

THESIS NOTES

Dataset Categories

1.) Urban Layout Data

Recommended Dataset: OpenStreetMap(OSM)

- **Source:** OpenStreetMap
- **Format:** Available in OSM XML, PBF (Protocolbuffer Binary Format), or shapefiles via exports.
- **Accessibility:** Free, open-source, and downloadable via the OSM website, Overpass API, or regional extracts from Geofabrik.

2.) Pedestrian Movement

Recommended Dataset: SFPE Handbook Data for Pedestrian Movement

- **Source:** SFPE Handbook (full access via academic institutions; excerpts in open-access papers like Pedestrian Evacuation Modeling)
- **Format:** Tabular data (e.g., speed vs. density tables) or descriptive parameters in publications.
- **Accessibility:** Partial datasets are available in open-access journals or academic repositories; full handbook access may require institutional subscriptions, but excerpts suffice for your needs.


3.) Fire Spread Data

Recommended Dataset: USGS Wildfire

- **Source:** USGS Wildfire Data
- **Format:** Shapefiles, GeoJSON, or raster data for fire perimeters and spread patterns.
- **Accessibility:** Free and publicly available via the USGS data portal or MTBS (Monitoring Trends in Burn Severity).

4.) Evacuation Behavior Data

Recommended Dataset:

- **Synthetic Data:** Generate based on standard crowd simulation models like the Social Force Model or Boids algorithm, parameterized from literature.
- **Case Studies:** Reports on past urban fire evacuations, such as the 2019 Kincade Fire vehicle routing dataset[https://www.nature.com/articles/s41597-022-01731-6)].