

## GPR for Road Investigations



Alpha Geoscience offers road survey using "Ground Penetrating Radar" (GPR) to 'look' into the ground to determine features of the subsurface of the road that are not able to be seen on the surface.

Alpha has been working with the **Roads and Traffic Authority (RTA)** of NSW on a number of road survey projects to determine cavities and void under the road and would like to offer this services to others who have a responsibility for road safety.

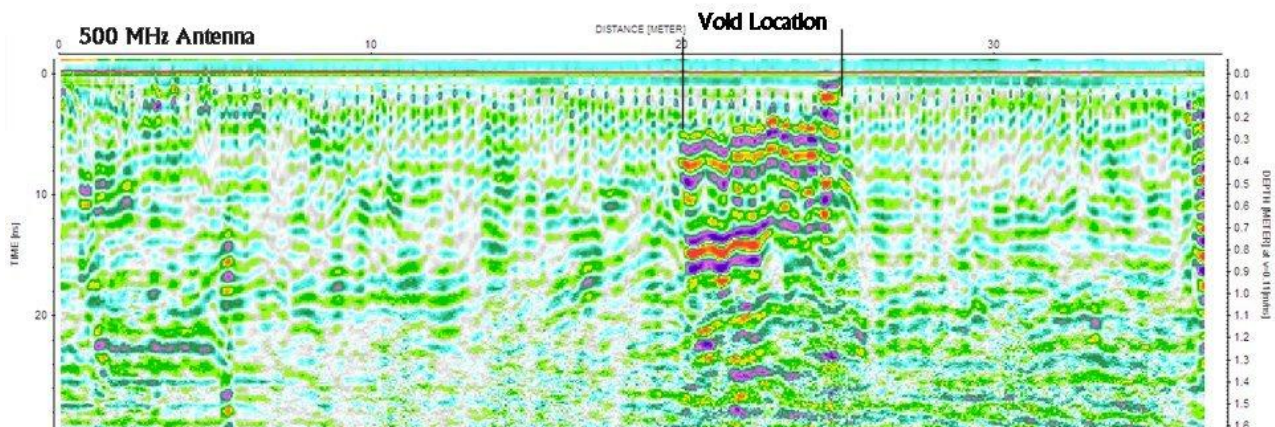


The GPR technique is similar to a boat echo sounder, sending out a radar electromagnetic pulse into the ground and looking for reflections back from layers, changes in material or voids buried in the ground. The depth of penetration depends on the conductivity of the ground and the frequency of the equipment used but it can be from 10 cm. to 10's of metres.

The system comprises of an antenna (various frequencies are available from 25 MHz to 2.4 GHz) a control unit and a recording / display unit. Data is combined with Differential Global Positioning System (DGPS) for position and is then interpreted and displayed in a GIS form for presentation.

Alpha use Mala Geoscience (from Sweden) equipment exclusively for GPR survey work. The equipment can be rented or purchased from Alpha Geoscience if required. Training is able to be provided.

The example below shows an actual void on a roadway in Sydney using this technique.



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