



“No one in South Yorkshire should need a car to access or sustain a rich professional, cultural and social life”

OLIVER COPPARD, South Yorkshire Mayor

A collaboration with Sheffield Interchange and the South Yorkshire Mayor’s Office

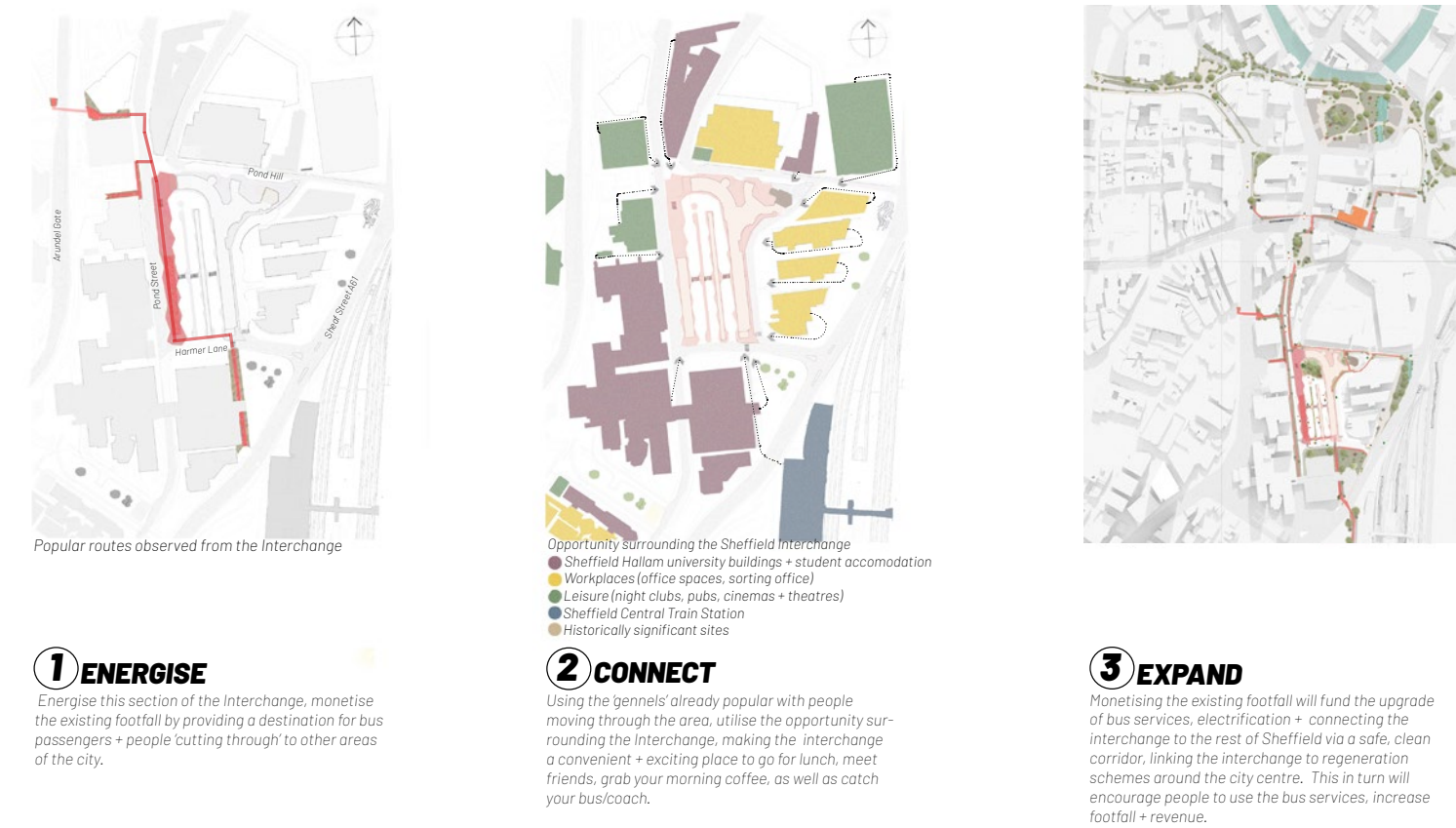
RE-CONNECTING THE INTERCHANGE

The intention of this proposal is to create a safe, frictionless journey between key areas of Sheffield City Centre, with the Sheffield Interchange at it’s heart. A green corridor prioritising pedestrians and cyclists, to encourage people out of their cars and on to public transport. This would reduce air pollution, and showcase Sheffield as a forward thinking, innovative city, with an eye on the future, the climate and its communities.

There are 3 phases to the proposal, beginning with energising the A/B terminal, which many people already use as a route through the city. Then upgrading existing routes “gennels”, which link the Interchange to Sheffield Central and Arundel Gate. Finally, connecting the Interchange to regeneration projects in the city, such as Fitzalan Square, the Grey to Green scheme at Castlegate and future plans such as Harmony works and the Castlegate park.

This phased approach to reconnecting the Interchange would allow the Interchange to, generate revenue from existing footfall, attract new customers and future proof the bus service in Sheffield. Ultimately, the expectation would be that increased passenger numbers would fund the electrification of the bus service and upgrading the rest of the Interchange.

“BIG IDEA” Analysis of the Sheffield Interchange, and the surrounding opportunity



1 ENERGISE
Energise this section of the Interchange, monetise the existing footfall by providing a destination for bus passengers + people ‘cutting through’ to other areas of the city.

2 CONNECT
Using the gennels already popular with people moving through the area, utilise the opportunity surrounding the interchange, making the interchange a convenient + exciting place to go for lunch, meet friends, grab your morning coffee, as well as catch your bus/coach.

3 EXPAND
Monetising the existing footfall will fund the upgrade of bus services, electrification + connecting the interchange to the rest of Sheffield via a safe, clean corridor, linking the interchange to regeneration schemes around the city centre. This in turn will encourage people to use the bus services, increase footfall + revenue.

PHASE ONE

ENERGISE

Location: TERMINAL A/B

"50% of all people passing through the Sheffield Interchange are not bus passengers"

I observed the Sheffield Interchange at different times of day and noticed that many people use Terminal A/B as a 'cut through', to reach other parts of the city, especially Sheffield Central Station and university buildings on Arundel Gate and Sheaf Street. By reenergising this section of the Interchange and designing areas for people to stop and spend time, instead of passing through, the Interchange could generate income from a higher percentage of its footfall. The design language developed in this phase of the project will be used throughout the project to create a clear route to the interchange from all over the city centre. This will direct more footfall to the interchange from the surrounding areas of the city and create more passing opportunity for trade and increased passenger numbers

1 SHEFFIELD INTERCHANGE

Platform A + B of the Sheffield Interchange which runs along Pond Street, is used by bus passengers, commuters moving from the train station through to other parts of the city and students moving between campuses. It is a brick built structure with steel beams and steel framed windows. The tiled roof has eight evenly spaced skylights. The space is well lit during the day, especially in the midday sun when the sun shines in and can make the space uncomfortably warm. During the winter the space is cold as it isn't heated. It is a sparse space, with 4 seats to each bus stop and large spaces which are usually unused. There are two brick built kiosks which are vacant, but used to be home to a paper shop and a confectionary stand. As there are people constantly moving through the space, my plan is to provide opportunities for people to stop and spend some of their time in the interchange.

Photographs Terminal A/B

- 1. Interior view of terminal A/B
- 2. View of bus stop, seating and wayfinding arrows on the tiled floor.
- 3. People using the bus stop, no social interaction with each other.
- 4. View from the stairs of Odeon Cinema, showing the context of the interchange and great views across Sheffield.
- 5. Sheltered entrance to Terminal A/B from Pond Street
- 6. Two people of different generations waiting for their bus, an opportunity for social interaction.

Existing drawings of Terminal A/B
1:1000



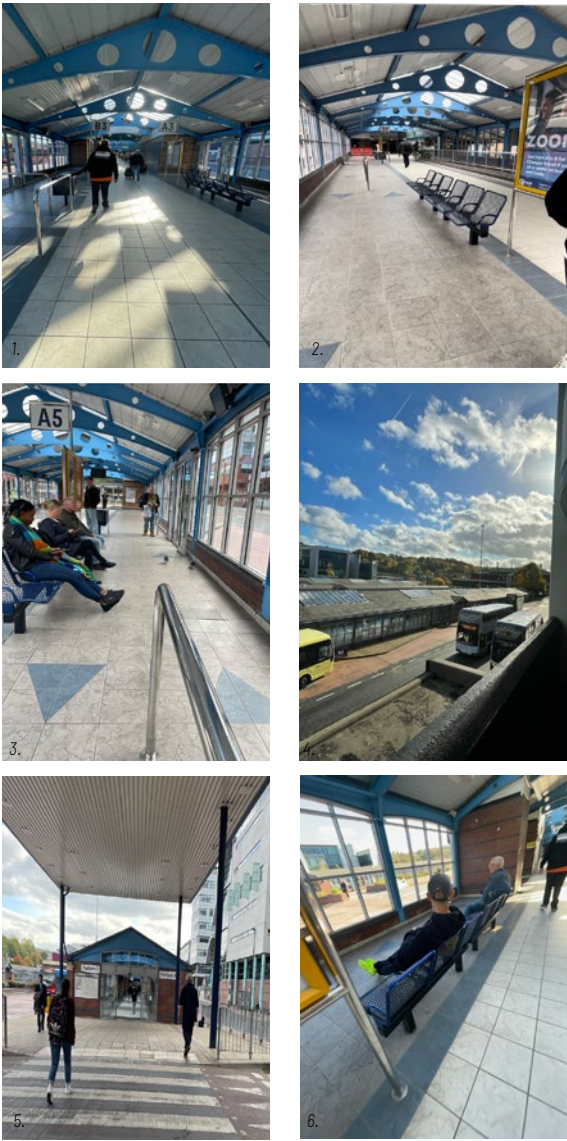
Plan view of Trusses



Section view showing position of trusses, windows + Doors



Plan view of roof, showing position of Skylights



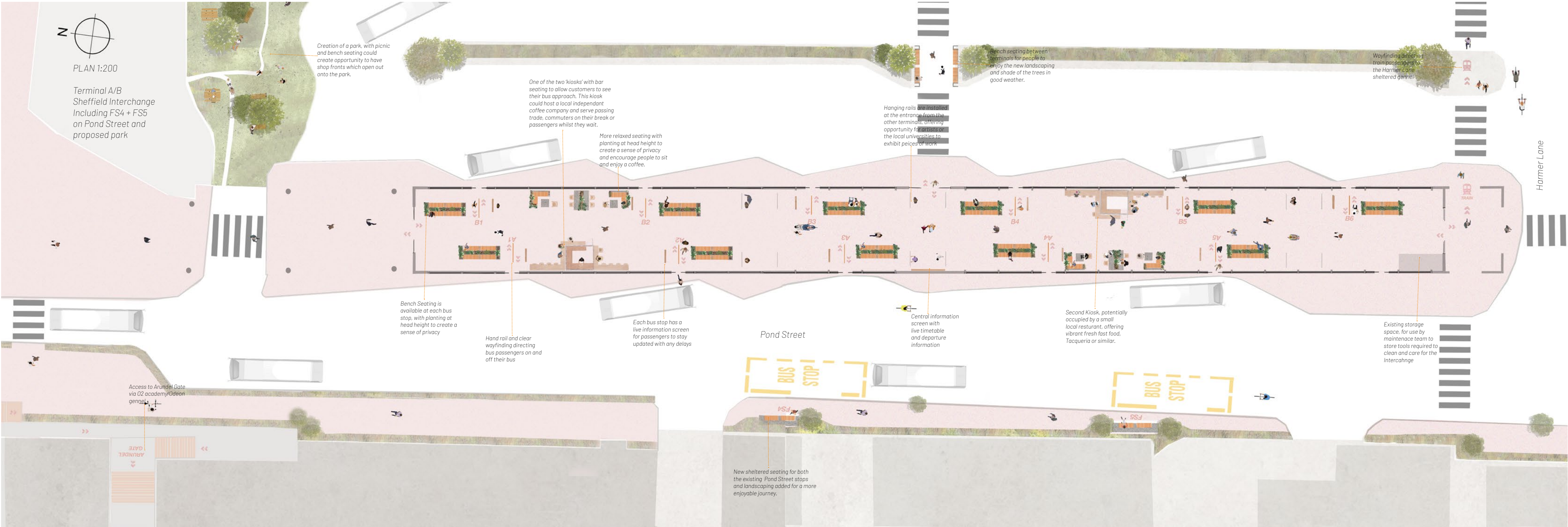
Extent of site
(IN RED)



Proposed look + feel
of Terminal A/B



1. Inspiration for kiosk which is structurally independent of the interchange and easily adoptable. 2. Lighting inspiration, to be suspended from the trusses. 3. Sails which will be used to insulate, cool and dull noise in the interchange. 4. Tile for Kiosks and bar seating inspired by the O2 academy cladding, an iconic Sheffield landmark. 5. powder coated steel in orange which matches the exterior benches and links the scheme together. 6. Inspiration for bench seating along the terminal windows to allow people to relax as they await their bus. 7. Plywood material for Kiosks. 8. resin bound flooring, made using recycled material, will have acoustic properties to reduce noise and make the space feel more intimate.



SECTION 1:200

Terminal A/B
Sheffield Interchange



PROPOSAL
THE KIOSK

Location: TERMINAL A/B
Use: Local independant coffee kiosk

"50% of all people passing through the Sheffield Interchange are not bus passengers"

The proposed kiosk is a self contained unit, which is structurally independent of the Interchange. It's constructed from timber, clad with plywood and insulated by cork sheet. It has accordion style vertical shutters, also made from plywood which can be opened and closed by folding them up/down.

Bar seating runs along the sides of the kiosk, when the shutters are open customers can enjoy a coffee and interact with the barista. The bar also runs along the windows of the terminal, looking out onto the bus terminals, so they can see their bus approaching.

The bars also have plug sockets to allow people to charge their laptop or device, and wifi access.

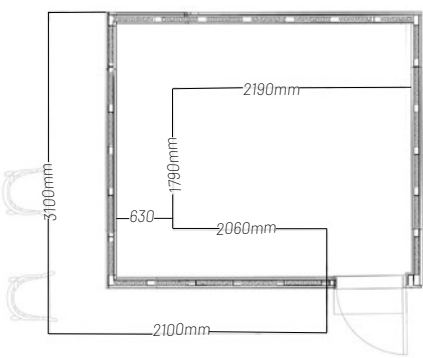
Opposite the kiosk is additional bar seating and more relaxed seating areas, which are planted up to create the illusion of privacy, encouraging people to sit for a while.

There are live information screens suspended from the steel purlins above, to keep passengers informed of incoming buses, or service delays, allowing them to relax whilst they wait.

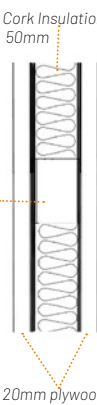
Overhead there are sails, made from acoustic material, these provide shade/insulation from the skylights, dull the noise from surrounding traffic and passing conversation, and lower the ceiling level to give the feeling of a more intimate space.

The kiosk is designed to be low cost to construct, adaptable to multiple different uses, easy to replicate in other areas of the interchange where appropriate, and slow people down, creating a more relaxed, welcoming destination.

PLAN VIEW OF KIOSK
1:50



WALL DETAIL



VISUAL OF KIOSK IN USE

EXPLODED VIEW OF KIOSK
1:50

MATERIALS

- Plywood for cladding
- Concrete worktops
- Tile inspired by O2 exterior
- Cork insulation + door
- Powder coated steel

Tile inspired by exterior of o2 academy

Bar along the interchange window

Provides privacy for people sat at the bar

Powder coated steel legs, same shade as bench seating

Back + right side Plywood cladding + shutter

Left side Bar (SEE ALSO PLAN VIEW PAGE 10)

Serving hatch Front

Left side Plywood cladding + accordion shutter

Timber structure (75mm x 50mm)

Shop front, serving hatch + access

Interior counter + worktop (SEE ALSO PLAN VIEW PAGE 10)

90 degrees

2600mm

2900mm

400

2600mm

2190mm

630

1790mm

2060mm

2100mm

762mm

890mm

200mm

1490mm

500mm

200mm

2600mm

2000mm

1200mm

1800mm

2600mm

2500mm

2650mm

150mm

2600mm

2600mm

2600mm

2600mm

2600mm

2600mm

2600mm

2600mm

2600mm

PROPOSAL
THE BENCH

Location: AT EACH BUS STOP IN TERMINAL A/B

The bench is constructed from cast concrete, with troughs running through the centre and to either side, these allow head height planting, and provide some shelter from passing footfall. This was a common comment from people using the interchange, that they felt vulnerable sitting with their back to people.

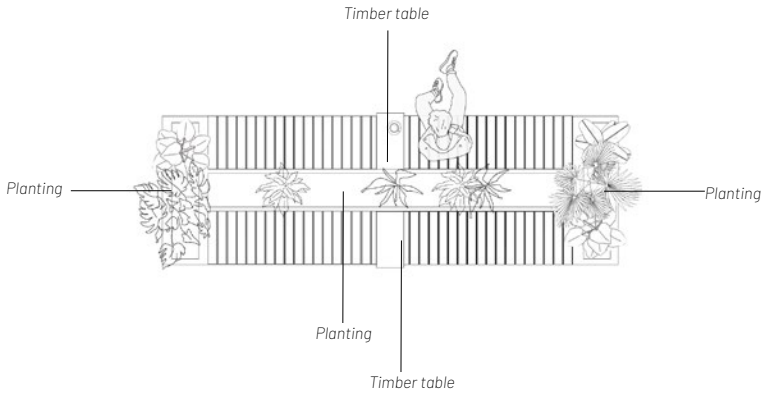
The live information screens and view of approaching buses ensures they dont miss important updates and allows passengers to relax whilst they wait.

The powder coated bench seating ties in with the exterior benches, creating a flow between the interior and exterior spaces. A small wooden table inserted into the bench provides a place to pop down your coffee.

Each bus stop has a live information screen and clear arrows on the ground to direct people on and off and make the space easier to navigate at busier times. This should make the Interchange easier to navigate and alleviate some anxiety.

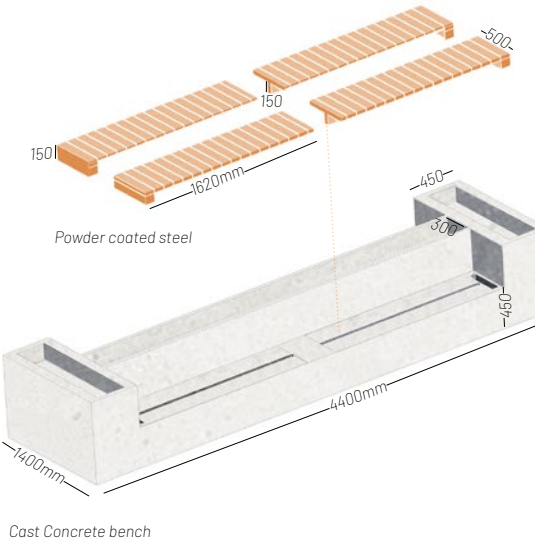
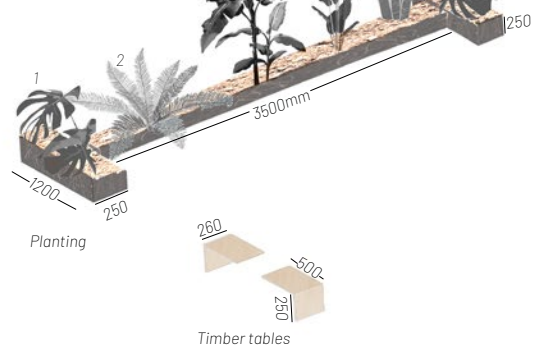
The sails made from the same acoustic material as in other parts of the interchange reduce ceiling height and dull noise making it more pleasant to sit for a while.

By using familiar materials, clear wayfinding and introducing planting, my proposal aims to attract more passengers and encourage them to slow down.



EXPLODED VIEW OF BENCH
1:50

- 1 Monstera
- 2 Phoenix Roebelenii
- 3 Abyssinian Banana
- 4 Allocasia
- 5 Dracaena trifasciata



PHASE TWO

CONNECT

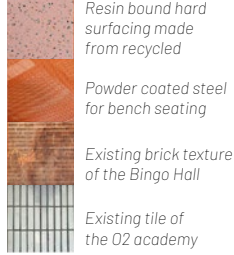
Location: 3 GENNELS (SEE MAP BELOW)

I have identified and observed three popular routes which people currently use, to travel between the interchange and the surrounding areas of Arundel gate and Sheaf street.

I saw an opportunity to make these 'gennels' cleaner, safer and more accessible. Using clear design language and cohesive materials throughout the design, my aim is to inspire more people to use these routes, and create areas for current users to slow down and spend time.

This will direct more footfall to the Interchange from the surrounding areas of the city and create more passing opportunity for trade and increased passenger numbers

MATERIALS



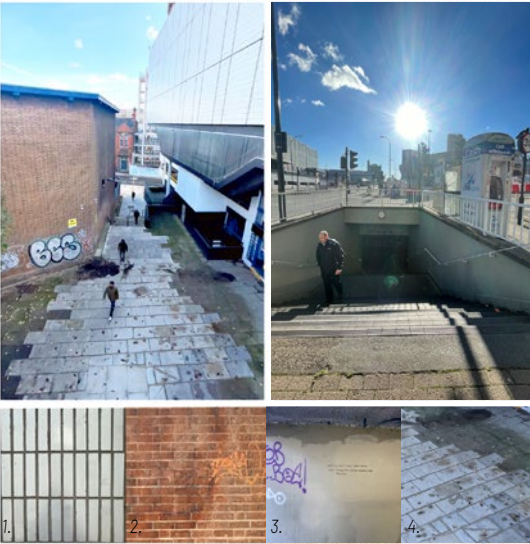
- 1 POND STREET/FLAT STREET
- 2 O2/ODEON
- 3 HARMER LANE/TRAIN STATION



Concept visual of proposed changes to
Pond street/Flat street gennel



Proposed routes identified
For redevelopment

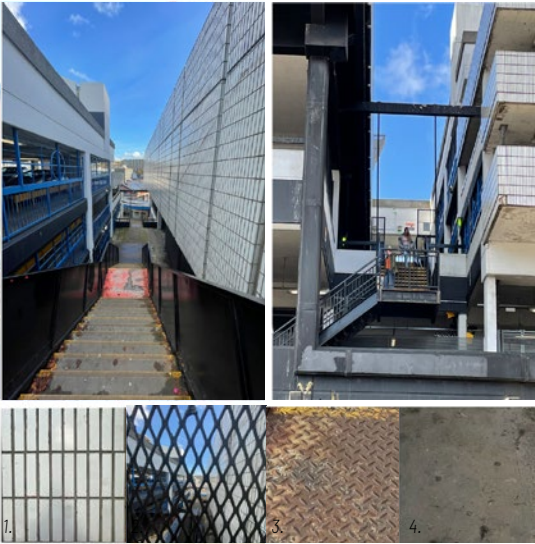


LOCATION 1 POND STREET/FLAT ST

This route is commonly used as a shortcut from Arundel gate by students, bus drivers/passengers and older people. It is dimly lit by a couple of street lights and although recently the paving was patched up, the surface is uneven. There's access to the Britannia car park, via a gate and stairway, and access to the O2 Academy via a tunnel and ramp. Although it is used by many people it doesn't feel safe.

To address the lighting, I suggest a mixture of festoon lights hung across the gennel, and LED lighting along the floor. I would resurface the area using a vibrant bound resin made from recycled materials, and add a live bus timetable to the space to inform passengers and add light. Adding planting to the space will have a calming effect on people moving through the space and create an area to meet up or stop for a while.

1. existing tile cladding the O2 Academy 2. existing brick of the bingo hall 3. graffiti which has been painted over 4. current floor surface



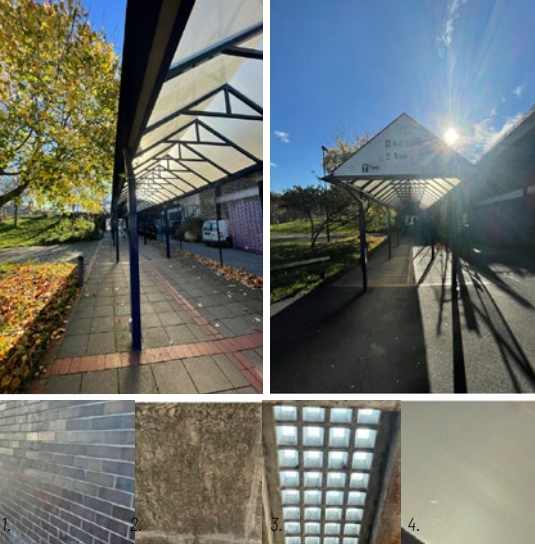
LOCATION 2 O2 ACADEMY

This route is commonly used as a shortcut from the interchange to Arundel gate by bus drivers/passengers and older people. Although covered by CCTV large parts of the routes are not lit. The surface is a mixture of steel textures. There is access to the Britannia car park, via a gate and access to the Odeon Cinema. Although it is used by many people it doesn't feel safe due to lack of lighting and drug paraphernalia.

My proposal is to resurface the area using the same material palette as the Pond street/Flat street gennel. Adding planting to the space will have a calming effect on people moving through the space using hanging planting and planters lining the stairways and landings.

Adding lighting along the route will make it more inviting to pedestrians.

1. existing tile cladding the O2 Academy 2. existing railing of the carpark 3. Current floor surface at the bottom of each staircase 4. floor surface linking the staircases.



LOCATION 3 SHEFFIELD CENTRAL/HARMER LN

This route is sheltered and leads from the Interchange to Sheaf Street crossing which is a very busy pedestrian crossing which people use to access the train station. There is an opportunity to create an amazing first impression here for people arriving in Sheffield.

The tunnel is also used by people trying to access the Sheffield Hallam Sheaf building.

It is not well lit at night, however during the day the shelter allows light to pass through. There is a concrete section of the tunnel which runs under the university building and is poorly lit all day.

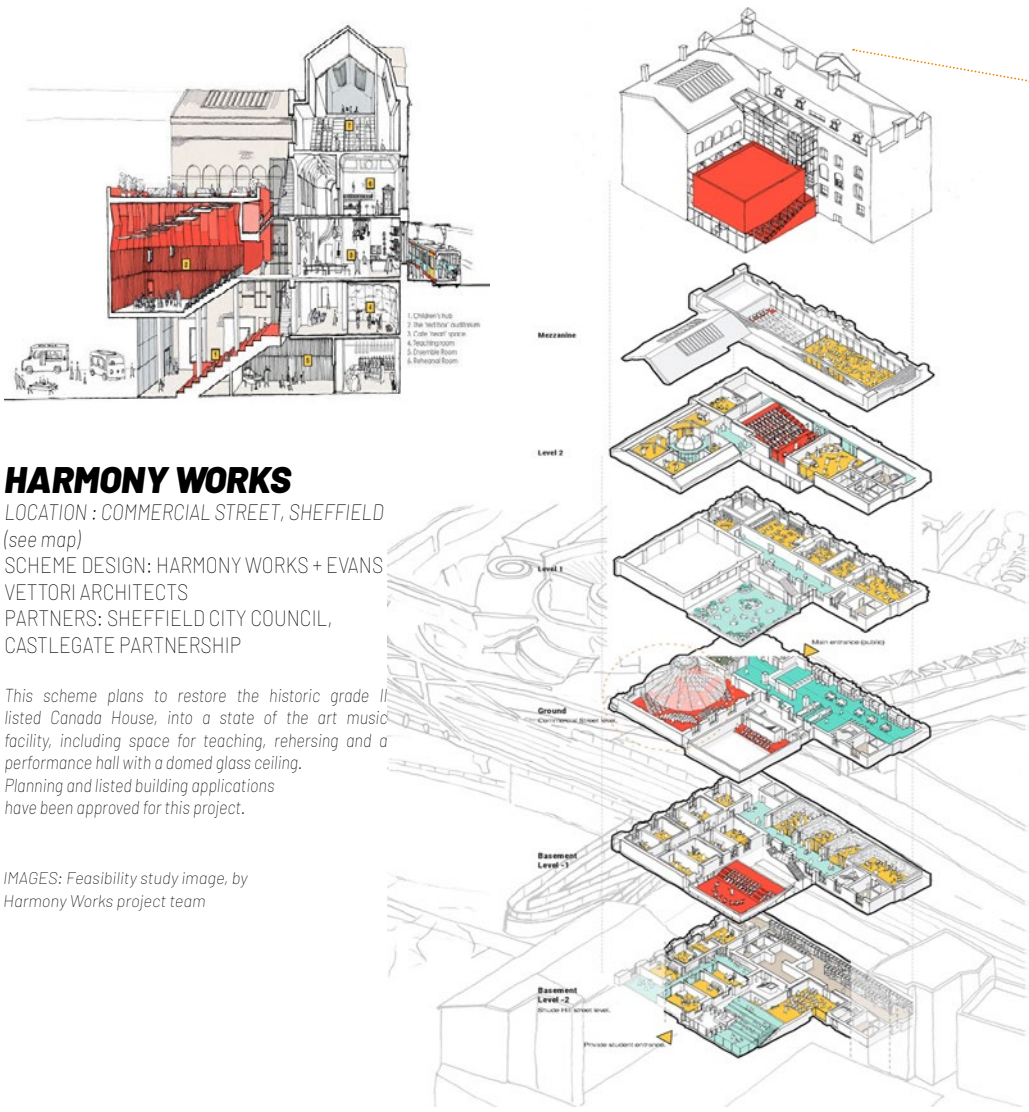
There is a green space at the Interchange side of the tunnel which catches the afternoon sun and has a great view of Park Hill, as well as a space at the Train station side which is a good place to sit with a view of the train station, alongside a space for cyclists to store their bikes, however this is underused. I suspect because of security concerns.

1. existing bricks 2. concrete inside the tunnel running under the university 3. Glass bricks in the ceiling of the tunnel 4. frosted acrylic sheeting forms the roof of the shelter

PHASE THREE

EXPAND

Location: SHEFFIELD CITY CENTRE
Connecting the Interchange to other regeneration schemes which are recently completed or planned over the coming years, will create a corridor through the city leading people to the Sheffield Interchange and Sheffield Central Station. This will allow people to plan journeys into the city centre on public transport and then cycle or walk to their final destination along safe, clean and pedestrianised streets, this could completely change what people expect from using public transport and encourage people to pursue more active travel.

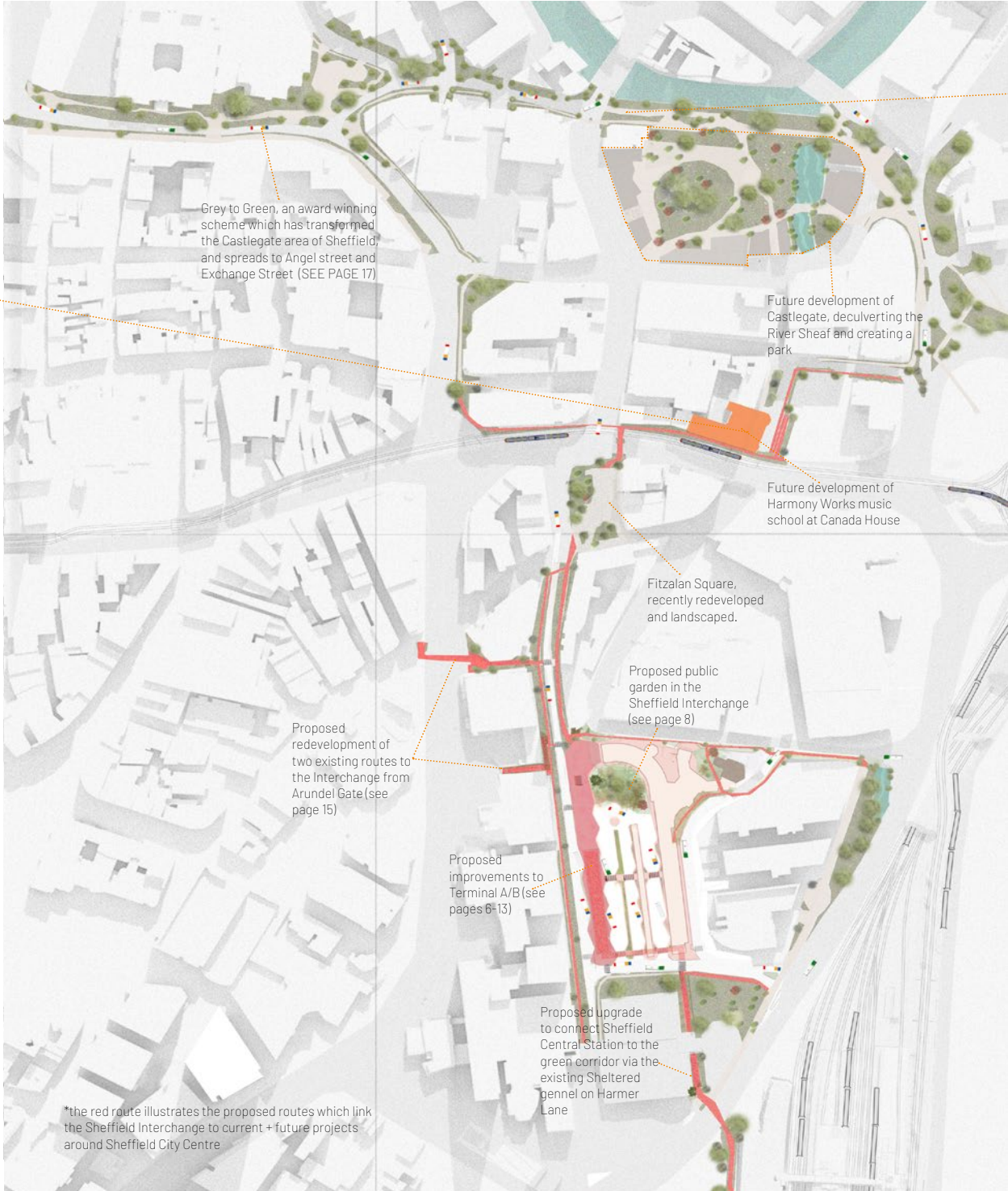


HARMONY WORKS

LOCATION : COMMERCIAL STREET, SHEFFIELD
(see map)
SCHEME DESIGN: HARMONY WORKS + EVANS
VETTORI ARCHITECTS
PARTNERS: SHEFFIELD CITY COUNCIL,
CASTLEGATE PARTNERSHIP

This scheme plans to restore the historic grade II listed Canada House, into a state of the art music facility, including space for teaching, rehearsing and a performance hall with a domed glass ceiling. Planning and listed building applications have been approved for this project.

IMAGES: Feasibility study image, by
Harmony Works project team

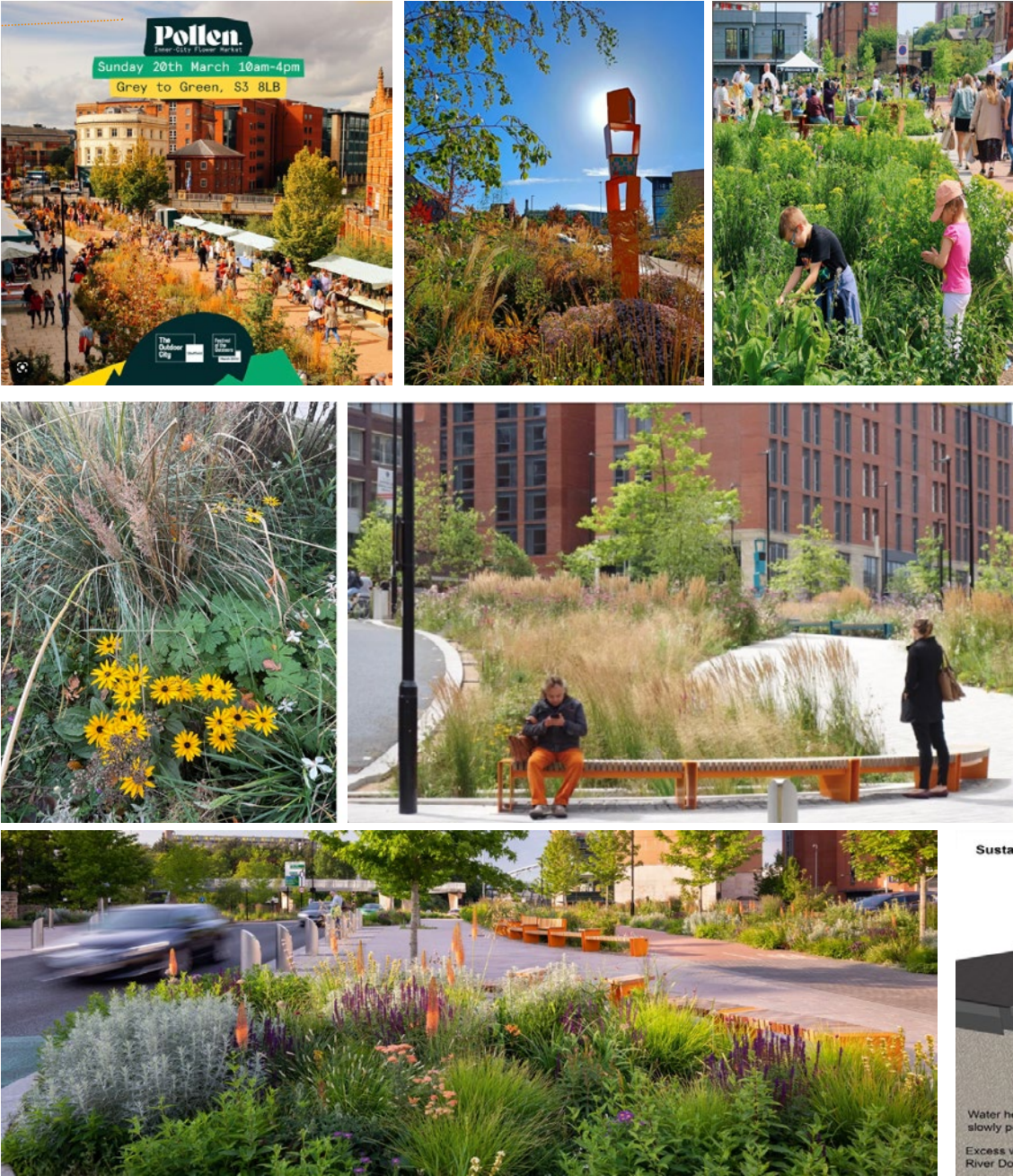
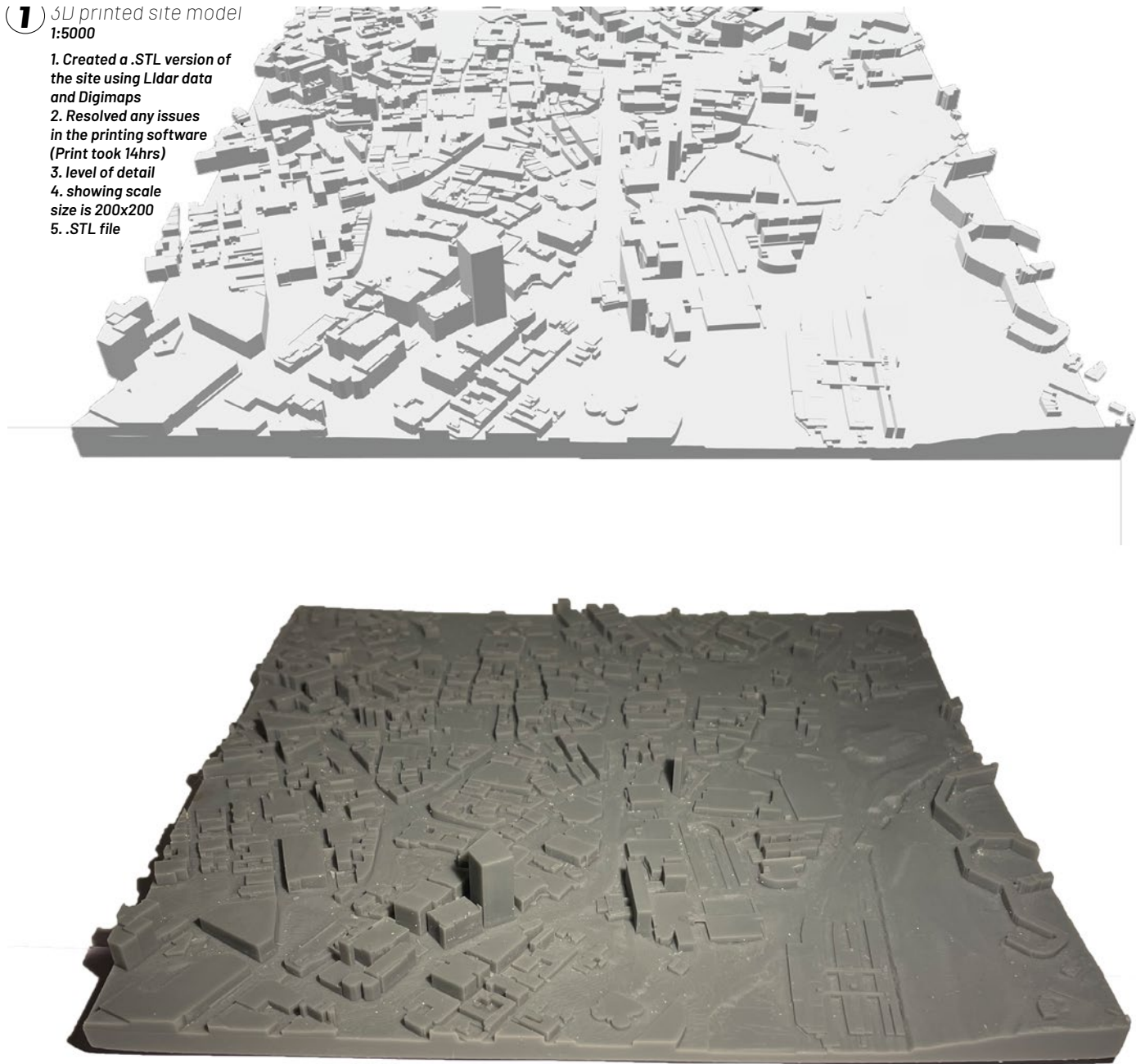


- In order of scale,
1. 3D printed site model 1:5000
 2. Terrain model and immediate surroundings 1:1000
 3. Kiosk model



1. 3D printed site model 1:5000

1. Created a .STL version of the site using Lidar data and Digimaps
2. Resolved any issues in the printing software (Print took 14hrs)
3. level of detail
4. showing scale size is 200x200
5. .STL file



GREY TO GREEN

LOCATION : SHEFFIELD (see map)
SCHEME DESIGN: SHEFFIELD CITY COUNCIL + ROBERT BRAM
PLANTING DESIGN: NIGEL DUNNETT + ZAC TUODR

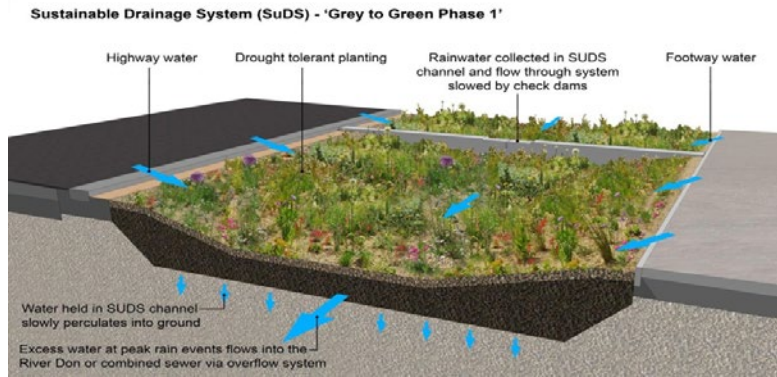
The Grey to Green scheme was designed to create a 'calm refuge' in the city , encourage walking and cycling and ultimately contribute to a healthy, sustainable future for Sheffield.

It reconnects an underutilised area of Sheffield City Centre, which became redundant after a major ring road was redirected, by creating 1.3km of new cycle and walkways. The route is lined with beds of drought tolerant, multilayered planting, which will improve air quality in the area, and encourage wildlife into the city. The beds design incorporates SuDS technology, which manages drainage, it allows rainwater to slowly drain into the surround Sheaf and Porter rivers, in a way that mimicks nature. The site can contain a 60 minute 1 in 30 year weather event, and stops 24,000 bath tubs worth of water entering the sewage system.

This future proofs the project, as well as increasing the number of businesses in the area, encouraging new food and beverage businesses to open and providing space for events like the Pollen Market, the project improves the wellbeing of the community and will help to alleviate flooding in the area.

Due to the location of the Interchange in relation to the River Sheaf which runs alongside it (see image 3) could a similar planting and drainage scheme address the future risk of flooding and the low air quality in the area? The map (image 1) shows the proximity of the scheme and the Interchange and the opportunity to link it via Fitzalan Square.

Top left, Pollen market ,a inner-city flower market, held monthly along Castlegate draws people into the area. Top centre, Totem like structures are exhibited throughout the space, providing space for nature. Top right, people using the space and exploring nature. Middle left, prairie planting, the yellow blooms, Rudbeckia fulgida var. demin., with grass Helictotrichon sempervirens and Saponaria 'Max Frei', coming through. Middle right, people using the scheme. Bottom left, photograph by Richard Bloom. Bottom Right, SuDS system diagram.



2. 3D printed site model 1:1000

The project 'St Gallen Urban Living room' was a big influence on my project and to help me understand how I could link the higher ground of Arundel Gate + Fitzalan Sq I made a 1:1000 model of the immediate surroundings of the interchange. This helped me to understand the site and understand how consistency of materials could make the site feel connected.



ST GALLEN URBAN LIVING ROOM
LOCATION: SWITZERLAND
ARCHITECT: CARLOS MARTINEZ
ARTIST: PILOTTI RIST

Also known as 'Red Square' this area of St Gallen, Switzerland has been coated in red rubber granulate, to create an urban living room. The aim of the designers, Rist + Martinez, was to create a space for people to 'relax and marvel, tempting pedestrians to slow down, stop and touch their surroundings'.

The area was an underused space within the city centre, with disjointed levels and surfaces. By using one cohesive material it connected pedestrian areas with the private boundary lines and reconnected people with the city . The designers described this as reactivating.

By day it is a vibrant space used as a playground by children, a cafeteria by office workers and a back drop to holiday photographs by tourists. The 'red carpet' which covers everything from the pavement, roads and street furniture creates a cohesive area for pedestrians to feel safe and comfortable.

By night the space is creatively lit by large round lighting installations, they blur the line between interior and exterior design as they look like large chandeliers, this adds to the cosy, lounge feeling of the space.

The surface is softer under foot than hard surfacing we are accustomed too in public spaces, and the stark difference between the surrounding urban environment and this intervention would like to incorporate in to my design for the Sheffield Interchange.

Left: Top, visual of Red square showing the surface and how it connects the space. Middle, + Bottom, 1:1000 Terrain model from poster board to understand the level changes around the site.

3. Kiosk model 1:50

These sketch models helped me to design the self supported structures, which are used in my proposal as coffee or food outlets.

I adjusted several elements of the design as I made each iteration. The sail element of the design became separate to the kiosk, extra bar height seating was added and the shape developed to follow the angle of the trusses.

The materiality was important as I wanted it to be easy to adapt for different uses. Through making these small sketch models I developed my understanding the construction and scale requirements of these spaces.

