



# Infrastructure Mapper - Culinary Spots

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JUL  
17

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## About Me

- Intern at **Kartoza**
- Bachelor of  
Engineering, majored in  
Geodetic Engineering
- Exploring (open source)  
GIS



# Why Culinary Mapping?

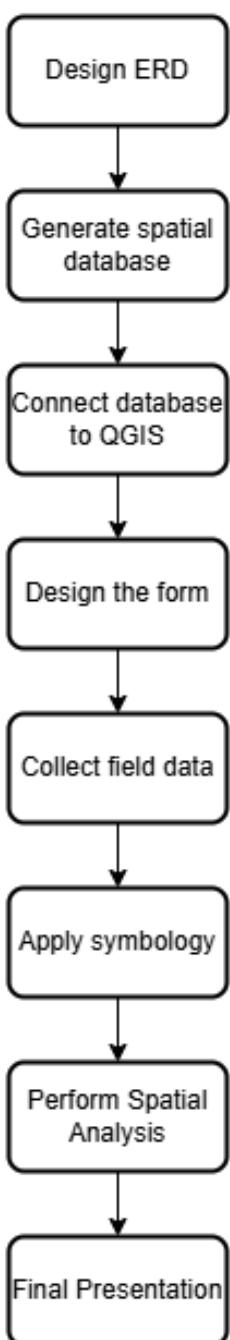
- Food = lifestyle
- Many spots still unmapped
- GIS shows access with isochrones
- Support better choices



# ? Analysis Problem

- Which places can be reached within 1 to 10 mins?
- Which ones have low price, high rating, Wi-Fi, indoor seating, are Cafes/Bakeries, reachable within 8 mins?





# Project Workflow



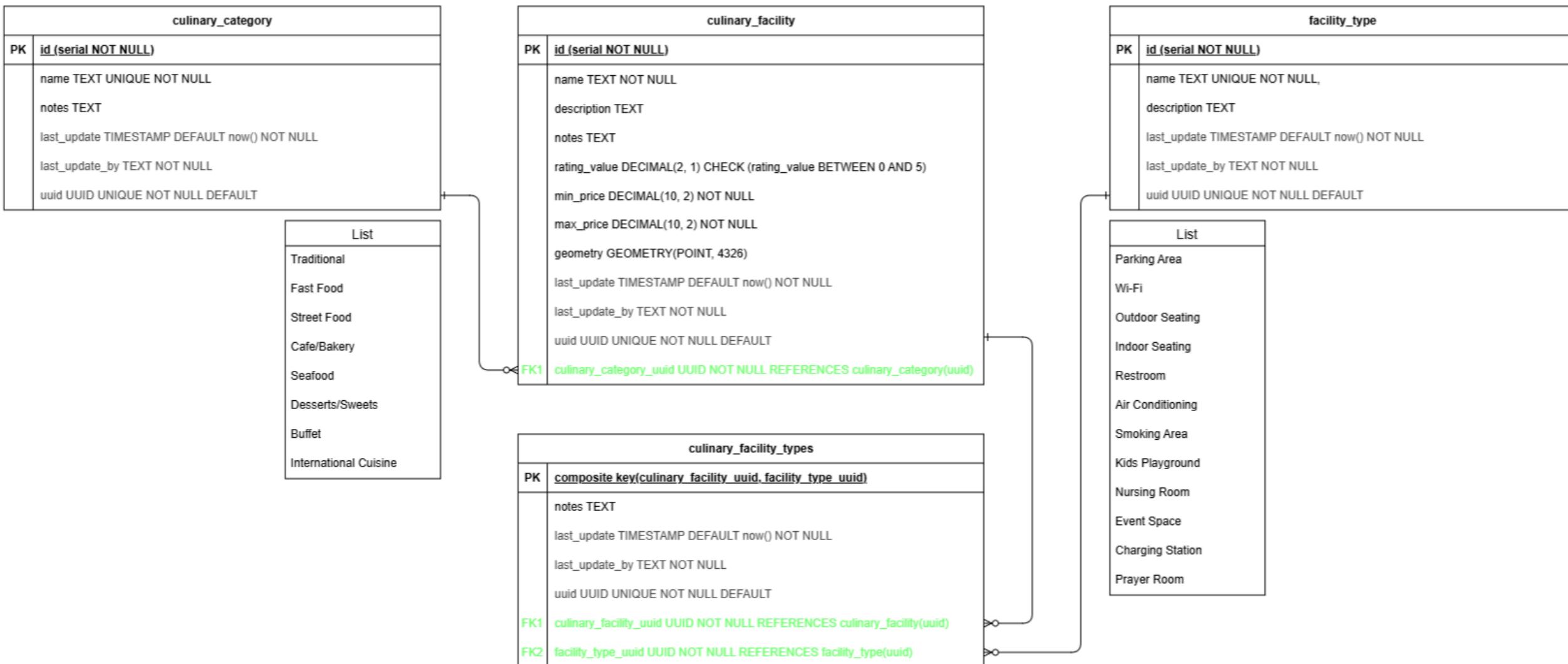


# The Model

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# Culinary Facilities



# ⚙️ Tools Used

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QGIS

QFieldCloud

PostgreSQL/PostGIS (SQL)

pgAdmin

VS Code

Marp (Markdown)

Git and GitHub





# The Forms

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## Form Layout

id  
name  
description  
notes  
culinary\_category\_uuid  
rating\_value  
min\_price  
max\_price

## Culinary\_Facility\_Types

## General

Alias Culinary Category  
Comment The UUID of the culinary category, referencing the culinary\_category table.  
 Editable   
 Reuse last entered value  Label on top

## Widget Type

Value Relation  
Select layer, key column and value column  
Layer Culinary Category  
Key column abc\_uuid  
Value column abc\_name

## Relation

Label   
Cardinality Many to one relation  
 Force hide form on add feature  
Widget Type Relation Editor

## Project Properties — Relations

Name	Referenced Layer	Referenced Field(s)	Referencing Layer	Referencing Field(s) Id	Strength
Culinary_Faci... culinary_facility	uuid	culinary_facility_t...	culinary_facility_...	culinary_f_culina...	Association

## Add Relation

Id [Generated automatically]  
Name FID in culinary\_facility\_types  
Relationship strength Association

## Layer and fields mapping

Referenced (parent)	Referencing (child)
Layer culinary_facility	culinary_facility_types
Field 1 123 ID	123 fid

OK

Cancel

Help

### Culinary Facility - Feature Attributes

ID	81
Name	Cafe A
Description	NULL
Notes	NULL
Culinary Category	Cafe/Bakery
Rating Value	NULL
Minimum Price	NULL
Maximum Price	NULL

**Culinary\_Facility\_Types**

<b>Expression</b>				
<input type="checkbox"/> 11dd072a-7900-479c-bc9b-ce087...	culinary_facility_uuid	479c-bc9b-ce0874dd0b39		
	facility_type_uuid	Kids Playground		
	notes	NULL		

1 / 1

**OK** **Cancel**

- Spatial Bookmarks
- Project Home
- Home
- C:\ (Acer)
- D:\ (DATA)

Type to locate (Ctrl+K)

Coordinate 12172018, -825497



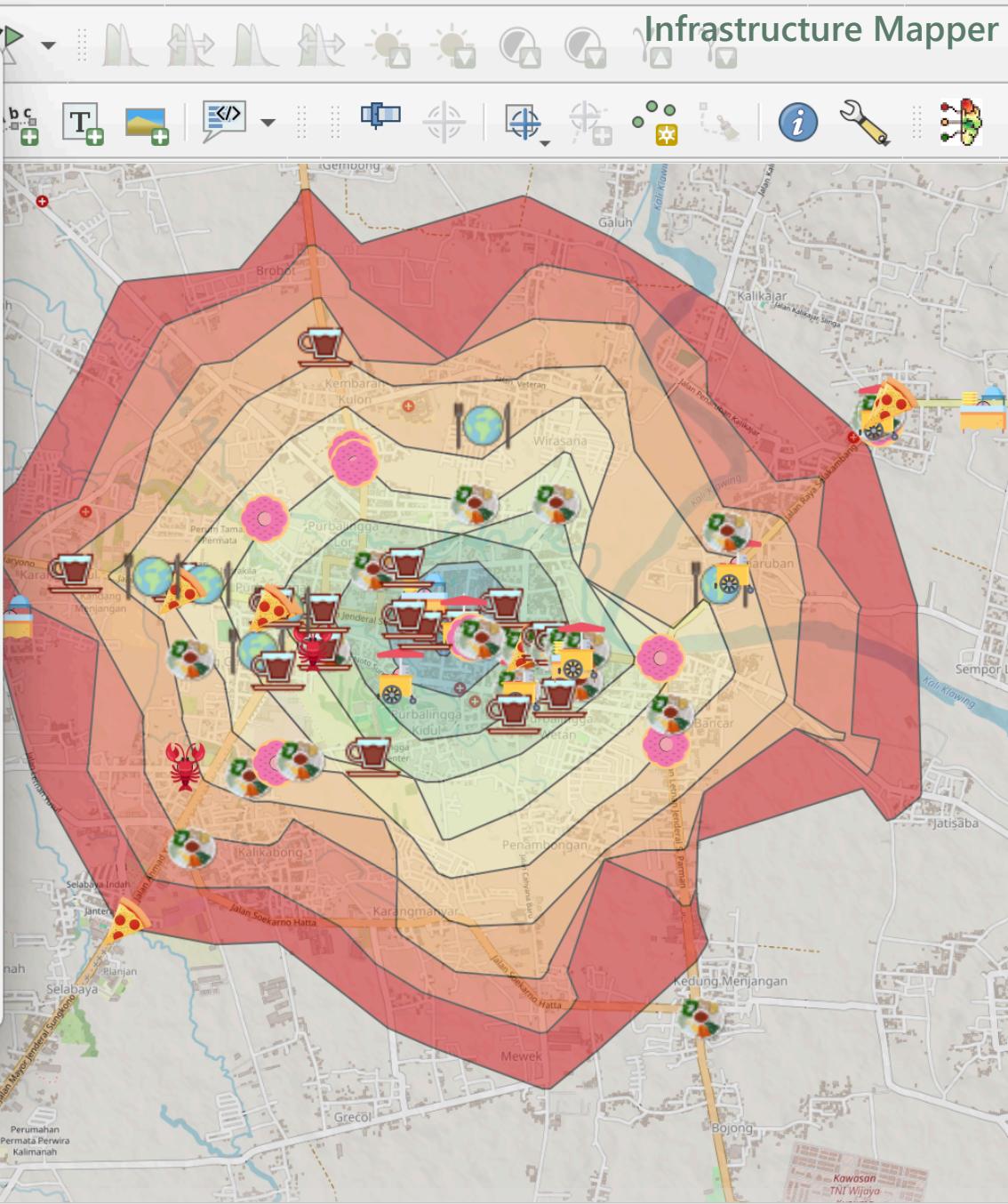
Scale 1:40285



Magnifier 100%



2025



Add feature on culinary\_facility

81

Name

Description

Notes

Culinary Category

Rating Value

Minimum Price

Maximum Price

Culinary\_Facility\_Types

Description

Notes

Culinary Category

Not NULL

Traditional

Fast Food

Add feature on culinary\_facility\_types

culinary\_facility\_uuid  
12c325e0-0704-4a98-a8de-b5c2de2e735e

facility\_type\_uuid

Parking Area

Wi-Fi

Indoor Seating

Indoor Seating

Restroom

Air Conditioning

Smoking Area

Kids Playground

Nursing Room

Event Space

Charging Station

Prayer Room

✓ Add feature on culinary\_facility

81

Name

Description

Notes

Culinary Category

Rating Value

Minimum Price

Maximum Price

Culinary\_Facility\_Types

Description

Notes

Culinary Category

Not NULL

Traditional

Fast Food

✓ Add feature on culinary\_facility\_types

culinary\_facility\_uuid  
12c325e0-0704-4a98-a8de-b5c2de2e735e

facility\_type\_uuid

Parking Area

Wi-Fi

Indoor Seating

Indoor Seating

Restroom

Air Conditioning

Smoking Area

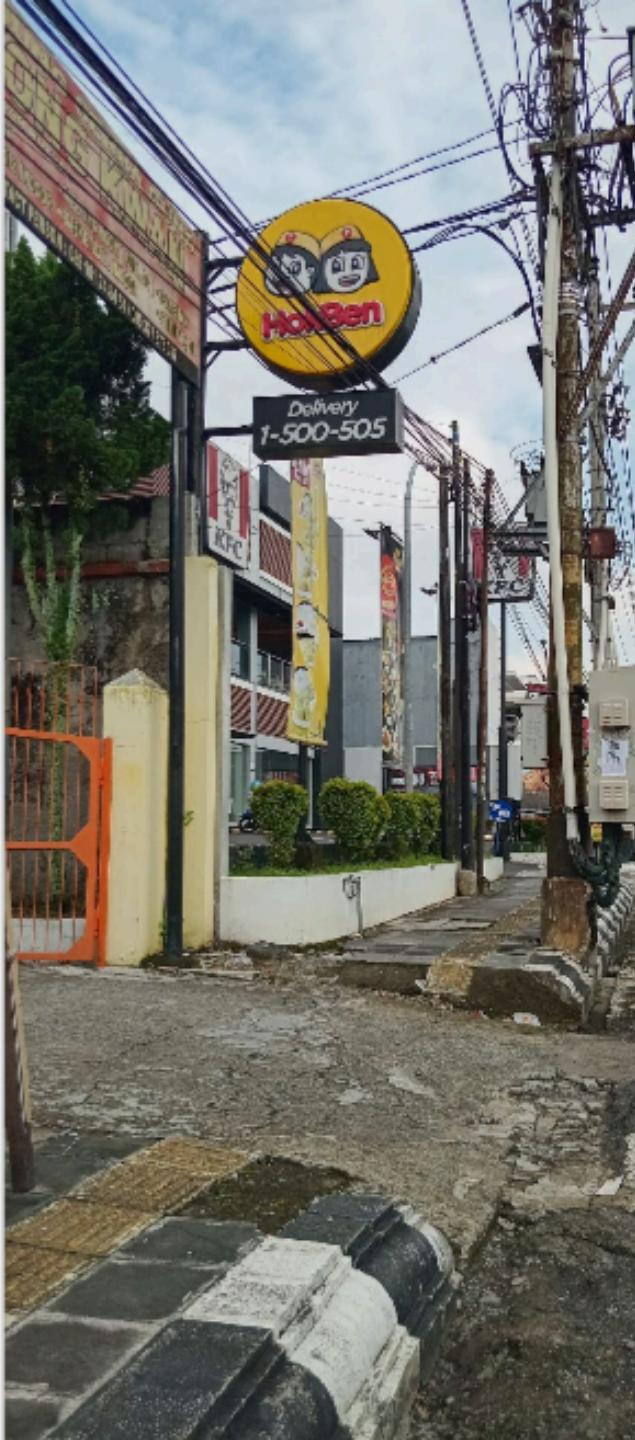
Kids Playground

Nursing Room

Event Space

Charging Station

Prayer Room



# Field Collection

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Collected using QField  
on a Samsung phone  
with GPS.

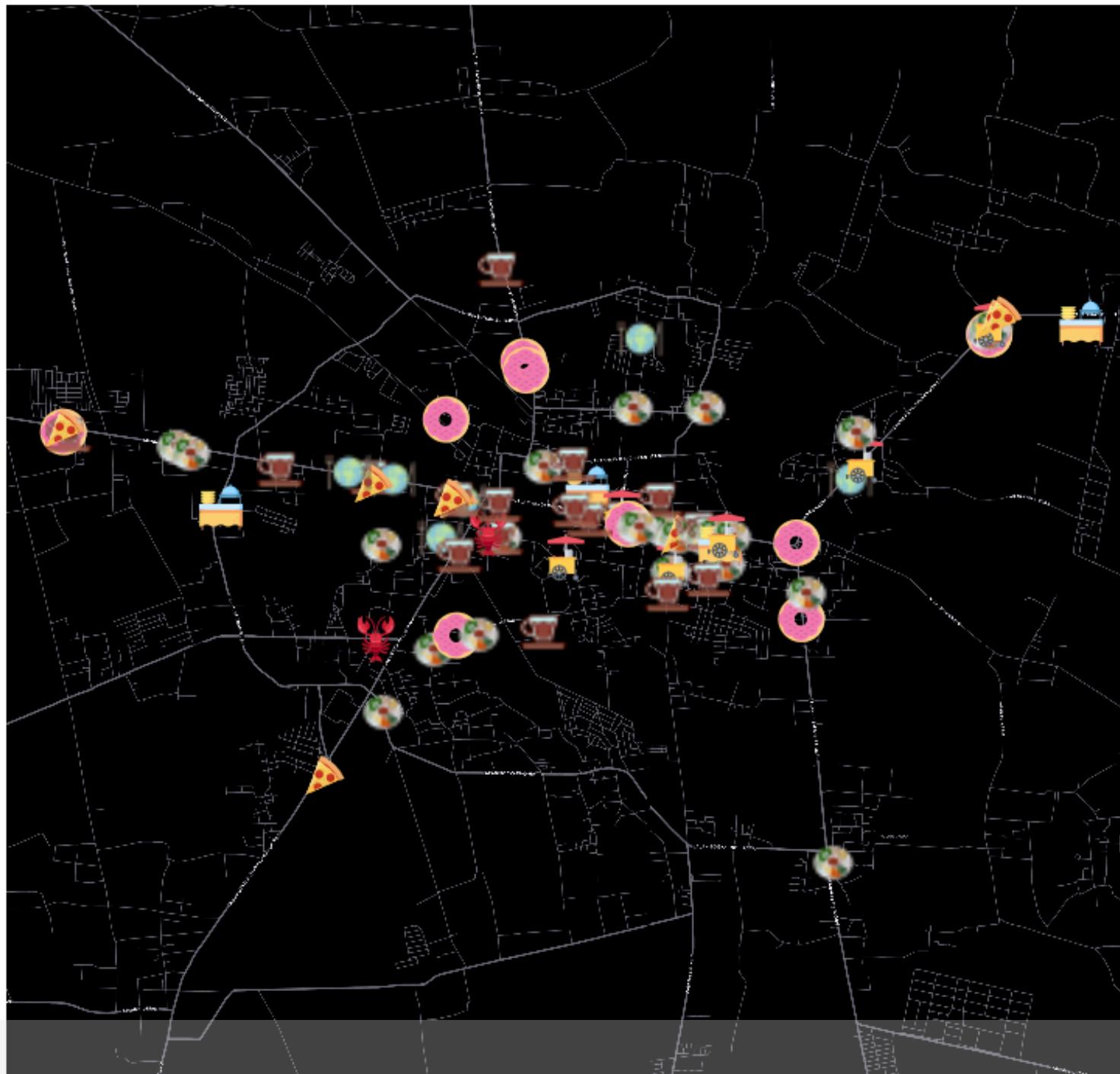




# Collection Results

- **Features collected:** 80 points
- **Area covered:** 15 km<sup>2</sup>





Traditional



Street Food



Seafood



Fast Food



Desserts/Sweets



Buffet



International Cuisine

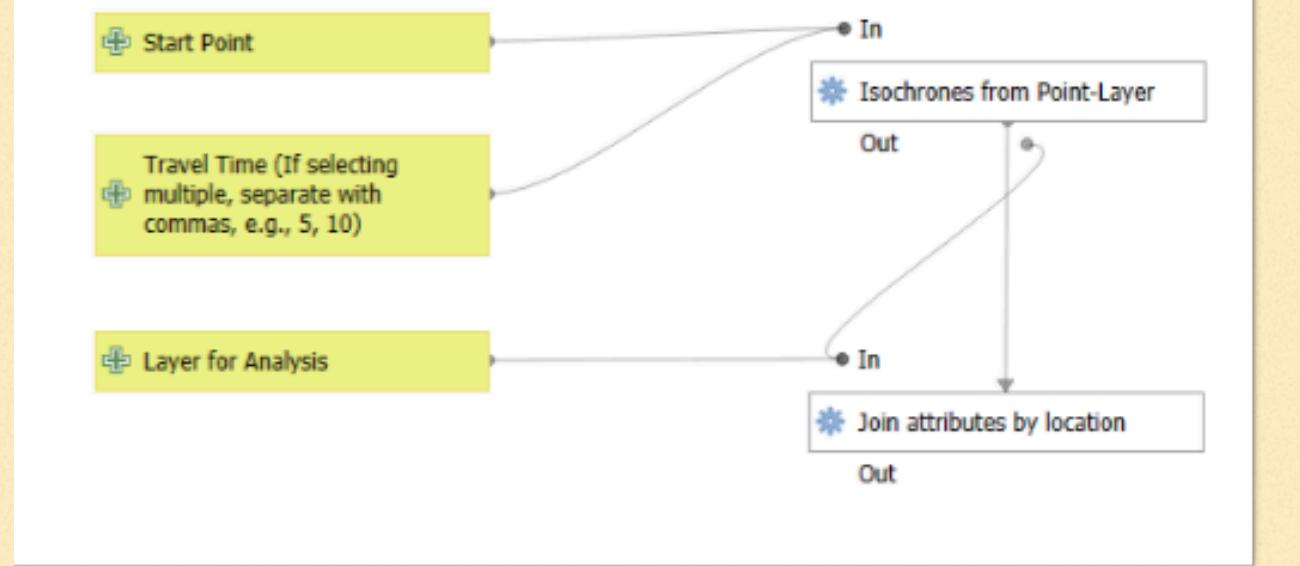


Cafe/Bakery

# ⚙️ Methodology

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### Isochrones

Parameters Log

Layer for Analysis  
Culinary Points [EPSG:4326]

Start Point  
Start Point [EPSG:4326]

Travel Time (If selecting multiple, separate with commas, e.g., 5, 10)

0%

Cancel Run Close Advanced Run as Batch Process...

This dialog box allows users to define parameters for the Isochrones analysis. It includes fields for the 'Layer for Analysis' (set to 'Culinary Points [EPSG:4326]'), 'Start Point' (set to 'Start Point [EPSG:4326]'), and 'Travel Time' (empty field). The bottom section shows progress at 0% and provides standard dialog controls like 'Cancel', 'Run', 'Close', 'Advanced', and 'Run as Batch Process...'.

Properties Comments

Description Isochrones from Point-Layer

Show advanced parameters

Provider

123 openrouteservice

Travel mode

123 cycling-regular

Input Point layer

Using model input Start Point

Input layer ID Field (mutually exclusive with Point option) [optional]

123

Dimension

123 time

Comma-separated ranges [min or m]

Using model input Travel Time (If selecting multiple, separate with commas, e.g., 5, 10)

Location Type

123 start

Isochrones\_Layer\_2025-06-27\_12:12:50

123 ogr:dbname='C:/Users/ACER/QField/cloud/KartozaInterns\_\_KartozaInterns2025/InfrastructureMapper.gpkg' table="Isochrones" (geom)



Dependencies

0 dependencies selected



OK

Cancel

Kartoza ❤️ 2025

Properties Comments

Description Join attributes by location

Join to features in



Using model input Layer for Analysis

Features they (geometric predicate)



intersect



By comparing to



Using algorithm output "Isochrones\_Layer\_2025-06-27\_12:12:50" from algorithm "Isochrones from Point-Layer"



Fields to add (leave empty to use all fields) [optional]



AA\_MINS



Join type



Create separate feature for each matching feature (one-to-many)



Discard records which could not be joined



Yes



Joined field prefix [optional]



Joined layer [optional]



ogr:dbname='C:/Users/ACER/QField/cloud/KartozaInterns\_\_KartozaInterns2025/InfrastructureMapper.gpkg' table="Selected Features by Travel Time" (geom)



Unjoinable features from first layer [optional]



[Enter name if this is a final result]



Dependencies

1 dependency selected



OK

Cancel

Help

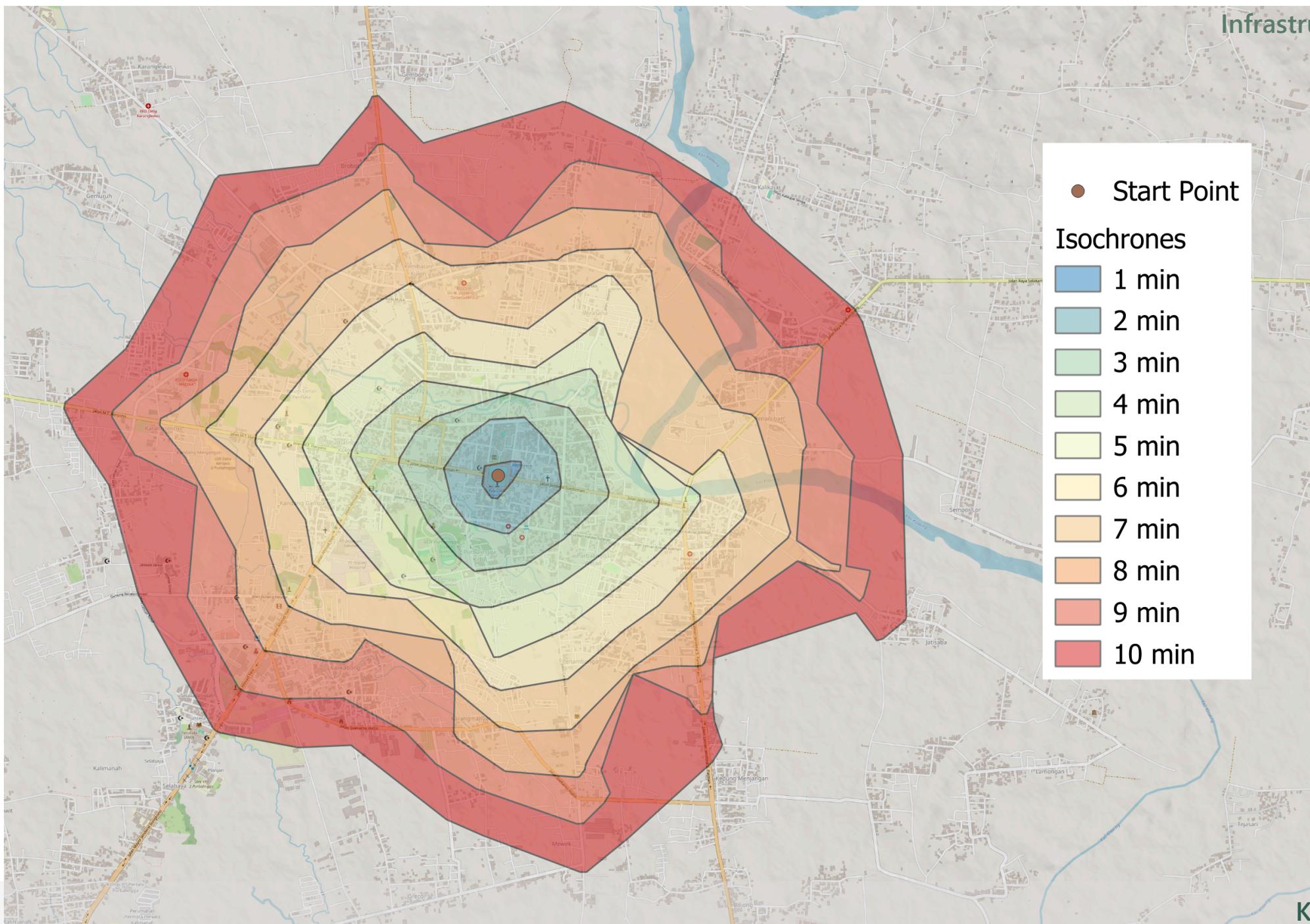


# Results - 1

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Isochrones show culinary spots that can be reached within 1 to 10 minutes from the starting point.





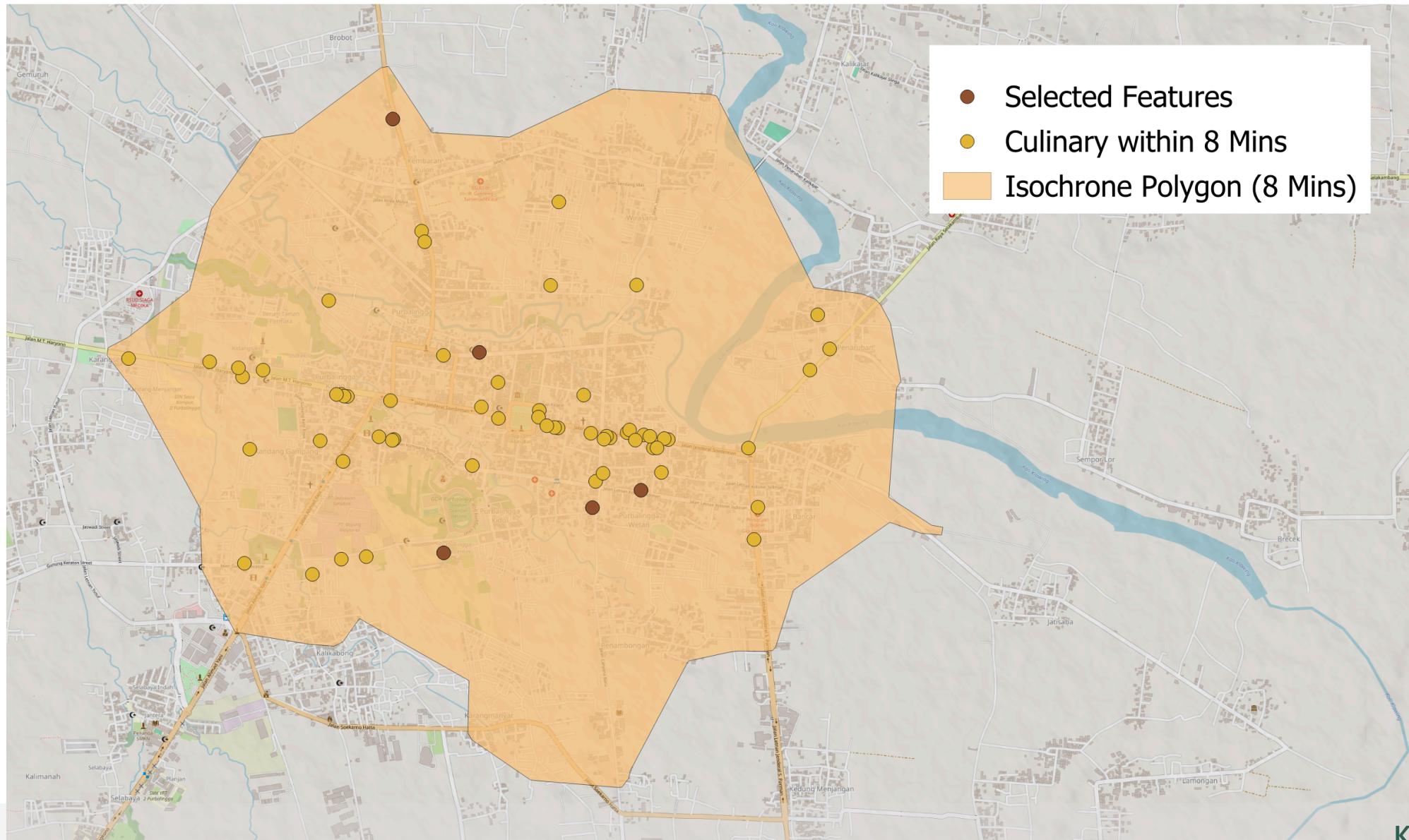


## Results - 2

- **Price Range:** 1.000–60.000
- **Rating:** above 4.5
- **Facilities:** Indoor Seating, Wi-Fi
- **Category:** Cafe/Bakery
- **Travel Time:** 8 mins



Which ones have low price, high rating, Wi-Fi, indoor seating, are Cafes/Bakeries, reachable within 8 mins?





# Results - 3

Selected Features by Travel Time — Features Total: 65, Filtered: 5, Selected: 5



fid	culinary_name	min_price	max_price	rating_value	facilities	category	Travel Time	
1	22	Kopi Mbok Minah	10000	60000	5	Air Conditioning, Smoking Area, Restroom, Indoor Seating, Outdoor Seating, Prayer Room, Parking Area, Wi-Fi	Cafe/Bakery	8
2	26	Kopi Pojok Purbalingga	3000	20000	4.6	Indoor Seating, Parking Area, Wi-Fi	Cafe/Bakery	8
3	29	Black Gold Coffee	5000	30000	5	Air Conditioning, Indoor Seating, Parking Area, Wi-Fi	Cafe/Bakery	8
4	42	Kopi Bathok Purbalingga	1000	30000	4.6	Smoking Area, Restroom, Indoor Seating, Outdoor Seating, Prayer Room, Parking Area, Wi-Fi	Cafe/Bakery	8
5	52	Piknik Coffee Eatery	11000	30000	4.6	Air Conditioning, Restroom, Indoor Seating, Outdoor Seating, Prayer Room, Parking Area, Wi-Fi	Cafe/Bakery	8



# Insights

- Top categories with high ratings
  - Desserts/Sweets
  - International Cuisine
  - Buffet
- Most common facility: Parking Area (69)
- Most common category: Traditional (27)



## Further Research

If I had more time, I would:

- Develop a specific travel mode for motorcycles
- Improve the QGIS processing model
- Increase the study area and collect more data



# My Internship Experience

## Highlights

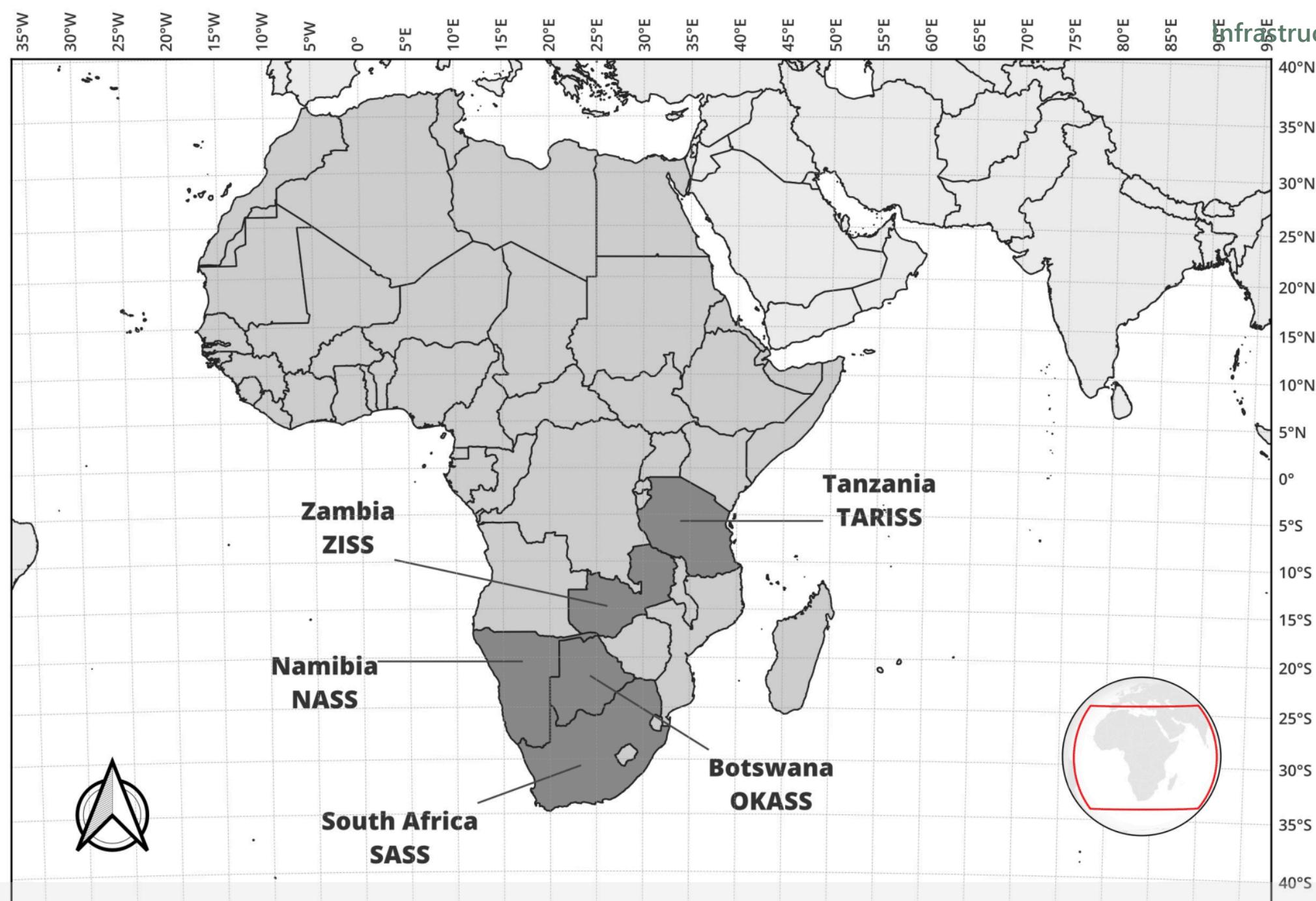
- Learned QGIS and GIS tools
- Impactful projects
- Problem-solving, adaptability, and critical thinking
- Time management



## Bonus Creations: What Else I Made

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## Contact Me

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