

WENSLEYDALE RAILWAY NORTHALLERTON LINK PROJECT

**Options Assessment Report
Technical & Financial Assessment by
Northallerton Link Project Group
25 September 2009**

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Summary

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Options Assessment Study 2009 - Northallerton Link Project Group

Background

At the Wensleydale Railway (WR) plc Annual General Meeting on 10 October 2009, the Northallerton Link Project Group (NLPG) delivered the outcome of the study into the technical feasibility of the various options to connect the WR line from the former Castle Hills Inner Junction into Northallerton. The study was carried out by a team of volunteers composed of WR and industry specialists, who worked in their own time using Corus Railway Infrastructure Services facilities. The study assumed Diesel Multiple Units (DMUs) as the principal traffic but also made provision for steam trains with a maximum of eight carriages together with loco run round facilities; a possible future connection onto the southbound East Coast Main Line (ECML) was also desirable. Although five options (**1, 1a, 2, 2a and 3**) had initially been identified as the basis of the appraisal, a further two (**4 and 5**) emerged as the work progressed. The upgrading of the remainder of the line from Leeming Bar to Castle Hills Inner Junction is *common to all options*.

Conduct of Work

To inform the options assessment, a topographical survey of the area including the ECML, the South Curve and surrounding fields and the 'Arla' factory site was undertaken, with agreement from Network Rail (NR), by a team from Corus working on a voluntary basis (under WR insurance). The survey data was subsequently overlaid onto the General Arrangement drawings for each of the options.

Archival evidence was acquired from WR, Corus and NR and photographs obtained of all relevant structures. Land ownership data was retrieved from the District Land Registry in York; environmental data on water levels from the Department of Environment; and soil and rock data for bridge specification via the company 'Groundsure'.

Consultations were held with Arla management, land owners around the railway who might be affected, some of the householders near the South Curve and also with Hambleton District Council Planning Department, the Station Master at Northallerton and the District Valuer.

A meeting was also held with NR representatives who were taken through all the options in order to obtain their comments.

The Options as Studied

Option 1

Follow existing South Curve embankment (SCE) to the ECML and parallel to it into the former bay platform in Northallerton Station.

Option 1a

As Option 1, except stopping short of the station at a new platform to the north with a footpath into the station.

For

- route already exists
- uses existing SCE
- uses existing route parallel to the main line
- uses existing station – with platform, services, car parking

Against

- current branch and main line separation clearance criteria would place new line in 'mid air' at some points
- adverse impact on Bridge 62 over Yarm branch and possible de-stabilisation of embankments as a consequence of necessary works
- ECML electrified since line discontinued (removal of 4 overhead stanchions required with disruption to main line operations)
- standby generator in the way
- signal cubicles in the way
- width of new island platform not to current H&S standards
- need for some widening of SCE
- need to extend Willow Beck culvert
- need to remodel Down platform
- need to remodel car park
- need to re-route NR access road

Verdict: not feasible

Option 2

Use part of existing SCE, then form new embankment to new bridge over Yarm line and Willow Beck back to the ECML and parallel to it into the former bay platform in Northallerton Station. (See *General Arrangement Drawing, Page 6*)

Option 2a

As Option 2, except stopping short of the station at a new platform to the north, with a footpath into the station.

For

- uses part of existing embankment
- avoids Bridge 62
- uses some of existing route parallel to the main line
- uses existing station – with platform, services, car parking

Against

- needs some new high level embankment
- needs a complex new bridge over Yarm line and Willow Beck
- ECML electrified since line discontinued and overhead line stanchions now in the way
- standby generator in the way
- signal cubicles in the way
- 'pinch point' at Arla factory prevents full run round requirement being met
- need to extend bay platform to the north (interference with 3 electrification stanchions and a main line signal)
- width of bay platform not to current H&S standards
- need to remodel Down platform
- need to remodel car park
- need to re-route NR access road

Verdict: a possible route but with shortened run round capability

Option 3

Use part of existing SCE, then follow a new line over a new bridge over Willow Beck and thence into a new platform adjacent to the railway crossing in Romanby.

For

- uses part of the existing embankment

- avoids Bridge 62 completely
- avoids need for a new bridge over Yarm line
- avoids all NR land
- greenfield site construction
- possibly cheapest option
- NR preferred option

Against

- remote from the existing main line station for passenger interchange
- needs some new low level embankments
- needs new bridge over Willow Beck
- needs new platform near to Romanby Level Crossing and station services
- curve into new platform would be tight
- uses land owned by others at present including Arla factory
- not in Hambleton Local Plan
- may be classed as a new railway
- less easy to get a connection onto the main line in future because of:
 - the cant on the Yarm branch line
 - the relative inclines of Yarm branch and WR are in opposing directions

Verdict: feasible 'low level' option

Option 4

Follow the proposals in Option 2 insofar as the embankment and the new bridge are concerned but terminate at the former 'through' platform at the rear of the station on the western side. (See *General Arrangement Drawing, Page 6*)

For

- uses part of existing embankment
- avoids Bridge 62
- uses some of existing route parallel to the main line
- uses existing station – with platform, services, car parking
- allows for run round capability
- allows for full train to stand at platform
- allows for a future very easy connection to the Down ECML within a few yards of the end of the station platform
- connection to Down ECML would allow excursion trains from the south to stop at the station before proceeding onto WR branch
- connection to Down ECML would allow NR to stop trains in the station and allow other trains to pass subject to reinstatement of crossover back onto the main line to the north of the station
- not opposed by NR

Against

- needs some new high level embankment
- needs a complex new bridge over Yarm line and Willow Beck
- standby generator in the way
- need to move train from and back to platform to effect run round
- destroys existing pedestrian access to the platform creating the need to provide new subways and ramp to the platform and also to remodel the platform
- need to remodel the car park
- need to re-route NR access road

Verdict: feasible 'high level' option

Option 5

Follow the old SCE up onto the ECML joining it for a short distance to get over Bridge 62, then coming off onto a parallel track into the station either into the bay platform or the old through platform.

For

- theoretically cheaper than Option 4 (but subject to very substantial 'add-on' costs – see below)

Against

- requires branch and main line signalling
- WR trains would have to be scheduled between main line trains (WR timetable would be at mercy of core users)
- access and safety agreements with Network Rail would be required
- Third Party agreement insurance would need to be increased from £20M to £155M
- trains using this section of line would need to be equipped with:
 - TPWS (Train Protection and Warning System)
 - AWS (Automatic Warning System)
 - OTMR (On Train Motion & Recording)
 - National Train Radio
 - Central Door Locking
- need to provide Network Registration of Vehicles
- need for maintenance regime to Network Standards (probably at York)
- need for provision of a Standby Loco
- would remove potential for innovative events such as running continental rolling stock because of the need to conform with NR standard gauge and NR approved vehicles
- not considered feasible by NR

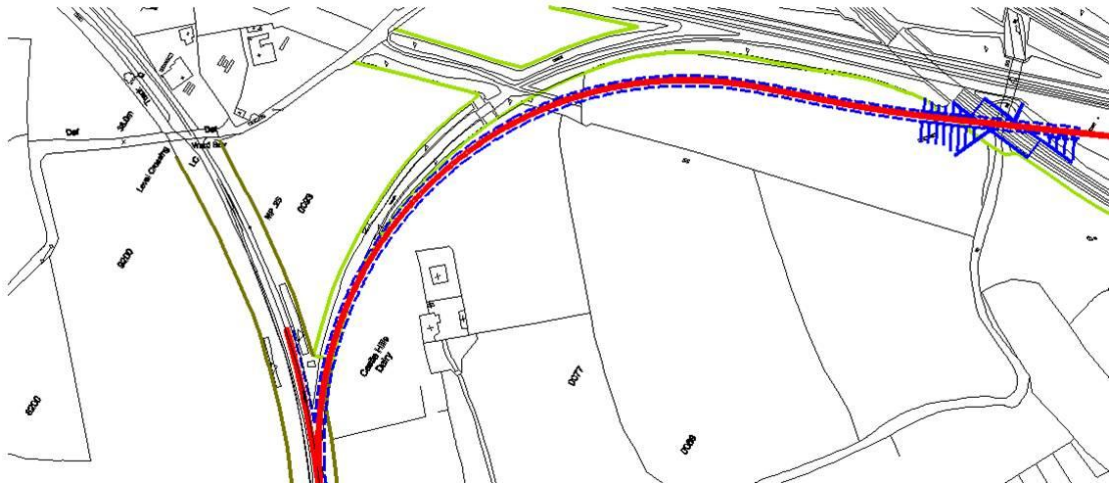
Verdict: not feasible

Conclusion and Recommendation

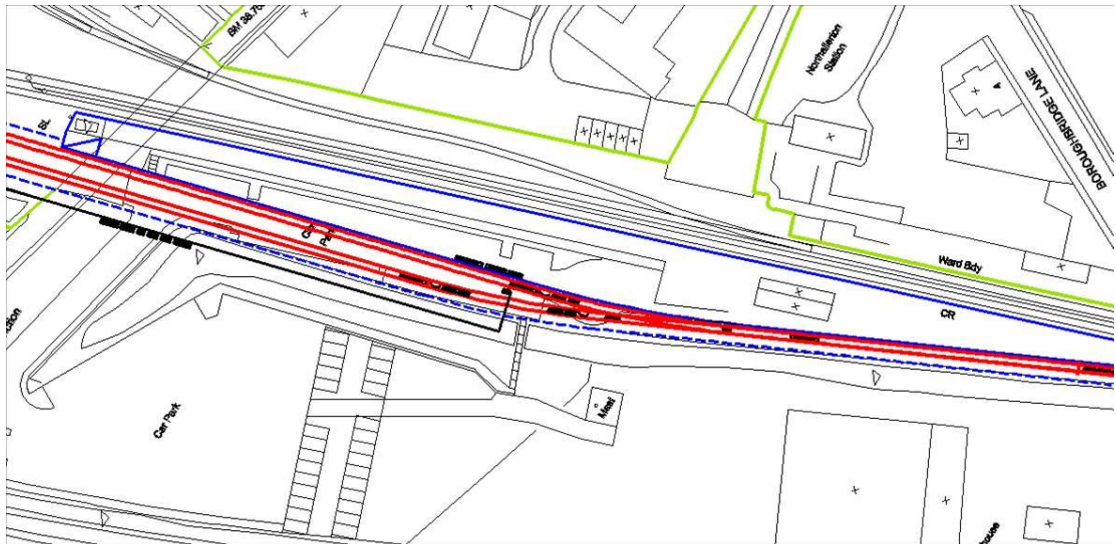
The team **concluded** that only **Options 3** (cost **£5.2M @ +/-50% accuracy**) and **4** (cost **£12M @ +/-50% accuracy**) were possible. Both would provide for normal DMU operations and use of an eight carriage steam hauled train with clearance for the locomotive to run round. It was, however, the team's **recommendation** that WR should select **OPTION 4**. Although the most expensive, it is technically feasible and enables passengers to change trains onto the Wensleydale Branch within the main line station and WR to share existing station facilities. It is the *only* option that provides for an easy future southbound link directly onto the national network within yards of the proposed platform, giving access to an existing crossover between the Up and Down East Coast Main Lines making it simple for excursion trains from York and beyond to access the Wensleydale Branch. Finally, it minimises the need for additional land, although some will still be required for the embankment diversion and a new bridge. There will be an **additional upgrade cost** for the Leeming Bar to Northallerton section of the line for level crossings and the line itself in the order of **£3M**.

Way Forward

The WR plc Board has accepted the team's recommendation to pursue Option 4. The immediate next step will be to find the money for NR to evaluate the impact that Option 4 would have on them and other stakeholders. The second step will be to issue an enquiry to various railway design companies to find out in detail what the cost will be to carry out the design. After that, money would need to be raised to carry out detailed design and get a project cost @ +/-10% accuracy.



Option 2: General Arrangement (South Curve)



Option 4: General Arrangement