Wanted: A vision for Leith Walk

Leith Walk suffered a big setback when it was decided that the tram would not go through it - yet. Not only this was bad news, but Leith Walk’s situation became actually worth than it was few years ago before the tram works started. Buses were diverted, pavements were closed down, it simply became a building site. This was the final straw for a lot of businesses who tipped over. Leith Walk went down a little further... and so did Edinburgh.

Now Leith Walk needs a push and not a gentle one. It actually needs more than a push, it needs a vision. But what kind of vision? We heard about “regeneration”, “redevelopment”, “transformation” but all these terms seem to add confusion as they tend to ignore not only the genuine nature of Leith Walk, its flows, its grain but also the global economic transition we are going through. There is a chance now to think about Leith Walk not only within Edinburgh but also in a much wider context. Yet there seems nowadays to be a confused relationship between the citizens of Edinburgh and our own city as major decisions are born from consultations but their outcome can be so ill-managed that we are simply left estranged. So let’s not talk about the tram anymore, let’s rather talk about tomorrow’s Edinburgh and what could be its next most important decisions.

The transport sector produces more greenhouse gas emissions than any other sector in Scotland. But town planning strategies and local policies can call upon a number of initiatives to reduce this source of pollution. More than 300 communities around the world have already joined the “Transition Towns” movement, commencing the process of reducing their dependency on oil. In the same spirit, local associations in Edinburgh like Greener Leith and Leith Open Space are trying to raise citizens’ awareness about environmental issues which concern not only Leith.

Edinburgh council has been looking for a vision for Leith Walk and we believe that this vision has to embrace the whole city: the network might be the key, but not any network. A network which belongs to the city’s history, which links the seemingly unlinkable. Edinburgh needs a new landscape which should depend on existing and underlying links.

Why relying on the underlying links of the city? Because sustainability should be considered first as a way to reuse what is already there, and therefore considered as a saving, not a cost.

It is undeniable that Leith Walk has its own logic, its own flow and going against feels like going against a river. Bicycle lanes are being introduced but what about going East West? Leith needs a route which would link the east cycle path from Portobello right to Pilrig Park and the west of the city.

One might argue that creating such a route sounds almost Herculean. Yes, but for one location: the old elevated railway tracks from Gordon Street to Jane Street, where there was once a bridge. The structure is just there waiting and actually needs urgent action if Leith doe not want to see another monument disappear.

This route would not only bring a solution to the network’s short circuit, it would be an elevated park and therefore become a destination for the whole city.

“You have arrived in Leith”.

From street level, the signal would be a timber bridge above Leith Walk linking both sides of the existing viaduct. The idea is to bring a lightweight structure with low embodied energy. Construction materials based on plant products represent the way forward in terms of diminishing our dependence on hydrocarbons. Therefore timber would represent an excellent choice of material.

An initial study by the Napier University and the Centre for Offsite Construction + Innovative Structures has shown that as a result of its durability, structural performance, ready availability and comparatively low cost that Larch (Larix decidua, Larix europaea, Larix kaempferi) grown in the UK may provide a viable option for specification as part of this project. Locally and bio-sourced timber provides an excellent ecological solution. The whole frame should be sourced from Scottish forestry and locally assembled.

This project is about social ecology as it seeks to restore an area of the city to its citizens. And not any any place that is. Leith has a long history of being compelled to submit to urban constraints and occupying a specific position on the social scale.

Far from being only a remedial measure to the city, the project is offering a new place for restructuring social and family values in Leith while possibly be the future of Edinburgh’s ecological awareness.
The production of this feasibility report summarises the development of the design of the Leith Bridge scheme for costing purposes.

The purpose of this report is to establish an understanding of the costs involved in such a project prior to the commencement of the detailed design.

This report records in outline the design as developed by the design team and incorporates biomorphis & Liz Thomas Landscape Architecture outline specification and drawings. Separate reports have been prepared by David Narro Associates (structural engineer) and COCIS / Napier University.

The cost plan is to be published in a separate report by CBA Quantity surveyors. The cost plan, together with all of the consultant's reports will form the base line which the development, the design and future cost reviews can be compared.

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biomorphis

biomorphis is an architecture & design practice dedicated to a sensitive approach to architecture based on collaborative systems, sustainability and art. Architecture and art are now at the midpoint of innovative adaptations and articulated complexities. The tensions turn to forces shaping space and become fields of responsiveness.

Our architecture relies on performance and tries to get people intrigued and engaged. We focus on generative design rooted in computational and practical methods and encourage a playful attitude required to keep exploring and generate innovation.

Liz Thomas Landscape architect

Liz Thomas Landscape architect is a small studio based in Edinburgh, engaged in a wide range of types and scales of project work. Liz’s studio is based at St Margaret’s House, where she works both independently and in collaboration with other contributors and specialists.

Practice spans and blurs the boundaries between urbanism, landscape architecture, urban design, and education. Liz works to elevate the voice, value and agenda of landscape architecture through practice and in her role as a part-time lecturer on the landscape architecture degree courses of ESALA at the University of Edinburgh.

David Narro Associates

David Narro Associates are a medium sized practice of Consulting Structural & Civil Engineers with offices in Glasgow and Edinburgh. The practice was established in 1986 with the aim of providing a high quality consulting engineering service from a committed and experienced staff.

Motivation and a desire to extend the experience of the practice has led to expertise in such varied fields as conservation of ancient monuments, commercial and industrial projects, housing, hotels and leisure and the public sector.

CBA Chartered Quantity Surveyors

CBA Chartered Quantity Surveyors was formed in 1970 to provide specialist cost and procurement advice to the Scottish construction and property markets. Since then our expertise and experience has been rewarded with the enviable reputation of being one of Scotland’s leading Chartered Quantity Surveyors.

With two regional offices and over 90% of staff qualified in their respective disciplines, our core business is the provision of quantity surveying services with particular emphasis on construction cost and procurement advice. This service provides our clients with the necessary cost related information at each stage of their building projects to enable effective decision making.

Edinburgh & Lothians Greenspace Trust

Edinburgh & Lothians Greenspace Trust has over 21 years’ experience of delivering environmental, landscape and community projects across Edinburgh and the Lothians.

From the design and planting of brand new urban parks, woodland creation and playparks to local community gardens, we combine fundraising and project management to deliver greenspace improvements in conjunction with local people, getting them involved and active in maintaining their local green areas.
Visions of Leith

Between 2006 & 2011, the number of people living in Leith within 500m of a derelict site has increased by 800%

Percentage of people within 0-500 metres of any Derelict Site: 2011

- Leith: 35.1
- Edinburgh: 23
- Lothian: 24.9
- Scotland: 29.8

Percentage of people within 0-500 metres of any Derelict Site: 2006

- Leith: 4.1
- Edinburgh: 8.6
- Lothian: 17.2
- Scotland: 26.6

Percentage of total population who are income deprived: 2005

- Leith: 15
- Edinburgh: 11
- Lothian: 11
- Scotland: 12

Percentage of populations aged 16-24 claiming Jobseekers Allowance: 2009

- Leith: 6.9
- Edinburgh: 4.1
- Lothian: 5.2
- Scotland: 6.1

We can observe how cities evolve, but what about how cities decline? Here we have a solid example of how a neighbourhood is on the verge of possibly changing for the worse or the better, just depending on very few conditions. Not only we need to care about Leith but also care about the image that Leith gives to Edinburgh as a neighbour.

Without referring to the thesis that decaying cities might make the malady of the social organism, we need to wonder if this not illuminating the essence of a problem in Leith and also a way to cure it.

The rise of big industry which followed the industrial revolution has left a huge urban heritage in Scotland. Some of it cannot be kept, some of it is still salvageable but looks like a burden, and some of it is offers huge opportunities.

The era of clearances is over. Now is the time for positive initiatives as the relationship between the land and its building surpasses the economic relationships which used to solely dictate how cities were carved.
2. EXTENDING EDINBURGH CYCLING & WALKING NETWORK

North Edinburgh Path Network

- All routes shown are continuous, off-street
- All the exits shown are step free, unless otherwise noted
- Signage varies along the routes, and does not necessarily follow the logic of this map.
- National Cycle Routes
- To report faulty lights, missing signs, broken glass etc, please call 0800 23 23 23 or email clarence@edinburgh.gov.uk
- Fishermens Walk burning to Blackford Hill, using many of the paths shown – please cycle with respect.

THE ROUTES

- Haymarket – Cramond
- New Town – The Shore
- Canon Mills – Trinity
- Leith – Portobello
- Roseburn – Balerno
- Fountainbridge – Ratho
- Holyrood – Musselburgh
- Leith – Portobello
- Edinburgh Park – Easter Road

- Some of route not paved – caution when wet and muddy.
- Steps at Brunstane Station. Route uses Holyrood Park.
- Steps on south side of road.
- Route uses Union Canal towpath. Give way to pedestrians.
- Path uses Water of Leith path near Murrayfield – caution when wet and muddy.
- Beware, path narrows in places.
- Use caution crossing Balgreen Road.
- Beware, path narrows in places.
- Route uses Water of Leith Path – caution when wet and muddy.
- Under construction
- By road between two paths
- On-street signposted route

See Spokes Map for details of crossing.
Two iconic interventions in Paris & New York City

Facts:
- Architects: James Corner Field Operations & Diller Scofidio + Renfro
- Current length of the viaduct: 1.6 km (2.2 km in the future)
- Original materials: Steel frame, reinforced concrete deck, gravel ballast, metal handrail
- Number of columns: approximately 475
- Spacing between columns: 10 to 15m
- The viaduct dates back to 1934, it is 13 miles long & eliminates 105 street-level railroad crossings.
- Ownership: The city of New York
- Maintenance: Friends of the High Line
- Management: Friends of the High Line

Facts:
- Architect: Patrick BERGER
- Total length of the viaduct: 1.5 km
- Original materials: brick & limestone vaults, gravel ballast & limestone parapets
- Number of vaults: 64
- Surface of each vault: between 150 and 460 m²
- The first viaduct dates back to 1858 and used to support the Paris-Bastille / Varenne railroad.
- Ownership: The city of Paris
- Maintenance: The city of Paris in Partnership
- Management: SEMAEST (Public Private company)

The idea is to emulate what has been done in other great cities like Paris and New York. In both cases, disused train tracks became not only public paths but elevated parks and gardens.

The Paris experiment known as “Promenade plantée” had its doubters when in the 1980s the run-down area of La Bastille was designated for an overhaul that would not only preserve the old railway arches, but also would provide an unlikely park. The arches got renovated and new businesses arrived. The area is now a must-go for local residents and visitors alike. Years later, the New York “High-Line” seemed like a no-brainer.

Chicago, Philadelphia and many more are also now actively reclaiming their lands.
4. CURRENT USES

THIS DOES NOT LOOK LIKE A ROOF ANYMORE

THERE IS ALREADY A PARK IN HERE

THIS IS VACANT AND COULD BECOME AN IDEAL ACCESS POINT
The existing workshops on Manderston Street (the arches) are retained and their roof upgraded in order to accommodate the new roof layering and the live habitat of the park.
7.1 Access from Halmyre Street
7.1.2 Option A - The trench

Existing gable on Halmyre Street

Aerial view from Halmyre Street looking West - Option B

Proposed access from Halmyre Street - Option A

Lith Bridge - Edinburgh

Leith Bridge - Edinburgh

Proposed access from Halmyre Street - Option A

HALMYRE STREET

MANDERSTON STREET

LEITH WALK

Leith Bridge - Edinburgh
7. INTERVENTION IN HALMYRE STREET

7.1 Access from Halmyre Street

7.1.2 Option B - The tower
7.2 Access from Leith Walk

7.2.1 Occupying the gap

Proposed access from Leith Walk

Existing structure on Leith Walk

Aerial view from Leith Walk looking North

PREVALENCE OF FLOWS

TOWARDS THE CITY CENTRE
On the bridge looking East towards Halmyre Street

Larch members

CLT deck

Existing view looking East from the West viaduct
The living heritage

The nature of the site itself is unique in Edinburgh: a viaduct. Or we should say two viaducts since the bridge that linked has been dismantled in the 80’s. If we do not want to see another landmark fall into ruin, then we must act quickly as the structure is not maintained properly and it is only a question of years until the whole viaduct becomes beyond repair.

Edinburgh has been embalmed or we should say it’s centre has. But what about Leith? The Shore has been preserved in pieces but this site has an opportunity that no other site in Edinburgh has: to become a new landmark because it can be used again.
Communal gardens can change the social relations of the city by giving a sense of ownership to all. Gardening makes conversation easier, creates shared memories and solidarity.

The gardens naturally encourage biodiversity and create a wildlife corridor above the city to offer a natural animal habitat.

Like every project involving the introduction of vegetation into the city, this needs to be seriously prepared in terms of zoning and mapping for weeding.

The question of water even in Scotland is still crucial. The garden is a careful selection of plants which require very little watering from collected rainwater.

The approach to landscape is essential in terms of the site’s ecological objectives which are based on conservation and evolution.
City branding has become unavoidable in the global competition to attract visitors, new habitants and businesses. Edinburgh is no stranger to this effort when putting forward its heritage but still is in an uncertain territory as to how also give a dynamic image of itself.

The Scottish Parliament has certainly turned things around but it cannot carry the burden of modernity on its own. In our economy most things are brands and so are cities.

The Leith Bridge can be an opportunity for Edinburgh to pursue the quest of added value with an iconic landmark. It already is a landmark on the internet and the internet is where we shop for cities. This summer is it Edinburgh or Copenhagen?

Regenerating Leith is certainly a way to make a mark which has more potential offsprings than slogans or logos. A project like the Leith Bridge in itself is far from not unique in the world but would be in Britain and could represent the city in search of a modern visual identity appealing to many.
THE BIG QUESTION:
WHERE WILL OUR CITY TRAVEL BE IN A DECADE’S TIME?
A. woodland
Aspen (Populus tremula) or Birch (Betula pubescens) planted as a mixture of multi-stemmed and feathered stock in dense stands (average 1.5m centres, vary 0.5m centres to 2m centres to create naturalistic swards of dappled canopy cover). Allow 1.3m planting depth for all woodland areas, with root barrier around perimeter of planting trenches.

B. wildflower grassland
Colourful wildflower and native grassland species seeded in planting areas prepared with min. 200mm soil depth. Low nutrient free-draining planting substrate imported as required. Species mix to be developed in collaboration with a botanist to use the existing species on site as the basis for enhancing existing habitats and plant communities. Mown annually.

C. lawn
Areas prepared with min. 300mm depth fine raked topsoil, seeded with a hard-wearing and drought resistant mix of lawn grass species. Mown regularly throughout growing season.

D. climbers
Edible honeysuckle (Lonicera caerulea) climbing on wire balustrade. Allow for planting 5L container grown stock at 500mm centres.

* community allotment raised beds not planted at this time. Allow for 70% beds with 400mm imported topsoil, 30% beds with 600mm imported topsoil. All beds to have geotextile membrane to prevent existing site soil and new soil mixing.
11. LIGHTING

Proposed LED bridge lighting

Current condition of the open arch

Proposed LED trench lighting
The nature of the site itself is unique in Edinburgh: a viaduct. Or we should say two viaducts since the bridge that linked has been dismantled in the 80’s. If we do not want to see another landmark fall into ruin, then we must act quickly as the structure is not maintained properly and it is only a question of years until the whole viaduct wears beyond repair.

Finance has denied other attempts for aerial bikes routes in the past. The California Cycleway, born in the 1890s, was planned to connect Pasadena and Los Angeles with 14km of raised timber decking, but only 2km of the track was ever built. Conceived as a private money-making enterprise, with a toll of 10 cents and 100,000 projected annual users, it never turned a profit, destroyed instead by the rise of the Model T Ford.

At times when budget cuts are hitting our city, we should aim for new paradigms and be creative about fundings. It is obvious that the scale of the Leith Bridge proposal immediately suggests some form of public investment. We are talking about a stretch of 550m of landscape in the heart of the city.

So the first question to ask is: who is this project for? This report shows that the project is not for Leith Walk only, not for Edinburgh neither, but possibly for the whole Scotland. Not by the scale of it, but by its potential impact, just like the future V&A museum in Dundee will not be for Dundee only.

The last thing that should happen to the viaduct is for the Leith Bridge proposal to stall as it would simply send the monument to its death and possibly faster than it looks. The authorities coffers might be empty, but the way to look at this project is possibly as an investment the way the High Line in New York is.

Mapping an abandoned space in a neighbourhood and working with the local community to re-imagine it could be the most affordable ratio of money spent per m2 there is to be. Let’s remember that this is not about reclaiming the architecture that created the viaduct but unlocking a potential which is already here like the already used West portion clearly shows.

Sharing the Leith Bridge

The intention is to share the Leith Bridge between pedestrians and cyclists and by so to have dedicated lanes when necessary for both groups in order to avoid accidents.

Many cities around the world face the same problem. New-York for example had to consider closing the Brooklyn bridge to bicycles because of an eruption of hostilities between both parties. However, this can be addressed by clearly establishing boundaries with proper marking when necessary rather than physical boundaries between lanes.

The bridge can also be open to bikes at rush hours. Outside these hours, cyclists would have to dismount, or cycle at very low speed. This is about cooperation and intelligent sharing.

Lighting and the perception of safety

Studies have demonstrated that there is a clear link between the lighting of a place and the perception of safety or vandalism. The park will have to be artificially lit in the dark hours of Autumn/Winter/Spring in order to provide not only sufficient visibility to bikes and pedestrian but to also to contribute to their safety against anti-social behaviours.

Few accesses means an easy control

Features keep crime out with obstacles as obvious as a padlock and as subtle as the psychological effect of a nearby window. Most of all, there is the design itself, essentially a handful of entries, all closely watched. Monitoring the points of accesses mean you know who is going in and who is going out.

Financing

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12 years on:

- New York’s park in the sky attracted more than 3.7 million visitors last year
- It has generated $2bn-worth of private investment (£1.3bn) surrounding the park
- It is predicted to exceed $900m (£562m) in new tax revenues for the city over the next 20 years.
The structural works associated with the re-use of the viaducts is shown to be relatively straightforward structurally, with strengthening unlikely to be required. The main structural intervention is the creation of the vertical riser core by Halmyre Street, where some remodelling of the existing vaults is required.

The creation of the walkway will be an intelligent, holistic approach to the safeguarding of the viaducts for the long term, as the associated work will protect them from uncontrolled water ingress. The intention that the walkway will be adopted by the Council will mean that its fabric will be properly maintained by an independent, responsible organisation.

Some low-key repair and consolidation of the existing built fabric will be necessary.

Access into all the properties contained within the viaducts is necessary to confirm the conclusions of this study. Detailed research, surveys, and appraisals of the existing viaduct structures is essential in the next stage of the design to ensure that the new structures are sensibly co-ordinated with them and to mitigate the risk of surprises being experienced during the works.

The new bridge over Leith Walk has been designed to interact with the existing viaducts in much the same way as the former rail bridge. A basic preliminary design of the bridge has been carried out to date. Preliminary discussions have been held with the Bridges and Highways Department of the Council regarding the design and construction of the bridge. The design will need to be refined as part of the next stage of the design process.

The initial study has shown that as a result of its durability, structural performance, ready availability and comparatively low cost that Larch (Larix decidua, Larix europaea, Larix kaempferi) grown in the UK may provide a viable option for specification as part of this project.

Based on load values provided by David Narro’s Associates, a series of connection details have been developed based on the use of Larch sections measuring 63x160mm. These provide the specification requirements (end, edge and spacing criteria) required for M10, M12, M14 size bolts in accordance with BS EN 1995-1-1.
SCOPE OF THE WORKS
The works comprise alterations to existing railway viaducts to facilitate the installation of a new bridge and walkway over Leith Walk, Edinburgh.

PHASES
Phase 1
It is proposed to develop the West side of the project as a first phase. This part of the project can autonomously exist without the bridge. The stairs and lift on Leith Walk would still offer a continuous way through from Pilrig Park to Leith Walk.

Phase 2
The East viaduct would be renovated and linked to the West viaduct by the timber bridge. Option A or Option B to be developed on Halmyre Street for access.

EXCLUSIONS
1) Land acquisition, finance charges, etc.
2) Compulsory purchase order costs
3) V.A.T.
4) Major services diversions outwith the site.
5) Asbestos removal or other decontamination works.

SUMMARY

Outline Budget Option A

Phase 1 - West Viaducts and Walkway (As Option A) £1,245,591.00
Phase 2 - East Viaducts and Walkway (Option A) £2,286,928.00
Leith Walk Bridge £713,360.00
Planning / Building Warrant / Survey / Professional Fees £549,500.00

TOTAL AMOUNT OF OUTLINE BUDGET COST 1 (Option A) £4,795,379.00

Outline Budget Option B

Phase 1 - West Viaducts and Walkway (As Option B) £1,245,591.00
Phase 2 - East Viaducts and Walkway (Option B) £1,947,498.00
Leith Walk Bridge £713,360.00
Planning / Building Warrant / Survey / Professional Fees £508,500.00

TOTAL AMOUNT OF OUTLINE BUDGET COST 2 (Option B) £4,414,949.00
The project will offer a unique chance to extend the cycling network in Edinburgh in line with its current evolution: the re-use of the existing disused train tracks all over the city. This will be considered as the first opportunity in terms of improving cyclists' safety in the city.

Ensuring safety will also enable Edinburgh to consider promoting city-wide free bicycle schemes like many cities already have, like London for example which is also working on a plan for a 220km network of bike paths hoisted aloft above railway lines.

If a green infrastructure is designed and managed to a high quality, it can give credibility to wider regeneration issues. In straitened times the creative reuse of our existing landscapes and their architecture might be our only option.

Mapping an abandoned space in a neighbourhood and working with the local community to re-imagine it could be the most affordable ratio of money spent per m² there is to be. This is not about reclaiming the architecture that created the viaduct but unlocking a potential which is already here like the already used West portion clearly shows.