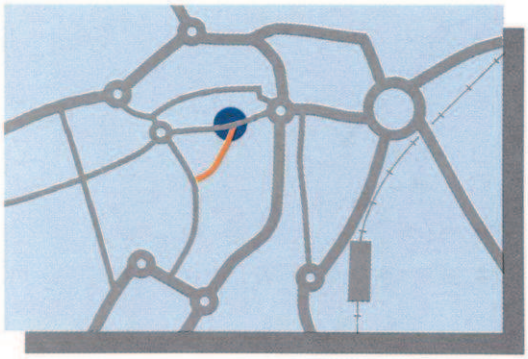
44: Plateau at the junction of Fargate and High Street.
(Photo: K. Platt)

SHEFFIELD · HIGH STREET



CONTEXT

Fargate is a major city centre shopping street and was the first to be pedestrianised in Sheffield. At its northern end it joins High Street which has a high bus flow and many bus stops. A bus gate (with exemptions) operates near to the junction with Fargate. In this vicinity at peak shopping times about 2,000 pedestrians per hour cross High Street which has a vehicle flow of about 330 per hour, predominantly buses. The pedestrian subway serving this crossing movement was used by only a small proportion of pedestrians, the majority crossing at various surface locations, often between stationary buses, across a carriageway up to 14m wide.

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OBJECTIVES

The purpose of the scheme was to replace the little-used pedestrian subway with an attractive and safe surface level alternative. The scheme was designed to encourage pedestrian crossing movements to be concentrated over one short section near the bus gate.

DESCRIPTION

The carriageway in High Street where it passes the end of Fargate was narrowed to 6.4m (still allowing two-way bus flow) and a plateau was formed over the narrowed section. The plateau and approach ramps were constructed using paving blocks. A kerb upstand of 10mm assists certain pedestrian groups while a further distinction between footway and carriageway was achieved by using charcoal coloured blocks on the plateau in contrast to the buff coloured paving in adjacent areas. The ramps were constructed from brindle coloured blocks. The plateau was made as long as practicable, 18m, in order to cater for the volume of pedestrians.

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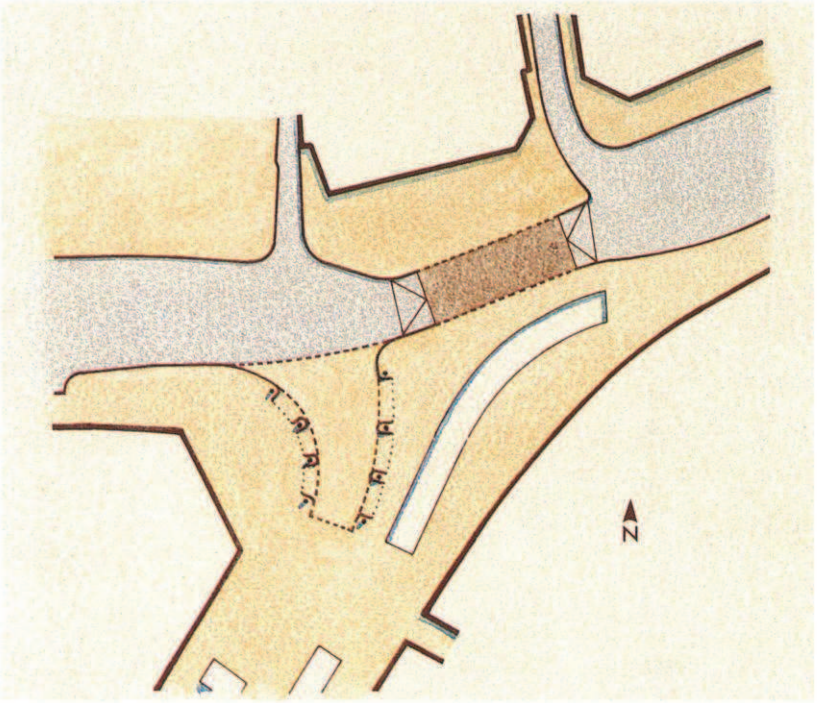

45: The narrow carriageway plateau is clearly distinguished from the pedestrian area by a low kerb and different coloured paving. (Photo: K. Platt)

COST

Not available.

ASSESSMENT

Speed reduction experiments were carried out in conjunction with a bus company to determine the appropriate ramp gradient to raise the carriageway by 100 mm. The "before" free-flowing 85 percentile bus speed was 19.5 mph. The figure decreased to 16.5 mph with ramps constructed at 1 in 17; 14.5 mph at 1 in 13; and surprisingly, 14.5 mph at 1 in 10. The latter gradient did, however, further reduce non-bus speeds, the overall 85 percentile speed reducing from 22 to 17 mph. The carriageway narrowing coupled with a change in horizontal alignment causes two buses to pass extremely slowly, or one to take a central line through the bus gate. Either practice is satisfactory from a pedestrian safety viewpoint. The speed reduction effect of this narrowing is additional to the measured free-flow figures given.

Accident numbers are too small and the "after" period too short for benefits to be assessed with certainty, but early results are encouraging. Pedestrian accidents at or near the bus gate averaged 3.5 per year (with a fatal/serious/slight injury ratio of 1:5:16), and during the 18 months "after" period there were two slight injury accidents. The number of bus passenger accidents has remained approximately the same.

Early indications are that the main pedestrian flow is now more concentrated at the bus gate and the scheme has created a change in driver behaviour. The impression is that whereas previously a bus at 20 mph would intimidate pedestrians, a driver now approaching at 14 mph will be in a position to appreciate pedestrian difficulties and will often give precedence to them.