URBAN ENTRAILS
intervention in Liverpool
railway to manchester

railway to the west/north

section

lime street tunnel 1200 m

lime street

liverpool central

james street

train tunnel

section

section

section

Queens way_automobile tunnel

Kingsway_automobile tunnel

waterloo tunnel 900m

victoria tunnel 2100m

wapping tunnel 1900 m

Liverpool tunnels_Total
railway to Manchester
railway to the west/north
waterloo tunnel 900m
victoria tunnel 2100m
wapping tunnel 1900 m
Liverpool tunnels_Disused train tunnels
Liverpool tunnels _ Artefacts
railway to Manchester
railway to the west/north
waterloo tunnel 900m
victoria tunnel 2100m
section
wapping tunnel 1900 m
section
Extra space above ground connected by horizontal shaft. Original way of tunneling.

Extra vertical shaft with horizontal connecting as measuring system and digging principle.

Original tunnel: brickwork tunnel build from the inside by digging out the Limestone soil. Tunnel is laid out between 6 to 20 meters deep. (depending on elevation of surface).

Cutting original as opening in surface to tunnel, to transport goods.

Ventilation tower to tunnel, also entry for daylight.

Elements of staircases and escalators for a direct way to overcome difference in height. An indirect way of covering difference in height.

Combination of escalators, staircases and ramps.

Extra space under ground connected by horizontal shaft. Cutting on trajectory of tunnel.

Section in surface to open up cutting.

Tower as ventilation/light opening for light.

Escalator, staircases.

Programm Structural system_ Programm

Spatial system_ Circulation

Spatial system_ Existing artefacts

Tunnel_ Implementation
Oriental way of tunneling. Extra vertical shaft with horizontal connecting as measuring system and digging principle.

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Section in surface to open up cutting

Tower as ventilation/light opening for light

Escalator

Staircases

Extra space under ground connected by horizontal shaft

Uni square
Spatial system_ Circulation
Spatial system_ Existing artefacts

Extra space above ground connected by horizontal shaft

Original way of tunneling.
Extra vertical shaft with horizontal connecting as measuring system and digging principle

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Escalator

Structural system_ Programm
Spatial system_ Circulation
Spatial system_ Existing artefacts
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Tower as ventilation/light opening for light
Escalator
Staircases
Cutting Tower Entrance Route (entrance)

Structural system_ Programm

6-20 m
c.a.9
c.a.8
Soil condition:

- **0**
  - Loose ground: clayey, sandy, gravel mixture

- **5**
  - Firm to stiff broken rock, sandstone

- **10**
  - Medium dense sandstone
  - Solid bedrock
    - Sherwood Sandstone formation
      - Consists of Wimslow sandstone and Helsby sandstone

- **15**

- **20**

Ground matter:

- **0**
  - Groundwater

- **5**
  - Groundwater

- **10**
  - Groundwater

- **15**

- **20**

Building method:

- **0**
  - Building method

- **5**
  - Building method

- **10**

- **15**

- **20**

Depth (m.): 0, 5, 10, 15, 20
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Section in surface to open up Cutting

Tower as ventilation/light Opening for light

Escalator

Staircases

Original way of tunneling.

Extra vertical shaft with horizontal connecting as measuring system and digging principle

Extra space above ground connected by horizontal shaft

Spatial system_ Circulation

Spatial system_ Existing artefacts

Structural system_ Programm

Chapel
Spatial concept
Extra space above ground connected by horizontal shaft

Original way of tunneling:
- Brickwork tunnel build from the inside by digging out the Limestone soil.
- Tunnel is laid out between 6 to 20 meters deep (depending on elevation of surface).

Cutting original as opening in surface to tunnel, to transport goods.

Ventilation tower to tunnel, also entry for daylight.

Elements of staircases and escalators for a direct way to overcome difference in height.

An indirect way of covering difference in height.
- Combination of escalators, staircases and ramps.

Extra space under ground connected by horizontal shaft

Cutting on trajectory of tunnel Section in surface to open up Cutting Tower as ventilation/light Opening for light

Elements: Staircases, Escalators, Tower, Entrance Route (entrance)
Extra space above ground connected by horizontal shaft. Original way of tunneling.

Extra vertical shaft with horizontal connecting as measuring system and digging principle.

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Cutting original as opening in surface to tunnel, to transport goods.

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Elements of staircases and escalators for a direct way to overcome difference in height. An indirect way of covering difference in height. Combination of escalators, staircases and ramps.

Extra space under ground connected by horizontal shaft. Cutting on trajectory of tunnel. Section in surface to open up cutting. Tower as ventilation/light opening for light.

Plan
Meeting point

Extra vertical shaft with horizontal connecting as measuring system and digging principle

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Original way of tunneling.

Extra space under ground connected by horizontal shaft

Cutting on trajectory of tunnel Section in surface to open up Cutting

Tower as ventilation/light Opening for light

Escalator

Staircases
outside space, outdoor climate

inside space, fully climatised

Music inside space, fully climatised

SPORTS inside space fully climatised

PUBLIC HALL

ARCHIVE inside space medium climatised/

fully climatised

CHAPEL inside space medium climatised

zone separation

circulation space (tunnel)

program

open cutting

light opening

(ventilation)

level: ca. -15 m

damp
damp
damp
damp
damp
damp
damp
damp

fully climatised

water
cold
hot
air

heatpump

air handling unit (AHT)

cold
hot

ventilation

air treatment

installation space

exchange of air (hot/cold)

cooling of inlet/outlet air