

**SERVICES**

Durability Assessment  
Service Life Analysis  
Durability Testing

**KEY PERSONNEL**

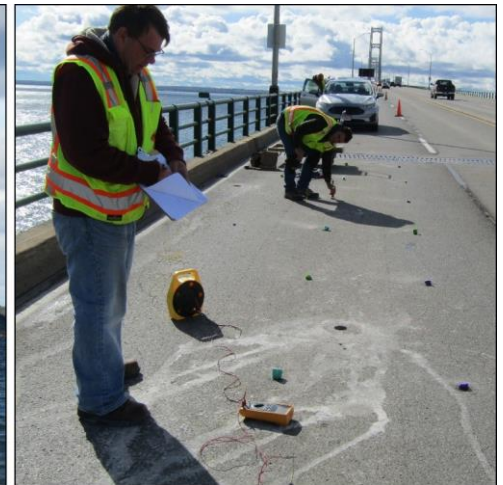
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The Mackinac Bridge connects the lower and upper peninsula of Michigan. The bridge was opened in 1957 and is constructed with a steel substructure and a combination of open steel grating, filled steel grating and concrete for the deck. The Mackinac Bridge Authority (MBA) retained Parson's to perform an in-depth evaluation of the structure, with a particular focus on the deck ahead of a contemplated replacement. Tourney was retained to perform testing of the existing structure and estimate the remaining service life of the bridge deck.

Testing included extracting cores for compressive strength, chloride profile, transport properties and petrographic testing, perform ground penetrating radar surveys and half-cell corrosion potential testing. The testing information was used as inputs into service life modelling that was used to estimate the remaining service life of different sections of the bridge deck. This information was then used by Parson and MBA to plan and budget for future bridge deck replacement.