TRACE
STRUCTURAL INVESTIGATIONS

MAPPING THE CORROSION POTENTIAL OF DOWEL BARS

To allow for targeted repairs mapping of key affected areas was essential.

OBJECTIVES

A main A-Road in the east of England was constructed with un-reinforced concrete slabs joined with dowel bars. Visual deterioration to the surface caused concern about the condition of the dowel bars.

SOLUTIONS

The client brought in Trace-SI to investigate the key areas of concern using non-intrusive investigation methods. Trace-SI undertook extensive scanning to map the areas of increased corrosion potential.

A system, connected to an RTK GPS that embeds coordinate data directly into the GPR data as it is being collected, greatly increasing the positional accuracy of detected features.

The data was collected on site and Trace-SI analysed and interpreted the data off site.

Trace-SI have developed bespoke workflows to increase the accuracy of corrosion potential mapping by combining automatic analysis with manual interpretation by experienced consultants. This ensured that the areas suspected of corrosion were accurate and not anomalies in the data

All results were geospatially accurate and plotted onto CAD or Google Earth, as required.

BENEFITS

Site works were fast, non-destructive and could be undertaken through existing pavement layers - with no drilling required

Data was collected at high-way speeds, without traffic management

Through repeat scanning, any changes of the bars could be mapped and future repairs predicted.