



## CARDIFF CENTRAL SQUARE CARDIFF, UK

BuroHappold Engineering's Smart Space team were appointed by Rightacres Property Ltd. to support Foster + Partners on this significant Masterplan redevelopment of Cardiff Central Square. The objective of our engagement was to enhance the space utilisation, economic vitality, and operational management within the Central Square by optimising the circulation layouts and crowd management strategies.

Given the close proximity of Central Square to Cardiff Central train station, the 74,000 capacity Millennium Stadium, Cardiff Central bus station and the city centre, the current square experiences major congestion and operational management issues during sports and cultural events.

Our task was to create crowd management strategies that would ensure Central Square is vibrant and active during business-as-usual days whilst being efficient, comfortable and safe during event days.

Starting with crowd flow surveys and liaison with all key stakeholders, our work informed the Masterplan design as well as the way-finding, signage and queue management of events and business-as-usual flows.

Using detailed models of event days and business-as-usual scenarios we helped optimise the queuing system, maximising the use of the available space outside the station, as well as providing advice on other factors influencing crowd control such as desire lines and street geometry. This included the position of street furniture, signage and minimum pavement widths to minimise pinch points on the routes.

This work was performed in conjunction with Cardiff City Council, Gleeds Management Service, Nathaniel Lichfield & Partners, Network Rail, Aviva and representatives from the Millennium Stadium.

**CLIENT**  
Gleeds Management Service, NLP Planning,  
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**ARCHITECT**  
Foster + Partners

**DURATION**  
2011 - ongoing

**SERVICES PROVIDED BY**  
**BUROHAPPOLD**  
Smart Space – People Flow & Space Analysis