Response time targets for the Welsh Ambulance Service Trust (WAST) are not currently being met. In particular, more rural areas consistently perform poorly with respect to the target of reaching 65% of the highest priority emergency calls within 8 minutes, and are amongst the worst in the UK. This research is concerned with developing a simulation model for the ambulance service system to help WAST make better decisions on locations, capacities and deployments.

A discrete event simulation, making use of output from a Travel Time Matrix Generator and initial allocations given by a developed location model, will be run under various scenarios of interest to WAST, identifying the affect demand, number of available vehicles and handover times have on regional response. The model aims to help the Trust provide a more efficient and effective service to their population and to achieve the targets as set by the Welsh Government.