



pedestrian interaction

paramics, realistic pedestrian interaction

Quadstone Paramics provides a realistic representation of the “friction” to traffic flow caused by pedestrians. Our simple to use pedestrian modelling system allows users to obtain meaningful results quickly, ensuring a realistic model is developed within the minimum amount of time and resource. In Quadstone Paramics, our pedestrians are free space agents; simulated people who can move freely within the study area defined by the user.

In Paramics, we adopt a “dumb people, smart space” approach where the modeller alters the attributes of the pedestrian populated space in order to replicate real world observed pedestrian behaviour. This approach is simple and transparent to the end thus avoiding an overly complex pedestrian algorithm with many parameters that the user has to calibrate and fine tune. Different pedestrian types can be created to mimic different parts of the target population each with differing physical, kinematic, and animation properties.

Different space types can be defined by the user i.e. pedestrian only or shared space where pedestrians and vehicles can come into conflict with one another, for example a crosswalk.

Users can specify a variable profile of pedestrian demands in increments as small as one minute. Demand regions or spawning points can be defined at any location in the free space model with each region creating a customisable distribution of pedestrian types. Users can also specify the progression of pedestrians through the available space in a similar manner to specifying turning movements at a junction in the traffic model.



Pedestrian presentation graphics

Blocking regions are used in the free space model to forcefully control the flow of pedestrians. Blocking regions are Boolean gates which are open, allowing pedestrians to move forward, or closed depending on the options specified by the user. Blocking regions can take any shape and can be controlled using a range of trigger conditions, including:

- User defined time intervals including repeating and “fire once” options;
- Linkage to a specific phase at a signalised intersection; each time the phase is executed the blocking regions gate is opened;
- Linkage to a call on demand phase at a signalised intersection; each time a pedestrian approaches the blocking region (walks up and pushes the cross button) the phase can become active for its next scheduled execution; and
- Optional Linkage to UTC or actuated signalling systems; SCOOT, SCATS, PCMOVA, VSPLUS, NEMA etc.

Un-signalised pedestrian crossings can be modelled using a combination of shared and vehicle aware space. Depending on the type of crossing, different types of shared space can be used to make vehicles yield to agents waiting to cross or to aggressively move through the shared space interacting with agents. Signalised pedestrian

