

# + UNDERNEATH THE ARCHES

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The adaptive re-use of former industrial buildings can play an important role in the revitalisation of our urban centres. Many of these spaces, such as vacant railway arches, are infinitely adaptable for a whole range of uses. Alan Soper, Studio Director, Stephen George + Partners, discusses the development challenges and opportunities.

## INTRODUCTION

The practice of taking an existing building that is no longer used for its original purpose, refurbishing it and repurposing it for something else is nothing new. However, the trend for adaptive re-use has come into sharper focus in recent years, partly driven by local government policies on sustainability and the circular economy, but more often seen as the cornerstone to town centre regeneration.

Indeed, the term 'adaptive re-use' has almost become synonymous with our ailing high streets, wrapped up in debates around Permitted Development Rights and whether redundant retail units should be converted for use as offices, professional services, cafés, leisure, or even residential. Often overlooked in these discussions about re-usable spaces, however, is the UK's rich and diverse heritage of industrial buildings, many of which are sitting redundant in prime urban locations or areas of regeneration focus.

## GREAT SPACES IN IDEAL PLACES

The railway arch is a perfect example of how former industrial buildings can play an important role in the revitalisation of our urban centres.

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In the past, these spaces were predominantly used for light industrial purposes, often associated in people's minds with vehicle-repair operations, but some now lie derelict or empty as those businesses have declined or moved elsewhere. Arches are architecturally distinct, often spacious and infinitely adaptable for a whole range of commercial uses. Typically found in rows, their conversion can create continuous active façades that function like high streets or economic clusters, while large entrances make them inviting and easily accessible from the street. Crucially, they are mainly located in urban centres, often in close proximity to new or established residential quarters, and are perfectly positioned to bring economic vitality to local communities.



## DEVELOPMENT CHALLENGES

By any standards, arches are not a 'normal' building type and each can differ considerably in height, depth and shape. They require a blend of survey, procedural, planning and design work, as well as technical proficiency, to refurbish them to modern occupancy standards. Our previous experience with old, historic or Listed properties, and the ability to work within the existing building fabric, has proved invaluable in progressing some of these schemes, as too has our technical knowledge of building regulations, particularly in relation to ventilation and fire security.

While the arches are derelict, many retain elements relating to former occupation that need stripping out. Comprehensive surveys of the structure and original brickwork might reveal cracks and water penetration from the overhead rail lines and new internal linings will be installed to prevent water ingress in addition to new concrete floors slabs. Furthermore, to make the arches ready for new tenant businesses to occupy, new services and drainage will be provided.

Part of the development challenge from an architectural perspective is also to maximise the tenable area. This is not always easy in an irregularly shaped space and made more difficult by the fact that structural elements cannot be attached to the arch itself due to the restrictions imposed by Network Rail who remain the owners of the masonry structure. Where headroom allows, clever design can allow for the introduction of a mezzanine or provide the flexibility for tenants to add their own at a later stage. Likewise, decks can be located at higher levels to house plant and ventilation equipment to maximise the rentable space.

Ventilation in arches is a particular challenge, both from a technical and planning perspective. As we can't go through the rail lines overhead and rear walls are likely embedded within the larger structure, often the only place we can exhaust and import air is through the frontage, requiring ventilation louvring to the façade that will meet the approval of the local planning authority. The technical resolution, combined with the aesthetics of the frontage, takes great skill, careful negotiation and a good understanding of tenant requirements learned from years of cross-sector interior design projects.

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## WHERE OLD MEETS NEW

As our Heritage Award wins for schemes such as Leicester's Great Central Station prove, at Stephen George + Partners we firmly believe that quality regeneration and imaginative modern architecture can co-exist alongside the older fabric of a city. Every industrial building is different and each carries its own historical significance; in bringing these buildings back into active use, sympathetic architecture can blend old and new.

While each of the arch schemes we are currently delivering will create contemporary spaces, it has been important to retain a sense of the industrial heritage of the arches and, where they are within Listed Buildings, to preserve the character of a site.

For example, we are currently working with The Arch Company to refurbish vacant arches at Crucifix Lane, Bermondsey, in the London Borough of Southwark. Designed by Charles Henry Driver, the arches form part of the final bays of the viaduct supporting the elevated London Bridge railway track and are deemed to be an example of more decorative railway architectural design, incorporating polychromatic brickwork and stone details. They were awarded Grade II Listing in 2011. Although previously occupied by a night club they have been vacant for several years, and are in disrepair.

As part of our work on this scheme, we are repairing much of the façade as well as reinstating areas of brickwork and traditional windows which have been lost due to previous alteration work. Our carefully considered design, which refurbishes the existing arches to provide a shell suitable for tenant occupation and fit-out with the inclusion of dedicated service supplies, creates an opportunity to revitalise these historic structures through active commercial use and ultimately contribute to their longevity.



## AHEAD OF THE CURVE

Like much of our industrial heritage, refurbished and repurposed railway arches present significant opportunities to facilitate economic growth in our urban areas. Their adaptive re-use, where possible, is also a sensible approach if we are to remain ahead of the curve on climate change. While older buildings require significant refits to improve their energy efficiency, their reuse can prevent the huge volume of carbon dioxide typically produced through demolition and new construction. A study commissioned by the Arch Company found that the embodied carbon level when creating light industrial space in a typical derelict railway arch was significantly lower than a new build equivalent\*.

We are delighted to be working with Arch Company on their ambitious programme, bringing these derelict arches back to life so that they can be appreciated and used by a new generation. If refurbished correctly, they present a long-term, sustainable solution to the economic vitality of our towns and cities, where a diverse mix of businesses can thrive, local employment is boosted and communities are transformed.

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