

Infrasense Scans 48 Bridge Decks Around Lima, Ohio Using GPR

Infrasense, Inc., a national leader in infrastructure nondestructive evaluations, carried out subsurface investigations for 48 bridge decks representing nearly 240,000 square feet, throughout Ohio's District 1 region.

Boston, MA ([PRWEB](#)) March 31, 2017 -- Due to unseasonably warm weather in late February, Infrasense, Inc., a national leader in infrastructure nondestructive evaluations, was recently able to carry out subsurface investigations for 48 bridge decks, representing nearly 240,000 square feet, throughout Ohio's District 1 region. The subsurface investigations were performed using vehicle-mounted high-speed ground penetrating radar (GPR) to scan the bridge decks and their approach slabs. Visual underside inspections were performed to supplement the GPR results. These tests provide a condition assessment of the reinforced concrete bridge decks without requiring lane closures and with no disruption to traffic flow. [Since 2014](#), Infrasense has scanned 86 bridges in Ohio District 1 using high-speed GPR, totaling over half a million square feet of analyzed deck area.

Ground penetrating radar (GPR) data is collected at highway speeds to estimate rebar depth, corrosion conditions and deteriorated concrete. The GPR data is collected in a series of lines spaced 3 feet transversely across the width of the deck, with each line representing a cross sectional slice of the deck at a particular offset. Decks in good condition consist of strong and uniform radar reflections from the rebar. GPR data with weak and inconsistent reflections indicate rebar-level deterioration in the bridge deck. Infrasense uses its own proprietary software to analyze and map this data to provide comprehensive results for its clients.

Ground penetrating radar surveys provide transportation agencies with accurate and comprehensive bridge deck condition information, enabling effective preservation, rehabilitation, and replacement decisions. With large bridge deck inventories, highway agencies have primarily relied on visual inspection at the network level. Since the mechanisms of deterioration occur below the surface, their manifestations are not readily seen in the visual inspections. As a result, visual deck assessments are often inaccurate, and do not provide a sound basis for planning repair and rehabilitation.

Traditionally, highway agencies have employed sounding (chain or hammer) to identify delaminated areas for project-level rehab. Although sounding has proven reliable, the labor and closures required for a sounding survey makes it prohibitive for obtaining data of a large number of decks. Also, sounding is not effective when there is an asphalt overlay. In response to these limitations, a number of highway agencies have utilized alternative methods such as ground penetrating radar.

About Infrasense, Inc.

Since 1987, Infrasense, Inc. has applied state-of-the-art technologies to address the most difficult challenges in subsurface scanning. Infrasense's engineers are able to nondestructively extract critical information from a diverse range of structures. In addition to providing ongoing subsurface evaluation services to clients across the country, the firm has also conducted numerous research programs to advance the field of subsurface detection and non-destructive evaluation.

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