

Faber Maunsell

York Central

Transport Masterplan Study

Executive Summary

This is a Transport Master Plan for the York Central development site, located in the City of York. This Master Plan considers the nature of development at York Central, the transport implications of development and recommends a series of interventions that will provide a standard of transport infrastructure and services commensurate with the needs of the development site, the city centre and the wider City. It is not a detailed Transportation Assessment necessary to support a full planning application for individual development proposals on the site.

York Central is a development proposal of regional significance. It presents a unique opportunity to provide high quality residential, commercial and tourist facilities in the heart of the historic City of York, supported by excellent transport links across a range of travel modes. Once completed, York Central will change the face of York, bringing new business and commercial opportunities to the city, expanding the city centre, drawing the centre of gravity of activity westwards towards the railway station and helping to reduce the emphasis in the city on out of town office developments.

The development site is a teardrop shape, located on former railway lands to the west of the railway station and enclosed by the East Coast Main Line (ECML) to the north and east and the station Freight Avoiding Line (FAL) to the south and west. It currently has on its northern flank a number of small residential areas, some light industrial units and the National Railway Museum complex, all of which are accessed from Leeman Road, the only public highway that passes through the site at present. The majority of the site comprises large areas of operational and disused railway sidings associated with York's role as a major railway centre, as well as the railway station itself to the east.

Although encircled by railway lines and being immediately adjacent to York's railway station, the site nevertheless presents significant transport challenges that this Master Plan must tackle. Road and public transport links into the site are poor and will require a major upgrade to meet the demands of new development. Cycling and walking links, both internally and to external areas, will also need to be upgraded. The way in which proposals at York Central relate to the transport needs of the rest of the City Centre will also be vital, with particular emphasis on public transport interchange, car parking supply and car park pricing.

The York Central planning brief sets out the development framework and key planning, economic development, environmental, highways and transport objectives for the site. These are:

- A comprehensive development for the entire site, not piecemeal development;
- High quality development that incorporates high standards in the design of buildings and the spaces between them;
- A quality of development whose design and architecture will make people want to visit it in its own right;
- The creation of a modern mixed use office core that comprises well designed buildings and provides for the City's growing economy;
- Grouping of office buildings around attractive, distinctive and well-landscaped public spaces, designed for people;
- At street level providing uses such as restaurants, bars, shops, leisure and cultural facilities, needed to animate the public realm and enliven the central business district;
- The provision of high quality hotels to promote and support the valuable business and tourism sectors;
- Inter-mixing residential uses within and surrounding the commercial core;

- Making the railway station a focal point for the scheme and also a focal point for transport interchange;
- Placing the NRM within a setting that will help it to fully develop its potential to act as an emblem for the City and a catalyst for the development of a new iconic cultural attraction;
- Creating a sustainable transport development designed around people not cars; and
- Ensuring the site is well connected, city wide, by all forms of transport.

The overarching transport requirements for York Central include:

- Meeting a 20% modal share limit for drivers arriving to work at the York Central site by car;
- Promoting connectivity between York Central and the walled city, with particular emphasis on cycling and walking, to help limit trip generation and traffic congestion;
- Promoting connections between York Central, the railway station and a new transport interchange to maximise the advantage of public transport connections to the site;
- Protecting the rail infrastructure for both present and future uses including station car parking, taxi facilities, drop-off points and short stay parking;
- Promoting connectivity between York Central and the River Ouse, with links to the riverside walk into the City Centre;
- Serving the site in ways that will minimise the impact on the highway network and air quality beyond the immediate vicinity of the development;
- Reducing reliance on the car;
- Providing opportunities for dedicated public transport corridors to serve the city centre and wider city; and
- Promoting connectivity to the surrounding areas by foot and cycle.

It is these objectives that have set the scene for the consultancy work undertaken by Faber Maunsell to develop this Master Plan. The study objectives are to:

- Advise on how the highway network needs to be modified to cater for the traffic generated by the development;
- Advise on the development of a major public transport scheme to access the York Central site; and
- Advise on the scope for developing a public transport interchange which links with the rail station.

The work that has been undertaken has followed a logical process to deliver these objectives. Our work has been structured to:

- Identify the travel demands that will arise as York Central is fully developed;
- Understand where people travel to and from to get to York Central, and what routes they will take;
- Understand how the choice of travel mode can be influenced by future transport investment;
- ensure that any transport investment has a strong business case that is capable of attracting funding; and
- Determine the optimal transport investment strategy for York Central that not only covers road and public transport access into the site, but also pays regard to the wider transport impacts that will arise across the city, including the congested A1237 Outer Ring Road.

The Development at York Central

Precise proposals for development at York Central will ultimately be influenced by an assessment of current railway operational needs. Nevertheless a significant developable land area is envisaged that is of such a scale that it will have an impact at a city-wide, sub-regional and regional level. For the production of this Master Plan it has been assumed that there will be a mix of development that represents a "maximum case" in terms of floor areas, residential units and consequential generation of additional transport demand.

Work for this Transport Masterplan has assumed that the York Central development comprises of:

- Commercial development for office-based uses amounting to 173,000 square metres gross floor area (GFA) by 2021. This could accommodate 9,600 employees when complete;
- Residential development comprising 3,000 units. This could house 7,000 residents;
- Associated ancillary retail and leisure uses that will support the commercial and residential aspects of the mixed use development; and
- Expansion of the current National Railway Museum operation.

It is clear that the development is of a scale that will generate significant new transport demands within the City. Whilst many of these demands will be of short distance and generated within the York Central development itself, there will be other transport demands that will require improvements to be made to the highway, public transport, cycling and walking infrastructure connecting York Central to the wider city networks.

Highway Access Proposals

A traffic model has been developed over recent years by the City of York Council, which uses the SATURN assignment software suite developed by the University of Leeds. Improvements to the traffic model have been made during the course of this study, in order that it can provide an accurate representation of road-based journey volumes, routes and travel times across the City, within the area enclosed by the Outer Ring Road and York Bypass.

The traffic model has been used to determine and assess the optimal combination of potential new highway options into the York Central site. The three options that have been considered are at Water End to the North West, at Holgate Park to the South and at Queen Street to the East. All three require the provision of new bridges over existing operational railway lines.

At Holgate Park any bridge will also need to span several sidings adjacent to the FAL, which are to be retained. At Queen Street the bridge will cross the southern throat of the railway station platform approaches, and it is likely to be an “iconic” bridge with a design that is in sympathy with the listed buildings that will surround it. We have also considered the role of the existing highway access into York Central, at Leeman Road.

We recognise that in the future the traffic network in York is likely to be more congested than current levels. In this context the addition of new highway capacity in the York Central site could provide an attractive route for traffic that is simply passing through on its way to the City Centre and other destinations, rather than traffic that has either an origin or destination in the York Central. The presence of this through traffic is contrary to the Council’s policy to manage demand for car traffic, and is also likely to have an adverse effect on accessibility within the York Central site, which in turn may decrease the attractiveness and viability of York Central development.

Our analysis of highway access options has therefore centred on ensuring good access to the York Central site for road traffic from key directions of approach, whilst as far as possible eliminating the potential for the new access routes to provide rat-runs across the York Central site for through traffic entering and leaving the city centre. We have also sought to ensure that good public transport access into the York Central site is provided, both for existing bus services and any new services that the development may generate.

The table below shows the level of through traffic attracted to the York Central highway network under various combinations of the three main access points.

Highway Access Scenario	Through Traffic (AM peak hour, 2021)
Water End Access ✓ Holgate Park Access ✓ Queen Street ✓ Restrictions on Leeman Road ✗ Restrictions on Station Road ✗	1,100
Water End Access ✓ Holgate Park Access ✓ Queen Street ✓ Restrictions on Leeman Road ✓ Restrictions on Station Road ✗	1,100
Water End Access ✓ Holgate Park Access ✓ Queen Street ✓ Restrictions on Leeman Road ✓ Restrictions on Station Road ✓	600
Water End Access ✗ Holgate Park Access ✗ Queen Street ✓ Restrictions on Leeman Road ✓ Restrictions on Station Road ✓	400
Water End Access ✗ Holgate Park Access ✓ Queen Street ✓ Restrictions on Leeman Road ✓ Restrictions on Station Road ✓	300

Source: York Central Transport Masterplan Report, Section 3, Table 10

The conclusion of this work is that the optimal combination of highway accesses is to provide bridges into the site from Holgate Park and Queen Street, but not from Water End, and to restrict through traffic on Leeman Road. Such a package of highway measures will also result in the need to restrict through private vehicle traffic on Station Road across the face of the station entrance. This restriction is recommended in order to reduce through traffic in York Central, alleviate traffic problems in this key area of the city and to allow a new transport interchange to be built adjacent to the current station entrance. Good public transport access in York Central is provided, from the A59 corridor via Holgate Park and from the A19 corridor via Leeman Road. Our work demonstrates that the rest of the highway network in the city can cope with the traffic diversions that will arise as a result of this restriction, recognising the fact that traffic congestion and accessibility by car in the city are set to worsen even if the York Central proposals do not proceed.

The particular requirements of cyclists and pedestrians have also been considered as part of our review of highway access options. Cycling and walking access will be provided at the two new highway entrances at Holgate Park and Queen Street. Further cycle and pedestrian access will be available at either end of Leeman Road, where traffic restrictions on the road will provide an opportunity to improve the environment for those on-foot or on a bicycle. The provision of an improved link between the eastern end of Leeman Road (Marble Arch area, in the vicinity of the Post Office sorting depot) and the banks of the River Ouse is also recommended, together with the provision of a new pedestrian and cycle bridge across the Ouse between Scarborough Railway and Lendal Bridges to improve access into York Central

from north of the River. The existing pedestrian access into York Central at Wilton Rise to the South East of the site should also be upgraded for cycle access.

Public Transport Proposals

A wide range of public transport options has been examined in the development of this Master Plan, with consideration being given to the types of public transport service provided, the method of vehicle traction and the routes to be taken. The principal component of all options has been to provide a high quality public transport link between a new Park & Ride site near the A59/A1237 junction (to serve the A59 Boroughbridge Road corridor as well as the Outer Ring Road), the York Central site, York Railway Station and York City Centre.

Initial analysis has seen three principal options emerge:

- an on-street bus-priority link along the A59 corridor that enters York Central at Holgate Park and continues past the station to the City Centre;
- a segregated guided bus option that skirts the eastern end of the York-Knaresborough branch line before passing on the western flank of the ECML and FAL, then entering the York Central Site at Holgate Park via the new highway bridge. Buses would then continue through York Central on the highway to the station and City Centre.
- a segregated tram option that follows the same alignment as the guided bus.

A public transport and mode choice model for York has been developed using the EMME/2 proprietary software suite. The model has been based on limited readily available input data but is nevertheless appropriate for testing and comparing broad public transport options in the A59/ECML corridors. The findings of the modelling, and a subsequent review of operational considerations, scheme costings and revenue forecasting, revealed that:

- the most appropriate location for a new Park & Ride site to serve the A59 corridor and York Central would be within the Outer Ring Road to the north of the A59 corridor. This would provide the greatest flexibility in terms of being able to serve the Park & Ride site via a segregated public transport route alongside the ECML and York-Knaresborough branch in the future.
- the capital and operating cost of the tram option are very high (£55 million capital costs, net loss on operating costs per annum) and outweigh its potential benefits making it unfeasible in the context of the York Central development and future travel demands in the City;
- the guided bus option does not provide significant extra benefits in terms of public transport modal share when compared to the on-street bus option and is more expensive (overall bus modal share to York Central is 30.6% with guided bus option, 28.8% with on-street bus priority option);
- the guided bus option would perform better if it were part of a wider network of guided buses and more intensive bus priority measures across major transport corridors in the City (38% bus mode share to City centre with service terminating in City, 41% with service extended to University); and
- the mode choice model suggests that the lowest car mode share that could be achieved at York Central is 40% which, whilst very low in both absolute and relative terms, is substantially above the 20% aspiration set out by the York Central Steering Board.

On the basis of this work it is recommended that the on-street bus option is adopted for the York Central Transport Master Plan, with priority measures implemented in the A59 corridor wherever possible, as set out in previous work commissioned by the Council.

Public Transport Interchange

The provision of a single public transport interchange that brings together at one place access for the York Central site, the railway station and the City centre has also been considered. Four options have been reviewed, which are adjacent to the railway station to the north, west, south or east of the current train shed. A qualitative analysis against study objectives suggests that two options show promise. Firstly, to the east of the station on Station Road, exploiting the through traffic restriction at this location as recommended as part of the highway proposals. Secondly, to the north of the station at Marble Arch, providing a

subterranean bus interchange beneath the railway tracks within a reconstructed Marble Arch, with direct links provided to the station platforms above.

Both options provide good opportunities for interchange and integration between buses, railways, York Central and the city centre. Marble Arch would provide a superior interchange location and interchange facilities, but would be costly and disruptive to build. Station Road would provide good – but not necessarily optimal – interchange and would be far less costly. It would also introduce new passenger flows through York railway station for access to York Central which would require a review of how pedestrian movements are accommodated within the station confines.

In summary, the Station Road interchange is recommended as the preferred and most readily deliverable option at this time, but further work on the feasibility of an interchange at Marble Arch should be undertaken to determine whether this potentially superior operational option is feasible in engineering terms and is affordable.

Recommendations

This transport master plan recommends a package of physical measures and management initiatives that could be adopted as part of the wider planning and development of the York Central proposals. This package includes:

- two new highway accesses into York Central at Holgate Park and Queen Street;
- improvements and changes to the operation of Leeman Road and Station Road;
- new and improved cycle and pedestrian links around Marble Arch;
- a new on-street bus based public transport link that would serve the A59 corridor running between a new Park & Ride site adjacent to the Outer Ring Road, York Central, the railway station and the city centre; and
- a new transport interchange at the current station entrance on Station Road.

It is also recommended that further considerations should be given to the following issues:

- the cost and engineering feasibility of a bus-rail interchange at Marble Arch, to the north of the railway station;
- the location, cost and feasibility of a new bridge for cyclists and pedestrians across the River Ouse, between the Scarborough Railway Bridge and Lendal Bridge;
- the implementation of a segregated guided bus system between the A59 Park & Ride, the York Central and York City centre; in the context of implementing a wider network of segregated and on-street bus corridors serving major demands in the City; and
- the further development and upgrade of the public transport model, both to support any future major scheme bid for transport funding for infrastructure, and to assess the impact of improved public transport networks in the City's major transport corridors.