

**Wasted Time** : *Travel in Delhi*

Analyse the **excess time (wasted)** people spend while travelling from one place to another due to traffic or congestion.

What is the **EXCESS** or **WASTED** time for?

Different **AREAS** on a map

Different **DISTANCES**

**HOURS** of day / **DAY** of week

For **SCHOOLS, HOSPITALS**, etc

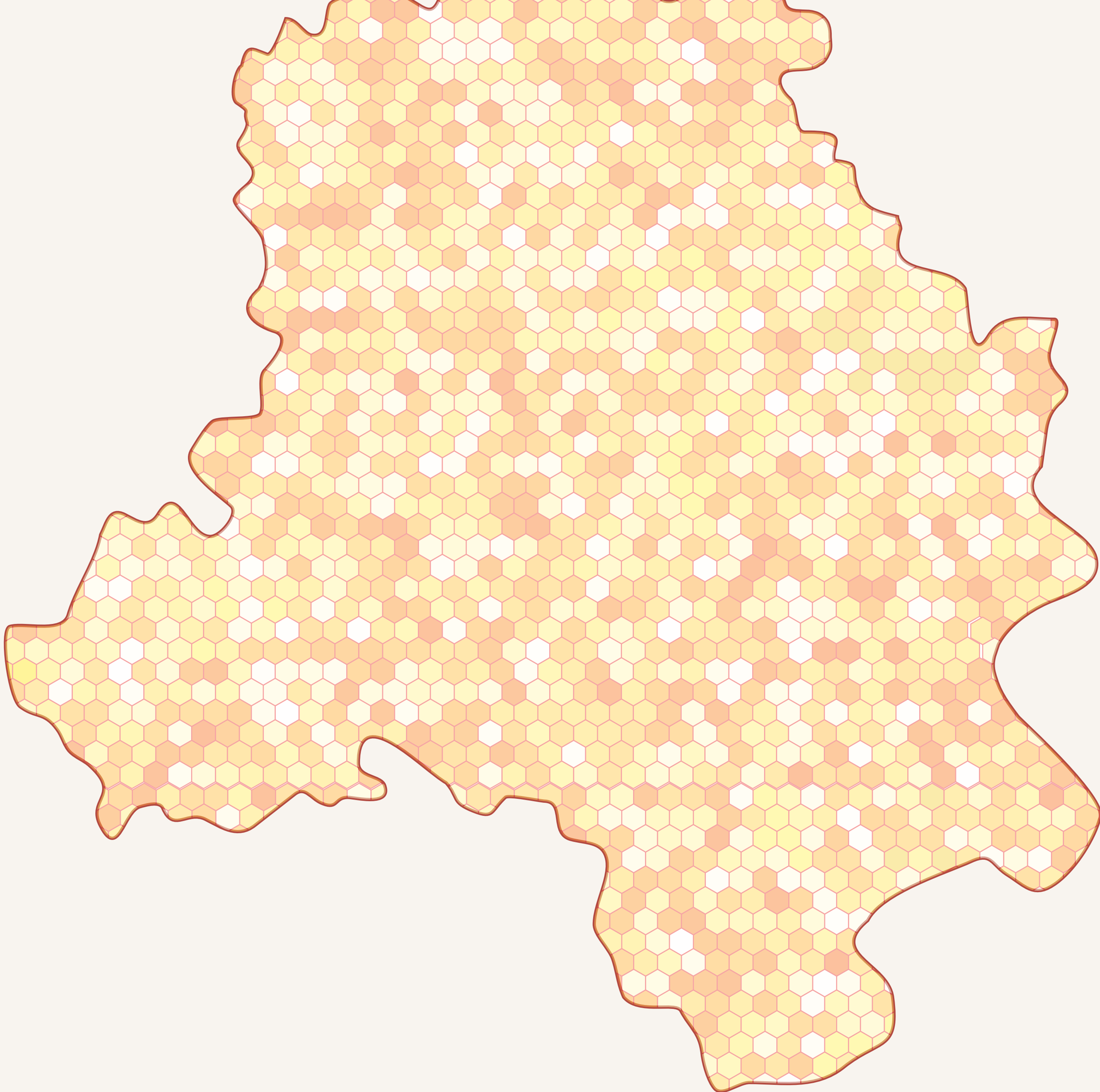
A **SINGLE AREA** of interest

# Real world applications

Criticality

Field of movement

Bottlenecks



DAY OF WEEK



Mon Tue Wed Thu Fri Sat Sun

TIME OF DAY



8-12 12-5 5-9 9-2

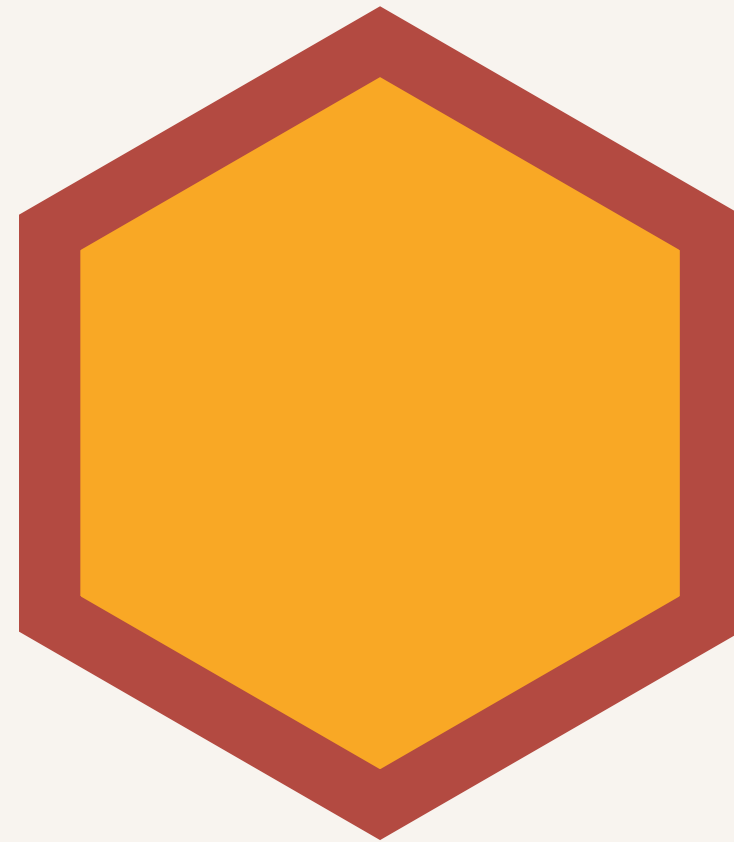
DISTANCES



3 6 9 12 15 20

AREA TYPE

- ☐ Residentials
- ☐ Commercial
- ☐ Hospital
- ☐ Parks
- ☐ Railway
- ☐ Airport

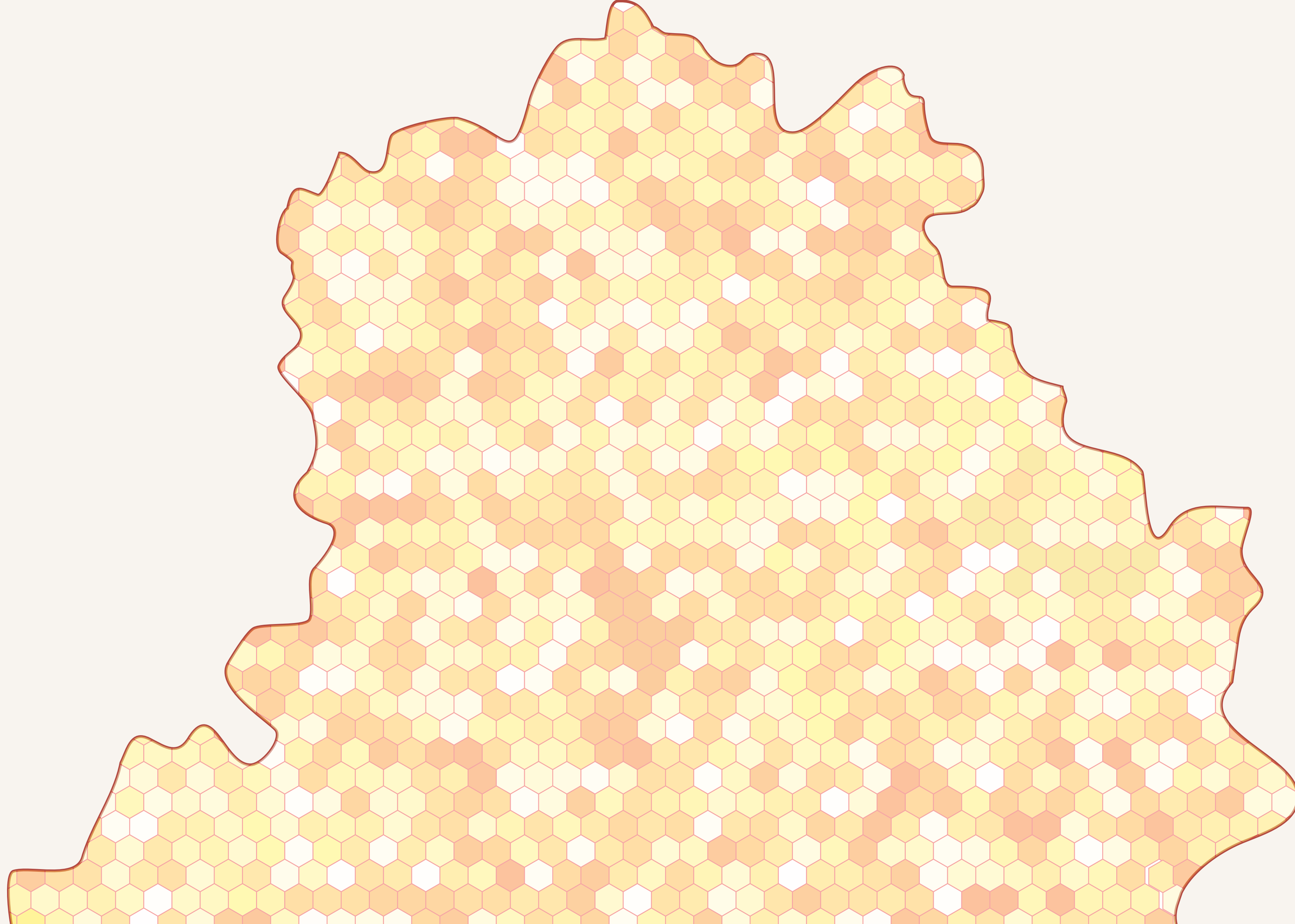


Covers a pre defined area - ~ 3kms

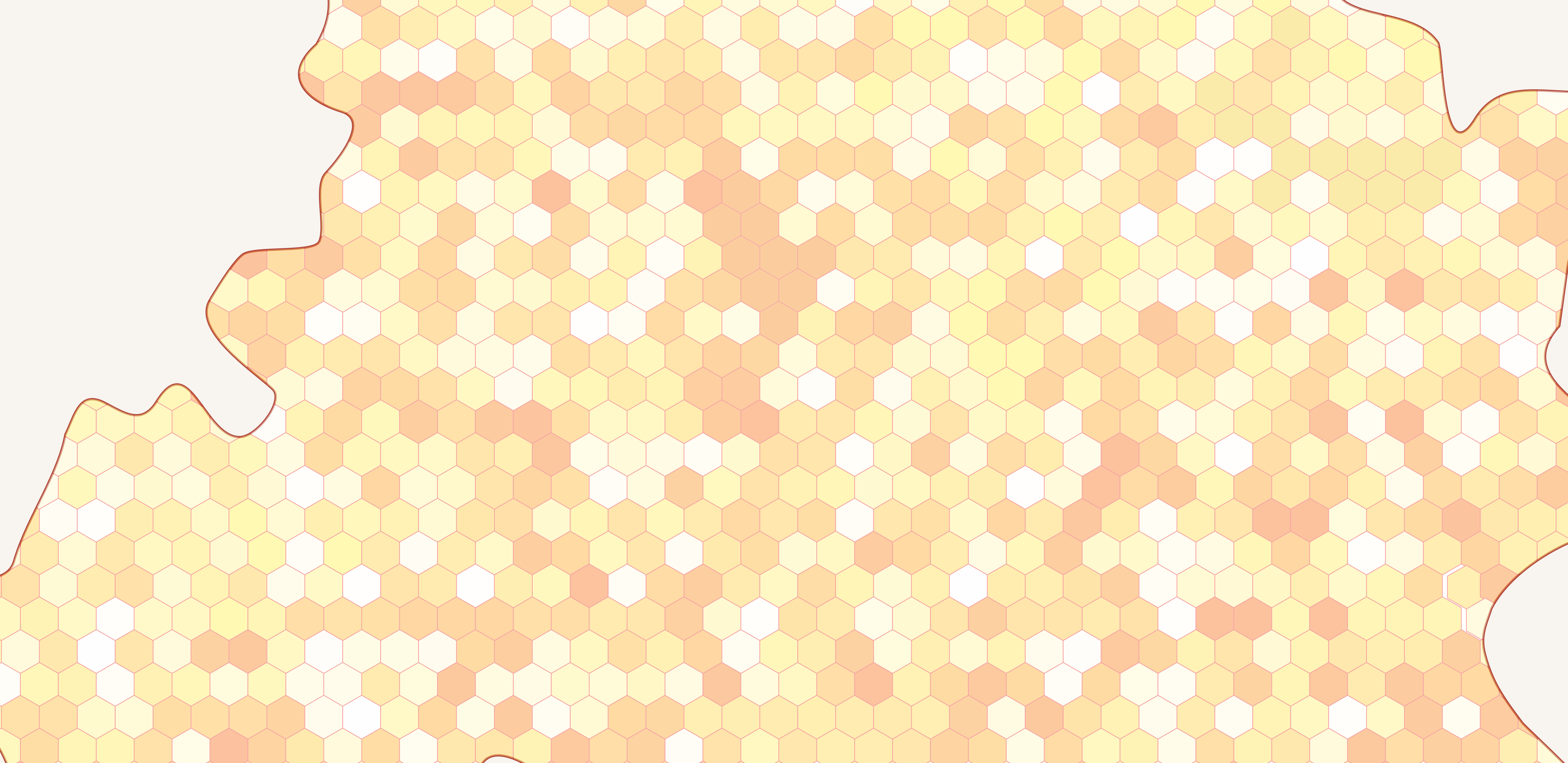
Color coded to reflect the excess travel time

Include different land uses; school, residential etc

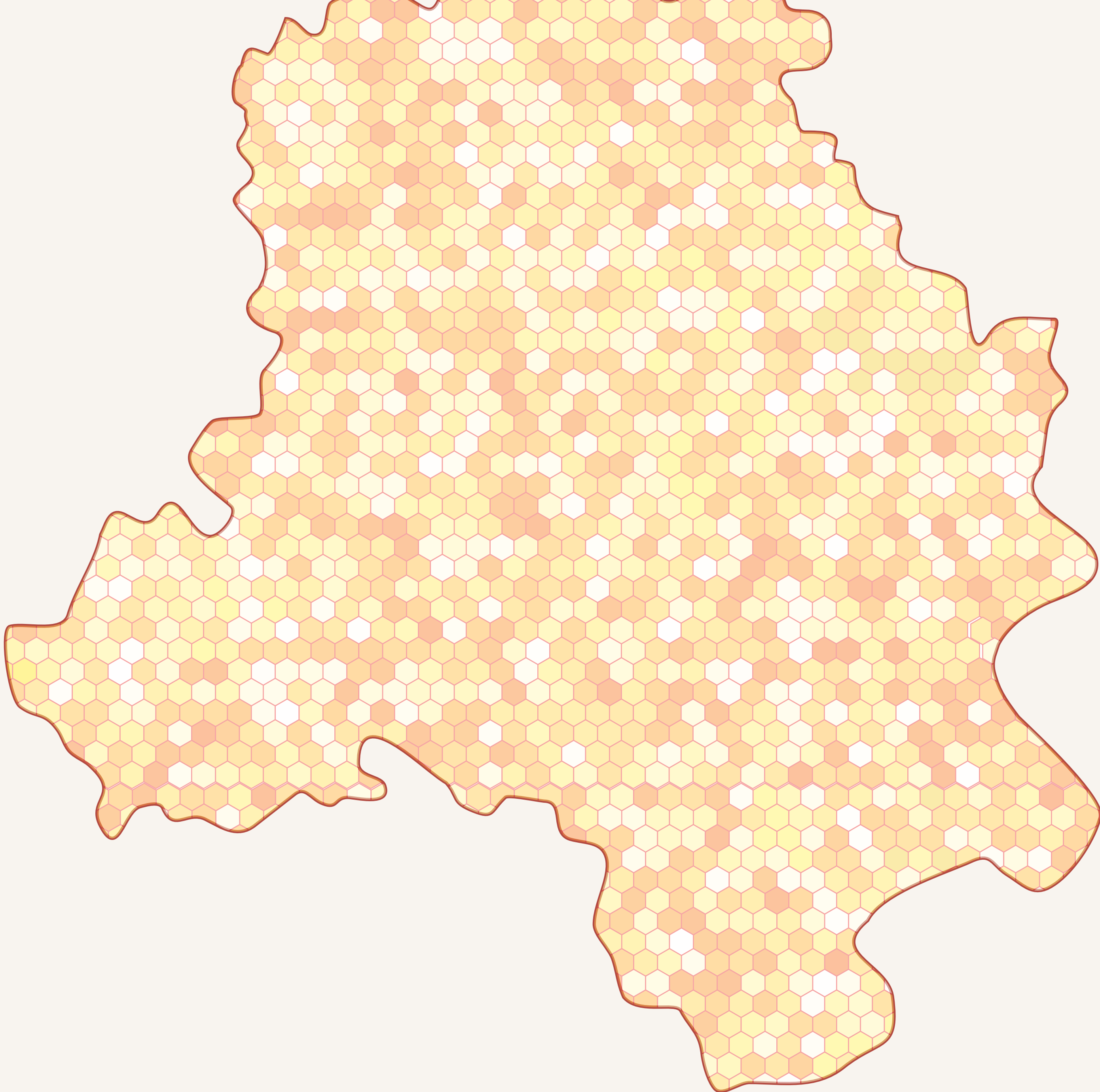
time calculated from one tile to another











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# DAY OF WEEK



Mon

Tue

Wed

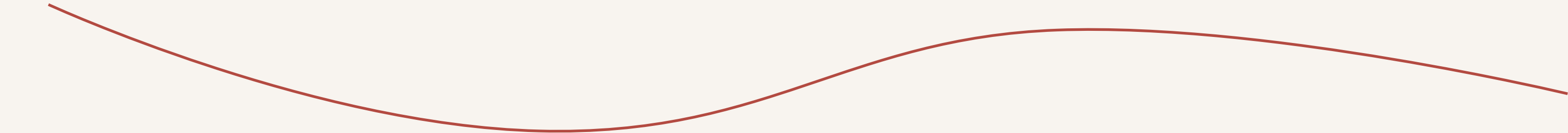
Thu

Fri

Sat

Sun

# TIME OF DAY



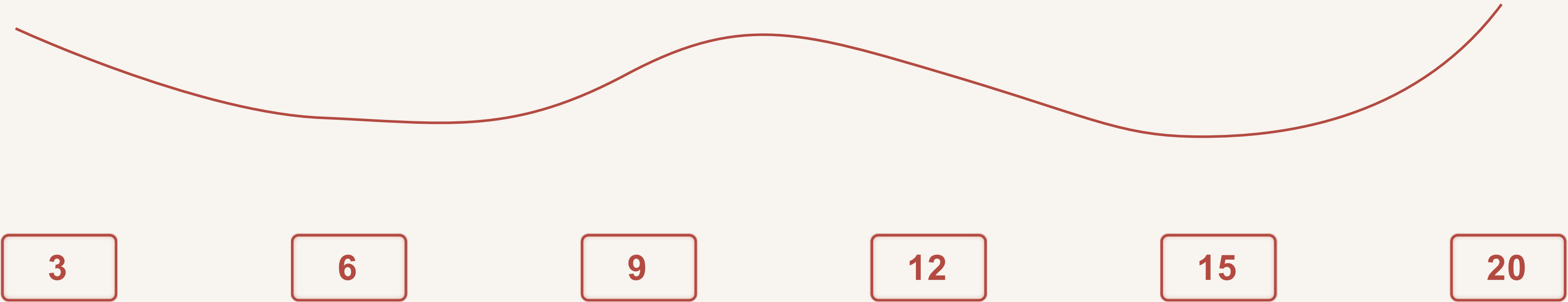
8-12

12-5

5-9

9-2

# DISTANCES



## AREA TYPE

☐ Residential

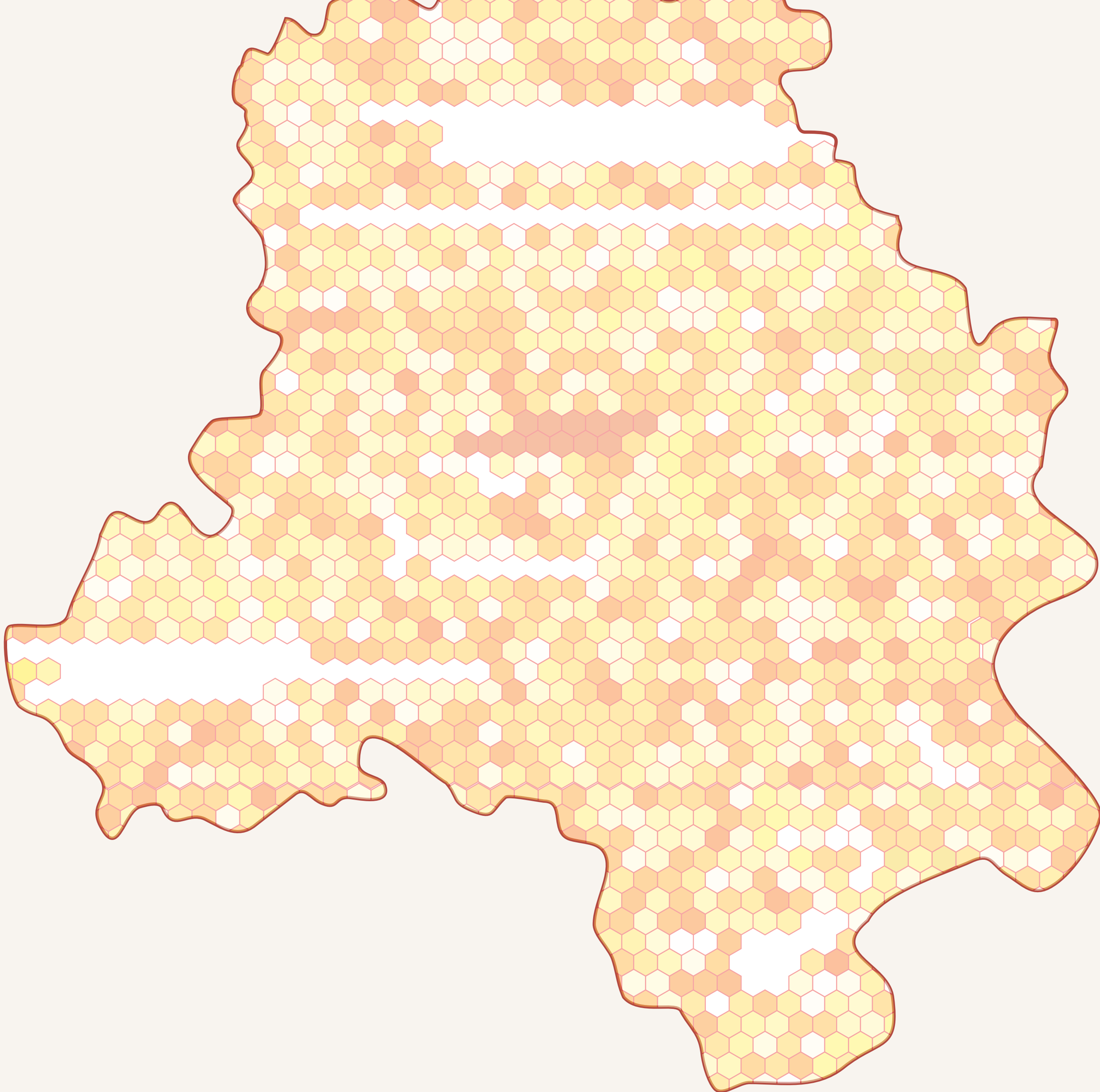
☐ Parks

☐ Commercial

☐ Railway

☐ Hospital

☐ Airport



Monday

+

5 - 9pm

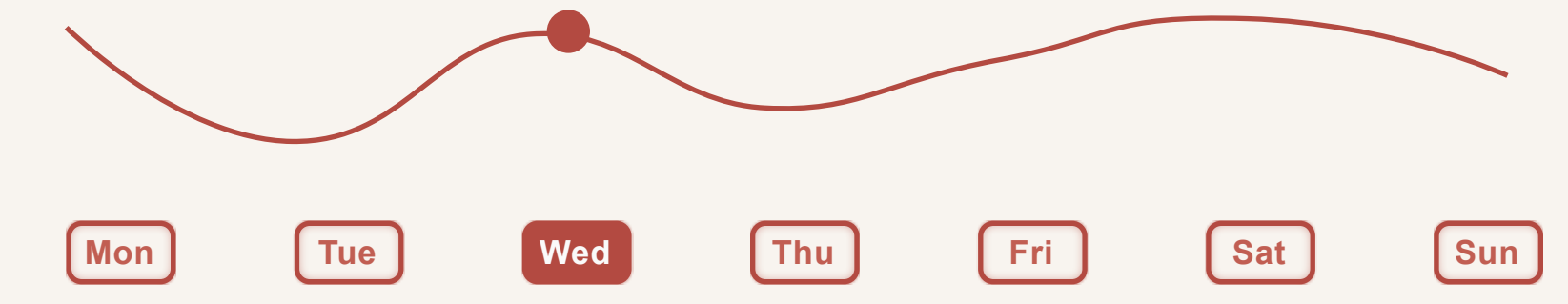
+

~ 9kms

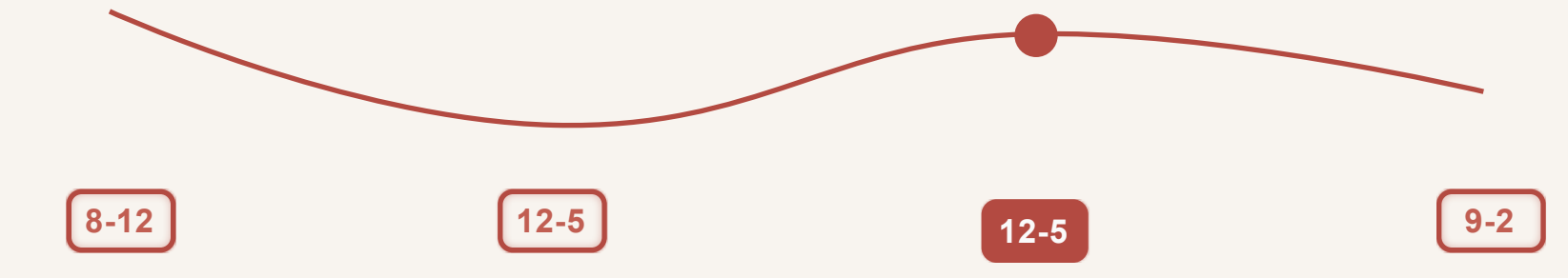
+

Commercial

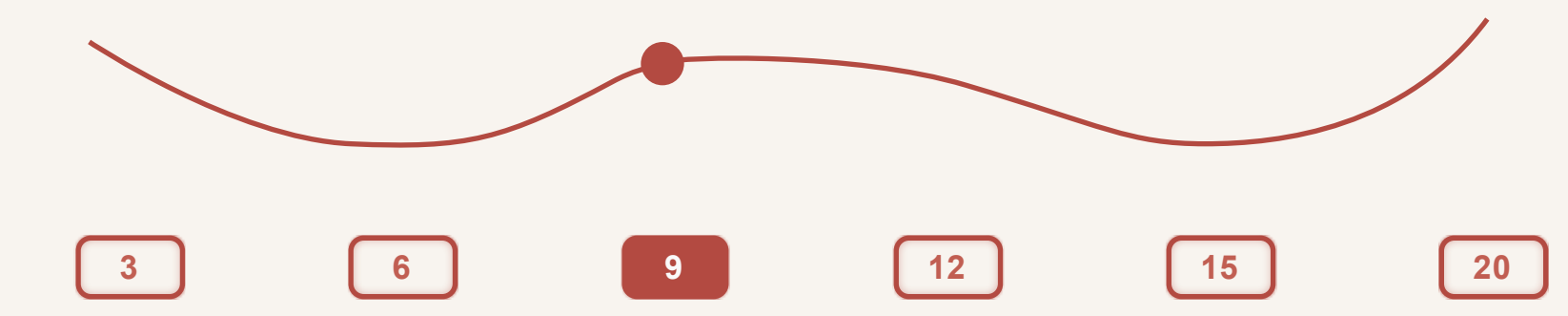
DAY OF WEEK



TIME OF DAY



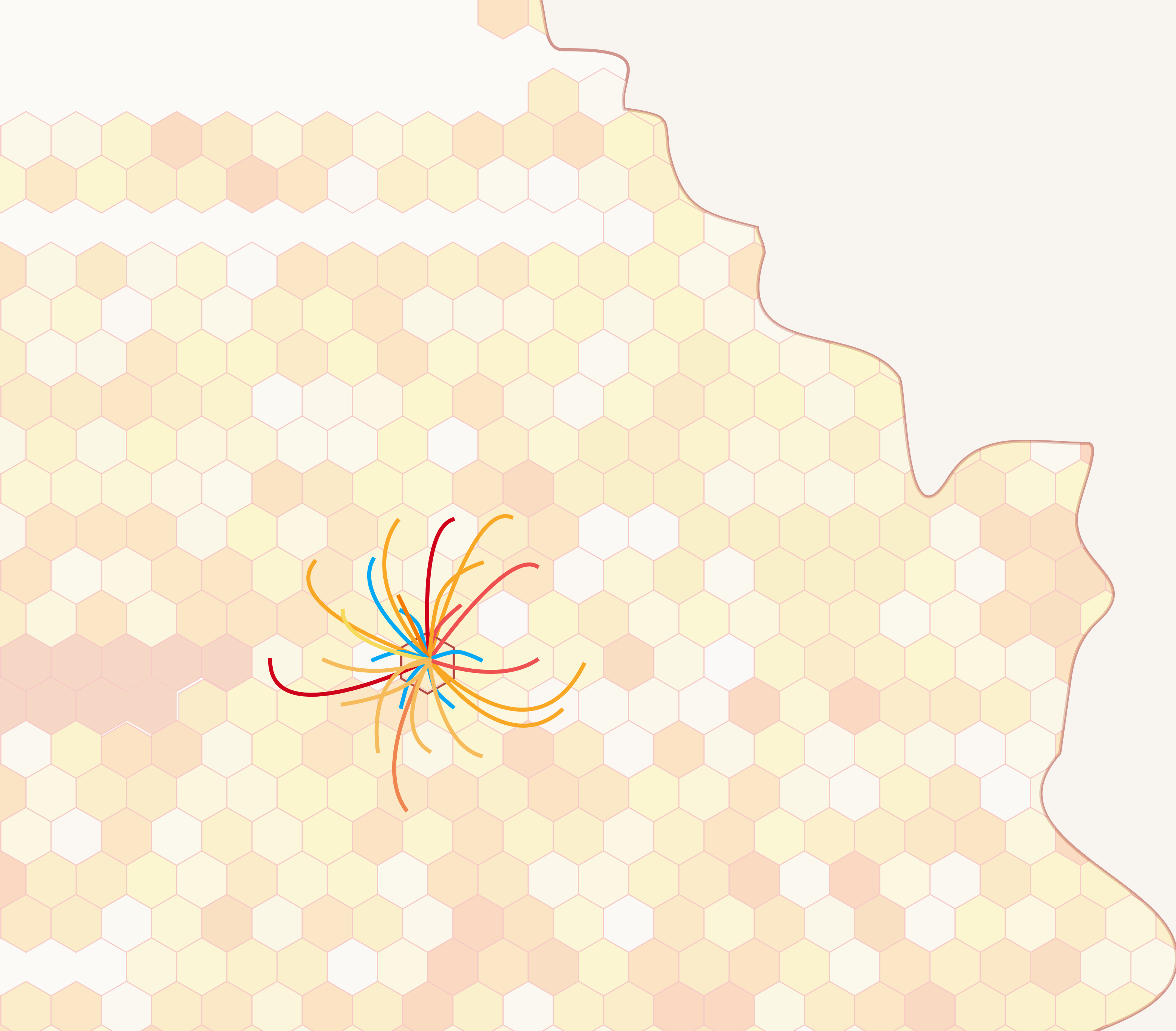
DISTANCES



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Monday

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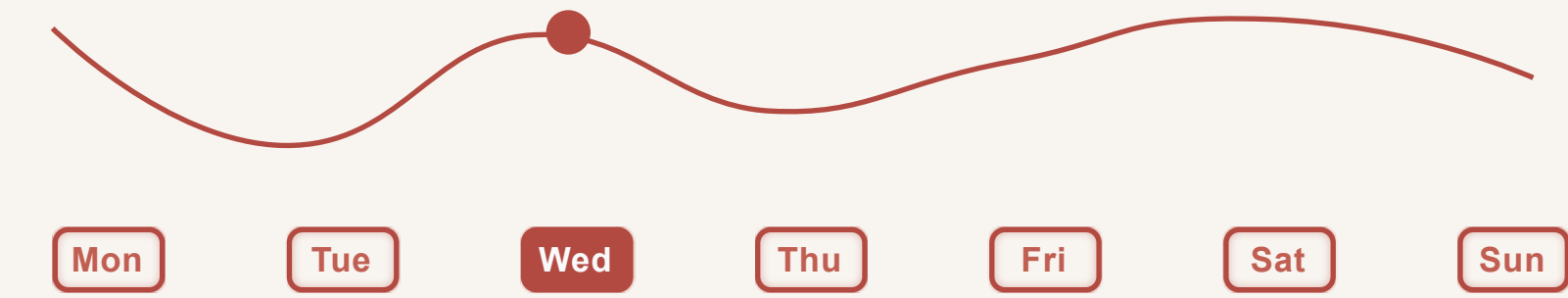
+

~ 9kms

+

Commercial

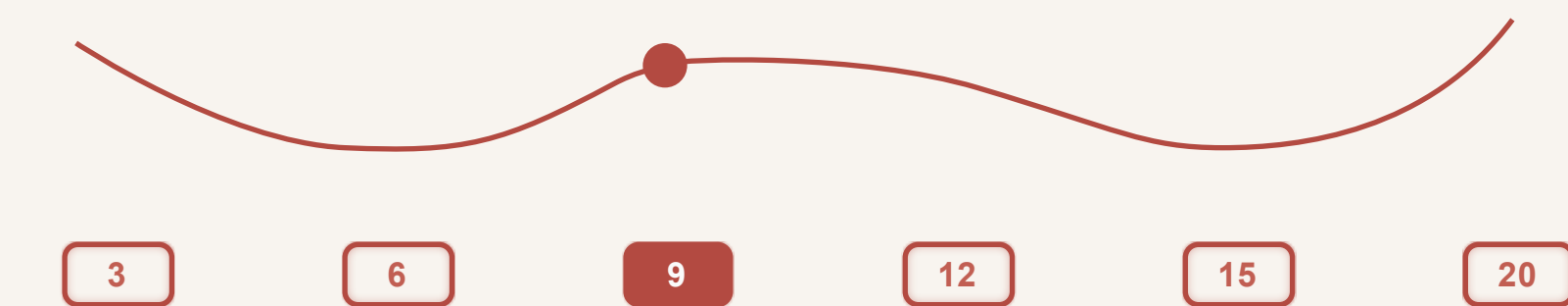
DAY OF WEEK



TIME OF DAY



DISTANCES



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# Data collection

**OSM Data** - geojson format data for different types of areas in Delhi.

**Google Directions API** - calculate time to travel from one point to another

**QGIS** - calculate bounds of Delhi and also identify / fix missing pieces

**turf.js** - geo spatial analysis.