

Future Ideas Edinburgh

Celebrating 900 years of Edinburgh



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Foreword

As Edinburgh marks its 900th birthday, we find ourselves at a moment of reflection and renewal. This is a city built on ideas and innovation – rich in history, deep in culture, but always looking forward.



Jeremy Doherty
Edinburgh Office Leader

At Arup, we're proud to be part of that tradition, helping to shape a city that is resilient, inclusive, and fit for the next century.

To celebrate this milestone, we invited some of our early career professionals to imagine bold, tangible, and creative responses to the challenges and opportunities facing Edinburgh's future and its people. The result was our "Ideas for Edinburgh" competition, judged by some of our clients and partners whose insight and perspective added real challenge, credibility and value to the process.

It was inspiring to hear the passion, creativity, breadth and optimism that our junior colleagues brought to the table. Their ideas reflect the kind of forward-thinking, human-centred solutions Edinburgh will need in the decades to come.

From harnessing waste energy and heat pumps to power the city by connecting major hubs along the tramline.

To creating a centrally located Wellbeing Hub that brings people together through mental and physical health support.

To delivering sustainable active travel routes, connecting the north and east of the city through cycling and walking infrastructure.

And reimagining the Scotland Street Tunnel as a multi-use cultural, exhibition and public space – blending heritage with innovation.

Each idea is grounded in the principles of integrated design, long-term thinking, and civic purpose. They are provocations, not prescriptions – designed to spark conversation and inspire new forms of collaboration across Edinburgh's communities, institutions, and infrastructure.

As we look ahead to the city's next 100 years, I hope these ideas encourage all of us to think bigger, bolder, and together.



The Judges

At the early stages of the competition, we were delighted to be joined by several members of our judging panel who gave a series of inspiring and thought provoking talks to our teams as they developed and shaped their ideas.

Our competition culminated in the teams presenting their ideas to a panel of five expert judges from our clients, collaborators and partners. These presentations were hosted in our Edinburgh office and celebrated the diverse and original ideas created by the teams



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Chief Executive
of Edinburgh Council



Mark Elliot
Head of CivTech Division
Scottish Government



Hannah Ross
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Revitunnel(ise)

Winner



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Introduction

While buildings may be the foundation of our work, it's the public spaces that leave a lasting impression. The cultural, artistic, and historical spaces that shape collective memory, foster community, and bring vibrancy to urban life. Edinburgh's designation as a UNESCO World Heritage Site reflects its rich history, and vibrant cultural scene. Though Edinburgh is mighty in character, it is compact in scale; this makes it all the more important to make the most of all available space and every piece of the city's existing infrastructure.

We propose the transformation of the Scotland Street Tunnel into a striking arts venue and urban farming facility – an initiative that honours Edinburgh's heritage while enriching the experience of both residents and visitors.

The Site

Spanning one kilometre beneath the city centre, the tunnel connects Canonmills to Waverley Station and carries a layered history. Originally built in the mid-1800s as a railway link, it later became home to the Scottish Mushroom Company. During World War II, it served as the city's largest air-raid shelter, and in the 1970s, it even operated as a car dealership.



Our Vision

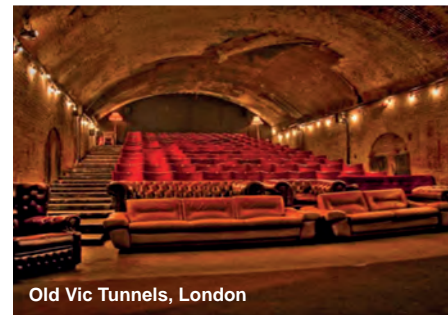
Our vision for the Scotland Street Tunnel is to transform it into a shared cultural space. We envision a vibrant, inclusive space shaped by local artists of all ages and backgrounds, whose diverse interpretations of Edinburgh's heritage will inspire conversation and attract both residents and visitors. This approach builds on the success of similar projects, such as the Colinton Tunnel in Edinburgh and London's Leake Street Tunnel, both of which have converted underused infrastructure into celebrated public assets.

To further diversify the tunnel's revitalisation, we propose dedicating a section to urban farming. Using LED lighting, fresh greens could be grown year-round and supplied to local businesses. With its excellent acoustics, the tunnel also presents an opportunity to become a unique performance venue – ideal for events during the Fringe Festival or as a standalone cultural space. This opens a path to commercial sustainability, with profits reinvested into the tunnel's ongoing development.

Impact

Though the area surrounding the Scotland Street Tunnel blends charm with well-used facilities, parts of it remain underutilised. Our proposal seeks to regenerate this space by preserving what works, upgrading what doesn't, and reimagining the tunnel. This is about more than only the tunnel; it's about activating the entire area for the people who use it such as park-goers, basketball players, dog walkers, families, and the wider community. It's about creating a space that reflects and supports local life, where nearby initiatives like The Yard and local businesses can thrive, and where artists can leave their mark on the city's evolving identity.

Beyond its local impact, the project offers a scalable model for urban regeneration. By pioneering urban farming in a central Edinburgh context, it demonstrates how forgotten infrastructure can be repurposed to grow food sustainably, reduce transport emissions, and protect green spaces—feeding both the city and the imagination.



Old Vic Tunnels, London



Growing Underground, London



Revitunnel(ise)

Edinburgh is renowned internationally as a centre of the arts, and for the impact that its heritage assets have on the city's people and places. It is also a city of multiple layers – culturally, geologically and in terms of its built environment. Its many hidden assets that hold all manner of secrets and stories. For me, this is part of the reason that makes the Revitunnel(ise) initiative a fitting asset and tribute to Edinburgh, in its 900th year – it takes something from Edinburgh's past to create a creative and imaginative place, fit for the next chapter of our city's life.

We often talk about creating a 'sense of place' within cities, or taking a 'placed-based approach' to the built environment. At Arup, we know that places are not only created through buildings, public space and infrastructure, but by how these places (and the space in between) are used, and the role this plays in creating a sense of belonging and identity. By reusing a currently hidden and disused asset, and making this available for a range of creative, sustainable and community-based uses, the Revitunnel(ise) project responds perfectly to Edinburgh's identity.

This would no doubt be a technically challenging project – but that's something we relish at Arup. Our foresight and creativity in placemaking and urban design, is complemented by our deep domain knowledge and expertise across all aspects of building and infrastructure design, safety and sustainability. And if the outcome is revealing another layer of Edinburgh's fascinating identity, and providing a disused asset with a new lease of life, then the effort is worth it!



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Re-Using Waste Heat

Runner Up



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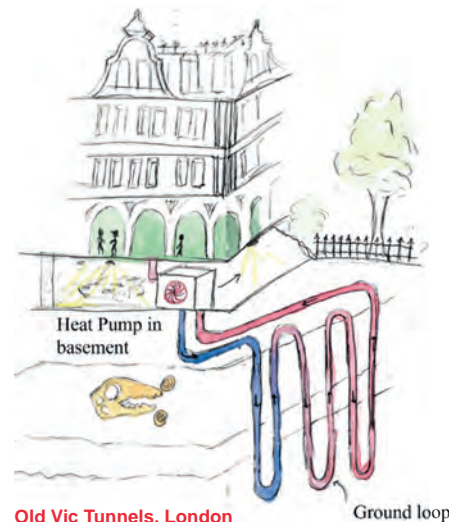
Introduction

The UK aim to achieve net zero by 2050 and for Scotland by 2045. However, Scotland and the wider UK are not on track to meet these targets. As set out in the Climate Change Plan Update, emissions for homes and non-domestic buildings combined will have to fall by 68% by 2030 as compared to 2020.

Our ambition is to reuse waste heat being generated, where possible, throughout the city and establish localised district heating networks (DHN) through Ground Source Heat Pumps (GSHP). Similar projects have been successfully completed throughout Europe in the last few decades. Through Arup's resources and interdisciplinary expertise, we look to apply and upscale this innovation to Edinburgh, confidently contributing to Scotland's net zero targets.

As such, there is a real need and desire to not only reduce our energy consumption but electrify our space heating to transition away from fossil fuels and reduce our energy dependence. In Edinburgh, like other cities in the UK, there is currently a heavy reliance on fossil fuels for space heating.

Celebrating its 900th anniversary, Edinburgh's iconic listed buildings and old town provide not only unparalleled beauty but a very real challenge to achieving climate targets and net zero. GSHPs can be a significant part of the solution to meet these needs for the future of Edinburgh; whilst respecting its architectural and façade heritage.



Ground Source Heat Pumps to localised DHN

Similar to air and water source heat pumps, GSHP are effective in transferring energy from one place to another by capturing heat and storing this underground to be used at a later date. GSHP provide the opportunity for Scotland to become not only more energy efficient, but also quieter and less visible than ASHPs. These in turn with the right framework in place, will lower costs for users both from a commercial or individual perspective. This also lowers greenhouse gas emissions released into the atmosphere in comparison to traditional heating/cooling methods e.g. fossil fuels, thereby improving air quality within Edinburgh for residents.

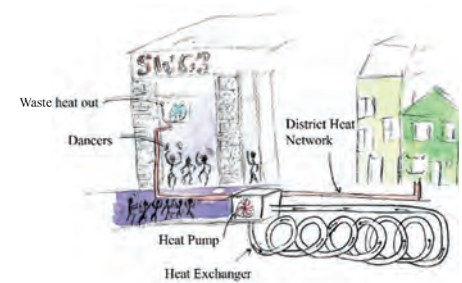
Previous examples of re-using waste heat and GSHP include a large-scale GSHP project in Central London installed by Onsen Energy; the One New Change building open loop GSHP in London, designed by Arup; the recently completed BODYHEAT project that had kick started innovation of GHSP technology in Scotland applied at COP26; Chivas Brothers, using heat recovery technologies to become carbon neutral by 2026; and the development of a Tunnel Energy Segment system to retrieve heat energy from tunnels applied in Austria and Germany.

Application to Edinburgh

Edinburgh is an historical city spanning 900 years. This provides the challenge of not only retrospectively introducing GSHP but also ensuring this history and any heritage is protected. Using the Edinburgh tram route spanning Edinburgh Airport to Leith as an example, we have identified locations to implement this idea, including modern spaces that are in proximity to new developments, and historical buildings used for commercial or recreational use.

Edinburgh Airport, an example, located on the outskirts of Edinburgh generating significant waste heat which could be taken to the next level and used to provide heating to housing developments in the proximity, such as West Craigs, creating localised DHNs. The Gyle and Ocean Terminal, two shopping centres with large car parking space and significant heating and cooling demands provides the opportunity to revive these spaces into net zero temperature-controlled commercial space. The Port of Leith distillery, following the Chivas Brothers to enhance the future of distilleries and reduce energy consumption by almost 50%.

With the rise of AI and data centres worldwide, implementing GSHPs for future data centre developments in Edinburgh and extracting waste energy to heat residential, recreational and commercial businesses nearby would be an effective cooling solution for data processing systems.





Re-Using Waste Heat

The concept showcased by the team presents a compelling solution for Edinburgh, where space is limited and we lack the obvious waste heat sources found in other major cities—such as rivers running through their centres or heavy industry. What makes this idea particularly exciting is the team’s identification of an additional opportunity: Edinburgh’s geological makeup. Could the city’s volcanic past hold the key to meeting its future energy needs?

The Urban Energy team at Arup in Edinburgh is growing and focussed on tackling one of the toughest climate challenges head-on: how to decarbonise heat. Heating alone accounts for around 24.6% of the UK’s greenhouse gas emissions, and in cities like Edinburgh decarbonising heat can be especially challenging due to its unique mix of old, stone built homes, widespread tenement and protected heritage areas. Innovation is certainly needed!

Arup is a leading force in the development of heat networks across the UK, actively advising both the UK and Scottish Governments on strategic direction and effective implementation. Our work includes in-depth research on the potential of waste heat and the preparation of the National Comprehensive Assessment (NCA) - a key report outlining how heat networks can contribute to achieving the UK’s 2050 carbon reduction targets.

We’ve also supported numerous cities across the UK in developing Local Area Energy Plans, Local Heat and Energy Efficiency Strategies, and feasibility studies for low-carbon heat networks—guiding projects from high-level strategy through to detailed design



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Edinburgh Wellbeing Hub

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Introduction

The Wellbeing Hub is a proposed initiative aimed at providing a dedicated space in the centre of Edinburgh where people can meet, relax, and find a sense of community.

This hub would offer both indoor and outdoor features designed to help people destress and improve their wellbeing. It would bring together community groups, charities, and Edinburgh residents, in one accessible, affordable and welcoming hub.

Features

- **Outdoor Area:** Open to all, featuring lush green spaces with diverse flora and fauna for tranquil walks and relaxation.
- **Indoor Space:** Dedicated areas for yoga, breathwork, and meditation, offered by pioneering charities and community organisations.
- **Community Activities:** Spaces for art and craft or music groups to help combat loneliness.
- **On-site Café/Dining Area:** Providing a place for social interaction and relaxation.



Benefits for the community

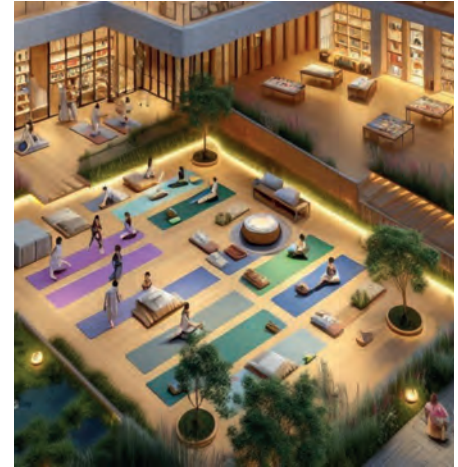
Mental health issues are increasingly prevalent, with one in six people in the UK experiencing a common mental health problem like anxiety or depression each week. The issue of everyday stress has been compounded by the loss of community spaces following the pandemic, as well as a growing cost of living crisis, which is particularly acute in Edinburgh.

The Hub would be a dedicated space for people to come together and meet, without having to worry about the financial impact or travel logistics. Partnerships with a wide range of community groups and charities would ensure that there is always something going on, allowing people to drop-in, and incorporate wellbeing focused activities into their daily lives.

Benefits for organisations

The fragmented network of community halls and centres throughout Edinburgh has created a barrier to people organising and attending the wide range of community groups that run in the city. This central and accessible space would raise awareness of their fantastic work, and the opportunities that are available for Edinburgh residents and visitors.

Divya's own experience of volunteering for The Art of Living, which teaches science backed techniques for effective stress management, highlights the need for spaces like this, and their potential impact on people's lives.





Edinburgh Wellbeing Hub

The vision for a new wellbeing hub in Edinburgh is both timely and inspiring. By creating a dedicated space that actively works to dismantle the stigma surrounding mental health, it would provide a meaningful step toward a more compassionate and inclusive society. A hub would offer a safe, supportive environment where individuals could seek help without fear of judgement. More than just a facility, it would serve as a catalyst for connection, resilience, and empowerment—helping to position Edinburgh as a forward-thinking capital that truly prioritises the wellbeing of its people.

As someone deeply committed to building stronger, healthier communities, I believe a wellbeing hub or hubs in Edinburgh could be transformative. Imagine welcoming spaces in the heart of the city—open to all—where people can pause, connect, and take care of their mental and physical wellbeing. Whether it's through mindfulness sessions, creative workshops, or simply sharing a coffee in a calm, inclusive environment, the hub would offer practical, low-barrier support at a time when many are feeling the strain of rising costs and social isolation.

This isn't just a nice-to-have—it's a strategic investment in Edinburgh's future. With one in six people in the UK experiencing mental health challenges each week, we need to rethink how and where support is delivered. A wellbeing hub would complement existing digital support services the local authority already provide and bring them to life in a physical, human-centred way. To me it's about creating a space that reflects the values of the city and its citizens: compassionate, forward-thinking, and inclusive. I'm proud to support this vision and invite others to help make it a reality.



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The Yellow Mile

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Our Vision

Our vision for the “Yellow Mile” is to create a traffic free walking and cycling route by transforming the disused Powderhall railway line. The route will celebrate the Tour de France coming to Edinburgh in 2027 and be surfaced in yellow tarmac, paying tribute to the iconic yellow jersey.

This project builds on the success of other disused railway lines in Edinburgh that have been converted into walking and cycling routes, while also adding the excitement of celebrating the Tour de France. The visibility of this unique route will encourage more young people to cycle and embrace active travel. It will also provide a critical missing link in the city’s cycle network by connecting the North and South of Edinburgh.

Why?

The chosen route is crucial for Edinburgh to achieve its City Mobility Plan target of reducing car travel by 30% by 2030, primarily by encouraging more walking, wheeling, and cycling. This initiative goes beyond simply adding new routes; it focuses on integrating with the existing active travel network, including the National Cycle Network and Core Paths, to facilitate car-free movement. Furthermore, by connecting areas of higher deprivation (indicated by red and orange shading on the map) to the wider network, the plan offers sustainable, affordable, and inclusive transportation alternatives.



The Cycle Hub

As part of this celebration of cycling and the Tour de France coming to Edinburgh, our idea also includes creating a cycle hub along the 'Yellow Mile'. This will be a dynamic space where communities come together, where cycling isn't just travelling to work but a shared, enjoyable experience. The hub will feature a repair shop and a second-hand bicycle shop, making bikes more accessible to everyone. There will also be cafes, workshops, and public spaces, designed for learning, socialising, and creating a welcoming environment.

This hub offers the opportunity for retrofitting or repurposing existing buildings as well as new build. Three potential sites were picked along the cycle path. These include:

McDonald Road Power Station: built in 1899, offering a chance to retrofit a historic building near the disused railway, that is currently vacant and sits on the Buildings at Risk register.

Lochend Park: providing a greenfield site ideal for new architectural development, connecting the green space to the safe shared use path.

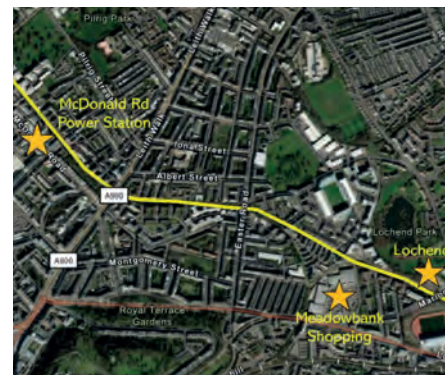
Meadowbank Shopping Park: originally a foundry, providing industrial heritage and shaping Edinburgh's transport infrastructure.

It is now a busy retail area that could be repurposed and modernised to integrate cycling infrastructure while maintaining existing businesses.

Impact and Benefits

The 'Yellow Mile' could become a vital green transport artery in Edinburgh, cutting carbon emissions and boosting active travel. This off-road route, designed for walking and cycling will, offer a safer alternative to the existing road network, thereby encouraging more people to embrace active commuting – a major hurdle often being the safety concerns associated with road cycling. Furthermore, by collaborating with and celebrating the Tour De France, the 'Yellow Mile' can serve as an educational and motivational platform, inspiring individuals of all ages to embrace cycling not just as transport, but also as a healthy activity.

Lastly, given Edinburgh's considerable congestion, partly due to its historic and protected sites, the yellow mile presents a unique opportunity. Situated on a currently unused and unprotected site, it can be easily and affordably retrofitted to create a safe, uncongested new route through the city.





The Yellow Mile

The health, wellbeing and social benefits of walking and cycling in our towns and cities are clear. Active travel complements the wider urban environment, and produces more resilient and enjoyable places to live, work and visit. Adapting existing neighbourhood spaces to accommodate successful active travel facilities for people walking, and cycling requires thoughtful planning, design, and extensive engagement.

Significant progress on active travel is being made in Edinburgh that the 2027 Tour de France Grand Depart can both showcase and inspire future change. Designing and planning an enduring legacy from this event will contribute to the ongoing transformation of how people move about Edinburgh in a sustainable, healthy, and enjoyable way.

The concept presented by the team does exactly this by repurposing an existing piece of infrastructure for active travel use, enabling more everyday journeys to be made actively.

Active Travel is an intrinsic part of our strategic planning business and design activities. We offer services to both public and private sector clients, focusing on the end-user; the individual walking, cycling or wheeling and the communities in our towns, cities and rural landscapes. In the last few years, our Edinburgh active travel team has developed award winning travel network strategies, plans and designs for local community groups, private developers, local authorities and regional transport partnerships throughout the country.

Locally in Edinburgh, our specialist active travel team has expertise in developing active travel policies and strategies, designing cycle and walking infrastructure, analysing accessibility and inclusivity, and advising on behavioural change, bike sharing and wayfinding such as our work on the South East Scotland regional active travel network.



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Get in touch

We hope you enjoyed reading these ideas. We challenge you to think about your vision for the Future of Edinburgh – what would you like to see in our city in 100 years? What would you like to see change and why?

Dedicated to sustainable development, Arup is a collective of 18,500 designers, advisors and experts working across 120 countries. Founded to be both humane and excellent, we collaborate with our clients and partners using imagination, technology and rigour to shape a better world. And we are passionate about the difference we can make to people, businesses and the environment in Edinburgh, the United Kingdom and the world.

If you'd like to discuss these ideas further or would like to know more please contact Edinburgh@arup.com or reach out to us on social media to continue the conversation.

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