# 15‑Minute City Accessibility · Cyprus Case Study

This project quantifies walkable 15‑minute access to eight essential service types (food retail, healthcare, education, green space, etc.) for Cyprus’s four largest cities: Nicosia, Limassol, Larnaca, and Paphos.

The entire analysis lives in one Python script—the same file you supplied—plus a handful of CSV inputs and the resulting output tables. No extra modules, no package refactor.

## 1  Quick‑start (pip)

# 1  Clone this repo  
$ git clone https://github.com/<your‑user>/15min‑cyprus.git  
$ cd 15min‑cyprus  
  
# 2  Create an isolated Python environment (optional but recommended)  
$ python -m venv .venv  
$ source .venv/bin/activate # Windows: .\.venv\Scripts\activate  
  
# 3  Install the exact dependencies  
$ pip install -r requirements.txt  
  
# 4  Run the full pipeline (generates all CSVs & figures)  
$ python CODE.py

⚠️ **Important:** Before running the script, open CODE.py and update the file paths at the top of the file to reflect the correct local paths on your machine (e.g., the location of the population data and where results should be saved).

All outputs are written to results/ by default (folder is created on first run).

## 2  Repository structure

15min‑cyprus/  
├── README.md  
├── requirements.txt # pinned package versions  
├── CODE.py # main analysis script  
├── data/  
│ └── raw/ # input layers (Population grid, OSM extracts)  
├── results/ # output CSVs & SHPs (auto‑generated)  
└── .gitignore # keeps large raw data out of Git

## 3  Data sources

| Layer | Source | Licence |
| --- | --- | --- |
| Population grid (1 km, 2020) | WorldPop | CC BY‑4.0 |
| Street network & POIs | OpenStreetMap | ODbL 1.0 |

Place raw files exactly as downloaded inside data/raw/—the script expects those paths.

## 4  Outputs & reproducibility check

Running the script should create

* paphos\_15min\_score\_pop.csv
* larnaca\_15min\_score\_pop.csv
* limassol\_15min\_score\_pop.csv
* nicosia\_15min\_score\_pop.csv
* cyprus\_accessibility\_pop\_15min\_index.csv

Compare the file sizes and row counts with the reference values in results/README\_results.md (generated automatically) to verify success.

## 5  How to cite

@software{<your‑surname>\_15minCyprus\_2025,  
 author = {<Your Name>},  
 title = {15‑Minute City Accessibility – Cyprus},  
 year = {2025},  
 version = {v1.0.0},  
 doi = {10.5281/zenodo.<six‑digit‑id>},  
 url = {https://github.com/<your‑user>/15min‑cyprus}  
}

A machine‑readable citation file (CITATION.cff) is included.

## 6  Licence

Released under the **MIT Licence**—see LICENSE for details.

## 7  Contributing

Issues and pull requests are welcome. Open an issue first if you plan substantial changes.

*Last updated : 09 Jul 2025*