


Foxhill MOD Site: Transport Improvements

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Bath MOD Sites: Concept Statements

Bath and North East Somerset
Council

7 March 2012



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1 Concept Statement - Transport

1.1 Background

Bath and North East Somerset (B&NES) is seeking to produce 'Concept Statements' to guide the future residential development of three sites currently used by the MoD at Ensleigh, Warminster Road and Foxhill in Bath. The aim of preparing such concept statements for each MOD site is to capture in a concise manner:

- The aspirations for each site; and
- The key planning priorities and requirements for new development.

This will thus act as a framework to shape the development management process, providing the context for master-planning work by future developers and informing the approach to site disposal, marketing, and other non-planning elements.

A necessary part of the statement for each of the MOD sites has been an assessment of the change of use of these sites from commercial to residential led mixed use development and the resulting impact on the transport network of the City. This particular statement sets out the transport improvements considered necessary to bring forward the Foxhill MOD site in Combe Down; both to promote sustainable travel and ameliorate any adverse operational impacts on the local highway network. **Locations referred to in this document are indicated with an appropriate reference on key plan Figures 1 and 2; with this reference also given in the appropriate text.**

1.2 Existing Transport Network and Issues

1.2.1 Highway Operation

The Foxhill MOD site is bounded to its south by the A3062 Bradford Road and to its west by the minor road Fox Hill. The former is the main east-west route through the Combe Down area of Bath and is heavily trafficked. The current site has a direct access to Bradford Road opposite the Forester public house; and a secondary access onto Fox Hill. Both existing access junctions require vehicles leaving the site to 'give way'. Whilst drivers incur little delay in obtaining egress to Fox Hill Road capacity is much more restricted at the junction with Bradford Road; due to the significant 'controlling' flows of traffic in each direction. Capacity at the Fox Hill approach to the junction with Bradford Road is also restricted. This is also a major-minor 'priority' junction at which vehicles from Fox Hill must 'give way'.

The difficulty of achieving egress onto Bradford Road in the peak periods results in Hawthorn Grove being used by MOD traffic as a access route between Fox Hill and Entry Hill. This residential road forms part of a 20mph zone with other streets on the western side of the Foxhill site. It also has existing vertical traffic calming features in place to both slow speeds and discourage its use as a 'through' access route.

Traffic generation work undertaken indicates that re-development of the Foxhill MOD site for either residential only or residential led mixed use development can be expected to increase the level of access traffic; especially as the current MOD usage has been run-down over a period of time. This will increase pressure on Hawthorn Grove unless associated highway improvements are put in place to provide enhanced access capacity to Bradford Road.

1.2.2 Walking and Cycling

Due to the volume/speed of traffic; and the relative absence of facilities to assist crossing movements, Bradford Road is a severance barrier to pedestrians. As such, crossing delays even in the inter-peak period can be significant. Re-development of the site will increase the volume of traffic using Bradford Road, notably in the peak periods. New residential development is also likely to increase the number of pedestrians seeking to cross Bradford Road, both to the bus stops on the south side of the road and local shops in Combe Road.

1.2.3 Public Transport

Service 13 currently routes along Fox Hill to the west of the site; undertaking a loop circuit via Queens Drive and Hawthorn Grove before routing into the City Centre via Bradford Road, Southstoke Road, the B3110 Midford Road and the A367 Wellsway. These buses are thus required to turn right from Fox Hill, and must therefore 'give way' to the significant volumes of traffic using Bradford in both directions. Delays now are likely to be exacerbated by increased traffic demand on this arm with any re-development proposals. As such, Service 13 would also benefit from any works to improve side road capacity onto Bradford Road.

Service 1 routes via Ralph Allen Drive into the City Centre and terminates by the existing MOD entrance/exit onto Bradford Road. There is an existing turning facility at this point to allow outbound services to 'U' turn, set-down and pick-up passengers before returning to the City Centre. Not all of this turning loop is within highway limits, so any sale of the site and potential need of this land for highway access improvements would necessitate a replacement 'terminus' facility. It is understood that the Foxhill MOD site is a key patronage source for Service 1 which, in addition, serves Combe Down. There is thus concern that the loss of business associated with closure of the site could threaten the commercial viability of the route until such time as the residential re-development of the site is sufficiently advanced to replace it.

Bus services 20A and 20C operate along Bradford Road to the south of the MOD site. These are currently in the first year of a new contract underpinned by additional funding secured from Sainsbury's under a Section 106 agreement that provides three new vehicles for the life of this 8 year contract, which in turn allows an additional service (half hourly instead of hourly) along the section of route between Twerton Parade and Bath University. These services provide additional links to the University, Odd Down (Sainsbury's supermarket), Oldfield Park and the Royal United Hospital (RUH).

1.3 Local Area Transport Improvements

1.3.1 Highway Works

Access Junctions/Internal Loop Road

The number of dwellings achievable on this site will be well in excess of 300 units; with 700-750 dwellings assumed in background traffic generation and highway network modelling work undertaken to inform this Concept Statement. This will

require at least two permanent points of vehicular access. It is envisaged these would be as follows:

- A primary access (H1) achieved via a new mini-roundabout junction with the A3062 Bradford Road; where the existing MOD access is now. This should include the provision of kerbed islands or refuges on the two Bradford Road approaches to assist pedestrian crossing movements in this location. It is probable that the existing bus turning loop for Service 1 located within the existing MOD frontage to Bradford Road will need to be relocated to a new position just within the site boundary; and
- A secondary vehicular access point onto Fox Hill (H2).

The connecting road between these access points should be aligned such that no part of the site is more than a 6 minutes walk from this loop. As will be discussed later, this is to ensure that any bus service(s) re-routed to use it can achieve effective penetration of the site.

Other Junctions

As stated earlier improvements to the A3062 Bradford Road/Fox Hill Road junction (H3) will be required to accommodate any future re-development of the site; primarily to improve capacity for the Fox Hill arm. A mini-roundabout is preferred which; with the main access mini-roundabout; would act as a additional speed reducing feature on this road. It is accepted, however, that the space available to accommodate a mini-roundabout meeting current standards is restricted, and the layout complicated by Clevedale Road. The alignment of the latter is slightly offset relative to Fox Hill but nevertheless forms a four arm at this junction. As such, alternative junction treatments may need to be examined in any Transport Assessment submitted in support of a planning application for re-development of the Foxhill site.

The North Road/Ralph Allen Drive junction (H4) will also require upgrading from its current major-minor to improve capacity. There are existing delays on the minor Ralph Allen Drive approach at which drivers must 'give way'. Modelling work undertaken to examine the situation with re-development of the Foxhill site suggests that queuing and delay on this approach will be worsened unless this junction is improved to assist egress from this arm. Alternative forms of junction layout and control will thus need to be examined as part of the Transport Assessment prepared for the site.

Traffic Calming: Bradford Road

Additional traffic calming measures on Bradford Road/North Road between Fox Hill and Ralph Allen Drive will be required as off-site works to both encourage lower speeds and, critically, ease pedestrian crossing movements. It is envisaged that would involve locating a number of pedestrian refuges along this length; although details of specific features/locations would need to be confirmed and agreed. A refuge just west of the Fox Hill junction would be needed to improve pedestrian access to the bus stop in this location on the south side of Bradford Road.

1.3.2 Pedestrian/Cycle Improvements

The above requirement for the development of a traffic calming scheme along Bradford Road will improve the situation for both existing residents and occupants of the new housing by reducing its present severance effect. The specific provision of cycle lanes along Bradford Road as part of any scheme has been considered but is not considered desirable. This is because of their potential impact on existing on-street parking; and also because introducing these would limit opportunities for providing refuge islands to assist pedestrian crossing movements. The width of Bradford Road is insufficient to allow the provision of refuges and continuity of on-carriageway cycle lanes through these 'pinch-points'.

The following linkages and additional improvements to walking and cycling facilities in the vicinity of the Foxhill site are deemed necessary to encourage these modes of travel at the outset:

- Signing/lighting improvements to the existing linkage between Fox Hill and Perrymead to the north of the site (P1). The current use of this linkage as a through traffic route by vehicles is prevented by bollards installed just north of the driveway access to The Old Coach House; this would remain so.
- Pedestrian footpath connections to Popes Walk on the eastern boundary of the site. It is suggested that a connection is made in the south-east corner (P2) where a gated access is now; and in the north east corner close to the short footpath linkage from Popes Walk into Priory Close (P3). Improvements to be short un-metalled section of Popes Walk to the north of the site should be examined to improve the current unmade surface (P4);
- Improvements to allow shared pedestrian/cyclist use on the section of Popes Walk between the south-east corner of the site and the North Road/Ralph Allen Drive junction (P5) should be investigated. As part of the improvements sought at the North Road/Ralph Allen Drive junction (H4) a safe means of access to/egress from Popes Walk for cyclists should also be examined; and
- The Council are promoting a cycle linkage between North Road and Claverton Down Road through Rainbow Wood to improve access between Combe Down and Bath University (P6). Only bus Services 20A and C provide a means of access to the University other than by car but this route along Bradford Road is a considerable walking distance from some parts of the site. As such cycling will offer the only convenient sustainable alternative for some in getting to and from this destination. As such, a contribution to the funding of this link would be sought to promote sustainable travel from the site.

1.3.3 Public Transport

Following discussion with the Council's Public Transport officers it is considered that changes to the routing of Service 13 would best achieve effective bus penetration into the existing MOD site; with this Service using the proposed loop road linking the primary and secondary vehicular access points. It is suggested that the revised Service 13 routing is arranged so that buses access Bradford Road via the new mini-roundabout junction serving the site; as opposed to via Fox Hill.

Around 90% of households in mid-sized urban area live within a six minute walk of a bus stop nationally. As previously stated, the alignment of the main loop road and pedestrian linkages within the site will need to ensure that the walk time to the nearest stop does not exceed this threshold, and is preferably better. Bus stops along this loop road would need to be:

- Spaced at approximately 400m intervals; and
- Provided with raised kerbs, suitable bus waiting shelters and Real Time Information (RTI) displays (or funding provision allowed for) and an electrical supply. These stops will need to be Bath Transport Package specifications to comply with the standard that will be adopted with bus passenger infrastructure improvements elsewhere in the City.

Extending the existing Service 13 route will obviously result in increased operating costs; so financial support would be sought from the developer for a five year period to ensure that an adequate service is in place as and when the initial phase of housing is first occupied. **Feedback obtained from discussion with operators confirms that one additional bus in the schedule for Service 13 would allow 20 minutes of 'operating time' within the site and, in addition, provide a 20 minute frequency service through the development. This would offer a regular link to the City Centre.**

As discussed earlier, the existing turning loop for Service 1 would need to be accommodated within the site; close to the Bradford Road access. It is not intended that this service is extended further to penetrate the site; as residents within the eastern part of the site would be able to access the bus stop for Service 1 on Ralph Allen Drive (via Priory Close). This service has evening services supported by the Council; and Sunday services that operate with a very small contribution from the National Trust. Residential development on the Foxhill site may assist in increasing patronage in the evenings. However, a contribution towards interim support for Service 1 would be sought from the potential developer for a fixed period to maintain its provision until such time as the new housing is substantially complete. There would otherwise be a risk of the service being withdrawn by the bus operator if the loss of the MOD patronage were to make it commercially unviable; albeit temporarily.

As stated earlier Services 20A and 20C are presently underpinned by additional funding secured from Sainsbury's under a Section 106 agreement that provides three new vehicles for the life of the 8 year contract, This addition fleet funds an additional service (half hourly instead of hourly) along the section of route between Twerton Parade and Bath University. Notwithstanding the funding from Sainsbury's this additional service element has a cost to the Council of circa £60,000 per annum at 2011/12 prices. The Council would thus seek to secure additional Section 106 contributions from the potential Foxhill developer in order to extend the life of this additional service element, potentially for a further three years.

1.4 Wider Highway Improvements

The traffic network modelling undertaken to inform the Concept Statement for the redevelopment of the Foxhill MOD site has considered the potential effect of additional generated traffic both locally and on the wider highway network in Combe Down. The scenarios considered in this work were 750 residential dwellings only; or

a potential mixed use development comprising 700 dwellings and 1ha of employment use (B1-Office). In addition to the adverse impact on the North Road/Ralph Allen Drive junction already mentioned the results indicate that:

- With both scenarios increased traffic on Bradford Road would increase the difficulty of 'give way' egress from Southstoke Road in both peak periods for the straight-ahead and right-turning movements (H5). An already over-capacity situation in the evening peak hour would thus encourage diversion away from this side-road;
- Both scenarios would be likely to increase the overall volume of southbound traffic using Entry Hill in the evening peak hour. Increased demand for the left turn into Bradford Road would reduce the capacity available for vehicles attempting the straight-ahead movement to Southstoke Road; and may actually discourage the use of Entry Hill as a 'through' route to the B3110 Midford Road. However, in all probability these left turners will choose to route via Hawthorn Road to the site rather than risk incurring delay at the Bradford Road junction;
- At the B3110 Midford Road/A3062 Bradford Road double mini-roundabout (H6) the results indicate that the mixed use scenario is likely to result in around a net 150 vehicle increase in the total inflow in both weekday peak hours; and about a 100 vehicle increase in these inflows with the 'residential only' scenario. Most of the increases are associated with the straight-ahead movements between Frome Road and Bradford Road. **As such, operating conditions on the two Midford Road approaches could be worsened;**
- Although the predicted net traffic increases at the A367 Wellsway/A3062 Frome Road (Red Lion) Roundabout are not significant with either scenario an already 'at capacity' situation on the Frome Road approach from Rush Hill is expected to be exacerbated in the evening peak hour (H7); and
- Re-development will increase the net volume of traffic turning left from the A367 Wellway at the Midford Road junction (H8); although the expected change in the right turn from Midford Road is very small. The latter reflects the restricted capacity available for this 'give way' movement now; and alternative routes available for traffic routing into the City Centre on the western side of the redevelopment site; namely Entry Hill.

The modelling analyses undertaken for the purposes of the Concept Statement show that; with the exception of the North Road/Ralph Allen Drive junction (H4), all the 'key' junctions critical to the operation of the local/intermediate highway network lie on the western side of the site. 'Rat-running' and excess traffic using Entry Hill and Greenway Lane is already a concern to the Council; with traffic calming measures recently put in place in an effort to discourage use of the route. As such any improvements to the Bradford Road/Entry Hill/Southstoke Road junction which increased the side-road capacities (H5) would be counter-productive to this aim.

Development related improvements, where necessary, should therefore focus on the route between the A3062 Bradford Road and the A367 Wellsway via Midford Road. The operation of the double mini-roundabout (H6) is critical and; whilst the modelling undertaken by the Council suggests that additional development related

traffic might be accommodated; more sophisticated analyses using a micro-simulation model would be required to 'prove' the with-development operation of this contiguous double mini-roundabout.

Improvements to the A367 Wellsway/B3110 Midford Road junction (H8) should also be examined in any Transport Assessment; primarily to increase the capacity for the right turn from Midford Road. By so doing the risk of drivers choosing to use Entry Hill as a route to the A367 at Bear Flat, or to access Greenway Lane/Lyncombe Hill, will be reduced. That said, some development traffic will inevitably use Entry Hill due to its ease of access via Hawthorn Drive.

The traffic modelling undertaken by the Council has also highlighted potential development related impacts at the A367 Wellsway/A3062 Frome Road Roundabout (H7). Potential improvements here will also need to be examined in any Transport Assessment submitted to support re-development.