

Appendix J Haddington Branch Line Survey

East Lothian Access STAG

Physical feasibility of re-opening the Haddington Rail Branch Line

Background

The reopening of the Haddington Railway branch line from the East Coast Main Line (ECML) at Longniddry to Haddington is one of the options that are required to be considered in the East Lothian Access STAG. This initial report informs the appraisal work of the feasibility of re-opening the railway, some of the issues and problems that would need to be resolved, choices that are available and suggests an order of magnitude cost. Because the rest of the railway is electrified it is assumed that the Haddington branch will also be equipped with standard 25Kv overhead electrification equipment.

The report is based on a physical site walk-over on 21 February 2019, carried out by David Prescott of AllanRail who has considerable experience in the initial development of re-opened railways in Scotland including walk-overs on the Stirling – Alloa – Kincardine, Airdrie- Bathgate and Borders Railway routes in the inception and pre-construction stages. This is not an engineering assessment, but an initial view based on observation and experience.

The route is considered in the Longniddry to Haddington direction and the report is broken down into key route sections.

Connecting to the ECML

The ideal connection to the main line has several desirable operating and engineering requirements:

- It should be on the Edinburgh side of Longniddry to minimise the occupation of the ECML;
- It should provide as high a turnout speed as possible to reduce journey times and to minimise occupation of the ECML, especially crossing from the up line over the down line onto the Haddington branch;
- A double junction is preferred so that the interaction between trains to and from the branch line is minimised and consequently the risks of reactionary delay on the ECML are minimised;
- Additionally, both to deliver the desired turnout speeds and to ensure the most reliable infrastructure possible the point work should be installed on straight track; and
- The location of the junction is likely to be influenced by the existing signalling, to minimise any consequential signalling changes required.

To achieve this most desired outcome it is suggested that the Haddington branch junction would be located to the west of Longniddry station, which is on a 110mph stretch of the ECML. There is a curve immediately to the west of Longniddry station, which coupled with the need to have a 200m overlap beyond the signal on the branch protecting the junction, which itself would need to be beyond the west end of the platform, suggests that the connection is located on the next straight section in the region of Lorne Bridge over the B6363.



The curve to the west of Longniddry station

Pointwork should not be located on structure, which suggests that the pointwork should be located in the 500m from the end of the next curve coming from Edinburgh, at the south west corner of Longniddry village, not far from St Germain's level crossing.

This will require the new branch line to be located between Longniddry Farm and cottages the existing down ECML, where there is a pinch point.

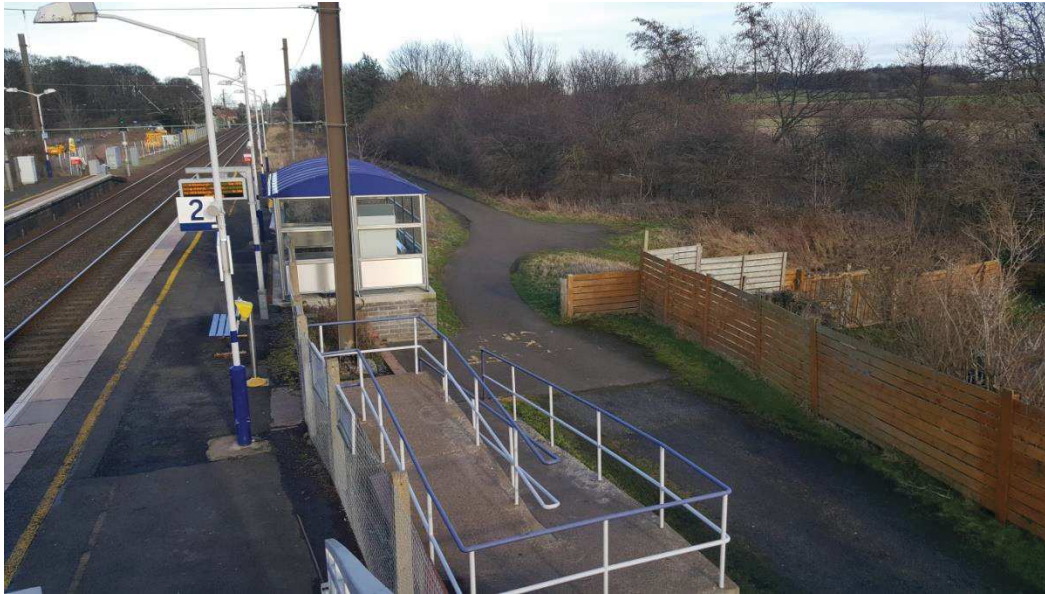
As there is an allocated site for development in this area of Longniddry, covering Longniddry Farm and the land to the south of the ECML between the station and the B6363, it will be important to ensure that sufficient space is made available to install the required junction and branch line. More detailed design work will be required to identify the exact location and configuration of the junction and track here.

As Network Rail are considering four tracking in this area the most desirable (but more expensive) outcome would be a double junction leading to a short double track section (loop) of the branch line which will provide resilience in the event of perturbed working.

Longniddry station area

Moving onto the branch proper the site of the former Haddington branch platform [the rear face of the down ECML platform to Edinburgh] remains largely clear of any impediment to restoring the track. The platform face has been removed, but it could be rebuilt. Station house is located in relatively close proximity at the Edinburgh end of the platform, so the track could only be moved a limited distance away from the ECML, which may restrict the options at the Edinburgh end on the platform. It is suggested that whilst it would be desirable to have two tracks and platforms through the station it is not physically possible without demolishing the house.

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Rear of the down platform at Longniddry station

A possible option to avoid this pinch point would be to extend the current down platform eastwards in the Drem direction and build the new face further away from the house. This is the ideal direction in which to extend the platform to take longer trains as it is straight and there are no signals in the way. The current down platform is 131m long - too short for the current 6 car trains which require at least 143m platforms. Extension if it were to happen would best be to 220m to accommodate up to 9 car trains.



Longniddry station looking east showing the former track bed

The reinstatement of the Haddington branch will remove the current step-free access to the down platform. This will require the provision of an accessible footbridge (with lifts or possibly ramps) and the platform will need to be wide enough to accommodate this alongside a 110mph railway.

As there is significant development planned to the south of the station this structure should ideally be extended over the Haddington branch line to give these new houses convenient access to the station and potentially to the primary school and village shop.

The branch line Longniddry to the A1

Once away from the Longniddry station area the branch line proper begins. At the station the branch formation is parallel and at the same level as the ECML, but as it runs east it gradually starts to deviate away and climb above the ECML. There is sufficient space here for a connection from the ECML onto the branch line, which would provide a loop facility for down trains at the cost of two sets of points and some additional track and overhead line wiring. This could offer a benefit to the operation of the down ECML and to local services from North Berwick.



Beside the East Coast Main Line just east of Longniddry station

The formation of the Haddington branch is wide enough for double track and any additional land should be relatively easy to secure as it is all agricultural and there are no houses in close proximity to the track bed.

The track bed is partially occupied by a foot/cycle/bridle path, but the width of the formation suggests that this could be moved to one side, probably the east side, with a single track railway on the west side. However there may be an issue with clearance to the overhead electric wires, especially as the path is a bridle path. So it is likely that significant fencing will be required as well as a greater than expected horizontal separation. This may require a small amount of additional land alongside the existing railway land to be acquired and is likely to require special arrangements at the pinchpoints such as bridges.

The track is generally at ground level with limited embankments and cuttings. There is only one obvious farm level crossing which is close to a road overbridge near Merryhatton, so closure is a possibility. There are no public level crossings, few under-bridges, but the two that go over roads have been both been re-decked to a much higher clearance height so will require re-decking, and possibly the approach tracks raising to ensure the clearance required.

Drainage is functioning with open drains, but there are areas where features have been created such as a small pond and picnic area on the site of former farm sidings at Cottyburn, beside one of the two re-decked under-bridges.

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General views including Cottyburn siding site

There are three original stone arch double track width over-bridges. These may be able to accommodate overhead line equipment, especially if the track is slued through the middle of the arch, in which case the path will need to be diverted either through an underpass or up and onto the road that passes over the railway.

There is one overhead public electric pole route that passes over the railway and there is a marker for a gas pipeline passing under the railway

However, in general the solum is clear to the new A1 on the edge of Haddington.

The A1 area – options and crossing

As the railway approaches the A1 on the edge of Haddington – right beside the west intersection into Haddington it turns from a south easterly direction to easterly towards the centre of Haddington and runs almost parallel to the modern A1.



Looking towards where the track bed would have crossed the A1 and the new diversionary path

Had a bridge been constructed over the former railway line it would have been at a very shallow skew, of the order of 30° . The result is that at the point at which the railway on the Haddington side intercepted the A1 a perpendicular underpass has been built with 90° turns on both sides of the A1.



The new track and underpass under the new A1

The A1 is a major obstruction to reinstating the railway. There are two differing potential options:

- Follow broadly the line of the former railway into Haddington and drive a new bridge under the A1, probably not on such a skew, so requiring a modified route to especially the north of

the A1. The rail level may need to be lowered to achieve the required soffit height. Whilst this is a considerable undertaking it is probably comparable to the bridge built for the Borders Railway under the A720 at Sheriffhall.

- Keep the new railway on agricultural land alongside and to the north of the A1 and provide a station, which will largely be park and ride in either this area beside the west interchange or about one mile further east close to where the A6137 crosses the A1.

These are major policy decisions which will need considerably more analysis, both in terms of cost and benefit.

The potential route of the railway to the north of the A1 has not been walked, but it is largely agricultural. However, a farm track which appears to have been provided when the A1 was built will need to be replaced. At the East Lothian Centre for Lifelong Learning at Alderston, there is an access road to cross. It is probable that a new railway will need to drop to the level of the A1 and pass under this road, from which it would rise again to terminate in a field bounded by the A1 and the A6137.

A1 into Haddington

On the line of the old railway once across the A1 the formation is again still largely intact. The path is tarmacked and lit for much of the distance. Immediately after passing under the new A1 there is a skew bridge under the former A1 Haddington bypass, now the A199. This structure now has some additional support propping and may need reconstruction if the railway is to, once again, pass under it.



The bridge taking the former A1, now the A199, over the track bed

The route from this bridge into Haddington is straight, still on a double track formation, has a tarmac surface and is lit. It is mostly built up on either side. This will make it more difficult to move the footpath as it will, in places, potentially impinge on the gardens of private houses. It is well wooded and the trees would need to be removed to allow for an electrified railway.

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A residual single track rural lane crosses the railway path on an over-bridge at the west edge of the new housing and on the south side of the path bounding onto Gateside Commercial Park.

However slightly further into Haddington there is a new residential access road, Gateside Road, which is the only access into the group of 50 or 60 houses between the railway path, the A199 and the un-named lane. Level crossings are not normally permitted on new or re-opened railways, so this is likely to be a considerable challenge as there is no obvious space for a bridge or an alternative access option from adjacent roads.

East of Gateside Road the railway path continues to the approach to the bridge which carries Alderston Road over the former track bed, where it climbs up to join the road. The bridge, which limbs over the former railway, has steep approaches and is narrow, being restricted to one vehicle width.



General view of footpath in Haddington and crossing Gateside Road



Alderston Road overbridge looking towards the station

Station site in Haddington

The former track bed runs unobstructed up to the edge of the former goods yard, behind the site of the new community hospital currently under construction.

There are potentially a number of sites for a town centre station in Haddington. The assumption is that it would be a simple station, possibly just a single platform, 220m long, giving the capability of handling 9 car trains.

Western site

The western most site would be from around the Alderston Road bridge largely eastwards behind the new hospital building stopping short of the industrial units on the former goods yard site. Vehicular access is limited, Alderston Road is narrow and the area is likely to become congested when the new hospital is fully functional. Any station on this site would have minimal car parking, with the bulk of access on foot or cycle with limited pick up and set down by car.

Whilst this is the least disruptive site in terms of existing ownership and buildings, it is not a good site for passenger access / egress, with the only access being from the narrow Alderston Road.

Central site

Moving slightly further east the second site would require the acquisition and demolition of the industrial units built in the former railway goods yard. This should provide the required 220m platform length, could possibly provide two platforms, as at Tweedbank and also some car parking with access off Hospital Road. It is a more accessible site and slightly closer to the town centre.



Commercial property on former railway goods yard

Former station site

The third potential site is the former passenger station, where the platform is still intact. This is at the end of the old railway. It would require the demolition of the industrial units in the former goods yard to achieve access and probably the existing industrial estate opposite the station

building, which was built on part of the station goods yard. Access is not easy to reinstate due to changes in land ownership since the railway closed.



Haddington Station – still substantially extant.

On balance the first choice of station site is probably the middle one, as it provides an accessible site with potential for car parking, whereas the former stations site seems to offer little in the way of additional benefits but is likely to incur considerable additional costs and disruption.

However, detailed station choice options would be much latter in the process, if the Haddington branch is to be re-opened.

Park and Ride facility

The potential station sites in Haddington are quite restricted so the number of car parking spaces that could be provided is limited. The site is beside the new community hospital and hospitals are notorious for generating localised car parking problems, so there is a risk that hospital car parking would overflow into the station car park. Furthermore, it is not desirable to encourage more traffic onto local roads, so whilst there is the potential to create some car parking ideally it should be for car drivers local to the town. Consequently it may be desirable to provide a predominantly park and ride railway station for which there is an ideal site at the point where the former railway track bed reaches the new A1 at the western Haddington Interchange. At this point the road and track bed are close together, the means of access / egress with the A1 are already built and there is even a road off the north side roundabout which would enable access to a new station site.

A station at this site would intercept traffic off the A1 and also provide for cars coming out of Haddington, both through the centre and also using the old A1 bypass which is now the A199. This site could be viewed as the only site for a station at Haddington, although the walk in catchment area is limited, but the costs and disruption of getting into the centre would not be incurred.

Summary

The former branch line from Longniddry to Haddington is largely intact and apart from the A1 crossing it, there are no major obstacles to reinstating the railway line. Considerable

accommodation works are likely to be required to alter the path that currently uses the track bed, but it is considered that no houses will be substantially impacted, except possibly the Station House at Longniddry.

Locating a station in the general area of the former station would be physically possible, but would require the demolition of some existing industrial buildings.

Crossing the A1 will be an expensive option and if a heavy rail link to Haddington is taken forward as an option then the value for money of the extension into the town will need to be assessed, compared with alternative options of terminating to the north of the A1 whether at the western interchange or further to the east.

The option for two stations, one towards the centre of Haddington and one (for park and ride) beside the western interchange onto the A1 would merit further appraisal.

In general terms the works do not look more onerous or complex than for previous Scottish railway re-openings with crossing the A1 being broadly comparable to the Borders Railway crossing the A720 Edinburgh bypass. There would be considerably less demolition and disruption, with limited impacts on the local road network.

Light Rapid Transit (LRT) Option

As outlined, the main obstacle to taking the railway right into Haddington is the A1 and the need to construct a major new bridge. This, coupled with the need to move the current path and provide adequate clearances to the overhead line equipment, suggests that one option could be to provide a fixed LRT rail link, but only between Haddington and Longniddry connecting into Edinburgh – North Berwick services and possibly Edinburgh – Dunbar services.

An LRT option would considerably reduce the capital costs as the following would be options.

- No need for a connection into the ECML.
- Unlikely to impact on Station House at Longniddry.
- Re-decking of the two underbridges could be much simpler.
- Use of tram type vehicles will reduce / eliminate the need to greatly alter and fence the footpath from the track (although fencing would still be desirable).
- An LRT shuttle might avoid the need for overhead line systems with battery or hybrid operation.
- An LRT vehicle could make use of the existing pedestrian underpass under the A1.
- The crossing on Gateside Road could be at grade.
- The “station” at Haddington would be smaller – with the length required for an LRT operation being of the order of 50m instead of in excess of 200m.
- It may be possible to reduce the demolition required to reach the former Haddington station site.

However, there would be additional costs in terms of providing stabling, servicing and maintenance facilities for the LRT vehicles used as well as a base for the staff and overall supervision.

The provision of an LRT shuttle would be a fundamentally different service offer with the additional trains that are required to serve East Lothian being focussed on North Berwick and Dunbar with regular connections to / from Haddington via Longniddry station. It would need to be re-configured as an interchange station and full mobility impaired access provided.

Conclusion

An LRT option would provide a much lower capital cost fixed link connection between Haddington and rail services to / from Edinburgh. It may have lower running costs than running through trains between Haddington and Edinburgh and is likely to give greater connectivity by reaching into the town. It may be deliverable in a much shorter timescale than a heavy rail link which will be partly dependent on sufficient capacity being available along the ECML and into Waverley station, although the existing North Berwick trains may need to be operated at 8 or 9 car trains to carry the passenger numbers.

It should be considered as a possible option.

David Prescott 25 February 2019