

PROJECT OVERVIEW

Aberdeen Station dates from the early 20th century and is an important asset in Network Rail's station portfolio in the North of Scotland. The roof comprises of early-steel arched truss girders spanning a large open concourse.

RBA were commissioned on behalf of Network Rail to develop strengthening solutions following assessment of the truss capacity to modern standards that identified the tension members as being under strength under combined bending & axial stress.

Working in partnership with a Tier 1 framework contractor, our experienced Structural Engineers completed a detailed inspection of the structure over a series of nightshifts, when the station was closed to the public and access could be gained using ground mounted MEWPs.

The RBA team provided the following services:

- Liaison with Station management to agree permits for authorised access, and co-ordination of access plant
- Tactile survey of the truss members to evaluate condition and verify dimensional information.
- Structural analysis of the existing structure to verify assessment results
- Identification of conservatism within the previous structural assessment using advanced FEA techniques and modelling software
- Preparation of a technical report compliant to NR/GN/CIV/025 and NR/L2/CIV/035, outlining the findings of the analysis
- Recommendations for future inspection and maintenance works

As a result of RBA's analysis the client was able to de-scope a significant strengthening project, saving a considerable sum on intrusive strengthening.

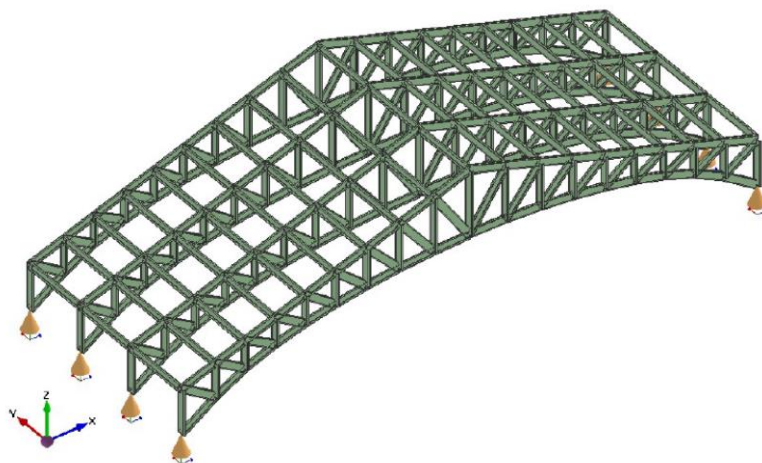
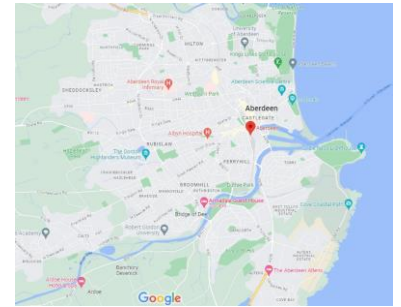


Figure 2: 3D Model of Grillage



Services Snapshot

- Access Planning
- Structural Survey
- Structural Analysis using FEA Modelling Software
- Technical Reporting