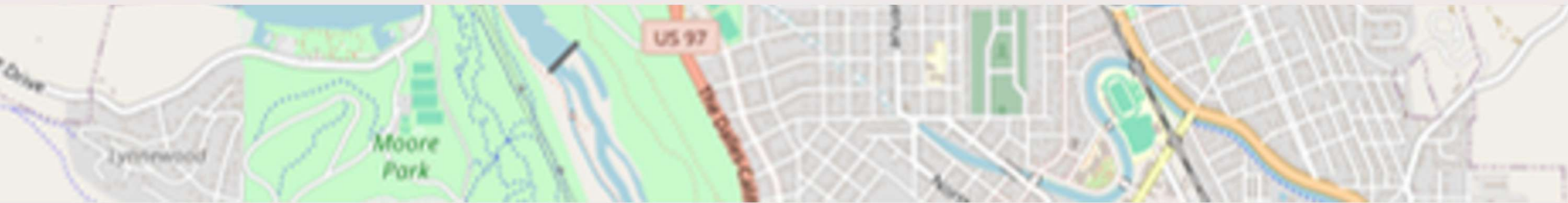
LIVE DEMO ▶





LIMITATIONS OF OUR MODEL

- Distance is calculated “as the crow flies” rather than along actual walking paths
- Terrain and elevation are not considered, which may affect real walking accessibility
- OpenStreetMap data coverage varies and may include outdated or missing locations

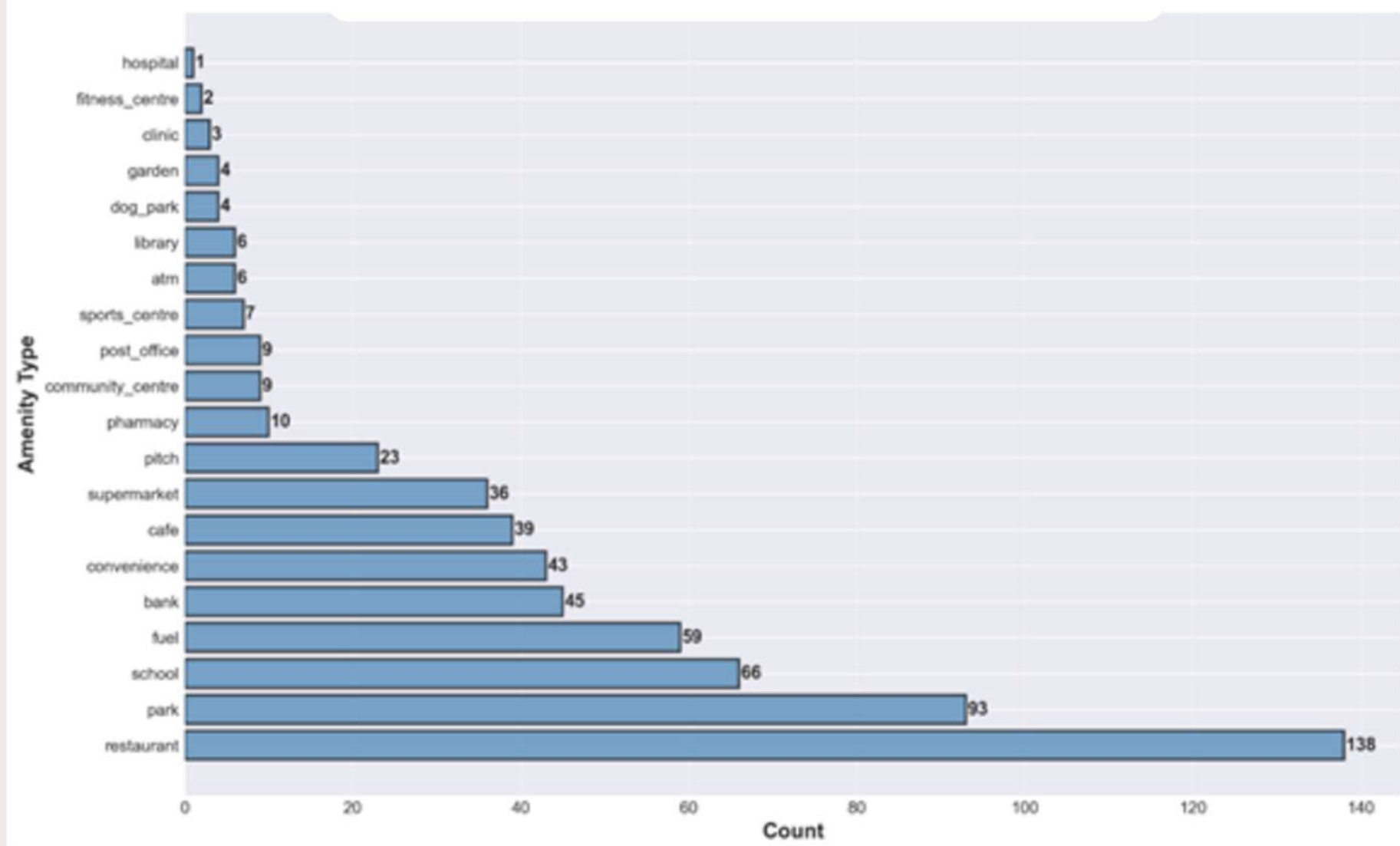


WHEN LIMITATIONS REVEAL CITY DESIGN

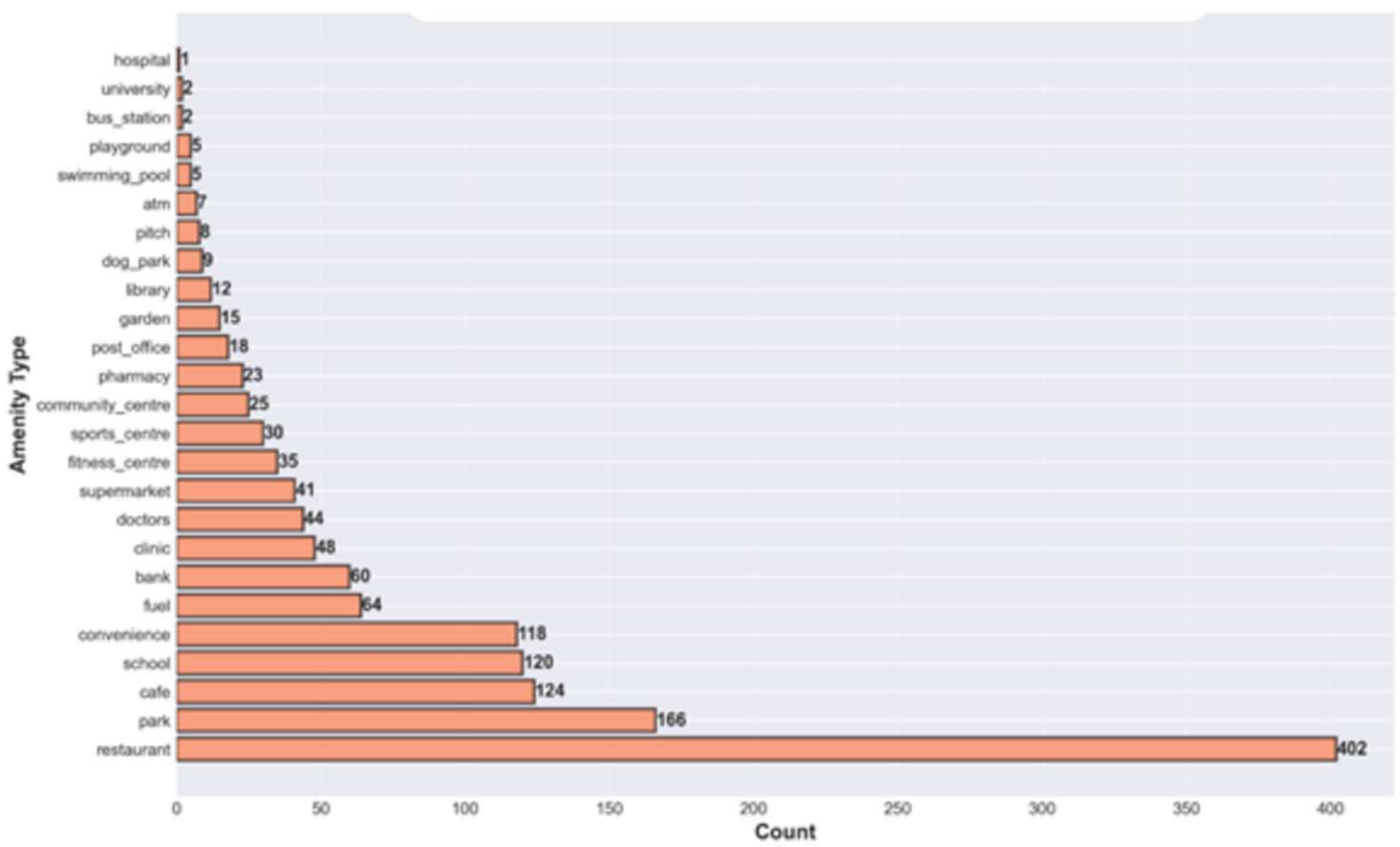
- Klamath Falls & Oregon City differ significantly in population size, density, and urban layout
- The scoring model revealed consistent gaps in access to essential amenities (like grocery stores)
- In both cities, restaurant counts far exceed supermarkets showing structural access patterns

Two very different cities show nearly identical amenity distribution patterns.

KLAMATH FALLS - 603 AMENITIES



OREGON CITY - 1384 AMENITIES



POSSIBLE USE CASES

Personal Decision Making

Evaluating walkability when choosing where to live

Real Estate Insights

Comparing neighborhood amenity accessibility

Urban Planning Analysis

Identifying gaps in access to essential services

CONCLUSION



PHOTO BY KRISTINA KUTLEŠA ON UNSPLASH

- Amenity based map data can effectively estimate walkability patterns across different cities
- Distance decay and diminishing returns help produce more realistic walkability scores
- Future improvements could incorporate walking routes, expand amenity categories & data coverage, as well as consider elevation and terrain.

THANK YOU!

QUESTIONS?



SOURCE: [HTTPS: WWW.KLAMATHFALLS.CITY](https://www.klamathfalls.city)

GitHub:

<https://github.com/OIT-Intro-to-Applied-Computing/Group1-Winter2026>

Contact us:

MetroMetricsWalk@gmail.com