



## Case study

### Cowgate roundabout Newcastle

**Product** EPS SE300 Grade  
**Area** 2880m<sup>3</sup>

Sundolitt's expanded polystyrene (EPS) has been used as an innovative void fill under one of Newcastle's busiest roundabouts. The scope of the £4.3 million project was to remove and replace a notorious junction, by infilling the pedestrian subways and the main bowl of the roundabout. The junction, known locally as Cowgate roundabout, and renowned for being "dangerous and inefficient", now boasts new intelligent traffic signals to manage traffic flow and new cycle and bus lanes plus pedestrian crossings.

Sundolitt worked with Newcastle City Council to engineer and design the solution for the project. A total of 2000 blocks, 2880m<sup>3</sup>, were used

to infill the roundabout and the three pedestrian tunnels. A layer of compacted stone was then placed over the polystyrene and the new road was then laid on top. The blocks can withstand up to 120 kN/m<sup>2</sup>, therefore with this high design load plus the compacted stone, the new junction can now safely carry thousands of motorists including up to seventy buses an hour.

The subways had been the source of repeated complaints by local residents to the Council, regarding anti-social behaviour and vandalism plus pedestrians were reluctant to use them, putting themselves at risk by attempting to cross the very busy road instead.



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*"Using polystyrene blocks was a quick, effective and sustainable way to infill a huge area and bring it up to ground level. It also meant that we could keep all lanes moving during the infill as engineers could work in the bowl of the roundabout without impacting on traffic – which underpinned our commitment to keep disruption to a minimum as we made a major investment to one of the city's busiest junctions."*

#### EPS Benefits

-  **Load bearing**
-  **Thermal performance**
-  **Water resistant**
-  **Lightweight**
-  **Versatile**
-  **ODP = 0 : GWP < 5**

**Manufacturers of XPS and EPS  
 load-bearing thermal insulation**