



Manchester Central Library Manchester, UK

Completion March 2014

Project Type Civic

Client Manchester City Council

Main Contractor Laing O'Rourke

Value £40m

Area 14,260sqm

The transformation of a grade II* listed library as part of the wider refurbishment of Manchester's town hall complex, widely regarded as one of the finest groups of civic buildings in the country.

Through early and ongoing consultation with English Heritage, the major heritage spaces were restored to their former glory. New interventions were designed as modern features within the neo-classical structure.

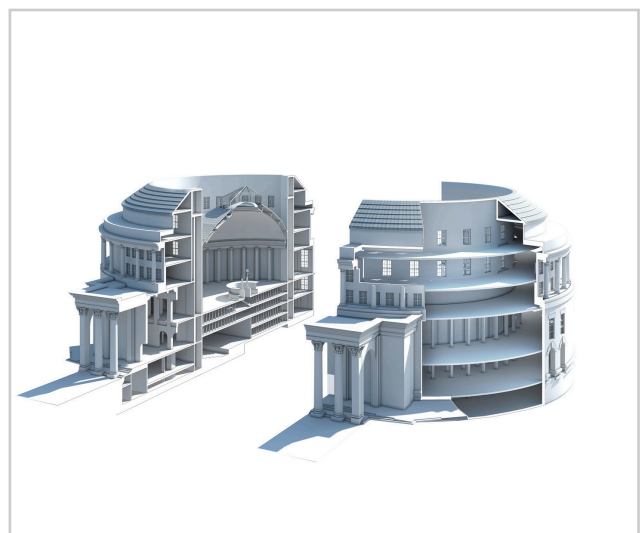
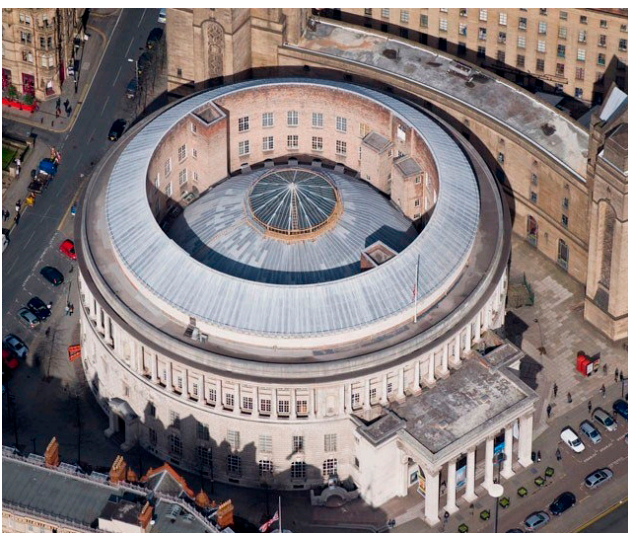
The library had become tired, cluttered and no longer viable. The existing circular structure was disorientating and the stairs were enclosed and uninviting. The book stacks were inaccessible, with limited fire resistance and no environmental control.

Retrofit Type

**Critical Infrastructure - Cultural
Heritage**

Retrofit Strategy

The historic spaces were refurbished and restored using traditional materials and techniques which included the original furniture and fittings.



“Despite the fact there was no contractual obligation to use BIM, the team achieved excellent results and added value for the client throughout the project.”

Arto Kiviniemi, Chair in Architecture, Liverpool University



This involved extensive research and investigation of the existing fabric. Written accounts of the building and historic photographs informed this work. The building was also laser scanned and a full 3D point cloud survey and building information model were produced.

The project was designed to deliver a 41% reduction in CO₂ emissions and to achieve a BREEAM Excellent rating. Fundamental to achieving this was the provision of a combined cooling, heating and power unit located below ground. Airtightness was also improved through upgrades to the existing windows and doors.

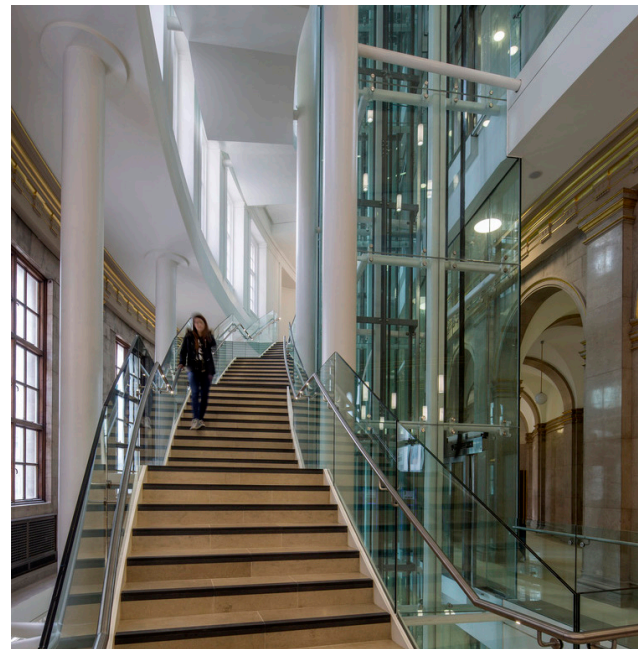
Safety interventions include upgrades to the glazed floor, in which sections were designed to rise hydraulically in the event of a fire to provide additional smoke clearance from ground level.

Vertical circulation of the existing building was poor. Lift provision to the upper floors was inadequate and the existing staircases were confusing.

To address this, a new series of stairs were inserted and a bank of scenic lifts were installed in the eastern quadrant of the building's outer ring.

New openings were created on each floor, revealing an entire section of external wall that was previously hidden. This allows visitors to appreciate the full extent of the building and encourages exploration.

The staircase and lifts aid wayfinding by providing a clear point of reference in an otherwise undifferentiated circular plan.



Lessons Learnt

An integrated BIM model was developed and used throughout. This included virtual build modelling to ensure that all areas were fully tested before work began on site.

Extensive surveys, interrogation and understanding was required to ensure the proposed design worked and would be installed and constructed as planned. Working in 3D and the use of BIM was essential for its success.