



Societal Risk Modelling

This work requires very specific population density figures and the most effective way of gathering real world data of the position, type and condition of a building along a cross-country linear asset is to carry out a hi-res aerial photographic survey. The aerial data capture element of the project uses a variety of aircraft. For cross-country routes, a fixed-wing aircraft may be appropriate, whereas for the more intricate lines, such as in urban areas, a twin-engine helicopter is used.

Thousands of high resolution digital still images are taken of each route and these, along with IMU and DGPS data, are then processed and georeferenced. Oblique imagery gives a vertical face of the building which makes categorisation far easier, quicker and most importantly much more accurate.

Population Data is harvested from these aerial obliques and integrated into our map software, with visible layers of the pipeline and buffer, this allows us to derive populations in the various sectors around the line, which are needed to feed into the societal risk model.

To analyse the data, every building within the buffer is identified and marked according to its' type, whether this be commercial, industrial or domestic and a population marker is attached. This information is then fed into a database which will analyse population density along the route into high, medium or low depending on the results, this will help build a societal risk model in a map format.

An additional layer provided by the client was the Heavy and Standard Wall sections. Although not used in the planning stages, it was used to help identify areas of high population that already have suitable mitigation in place.

Delivered online using our Visivi POP software, areas of interest can be highlighted by the client and reviewed for any changes on a regular basis.