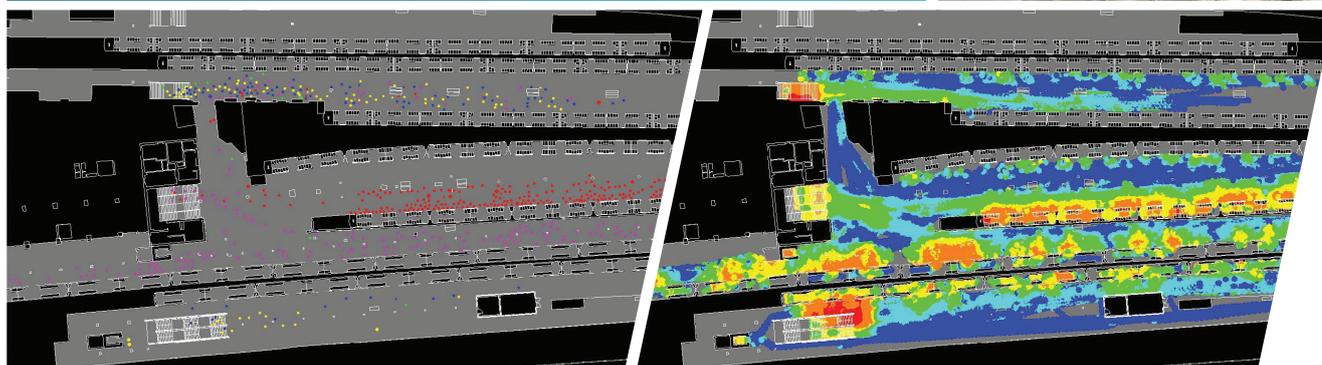


Station Planning



Background

Railway stations not only form a vital transport interchange function, acting as gateways to towns and cities; they are also an integral part of local neighbourhoods. As governments seek to encourage modal transfer onto public transport it is vital that railway stations are able to rise to the challenge of ever increasing passenger throughput whilst providing safe, convenient and hassle free inter modal interchanges.

The Challenge

Redeveloping existing railway stations to meet future demand and provide 21st Century facilities whilst respecting railway architectural heritage is the challenge facing rail infrastructure owners. Network Rail have developed an enviable track record of enhancing Britain's railway stations without losing sight of Britain's unique railway architecture and have successfully modernised stations such as King's Cross, and Waterloo stations in London.

How We Can Help

Network Rail owns over 2,500 stations in Britain and operates the 17 largest railway stations, which includes all the main line stations in London and the principal stations in Birmingham, Manchester, Glasgow and Edinburgh. This gives us a unique insight into various aspects of station operations such as managing passenger flow during exceptional conditions, such as train cancellations and sporting events; and evacuation procedures. Furthermore, we have extensive experience of planning and implementing major station upgrade programmes, such as Blackfriars, Farringdon and City Thameslink station upgrades as part of the £6 billion Thameslink Programme.

Our experienced consultants provide advice on:

- ▶ minimising any safety risk related to congestion and people movements
- ▶ assessing the capacity of critical points and constraints

- ▶ assessing the implications of emergency and perturbed situations
- ▶ considering how an area may operate in future years with forecast movements
- ▶ assessing significant timetable changes
- ▶ highlighting design issues and influencing design
- ▶ determining strategies for special event planning and operational control such as the London 2012 Games
- ▶ assessment of station retail outlets on passenger flows (also see retail and commercial advisory services)
- ▶ assessing impact of rail patronage on access and egress modes such as taxis, buses and metro services.



London King's Cross

Planning and construction of the re-developed station including passenger flow analysis, dynamic simulation to demonstrate various alternative design layouts, operational strategies during the construction phases and the final design in relation to the forecast future demand.

London Blackfriars Station

The dedicated Thameslink team was responsible for overseeing the planning and construction of the re-developed station. Both static and dynamic assessment methods were used to inform the design process and to ensure safe circulation of passengers under normal and emergency situations.

London Farringdon Station

Farringdon is an important interchange station with three subsurface lines on the London Underground network and the mainline services. As part of the planning and design development stages significant importance was given to the passenger flow analysis to ensure efficient movement of passengers during peak times interfaced with train timetabling.

Reading Station

As part of the planning phase extensive pedestrian flow analysis was undertaken with the Legion software to assess alternative design concepts and to develop access plans during the construction phase. In order to unlock the bottleneck, the station is being redeveloped to accommodate five additional platforms, a new transfer deck and escalators to platforms.

Birmingham New Street

Our station planning team is currently reviewing the passenger flow analysis in relation to the operation of the station during various construction phases. This analysis has successfully demonstrated that the closure of an interchange footbridge during one of the construction phases in year 2013, to facilitate the works, is feasible with minimal impact to passenger comfort and ensuring there are no safety implications.

London Bridge Station

The extensive construction works planned for the station will have a significant impact on passenger circulation and also train service pattern during the works. As a result, it was critical to review each construction phase in detail in terms of people movement in addition to the new final design of the station.