Overall Physical Improvements Strategies

Wayfinding/Signage Strategy (WS)

The Wayfinding and Signage strategy can offer different levels of detail. Where there are opportunities to make Wayfinding and Signage in key areas, it can also be effective to combine it with placemaking and to add significant elements, like seating, throughout the length of the path that indicates a location and/or raises awareness of the towpath.

Wayfinding and signage were raised as key issues during the consultation mainly about how the towpath links up to the different local neighbourhoods. It was suggested that these elements were a combination of stand-alone signs and alternative wayfinding strategies, e.g., coloured surfaces and text directly on the path. Furthermore the strategy should be working with CEC's Wayfinding Strategy, which is looking to roll out co-ordinated multi-channel wayfinding across the city.

At the Edinburgh North Cycle Path every crossing bridge is signed with the name of the road on either side of the bridge hole, giving the users an opportunity to navigate within the nearby city infrastructure.

It is suggested by the project team that this signage strategy is incorporated along the canal, to give consistency and as a part of an overall Wayfinding and Signage strategy for the towpath.

There is an existing graphics and branding study carried out by StudioLR. The branding guidance and logos identified in the report should be used in any future wayfinding and interpretation signing strategy.

Signage on bridge | Name of crossing road

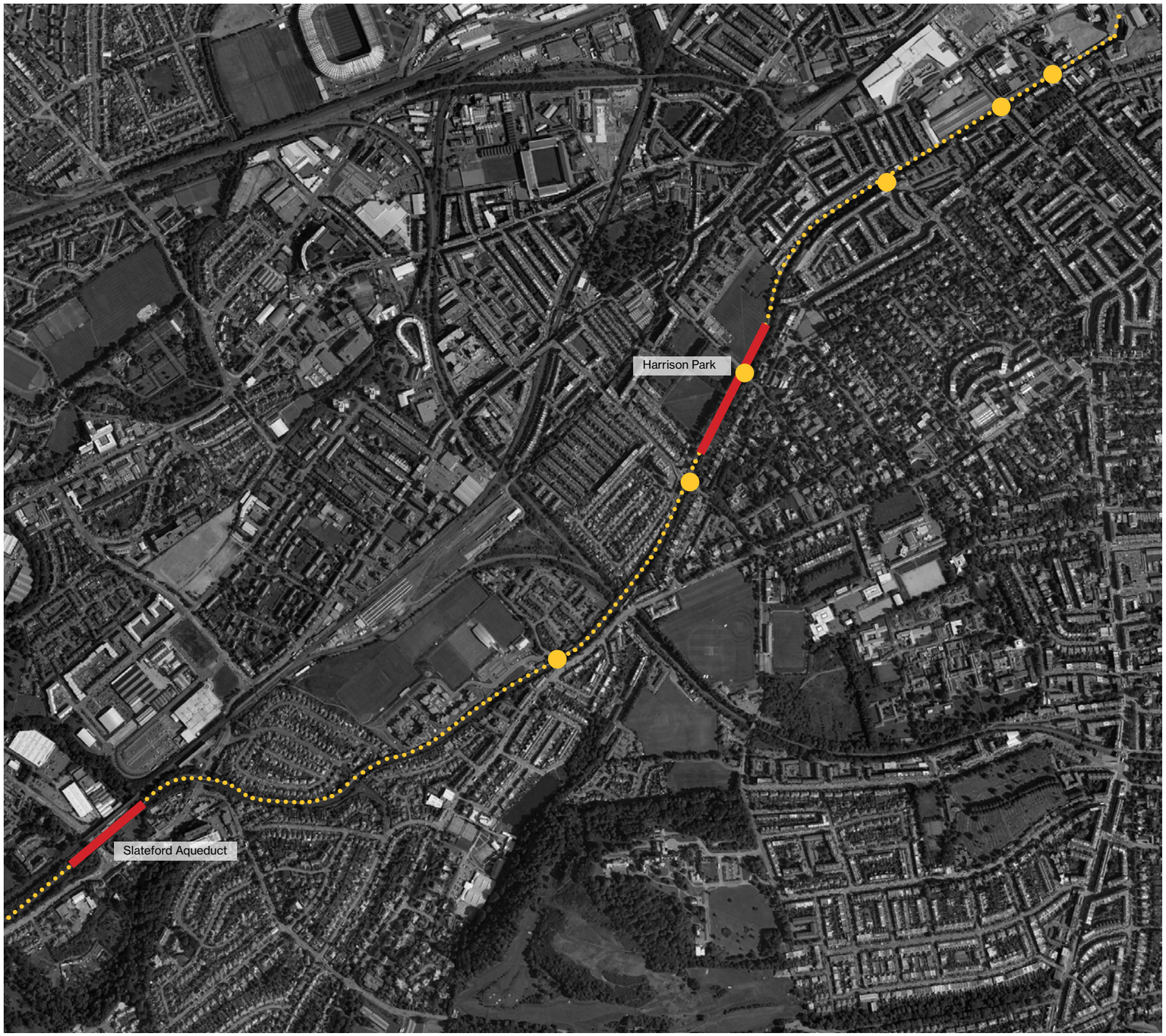
Existing signage along the towpath


Signage on bridge | Name of crossing road at Water of Leith Walk Way

Wayfinding/Signage Strategy | Place specific opportunities

WS1 | Opportunity for wayfinding to the surrounding context from Leamington Lift Bridge.
WS2 | Signages to alternative routes instead of using access via private boat club.
WS3 | Opportunity for wayfinding and signage at access point at Water of Leith
WS4 | Opportunity for wayfinding and signage at intersection
WS5 | Opportunity for signage to Kingsknowe Station
WS6 | Opportunity for signage to guide between the two footbridges (to cross canal and road).
WS7 | Opportunity for signage for orientation at path intersection.
WS8 | Opportunity for wayfinding and signage at access point.
WS9 | Opportunity for wayfinding and signage at access point.
WS10 | Opportunity to improve wayfinding at Baird Road.
WS11 | Opportunity to improve wayfinding at Clifton Road.
WS12 | Opportunity to improve wayfinding and signage between Almond River and Union Canal.


1
2
3
4
5
6
7
8
9
Legend
WS | Wayfinding/Sign opportunities



Lighting Strategy

There are opportunities for improving the visual comfort, safety, legibility, and atmosphere of the towpath through light. Large changes are not needed to increase legibility of the towpath, but a few carefully considered interventions in the right places would improve the function and image of the towpath as a whole.

Described over the following pages, are typical towpath conditions, clear linear routes along the towpath and the points where the towpath is crossed by road bridges, where the proposals could be repeated at points and along segments of the towpath. Furthermore are two examples of key locations, Harrison Park and the Slateford Aqueduct, where individual considerations of the specifics of those places should be made.

These considerations do not constitute a complete set of proposals for each and every location along the towpath, or all of the different lighting interventions which could be made at these points, but rather they provide an example of some of the possible interventions which might be made across the wider project.

Typical bridge crossing

Typical Towpath segment

Special Location

Photovoltaic marker lights
There are already many solar-powered in-ground marker lights in use along the canal towpath, and they provide an excellent aid to the visual legibility of pathways along much of the route. Unfortunately, on a dark night, the glare from them has the effect of darkening the middle of the path, so an approaching person, animal or object can be invisible to a fast cyclist until he is too close to take avoiding action. It is advised by the Project Team to have a second night-time walkshop in mid-winter to fully assess this issue.

Currently there are no marker lights under bridges due to the obviously limited sunlight in these shaded spaces. These are perhaps the areas that would benefit most from further use of such light sources at night, so it is worth exploring if any additional light sources could be added. It may be possible to fix a small luminaire to the soffits of the bridges themselves, powered by remote photovoltaic panels mounted on the outside faces of the bridges adjacent.

Reflection and retroreflection
The surface of the canal currently reflects any ambient light in the Edinburgh sky and, in so doing, often creates a clear edge to the water, visible to pedestrians as they move along the towpath. The same effect could also be used in material choices elsewhere. Metallic elements integrated in paving, walls, barriers or other fabric can aid legibility, reflecting any ambient light or the torches or cycle lights of those travelling along the path.

'Cats eye' markers or other retroreflective materials, like the sheeting often used in signage or high-visibility clothing, could also be used to add particularly high contrast at certain points along the canal towpath, if deemed necessary.

Contrast
The human eye's scotopic vision in low light conditions can be greatly aided by using contrasting materials. For instance, the dark railings which are occasionally used on the existing towpath are quite difficult to perceive on a dark night, particularly if approaching them at the higher speed of a cyclist. By painting them, or just parts of them, a lighter colour, legibility of the barriers, and the path in general, would be improved. Similar approaches can also work on paving surfaces. The use of lighter paving material or surface treatments adjacent to a generally darker paving material will improve the visibility of those edges, leading to increases in the legibility of the routes.

This improved legibility of the canal's edge would benefit areas where everything is particularly dark and the contrast of adjacent materials is low, for instance when pathways cross beneath bridges.

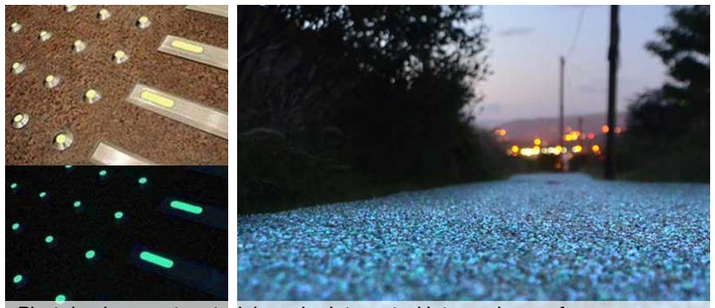
Photoluminescence
Commonly referred to as 'glow-in-the-dark' materials, photoluminescent materials absorb energy in the form of light when it is plentiful, during the day, for instance, and slowly release it again over a period of darkness. Coatings and paint finishes are available which can be added to paving surfaces or elements of street furniture. There are also paving aggregate products made of material that is photoluminescent.

Although the light output of photoluminescent materials is not particularly high, it can be enough to make a considerable difference in areas of relative darkness.


Photovoltaic in-ground marker lights are already in use along much of the canal towpath.

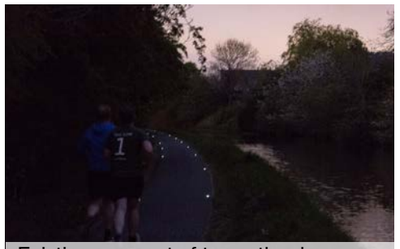

Retroreflective tape increases visibility of bollards when additional sources of light are introduced to an area.


Metal inserts embedded within paving increase contrast and can reflect ambient light, improving the legibility of any edges along which they are positioned.


Photoluminescent material can be integrated into paving surfaces.

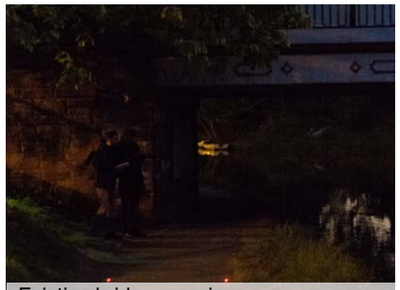
Typical Towpath Segments
For most of its route, the current towpath and canal edges are sufficiently legible. Ambient light reflects off the canal surface, aiding visibility of the canal edge, and existing in-ground marker lights clearly define the edges of the towpath itself.

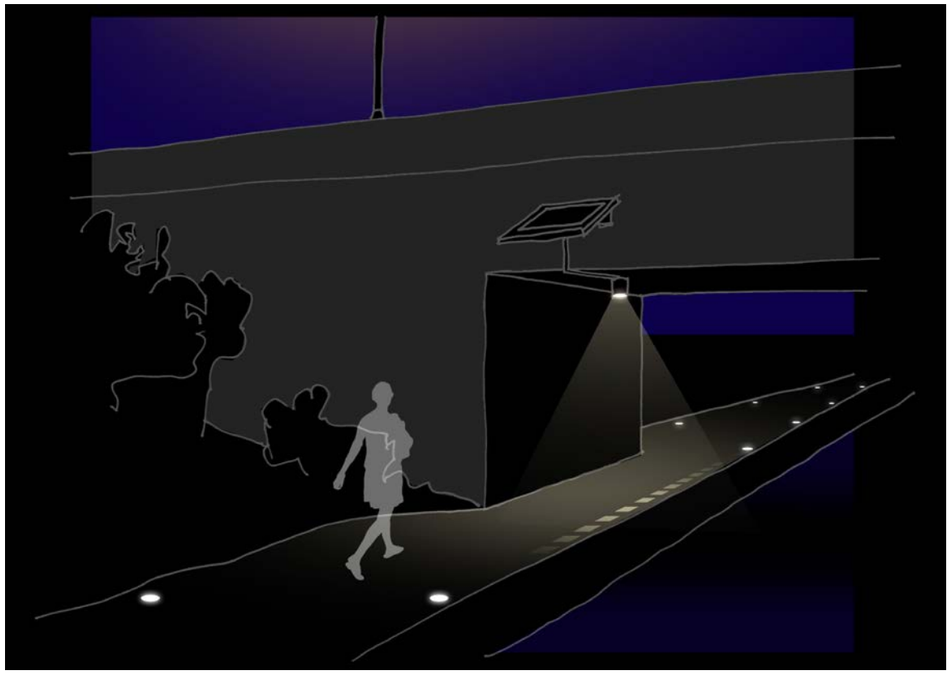
If further improvements to legibility are sought, passive interventions could provide an additional degrees of legibility to the routes. Higher-contrast or reflective paving inserts could further improve the visual clarity of the path edge, or the use of photoluminescent material in the pathway surface could also increase its visibility.


Existing segment of towpath, where ambient light and photovoltaic marker lights provide sufficient legibility of the route.

Typical Bridge Crossing
The sections of the canal towpath which currently feature the least legible routes and path edges are located beneath the bridges which cross over the canal. A combination of shading and narrowed space decreases the ambient light level in these areas, just as the pathway itself gets narrower and legibility becomes of higher importance.

To help improve this situation, a number of approaches can be combined. The introduction of high-contrast, reflective, or retroreflective elements alongside the towpath would greatly improve the visibility of the path's edge in low light levels. The addition of new light sources in these spaces (possibly powered by nearby photovoltaic panels) would increase the light levels and work in combination with the other interventions to improve legibility further.


Existing bridge crossings are particularly dark



Harrison Park
As the canal towpath passes Harrison park, the pathway splits in two. Existing street lighting columns illuminate the high-level pathway, but visible glare from direct view the light sources is uncomfortable and reduces the legibility of the relatively dark canal towpath. A similar discomfort glare is currently present from the bollards adjacent to parked narrow boats.

If the existing lighting equipment, both bollards and column-mounted, can be replaced over time with luminaires which focus light effectively down to the ground surface and minimise direct views of light sources, this uncomfortable glare will be reduced. The relative visibility and legibility of the existing in-ground marker lights, and the towpath edges themselves, will be improved.

The same approaches should also be used anywhere else along the towpath where existing street lighting has an impact on the towpath.

Visible existing light sources alongside Harrison Park introduce discomfort glare and reduced visibility for pedestrians.

Alternative luminaires, with less direct views of the sources, would reduce glare and focus light onto pathways

Slateford Aqueduct
There is a potential site for a future public project at the aqueduct which forms part of a junction with the Water Of Leith, The Union Canal, and the Railway.

Should this ever happen, the night time image of such an intervention should be carefully considered, including any associated routes up to the canal towpath above that may benefit from improved lighting.

Landmark bridges can become particularly distinctive at night.

Towpath width

The study of the towpath has shown that the width of the path is a critical issue for many users. Often pedestrians have to stand on the verge to either side of the path to give room for others wanting to pass by and there are examples of users falling in to the canal. At the same time, the stakeholders are keen to retain the ecological environment, improve biodiversity and the natural experience of the canal and a minimum 4.0m width of water space.

At long stretches of the route, the path is not wide enough to provide a safe environment and enjoyable experience for its users, at points reduced to below 1.0m width. This is especially critical East of Scott Russell Aqueduct from West of Viewforth Bridge to Wester Hailes, at a series of bridge holes and near boat clubs where they need space to managing their boats into the canal off the towpath.

It is advised by Sustrans that a non-segregated path should be a minimum of 3.0 metres wide. The project team are recognising that this is not possible throughout the entire length of the towpath and the aim for the towpath width will be to sensible widen the path in general to 2.5m - 3.0m with exceptions being at bridge holes. At some part of the route maintaining the hedgerow might be enough to make the towpath wider and safer.

There are a series of opportunities to make the towpath wider with respect for the width of the water space being a minimum of 4.0m wide:

- Soft widening
- Hard widening
- Intrusive (structural)

Soft widening | Retaining a soft water verge along the canal.

Soft widening | Retaining existing hedgerow and verge

Intrusive widening | Extension of the path into the water space via deck/pontoons

Soft widening | Widening to existing wall and retaining verge

Sensible widening of the towpath with a minimum of 4 m width of the water space

Soft widening | Retaining existing hedgerow and verge

Intrusive widening | Retaining wall to widen path

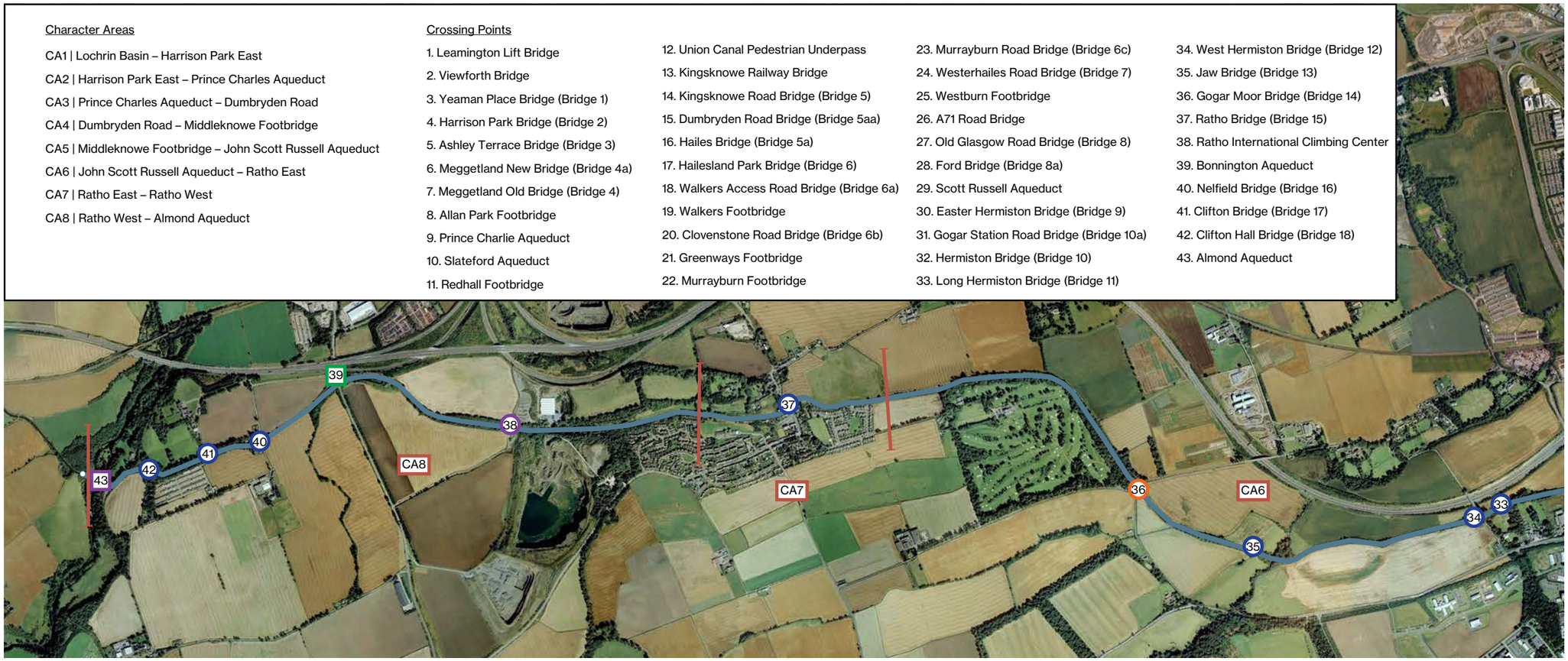
Surface improvement

The surface of the towpath in the study area is in general in good condition being either a bound surfaces (Toptrek) or tarmac. There is though opportunities for surfaces improvement where tree roots break through the surfaces and at bridge holes as they are of inconsistent quality creating hazards for users and making the towpath not accessible for all. The surface types at bridges holes are of five different types:

- Cobblestones surfaces with hard stone edges - uneven surfaces unsuitable for e.g. bikes, buggies and disabled.
- Toptrek surfaces with hard stone edges - the gravel from the Toptrek is making the hard stone edge slippery.
- Cobblestones and tarmac/concrete surfaces - this is mainly at Wester Hailes, where the cobbles stones are a feature at bridge holes but are inconvenient for e.g. bikes, buggies and disabled.
- Tarmac/concrete surfaces with hard stone edges - smooth surfaces suitable for all users.
- Soft compacted embankments with an uneven mix of concrete paving and cobblestone.

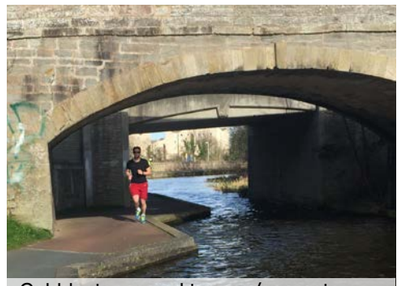
In the process of widening the path, there is a good opportunity to resurface the bridge holes to smooth surfaces suitable for all users and/or relaying the cobblestones to an even surface. The surface improvements can also be done as minor standalone local projects like the above mentioned and by filling up potholes along the path. The improvements proposed to Lochrin Basin include access friendly natural stone setts, matched to those recently laid at New Boroughmuir High School.

The aerial map below shows the location of the bridges and the colours indicate the type of surfaces at the bridge holes.



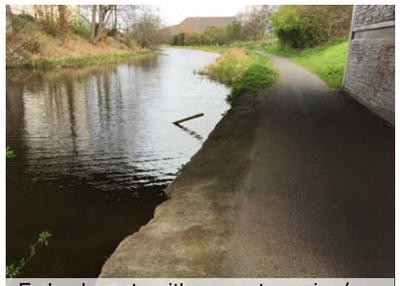
Cobblestones surfaces with hard stone edges

Top Trek surfaces with hard stone edges



Cobblestones and tarmac/concrete surfaces

Tarmac/concrete surfaces with hard stone edges



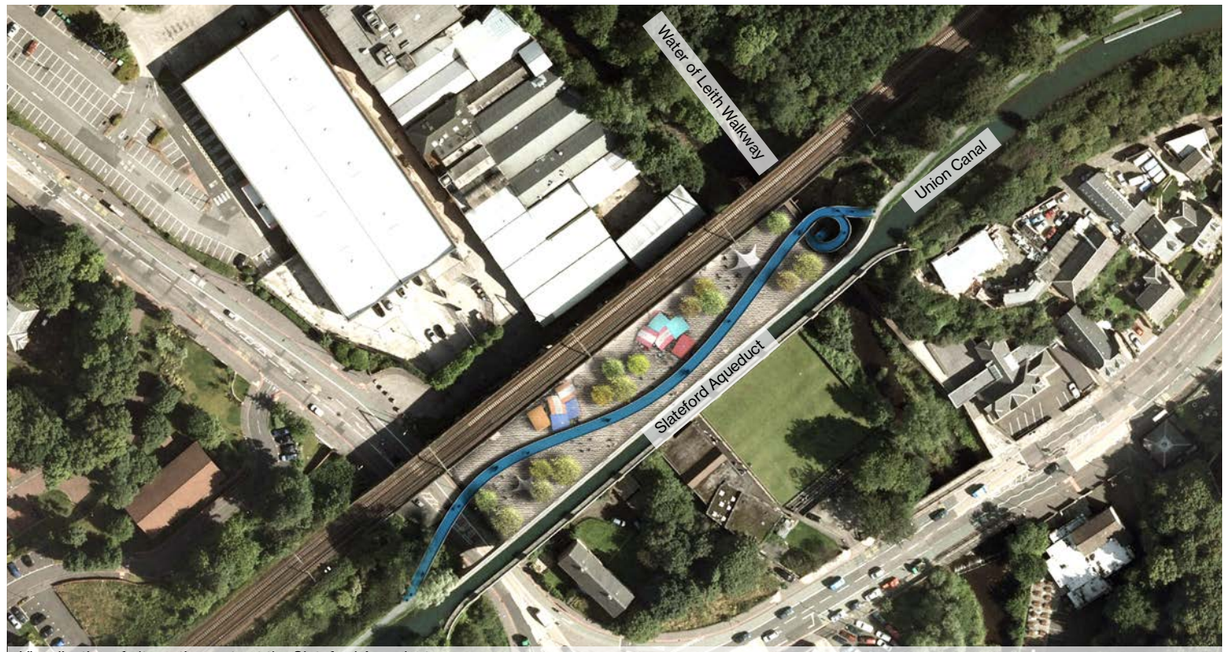
Embankments with concrete paving/ cobblestone

Landmark Opportunity Strategy

Slateford Bridge - 'Slateford Snake'
Slateford Aqueduct is a major pinch point dividing the towpath in two. The aqueduct is a Scheduled Monument, therefore any changes will have to be sensitively managed with HES. Relaying the cobblestones to make the surface more even would be a relatively straight forward mitigation.

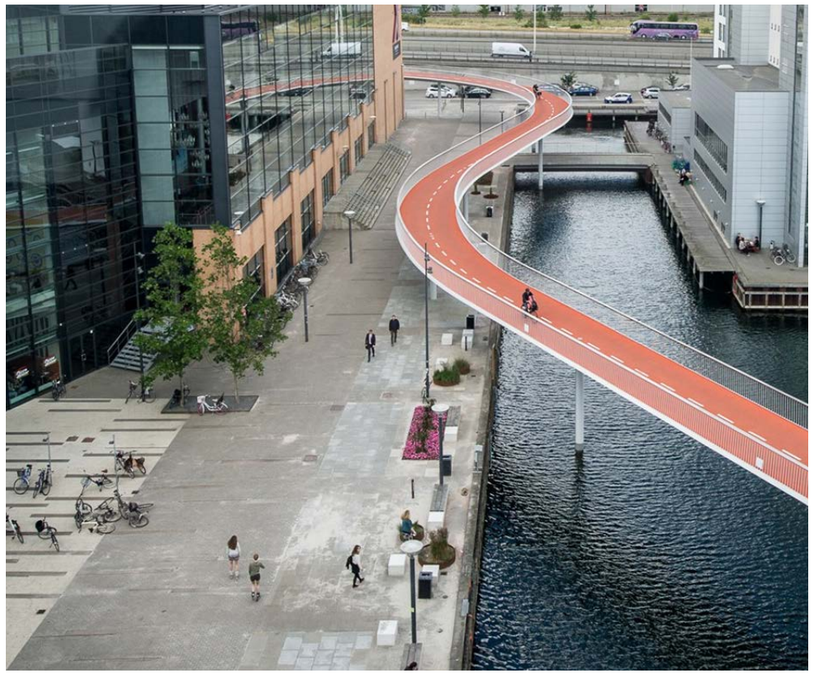
These constraints at Slateford Aqueduct, present an opportunity to create a significant landmark of national importance to provide a Union Canal talking point. The aspirational idea is therefore to build a standalone structure parallel to the towpath between the aqueduct and the railway bridge. This structure creates a levelled alternative route across with extended ramped accessible connection and access to the Water of Leith Walkway perpendicular to the towpath underneath the aqueduct.

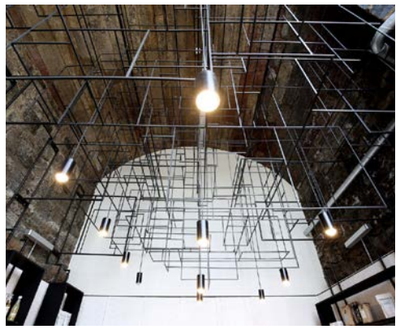
The structure will be a landmark, an attraction, like other structures along the Scottish canal network, such as the Falkirk Wheel or Kelpies. Furthermore, the arches of the aqueduct and railway structures have an opportunity to be shops/cafes/studios, incubator units and accessible workshops to create an urban destination. A place to be seen and a lively and linking space between east and west canal corridor.



Visualisation of alternative route at the Slateford Aqueduct


Site between Slateford Aqueduct and Slateford Railway Bridge

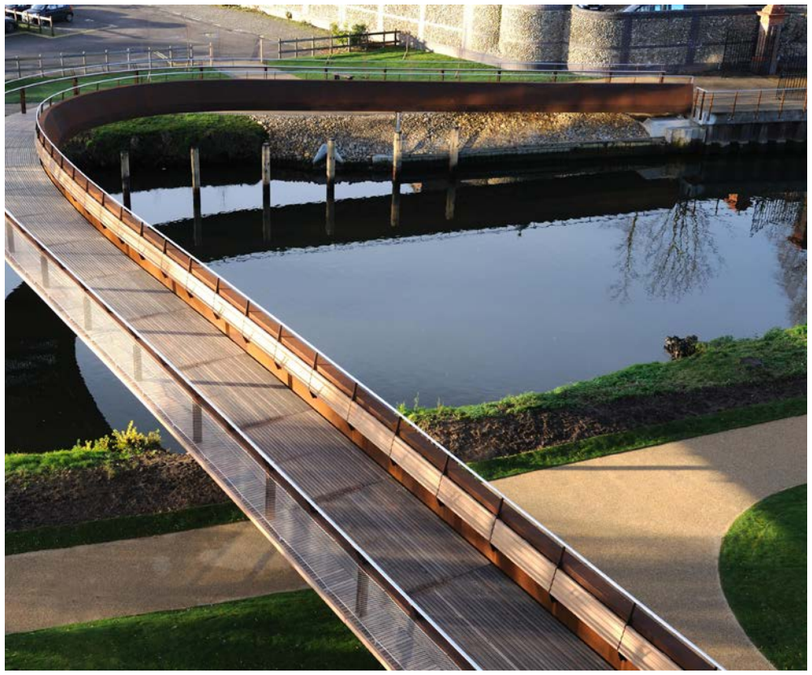


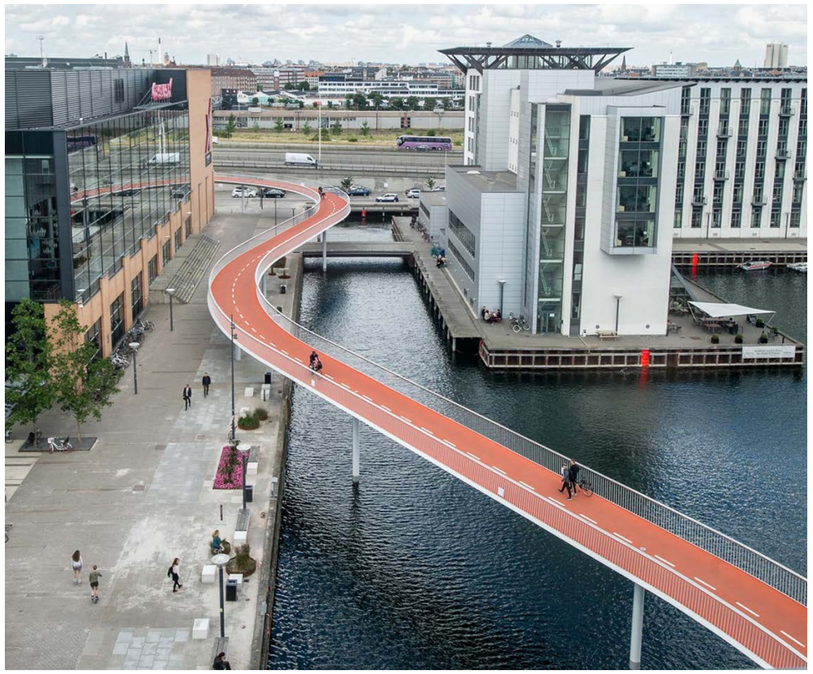



UNCOVERLAB
MAKE IT
PERSONAL


YARD
BOX

Elevated cycle path / Green route
Another and more intrusive landmark opportunity is to create a elevated off-road cycle path following the Union Canal from Scott Russel Aqueduct to Lochrin Basin. The cycle path will be above the canal and meander through the city where it will duck down and connect to each or selected bridges along the canal. The overall idea is to create an attractive green route for cyclists and making travelling by bike the preferred option for commuters.





Social improvement strategies

The number of users of the canal and the towpath has increased over the years as the towpath offers space for a series of good outdoor activities. Unfortunately, many of the users are not aware of the current Towpath Code of Conduct by Scottish Canal and/or not aware of how to approach and show respect for other users while using a shared non-segregated path. The issues occur especially at access points to the towpath, at situations where different user groups want to pass each other and at bridge holes where sightlines are restricted.

A Towpath Code of Conduct should educate and advise on how to react, behave and respect other towpath users. It should focus on the hierarchy of users and general use of shared paths and not just one user group. The strategy should be positive and focus on information and the 'right thing to do' in certain situations.

The Code of Conduct should be expressed

- Positive in its message
- Directed at those who behave responsibly not those who don't
- Targeted at all users, not only those cycling
- Provide information, not instruction

A Code of Conduct for the use of shared paths could be combined with the Towpath Wayfinding and Signage Strategy and a wider strategy for shared non-segregated space. The project team, therefore, advise that a code of conduct is to be developed and implemented wider than just concerning the Union Canal Towpath. There is a great opportunity to work with Sustrans on this for consultancy support around cultural/social change, and the towpath could offer a great opportunity as a test area for social improvement strategies.

The revised Towpath Code of Conduct for the shared path could advise for:

- Keeping left
- User hierarchy
- Speeding cyclists
- Use of bells
- Dog walkers
- Joggers/Runners
- Boat/Rowing/Kayak clubs
- Visibility

Thank you for using your bell

Share with care

Towpath Code of Conduct (current)

Test Area

The Project Team have recommended a Test Area, which can incorporate many of the proposed improvement strategies.

- Bridge holes (BH)
- Access Improvements (AI)
- Alternative Routes (AR)
- Placemaking (PM)
- Wayfinding & Signage Strategy
- Towpath Width Strategy
- Code of Conduct Strategy

The study has identified such an opportunity from Harrison Park to Meggetland, and the aerial map on the opposite page gives an example of how the test area could be designed.

The test area is a way to pilot the improvement strategies and an opportunity to get further feedback and input from users to make the proposals for the towpath most efficient and effective for the users.

The elements suggested within the Test Area are relatively simple improvements, e.g. temporary street furniture for placemaking, colouring the surface to indicate the cycle path and mirrors at bridge holes. These can be seen a 'quick fixes' which mean improvement which can be implemented at along the towpath quickly and easily as a starter on the general improvement of the towpath.

The Project Team recognise that there is an urgent need to improve the towpath and the experience travelling along the canal, which is not fully met by the 'quick fixes'. However at the same time, it is important to get started on some of the physical improvements to continue the constructive dialogue about the improvement strategies and to give the users the opportunity to be continually involved.

The details of the test area, what it will include for physical elements, how long it will be live and how it is going to be evaluated are to be decided, and the Project Team sees it as a good opportunity for testing the strategies live before the are implemented throughout the length of the study area.

Visualisation of how the test area could look like at Craiglockhart Primary School with temporary closing of Ashley Drive for Placemaking and a 3.0m wide coloured surface indicating the Alternative Route for bikes.


WS
Sign guiding people to use the Alternative Route and info about the Alternative Route connecting back to the towpath at Ashley Terrace.
AR
Colouring the path blue to indicate the Alternative Route option for bikes.
AI
Removing the chicanes to create better access between existing path and the towpath
WS
Sign with welcome to the Test Area and introducing the strategy and where to find more information.
BH (1/2) & Towpath Widening
Mirrors on the opposite wall of the bridge hole testing visual widening of the towpath.
PM
Testing closing the roads Ogilvie Terrace and Ashley Drive temporary for Placemaking with seating and planting elements.
BH (2/2) & Towpath Widening
No mirrors on the opposite wall of the bridge hole to compare results of visual widening of the towpath.
WS
Sign with welcome to the Test Area and introducing the strategy and where to find more information.
PM
Testing Ogilvie Terrace temporary for Placemaking with seating and planting elements.
AR
3.0m coloured blue cycle path on Ogilvie Terrace to indicate the Alternative Route option for bikes.
AR
Coloured surfaces at crossing point to make drivers aware of bikes and pedestrians crossing.
PM
Testing Ashley Drive temporary for Placemaking with seating and planting elements.
AR
3.0m coloured blue cycle path on Ogilvie Terrace to indicate the Alternative Route option for bikes.
AR
3.0m coloured blue cycle path to indicate the Alternative Route option for bikes.