

WILTSHIRE COUNCIL

WESTBURY AREA BOARD

Date: Thursday December 10 2009

Structural weight limit on Station Road Bridge Westbury

Purpose of the Report

To update the Area Board on the above.

Background

The railway through Westbury was built by the Great Western Railway Company in 1850 as a broad gauge line. The original bridge built in Station Road was replaced in 1899 and it is that structure which is still used today. The bridge has always been owned and maintained by the railway operator which is currently Network Rail.

Since the West Wiltshire Trading Estate was opened the number of vehicles crossing the bridge has steadily increased, and with changes in legislation allowing heavier lorries to use the national road network so to has the and weight of traffic crossing the bridge.

In 1968 central government conscious that the then nationalised Rail and Canal Boards were facing an increasing burden of having to upgrade an aging bridge stock to allow heavier lorries to cross them, sought to limit their liability with regards future bridge strengthening by drafting The Transport Act 1968. It made clear that the Boards were responsible for maintaining all but the surfacing over their bridges and limited the live load carrying capacity to the normal or ordinary traffic of the day. In 1968 the heaviest vehicle that was able to move about on the country's road network was a 32 ton articulated lorry but the vehicle that imposed the worst loading arrangement was a short length four axle rigid 24 ton lorry. Due to changes in allowable maximum axle weights, axle spacing and vehicle classes this surprisingly now corresponds to the modern 7.5 tonne lorry.

In 1999 as a result of a European Directive to harmonize operational weights of lorries across the European Union, 40/44 tonne lorries were allowed onto the Country's roads. In advance of that, the then Wiltshire County Council along with all other highway authorities in the country were asked by Central Government to assess the strength of road bridges within their areas. Where railway or canal bridges failed to meet the new lorry weight standard further assessments were required to determine the cost sharing of any agreed strengthening. In line with the 1968 Transport Act, as a rule, if a structure can not carry vehicles up to 7.5 tonne, strengthening costs are met by the bridge owner, if the structure can not carry vehicles above 7.5 tonne the costs are met by the highway authority.

Station Road Bridge

The assessment calculations undertaken for Station Road Bridge suggested that the deck neither met the 1999 standard nor the 1968 loading requirements. However, the bridge was carrying modern traffic with no apparent signs of distress and it was known that a week or so prior to the assessment results, the Network Rail team responsible for considering Abnormal Load routes gave a 96 tonne gross weight mobile crane dispensation to cross the bridge. The ability of the bridge to support the passage of such a heavy vehicle was a clear indication that the theoretical calculated assessed capacity was very conservative. With this in mind neither Network Rail nor the then Wiltshire County Council felt it necessary to immediately impose an emergency weight restriction.

Since then the assessment calculations have been reviewed and the form of construction considered to determine what further analysis could be undertaken in an attempt to improve the calculated load carrying capacity of the structure. Unfortunately none of the work so far has indicated that the initial theoretical assessment result should be increased.

Initial Proposal - 7.5 tonne Structural Weight Limit

Network Rail agreed that they would undertake some work to strengthen the bridge sufficiently to meet their liability, which would then allow vehicles of up to 7.5 tonnes to use the bridge. Initial indications were that Network Rail would be able to undertake this work quite quickly by working at the edge of the track close to the abutments and from the road side, however this is now not the case as they consider more work needs to be undertaken across the whole underside of the bridge. They currently estimate that it will take at least eighteen months for the strengthening work to be completed due to the need for more elaborate track side possessions to be arranged.

Revised Proposal – 3 tonne Structural Weight Limit.

In view of the delay in arranging the minor strengthening work, it was decided to initially impose a 3 tonne structural weight limit which can be amended to a 7.5 tonne restriction at a later date once the work has been completed.

Diversion

There was careful consideration of an adequate traffic management signing scheme for the surrounding road network.. There was also the need to consider a suitable diversion for the local bus service and the Fire and Rescue Service. A safety audit was commissioned which recommended the creation of a “bus gate” close to the junction of Hawkeridge Road and The Ham effectively closing the route to through traffic. The bus gate is now in place, and it is hoped the bus service will actually improve for local passengers as buses now travel via The Ham, Storridge Road and the West Wilts Trading Estate en route to Trowbridge, rather than simply along The Ham as they did previously.

Cyclists

Although cyclists can continue using Slag Lane, the removal of HGVs and buses from Station Road will also make the direct route to the Trading Estate along Station Road more attractive for them.

Signage

There are more than 100 signs in the area around Westbury on main approach roads directing HGVs to the various trading estates and reminding people about the changes.

Update

Wiltshire Council has issued reminders to Ringway, our own transport manager and the refuse collection vehicles not to use the bridge and private individuals that drive large estates and 4x4 vehicles that are heavier than 3 tonnes and can no longer use Station Road or Hawkeridge Road/Slag Lane.

Future options

Now that a decision has been made that Westbury Bypass is not going ahead a view needs to be taken on what should happen to Westbury Station Bridge.

- Strengthen/Re-deck to 40/44 tonnes – 2 lane bridge.
- Strengthen to 40/44 tonne - single lane with traffic lights and cycle lane.
- Strengthen to 18 tonne.
- Keep proposed 7.5 tonne Structural Weight limit in place.

The option of re-decking may prove to be very expensive because the track bed through Westbury is part of the Trans European Network. Any reconstruction/re-decking of bridges on this route must maintain/improve track headroom to allow for possible future over head electrification. The current Westbury Station Bridge is believed to be below this minimum headroom. Strengthening the existing deck will not impose such a requirement.

Discussions are continuing with Network Rail to identify viable long term options before consultations on the preferred option take place.

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