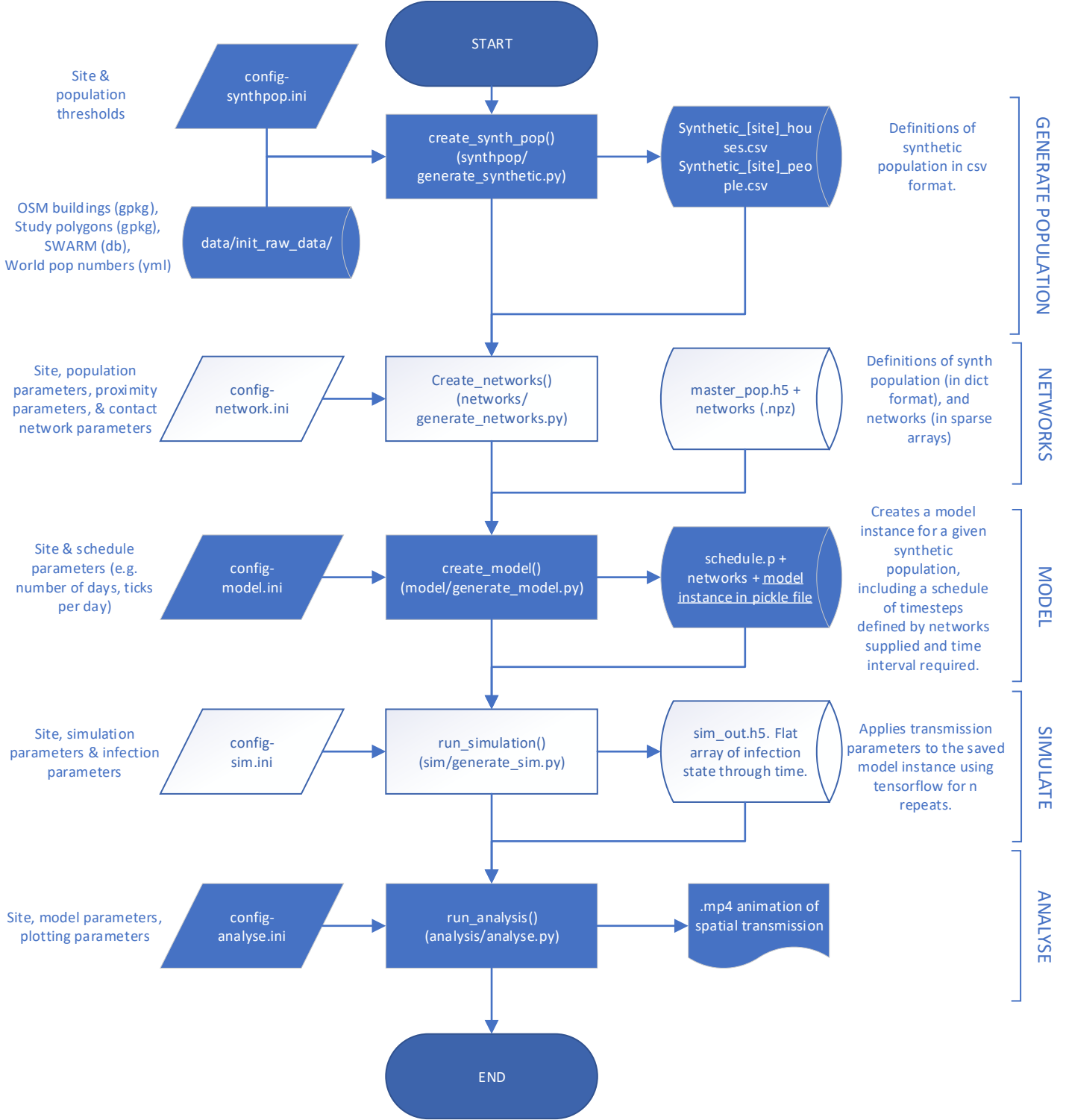
START
Site & population thresholds
config-synthpop.ini
create_synth_pop() (synthpop/ generate_synthetic.py)
Synthetic_[site]_houses.csv Synthetic_[site]_people.csv
Definitions of synthetic population in csv format.
OSM buildings (gpkg), Study polygons (gpkg), SWARM (db), World pop numbers (yml)
data/init_raw_data/
GENERATE POPULATION
Site, population parameters, proximity parameters, & contact network parameters
config-network.ini
Create_networks() (networks/ generate_networks.py)
master_pop.h5 + networks (.npz)
Definitions of synth population (in dict format), and networks (in sparse arrays)
NETWORKS
Site & schedule parameters (e.g. number of days, ticks per day)
config-model.ini
create_model() (model/generate_model.py)
schedule.p + networks + model instance in pickle file
Creates a model instance for a given synthetic population, including a schedule of timesteps defined by networks supplied and time interval required.
MODEL
Site, simulation parameters & infection parameters
config-sim.ini
run_simulation() (sim/generate_sim.py)
sim_out.h5. Flat array of infection state through time.
Applies transmission parameters to the saved model instance using tensorflow for n repeats.
SIMULATE
Site, model parameters, plotting parameters
config-analyse.ini
run_analysis() (analysis/analyse.py)
.mp4 animation of spatial transmission
ANALYSE
END