

Devon County Council

**ECONOMIC
FEASIBILITY STUDY
OF THE FORMER
BIDEFORD TO
BARNSTAPLE
RAILWAY ROUTE**




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EXECUTIVE SUMMARY

This project, to be completed in one month, required Maunsell to carry out a feasibility study into the economic potential of extending the rail infrastructure beyond Barnstaple towards Bideford. It would then provide the relevant authorities with information to enable them to make an informed decision on future infrastructure provision. The project has particular relevance to the proposed Barnstaple Western Bypass.

In order to complete the project, Maunsell utilised a core team of four. A transport planner, a railway engineer, a railway operator and an environmental scientist. The team all visited North Devon during December and carried out extensive consultations and site visits.

As Railtrack had already indicated that it had no plans to extend its network beyond Barnstaple, the team examined the possibility for a third party infrastructure operator to run the line. For the report, this was based on the assumption that Devon County Council retained the ownership of the land and partnered the infrastructure operator.

A comprehensive list of revenue opportunities was developed, based on information obtained for the report from the locality. A detailed engineering report was prepared, together with costings based on a visual inspection of the route and an environmental impact assessment completed. Having collated the figures, business cases were prepared based on the most promising revenue and cost forecast.

It immediately becomes apparent that the replacement of the infrastructure whilst retaining the Tarka trail is feasible from Barnstaple to North Instow. However, from Instow to Bideford (East the Water), whilst retention of the two is technically achievable, it is not in any sense practicable. The figures quoted for a practicable engineering solution in this section do entail the Tarka Trail being diverted along roads which the team recognises as being unacceptable. However, even this solution is financially insupportable.

Having identified that Instow to Bideford is unlikely to be reinstated in the next 15 years, concentration was focused on the Barnstaple - North Instow section. Here there is potential for a tourist steam service and possibly an intermodal freight terminal at Yelland Quay. Costings on this section indicated that if both these opportunities were to be fully exploited, then an operational profit was achievable. However, it did not generate sufficient revenue to support the capital cost of reinstating the rail infrastructure.

With the proposal unlikely to gain grant support from either the European Union (EU) or the Department of Environment Transport and the Regions (DETR) the only likely source of capital would be a donation from an individual or company. The team could not identify any potential donor.

Therefore, the conclusion was reached that it is unlikely that there will be a requirement for rail infrastructure beyond Barnstaple in the next 10 years. Between 10 and 15 years it might be feasible that the extension of the line would become desirable. According to the figures supplied by Devon County Council, the Net Present Value calculations indicate that it would be economic to delay constructing a rail underpass in the Bypass for 12 years.

Maunsell therefore recommend that the Bypass is constructed without the underpass but with sufficient clearance that it can be added at a later date.

Secondly, no further encroachments onto the route are permitted.

Thirdly, to enable any future infrastructure operator a realistic chance of developing the route, the Council/Central Government commit to fund the underpass if it is proved necessary between 2011 and 2014.

The study will answer two key questions:

- a) Is the railway extension beyond Barnstaple a viable or sustainable option for future consideration?
- b) If the extension of the railway is seen positively does the incorporation of specific future rail use structures within the Barnstaple Western Bypass construction offer real value?

The present Railtrack network terminates at Barnstaple. Barnstaple Station was originally called Barnstaple Junction and immediately north of the station the line diverged, one route going to Ilfracombe, the other to Bideford and Torrington. The purpose of the study is to assess the potential for extending the rail infrastructure along the Bideford route. At present the entire route is under the ownership of Devon County Council and has been developed as a cycleway known as the Tarka Trail.

1. BRIEF OF STUDY

Maunsell have been commissioned by Devon County Council, North Devon District Council and Torrington District Council to carry out:

“a study into the economic potential of extending the rail infrastructure beyond Barnstaple including an Impact Assessment on existing facilities, in order that an informed decision on future infrastructure provision can be made”

The study will answer two key questions:

- a) Is the railway extension beyond Barnstaple a viable or sustainable option for future consideration?
- b) If the extension of the railway is seen positively does the incorporation of specific future rail use structures within the Barnstaple Western Bypass construction offer best value?

The present Railtrack network terminates at Barnstaple. Barnstaple Station was originally called Barnstaple Junction and immediately north of the station the line diverged, one route going to Ilfracombe, the other to Bideford and Torrington. The purpose of the study is to assess the potential for extending the rail infrastructure along the Bideford route. At present the entire route is under the ownership of Devon County Council and has been developed as a cycleway known as the Tarka Trail.

2. METHODOLOGY

Maunsell assembled a core team consisting of:

- A Transport Planner
- A Rail Engineer
- A Rail Operator
- An Environmental Scientist

Other specialists assisted with areas of the study not falling within the knowledge of the core team.

The team visited the locality during the early part of December and held consultations with as many representatives of local bodies as was possible. Those bodies unable to meet the team in person were contacted by telephone. (A list of those consulted is contained in Appendix 1). All but one of those consulted, were helpful in arranging meetings and providing information for which the study team is grateful.

The Rail Engineer, Rail Operator and Environmental Scientist also walked the route over a period of three days, examining the formation, structures, alternative routes and potential opportunities.

Having gained an insight into the current position, the team identified revenue opportunities and challenges. In doing this the team had three main objectives:

- i) to identify possible traffic and build a business case to support the proposals.
- ii) to identify the operational cost of the most favourable proposals.
- iii) to identify the capital cost of the reconstruction of the railway, whilst retaining the Tarka Trail as a visitor attraction.

From information supplied by Devon County Council, the estimated cost of providing an underpass suitable for the railway at time of construction of the by-pass is £1.6 million.

If the underpass is provided after construction, the cost is likely to be at least twice the above amount, i.e. £3.2 million.

At a discount rate of 6% as used by the Highways Agency, the Net Present Value (NPV) of £3.2 million becomes approximately equal to £1.6 million after 12 years.

Throughout the study, the team were conscious of the local sentiment that the Tarka Trail must not be detrimentally affected by any rail proposals.

It should however be noted that a scheme in Oxfordshire has successfully launched a cycleway alongside a rail line and that the idea can be made to work.

From early in the study, it became clear that it made sense, both for revenue and cost purposes to break down the line into a number of sections.

These sections are:

- Section 1. Barnstaple to Fremington Quay
- Section 2. Fremington Quay to Yelland Quay
- Section 3. Yelland Quay to Instow (MOD Crossing)
- Section 4. Instow (MOD Crossing) to Instow Station
- Section 5. Instow Station to Bideford

3.1.1 Passenger (Commuter)

Barnstaple - Bideford. The provision of an attractive commuter service including Park and Ride in Bideford - possibly at the Kynocks site.

Advantages

Reduction in weekday peak time traffic between the towns

Challenges

Persuading people to leave their cars, development of a park and ride facility, providing a reliable year round service, location of Barnstaple Station, bus services at Barnstaple Station. Additionally, the infrastructure on the Barnstaple - Exeter line makes a through Bideford - Exeter service difficult to path on the single track whilst also providing an attractive regular timetable.

(The term "to path" is used to describe the method of finding a route for a train from point A to point B passing other services on route. In this context, it is not possible to have two trains on a single track section between Barnstaple and Exeter.)

3.1.2 Passenger (Commuter)

Barnstaple - Fremington - Instow

Advantages

Reduction in weekday traffic on B3233

Challenges

Persuading people to leave their cars, location of any proposed development at Fremington, parking at Instow, location of Barnstaple Station, bus services at Barnstaple Station. Additionally, the infrastructure on the Barnstaple - Exeter line makes a through Instow - Exeter service difficult to path whilst also providing an attractive regular timetable.

3.1.3 Passenger (Local Non-Commuter)

Barnstaple - Fremington - Instow - Bideford

Advantages

A regular service for shopping and part time students. Ability to change into Exeter services at Barnstaple. Long term possibility of through services to Exeter.

3. REVENUE OPPORTUNITIES

The following forms a reasonably comprehensive list of the revenue opportunities identified by the team and those consulted. They are listed individually with their advantages and challenges.

3.1 Standard Gauge, Heavy Rail

Options

3.1.1 *Passenger (Commuter)*

Barnstaple - Bideford The provision of an attractive commuter service including Park and Ride in Bideford, possibly at the Kynocks site.

Advantages

Reduction in weekday peak time traffic between the towns

Challenges

Persuading people to leave their cars, development of a park and ride facility, providing a reliable year round service, location of Barnstaple Station, bus services at Barnstaple Station. Additionally, the infrastructure on the Barnstaple - Exeter line makes a through Bideford - Exeter service difficult to path on the single track whilst also providing an attractive regular timetable.

(The term "to path" is used to describe the method of finding a route for a train from point A to point B passing other services on route. In this context, it is not possible to have two trains on a single track section between Barnstaple and Exeter.)

3.1.2 *Passenger (Commuter)*

Barnstaple - Fremington - Instow

Advantages

Reduction in weekday traffic on B3233

Challenges

Persuading people to leave their cars, location of any proposed development at Fremington, parking at Instow, location of Barnstaple Station, bus services at Barnstaple Station. Additionally, the infrastructure on the Barnstaple - Exeter line makes a through Instow - Exeter service difficult to path whilst also providing an attractive regular timetable.

3.1.3 *Passenger (Local Non Commuter)*

Barnstaple - Fremington - Instow - Bideford

Advantages

A regular service for shopping and part time students. Ability to change into Exeter services at Barnstaple. Long term possibility of through services to Exeter.

Challenges

Location of stations and interconnecting transport services, especially Barnstaple. The infrastructure on the Barnstaple - Exeter line makes a through Bideford- Exeter service difficult to path whilst also providing an attractive regular timetable.

3.1.4 Passenger (Tourist)

Barnstaple - Fremington - Instow - Bideford

Advantages

A bicycle carrying service so that visitors can walk or ride the Tarka Trail on a bicycle one way and return on a train, or vice versa. Provides a service from Barnstaple to the Beach at Instow and the area around Fremington.

Challenges

A seasonal service, infrastructure at Fremington.

3.1.5 Passenger (Steam)

Barnstaple - Fremington - Instow - Bideford

Advantages

As per tourist but with likely greater ridership of persons travelling just by the train, potential viewing attraction to other users of the Tarka Trail.

Challenges

As per tourist

3.1.6 Freight

Advantages

Possible potential for a freight terminal at Yelland Quay, with road and water interchange. Site has plenty of land available with outline planning permission.

Challenges

No freight is forecast originating at Bideford. Whilst there is clay traffic from the Meath area, it would require the reinstatement of rail from Bideford to Meath. An alternative site has been identified at Severn Brethren as a possible rail head.

3.2 Standard Gauge (Light Rail Order)

Advantages

Can accommodate all of the above to varying degrees. Some small cost savings in construction.

Challenges

A maximum speed of 25mph would reduce attractiveness to commuter and local use, capital cost of infrastructure not significantly different from standard operational line.

3.3 Standard Gauge (Light Rail i.e. tram)

Advantages

Some cost saving in capital infrastructure

Challenges

No freight service, gauge clearance almost identical to standard operational lines, thus similar land requirement, limited potential for steam, line avoids key residential area on route.

3.4 Narrow Gauge Line Barnstaple - Bideford

Advantages

Less land take required than standard gauge, the proposer of this idea believes passenger and freight service possible, cheaper to construct.

Challenges

At key points, i.e. the bridge over the Pill at Fremington, clearance is not sufficient for narrow gauge and the Tarka Trail without engineering solutions, no interest detectable for general freight between Barnstaple and Yelland/Bideford by narrow gauge which would require transshipment at Barnstaple. Clay traffic to be viable would require large wagons which though running on narrow gauge track would require a vehicle "envelope"* almost identical to standard gauge. The clay companies have shown no interest in freight on rail (of any gauge).

Another challenge would be to justify the necessity to share a terminal in Barnstaple if there is no freight. A narrow gauge terminal to the west of the bypass linked by footbridge/underpass to the main station would suffice, (as in the case of the Talylyn Railway), unless the promoter wishes to pay the structural costs. It would also provide competition to the Lynton and Barnstaple Light Railway Company who are trying to develop a similar system in the locality.

* A kinematic envelope is the shape required to pass a vehicle through an area of restricted width or height.

4. FORECAST PASSENGER TRAFFIC REVENUES

Passengers for a train service would come from three sources:

Existing Bus Users Barnstaple - Bideford

(There is an agreed constraint within the brief which requires that only buses on the A39 Barnstaple Bypass be considered as providing passengers for a restored rail service.)

Car Commuters between Barnstaple and Bideford, who wish to avoid the present congestion.

Tourists during the season.

Enquiries were made regarding likely traffic from Bideford to Exeter. However, due to journey time, the numbers identified were minimal. This research was reinforced by the view from Wales and West, the present train operating company, that they did not wish to extend their service to Bideford as they did not see any commercial viability for a through service from Exeter. Such a service would need some infrastructure modifications by Railtrack to allow a regular interval service on the section from Barnstaple to Exeter. Therefore, the assumption has been made that Barnstaple - Bideford will be a self contained operation with connections at Barnstaple. If desired later, it could extend its own services to Exeter, however, that is not examined in this study.

Existing Bus Users

Route 86, operated by Western National, carries no more than five passengers per bus between Barnstaple and Bideford, according to the Western National Divisional Director. There are six buses per day in each direction. It has therefore been assumed that 30 passengers per day or 7,500 per year would travel in each direction on the train and pay the same fare of £1.30 single, as paid on the Redbus local routes for the same journey. The National Express buses also use the A39 but their local traffic is minimal according to their Director. There are only three buses a day, two en route to London and one en route to Birmingham. The train is unlikely to be significantly quicker than either service and therefore additional passenger traffic would not be generated.

In the first year the revenue would be £19,500.

Over 15 years, the discounted revenue would be £201,000 at 1998 prices, discounted to 1998.

A service offering intermodal tickets might attract some passengers from Instow away from local bus services on the B3233 but the numbers are negligible. Likewise, should a station be built at Fremington for tourist traffic, the walk from the road would make any potential bus transfer minimal.

Car Commuters

Some 2,400 cars cross Long Bridge at Barnstaple in the morning peak hour. It is assumed that they are all commuting between Bideford and Barnstaple and vice versa. It is further assumed that they carry just the driver. With a train service in place the drivers would have the choice of leaving the car in their home town and travelling by train. If it is assumed that between 1% and 5% would transfer to the train and pay the equivalent bus fare of £1.30, then between 6,000 and 30,000 passengers a year taking a return trip would produce annual revenue of between £16,000 and £78,000.

Over 15 years, the discounted revenue would be between £161,000 and £803,000 at 1998 prices, discounted to 1998.

Tourists

The North Devon tourist area, comprising North Devon and Torrridge, has 150,000 overnighing tourists a year, a figure which is expected to grow at 1% or 2% per year. If it is assumed that between 1% and 5% would use the tourist service, (diesel or steam) and pay a tourist fare of £3.00 then this would provide 3,000 to 14,000 return trip passengers per year during the season and revenue of between £17,000 and £86,000.

Over 15 years, the discounted revenue would be between £195,000 and £973,000 at 1998 prices, discounted to 1998. This forecast includes a growth of North Devon tourists of 1.5% per year.

For comparison, the West Somerset Railway on a longer system, of approximately 20 miles, carried 146,000 passengers in 1997. With a return fare of £8.60, annual revenue was in excess of £1 million. This indicates that there is scope for greater revenue but the product would require developing and the figures above are first year realistic forecasts.

Total Passenger Revenues

Summing the three sources of passenger revenue, the discounted income would range from £557,000 to £1,977,000, discounted to 1998 at 1998 prices. There would be between 16,000 and 52,000 passengers per year and annual revenues in 1998 of between £53,000 and £183,500. These figures are based on a service from Barnstaple to Bideford.

Values of revenue are expressed in 1998 prices, discounted to a common base of 1998, which is also used for costs. If both revenues and costs were expressed in terms of a different base or discounted to a different year, say 30 years from now, the conclusions would not be affected.

5. FORECAST FREIGHT REVENUE

Should the line to Yelland be reopened and a freight terminal developed there, English Welsh and Scottish Railway (EWS) have stated that they would like to reserve their position on utilising the facility.

Assuming that a terminal was developed at Yelland, local freight demand indicates that one train a day, based on the EWS Enterprise service is the most that can be realistically expected in the next five years. (Reopening to Meath would possibly add 160 more trains per year at 1000 tonnes each, or a greater number of smaller trains for forecast clay traffic).

Taking the daily Enterprise train (a train of mixed traffic), a possible 250 trains a year could be run. EWS would pay track access charges similar to their current agreement with Railtrack. The current agreement is however confidential and due for review by the Rail Regulator. Using historic figures in the public domain, it will be assumed for this study that a charge of £5 per gross thousand tonne mile (gttm) is levied. This is a high charge but might be justified on the grounds of access to a high value site.

Therefore, assuming each Enterprise train weighs 200 tonnes averaged in each direction and that the total route traversed by each train is 6 miles, a total of 50,000 tonnes a year traverses the route or 50 gttm. The calculation $£5 \times 50 \times 6 = £1500$.

6. IMPACT ON LOCAL ECONOMY

The reinstated railway from Barnstaple to Bideford would have a number of localised impacts on employment, commerce and industry. The Yelland marine facility would benefit from rail access, in addition to the present road access, which would encourage additional development and hence employment. At Fremington, the proposed tourist-based development would also be supported by having public transport access, as the distance from present bus routes is too long to support access. Use of the Tarka Trail itself would be enhanced by the presence of a comparatively easy return system on a train for those who would not easily walk or cycle back.

In both Barnstaple and Bideford there would be less direct benefits from the commuter services on the train. For example, parking would be less of a problem at the home end, where a limited number of commuters would find it easier to walk to the station. The consequent reductions in the stress of driving and parking in peak hour congestion would therefore be beneficial in providing a more productive workforce.

The railway operation would require little extra employment as some staff could switch from bus to train and some railway staff are expected to be volunteers, at least for the operation of tourist services.

The presence of a new tourist facility would be expected to increase the number of visitors to the area, with some benefits to other local traders.

7. ENGINEERING REPORT

7.1 Introduction

The remit required that the feasibility be examined of reopening any part of the railway between Barnstaple and Bideford which would be affected by construction of the Barnstaple Western Bypass.

An overriding constraint was the desire to retain the Tarka Trail for walking and cycling without unduly altering its character or reducing safety, environmental value or user appeal.

The section of route examined was that between Barnstaple and Bideford. However since some opportunities for rail freight traffic may involve reinstating the line from Meath to Bideford a cursory examination of that section of the route was undertaken by sampling.

For the purposes of this report the route has been divided into sections. These are:

- Section 1. Barnstaple to Fremington Quay
- Section 2. Fremington Quay to Yelland
- Section 3. Yelland to Instow (MOD Crossing)
- Section 4. Instow(MOD Crossing) to Instow Station
- Section 5. Instow Station to Bideford

7.2 Assumptions

For the purpose of the study it has been necessary to make some basic assumptions on which potential actions and costs are based.

It is assumed that where possible the Tarka Trail will be no less than 2 metres wide between fences and that there requires to be a fence between trail and railway. This fence would be similar to other fences along the route, that is, post and wire. Such a fence would provide sufficient separation and minimise visual intrusion. The fence would need to be a minimum of 2 metres from the nearest rail.

The surface of the trail is assumed to be rolled fine chippings of a desirable width of 1.5 metres and not less than 1 metre. Wherever possible the width between fences would be increased to 2.5 metres to permit Land Rover access. Pinch points may render this impossible in some places. In such cases turning points may be required.

The Trail may need to cross the railway at certain points. In order to comply with HM Railway Inspectorate guidance such crossings would need to be sited in areas of good visibility and be protected by trains having to stop and proceed at the crossings. For safety reasons train speed would need to be limited to 35 mph for passenger and 25 mph for freight. Local speed restrictions of 10mph would be required if ungated crossings are used.

The railway is assumed to be constructed to sufficient quality for anticipated freight trains as well as passenger trains. The possibility of Tram type vehicles and stopping points is not excluded. Some passenger services may be operated by enthusiasts' groups using either steam or diesel traction.

It is also assumed that any potential infrastructure provider would enter into a partnering agreement with DCC as owner of the land.

7.3 Condition of the Infrastructure

The following observations are based on visual inspection and examination of Devon County Council structures examination reports carried out within the last two years. No detailed examination of structures was carried nor any physical tests or structural assessments.

General

The condition of the vast majority of the route is excellent. The line was originally constructed to a very high standard using high quality local materials.

Stonework used in bridges and culverts is of a particularly high build quality and in excellent condition. Some attention to clearance of vegetation is required.

Metallic bridge superstructures are of wrought or cast iron and appear to be in acceptable condition. Some painting is required but corrosion is not exceptional for the age of the structure. Structural assessment would be required before a railway could be reinstated. Any cast iron structures formerly carrying the railway are unlikely to meet modern standards for being put back into use for this purpose and would need to be replaced.

Earthwork embankments, which are generally of low construction, appear stable. In places they form sea defences and are locally reinforced with revetments. Sea walls and revetments are in good condition. Future changes in sea level patterns may imply greater attention to these areas. Cuttings, which are predominantly in rock, are sound.

There is very little artificial drainage. Lineside ditches, which provide most of the drainage, are however somewhat overgrown and some obstructions exist. There are however no areas where abnormal maintenance problems exist. Ditches, culverts and tidal flaps are likely to form the greatest maintenance workload.

Fences, in most locations, are the original railway fences consisting of wooden or concrete posts and seven wires supplemented in places for control of lambs. They are generally in acceptable condition but would need attention in some places if a railway were to be re-opened.

The width of the former railway between fenced boundaries, now owned by Devon County Council, is generous in most areas and both railway and Tarka Trail could be accommodated with some earthworks to increase formation width. There are however a number of 'pinch points' which are discussed in the relevant individual sections.

7.4 Comments Section by Section

Barnstaple to Fremington Quay

This section is not only the easiest in which to reinstate the railway but also the most likely to have commercial value.

The line was originally constructed to broad gauge standards and appears to have had land provision over much of its length for double track. There is however no evidence that a second track ever existed.

As a result of this generous provision the co-existence of the Tarka Trail and railway poses relatively few problems. The Trail currently occupies the site of the former railway and the alignment is such that the trail would need to be moved to the landward (south) side.

In order to achieve this a suitable formation would need to be created using imported fill and brought close to the current level. Some culverts would require to be extended and new headwalls constructed. Underbridges which are constructed for single track would require a separate span alongside for the Trail. A crossing would be required at the Barnstaple end but this could be incorporated in the Bypass works.

We are advised that DCC possess sufficient property and access rights at Fremington to enable Tarka Trail diversion.

Fremington Quay to Yelland

The first significant obstacle in this section of route is the viaduct at Fremington over the Pill. Visual examination of this structure shows it to be in good condition generally, only some minor scour of the pier casings being apparent. The structure may require modification by the addition of rail bearers if the railway were reinstated as it is doubtful that the concrete deck is suitable for modern rail traffic. A full assessment of the structure would need to be carried out. There is pictorial evidence that a footway was once attached on the landward side and it is likely that a similar lightweight structure could be designed to accommodate the Tarka Trail.

On the Bideford side of the viaduct the route enters a cutting predominantly in rock. If extensive rock excavation is to be avoided the most feasible diversion for the Tarka Trail would be on the seaward (north) side at the top of the cutting where a footpath already exists for part of the way. The gradient would however cause problems for bicycles. A better option could be to cut a new formation for the trail within the cutting on the seaward side at a slightly higher level than the present trackbed. This would involve the demolition of a redundant bridge abutment and some rock cutting work in addition to earthworks. Some land acquisition may be required at the Bideford end of the cutting but this would be limited to a strip approximately 50 metres by 1.5 metres.

Either option would require the Tarka Trail to cross the railway at the Bideford end of the viaduct where a crossing already exists. Sighting is good in both directions in this position and such a crossing should raise few problems.

Beyond the cutting the remainder of the line to Yelland passes along an embankment with a nature reserve on the seaward side. It is considered that the Tarka Trail could be accommodated within the fenced boundaries alongside the railway through this portion with some reinforcing earthworks and culvert works. However, the best position is on the landward side and this would require another crossing for the Tarka Trail at the Bideford end of the cutting. Again sighting is good at this location and few safety problems are anticipated.

At Yelland there is a road level crossing providing access to the former power station and a small industrial estate. Subject to a traffic survey a suitable crossing arrangement could be provided. The Tarka Trail would be relatively unaffected.

Yelland to Instow (MoD Crossing)

The route here is either on low embankment or at ground level. Provision of a route for the Tarka Trail on the landward side should pose few difficulties beyond some reinforcing earthworks and culvert extensions.

Instow (MoD Crossing) to Instow Station

There is no possibility of the railway and Tarka Trail sharing the route through this section. Between the MoD crossing and the Instow tunnel the route passes first between hut developments very close to the boundary (with some encroachments). The route then passes under an overbridge and into a cutting. The access to some of the hut developments is clearly off the Tarka Trail and alternative arrangements would need to be made if a railway were reinstated. The bridge itself is a masonry arch in generally good condition. On the approach to Instow tunnel there is small aqueduct across the line in reasonable condition.

Instow tunnel follows a slight curve and is approximately 150 metres long. It has a masonry lining throughout and is in excellent condition with little signs of water penetration or stonework damage. It is assumed that sufficient structure gauge exists although approximate measurements indicate that some lowering of the invert may be necessary.

Between the Bideford end of the tunnel and Instow station the route is in cutting. There remains a public road level crossing at Instow station which would require appropriate control in the event of reinstatement.

In view of the impracticability of the co-existence of railway and Tarka Trail over this section the only feasible solution is the diversion of the trail along the seafront. The existing crossing would provide a suitable crossing point for the trail from landward to seaward. The initial diversion from the MoD crossing would pass through a car park in sand dunes and is unlikely to be problematic. The trail would then need to follow the public road through Instow along the seafront. There is a footway for much of the route which could be widened sufficiently for cyclists and pedestrians. It would be necessary for bench seats currently along this footway to be removed. Beyond the centre of Instow there is a path on the seaward side of the sea wall. Ramps would be required to carry the trail over the sea wall to preserve flood protection. It is possible that some users of the trail may prefer this route.

Instow Station to Bideford

Instow station platform and signal box have been preserved together with a short section of track. The land to the seaward side of Instow station is now in the ownership of North Devon Yacht Club (NDYC). The former trackbed through the station is just wide enough to accommodate a railway. There is a low boundary wall surmounted by iron railings between the trackbed and NDYC. The iron railings would be foul of the structure gauge and would require modification if the railway were reinstated. Beyond the station towards Bideford the route passes through a narrow rock cutting and emerges on to sea wall alongside the B3233 road. It then passes through a short narrow rock cutting near Zeta Berth MoD pier. Beyond Zeta Berth the route follows the shore line closely sometimes forming sea defences and passing through another rock cutting near Westleigh. The line is mostly on embankment of varying height until close to East the Water where it passes under the A386 and enters cutting on the approach to Bideford station.

At Bideford station, which has been mostly preserved, there is an underbridge which comprises two of the original cast iron main girders with a later timber deck. The bridge has been raised by approximately 1 metre to provide improved headroom. Clearly this bridge is not suitable for reuse for carrying a railway and would need to be replaced with sacrifice of the improved headroom. If passenger services only to Bideford are envisaged then the remainder of the station on the Barnstaple side of this bridge could be used for limited length trains; say two cars maximum. Safety provision would be required in this case to ensure overruns were contained. The costings which follow have been based on this scenario and no allowance has been made for reconstruction of the bridge. It is recognised that this point of termination also reduces the benefits to the area of land known as The Kynocks for commercial development or car parking.

The infrastructure is in good condition throughout this section and reinstatement of the railway track could be accomplished easily. The ability to provide space for the Tarka Trail alongside is however very variable.

At Instow station and through the adjacent cutting the only feasible route is through NDYC property and to the seaward side of the outcrop through which the cutting passes. There are the remains of a coast path here but in poor condition and a small 'cut-through' has been made near the Bideford end of the cutting to rejoin the Tarka Trail. On the sea wall between the end of the cutting and the short cutting at Zeta Berth there is just sufficient room to accommodate the Tarka Trail on the landward side with widening of the embankment. A retaining wall would be required alongside the road and imported earth fill to a height of about 2 metres. At Zeta Berth there is very little room to accommodate the trail and the only real alternative is to site the trail alongside the B3233 at this point for a distance of approximately 300 metres. The road at this point is curved both horizontally and vertically and providing safe walking and cycling conditions would be difficult. Between Zeta Berth and Westleigh the route is on seawall and embankment of limited width. Sufficient land exists to accommodate the trail on the landward side of the railway but extensive earthworks would be required to widen the embankment and provide drainage ditches etc. At Westleigh the best arrangement would be to route the trail alongside the B3233 but conditions are similar to those at Zeta Berth and safe alignment would be problematic.

Beyond Westleigh towards East the Water the route is similarly on embankment of varying height and limited width. A considerable amount of earthworks and drainage would be required to accommodate the Tarka Trail alongside.

Between the bridge under the A386 and Bideford station the provision of a route for the trail alongside a railway is limited by varying degrees. There is room on the landward side until the route enters a rock cutting on one side with a retaining wall above a recent housing development on the other. Near to Bideford station there is a 'pinch point' where the formation is only 5 metres wide between boundary walls.

Although it may be possible to accommodate the trail alongside this would involve a considerable amount of alignment problems as well as earth and rockworks. It would also be necessary to provide at least one track crossing in an area where visibility is restricted and is therefore unlikely to be successful. Routing the trail along the A386 and into East the water would alter its character to an unacceptable level but is considered to be the only feasible option.

7.5 Notes on Costings

The costs of railway reinstatement and Tarka Trail works section by section are shown in the accompanying table. They take into account the assumptions and comments above.

Costs are based on approximate unit rates as appropriate. Track material costs assume new materials are used. The route would be appropriate for the use of serviceable sleepers and rails but it is unlikely that sufficient quantities of such materials would be available at a suitable time. Use of serviceable materials would also increase maintenance costs resulting in a relatively small NPV benefit over 15 years. Some reduction in ballast costs has been allowed due to the presence of very high quality supplies in the North Devon area with consequent reduction in haulage cost. It is assumed that construction would take place from the Barnstaple end and that rail haulage is used as far as practicable. Full commercial rates are assumed for labour and plant. There is some possibility of using volunteer enthusiasts for some of the work but this is not considered sufficiently reliable to be taken into account.

TABLE OF CONSTRUCTION COSTS

| Section | Length (m) | Track Cost (£m) | Track Cost (£) | Tarka Trail Cost (£/m) | Tarka Trail (£) | Fences, etc Cost (£/m) | Fence Cost | Structures | Section Total |
|-----------------------------|---------------|-----------------|------------------|------------------------|-----------------|------------------------|----------------|----------------|------------------|
| Barnstaple - Fremington | 4,200 | 450 | 1,890,000 | 30 | 126,000 | 10 | 42,000 | 30,000 | 2,088,000 |
| Fremington-Yelland | 2,400 | 450 | 1,080,000 | 30 | 72,000 | 10 | 24,000 | 150,000 | 1,326,000 |
| Yelland-Instow (MoD) | 2,300 | 450 | 1,035,000 | 30 | 69,000 | 10 | 23,000 | 10,000 | 1,137,000 |
| Instow (MoD)-Instow Station | 1,200 | 450 | 540,000 | 20 | 24,000 | 0 | 0 | 0 | 564,000 |
| Instow Station-Bideford | 4,300 | 450 | 1,935,000 | 50 | 215,000 | 10 | 43,000 | 50,000 | 2,243,000 |
| TOTALS | 14,400 | | 6,480,000 | | 506,000 | | 132,000 | 240,000 | 7,358,000 |

8. ENVIRONMENTAL EFFECTS OF RE-INSTATING THE BIDEFORD TO BARNSTAPLE RAILWAY

8.1 Introduction

This section of the report outlines the environmental issues associated with re-instating the Bideford to Barnstaple Railway. Information has been gathered by means of a desk study, consultations and a walkover survey carried out in December 1998. The aim of the study is to identify the main environmental constraints on and adjacent to the former railway and identify potential impacts that would result from its re-instatement.

8.2 Historic Background

The section of railway to Barnstaple to Fremington came into passenger use in April 1848 and an extension to Bideford opened in November 1855. The Barnstaple to Bideford line forms a railway route through to Torrington and on to Halwill Junction. Barnstaple-Torrington passenger trains continued until October 1965, and trains for clay ran until September 1982. The line was also used for milk traffic until October 1978. A final special train ran in January 1983.

A preservation society was formed which obtained a moratorium on the track between Barnstaple and Bideford but raised insufficient funds to purchase it. The trackbed passed to Devon County Council who eventually created a footpath and cycleway between Barnstaple and Petrockstow, now known as the "Tarka Trail".

8.3 Existing Conditions

From Barnstaple the route runs down the estuary of the River Taw for nearly six miles and the proceeds up the Torridge estuary for three miles to Bideford. The track bed runs on embankments and through cuttings making the route generally level with only a few slight gradients. As with the engineering report, the route is divided into 5 sections:

Barnstaple - Fremington Pill
Fremington Pill - Yelland Road
Yelland Road - MOD at Instow
MOD at Instow - Instow Station
Instow Station - Barnstaple Station

However, a general description of the recreational value of the area and nationally important ecological sites is given before highlighting constraints for individual sections.

Recreation

The track bed has a number of recreational uses:

- Tarka Trail
- Sustrans Route 3
- South West Coastal Path
- Amenity use.

Each of these uses is briefly described below.

Tarka Trail

The Tarka Trail uses the track bed of the Barnstaple to Bideford railway. The trail is a 180 mile figure of eight route around North Devon. The Tarka Trail provides access to the estuary environment with adjacent car parking and picnic facilities. There are also links to other public rights of way.

Sustrans Route 3 "The West Country Way"

The West Country Way forms Route 3 Padstow to Bristol and makes use of the Tarka Trail from Pecktockstowe to Barnstaple including the former Barnstaple to Bideford railway. Sustrans are developing a 6,500 mile national cycle network. This is a millennium project supported by funds from the National Lottery. The network is designed to be "safe" for novice cyclists and "useful" for local journeys.

South West Coastal Path

The former track bed is used for the South West Coastal path. This is Britain's longest distance footpath stretching from Minehead to Pool a total of 613 miles. There is an alternative route for the SWCP off the former track bed between Yelland Marsh and Instow.

During 1998 the cycle counter at Bideford recorded 127,000 cyclists.

On a site visit (Saturday 5th December), cycling along the route, a record of use showed.

Barnstaple to Bideford - 8:10am to 9:30am

Dog walkers = 7

Walkers = 4

Cyclists = 3

Bideford to Barnstaple - 10:30am to 12:45pm

Dog walkers = 5

Walkers = 8

Cyclists = 52

Sites of Special Scientific Interest

The Taw Torridge Estuary is a SSSI. It is designated for the Salt Marsh, the use of the estuary by over wintering Birds and the estuary fauna and flora.

Barnstaple to Fremington Pill

Travelling from Barnstaple the landscape is generally agricultural pasture to the left and salt marsh and tidal mud flats to the right. For most of its length the track is on an embankment with the exception of a cutting at Penhill on the approach to Fremington Pill. The embankment forms part of the flood defences. The south facing slope of the embankment at Penhill has been managed by DWT for butterflies (the slope is periodically cleared of scrub and undergrowth). The track bed crosses several culverts and under an over bridge, of double track width. At Fremington Pill there is a Quay and a picnic site. Fremington Pill is crossed by a bridge of single track width.

Fremington Pill to Yelland Road

The track bed travels through a wooded cutting before returning to an embankment that has generally salt marsh and agricultural pasture to the sea ward side and an agricultural landscape to the landward. The embankment forms part of the flood defences. The railway embankment forms the landward boundary of a nature reserve at Isley Marsh owed by the RSPB. There is a picnic site at Fremington Pill.

Yelland Road to MOD site at Instow

The track passes the former power station site at Yelland the entrance to which has several industrial units. On the landward side there is an Oil terminal. The track bed then passes through agricultural land. There is a picnic site at Instow Barton Marsh.

MOD site at Instow to Instow Station

The route becomes increasingly urban as it passes through Instow village. Some urban development is subsequent to the lifting of the track and lies very close to the former track. The track bed is in a cutting for most of the section with an over bridge and tunnel of signal track width.

Instow Station to Barnstaple Station

The track passes through the preserved Instow Station and close to North Devon Yacht Club before entering a cutting. At the Bideford end of the cutting a Scheduled Monument (lime kiln) is situated on the seaward side. The track bed then follows the estuary towards Bideford on an embankment, squeezed between the B3233/A386 and the Torridge estuary. The embankment forms part of the Torridge flood defence. There is a slight climb into Bideford Station where a double track bed passes under the A386. Housing development has occurred subsequent to the lifting of the track on the immediate approach to Bideford, on the seaward side of the track bed.

9. ENVIRONMENTAL EFFECTS FROM RE-ESTABLISHING THE RAIL ROUTE

9.1 Barnstaple to Fremington Pill

The Tarka Trail and single rail track would be accommodated within the fence line. Fill material would be required to make a width sufficient for the railway and Tarka Trail. Several of the culverts would require lengthening. The bridge at Fremington Pill would be widened.

Environmental Effects from Construction

The removal of top soil, the placement of fill material and the extension of culverts would increase the sediment/silt load in local watercourses. Noise from construction has the potential to disturb birds, this disruption would be greatest during the nesting period. The embankment managed for butterflies would be temporarily lost. The import of fill would require transport by road causing disruption and inconvenience to residential properties adjacent to the access road.

Permanent and Operation Effects

With the placement of rail track the Tarka Trail would lose some of its rural setting.

Using the Barnstaple - Exeter line as an indication of use, the disturbance to the walker and cyclists of the Tarka Trail is likely to be minor.

The landward side of the flood plain would change slightly from the built up embankment.

The running of diesel freight and passenger trains would cause minor disturbance (noise, vibration, air pollution) to the wildlife.

9.2 Fremington Pill to Yelland Road

The cutting from Fremington Pill would require widening to accommodate the Tarka Trail and rail track. A bridge abutment would also require demolition. The embankment would require building up on the landward side to be of sufficient width to accommodate the Tarka Trail and single rail track.

Environmental Effects from Construction

The removal of top soil, the placement of fill material and the extension of culverts would increase the sediment/silt load in local watercourses. Noise from construction has the potential to disturb birds especially at the RSPB nature reserve, this disruption would be greatest during the nesting period.

The import of fill would require transport by road causing disruption and inconvenience to residential properties adjacent to the access road.

Permanent and Operation Effects

With the placement of rail track the Tarka Trail would lose some of its rural setting.

Using the Barnstaple - Exeter line as an indication of use, the disturbance to the walker and cyclists of the Tarka Trail is likely to be minor.

The running of diesel freight and passenger trains would cause minor disturbance (noise, vibration, air pollution) to the wildlife.

9.3 Yelland Road to MOD at Instow

Environmental Effects from Construction

The embankment would require building up on the landward side to be of sufficient width to accommodate the Tarka Trail and single rail track.

Permanent and Operation Effects

With the placement of rail track the Tarka Trail would lose some of its rural setting.

Using the Barnstaple - Exeter line as an indication of use, the disturbance to the walker and cyclists of the Tarka Trail is likely to be minor.

The running of diesel freight and passenger trains would cause minor disturbance (noise, vibration, air pollution) to the wildlife.

9.4 MOD at Instow to Instow Station

The Tarka Trail and single rail track cannot be accommodated on the same alignment. The Tarka Trail would require re-routing along Instow sea front to rejoin at Instow Station. The re-routing of the Tarka Trail would require the removal of benches on the sea front.

Environmental Effects from Construction

The construction of the track could cause major disruption, inconvenience and severance to local residents.

Permanent and Operation Effects

Buildings close to the track bed would require demolition.

A public right of way and its associated amenity value would be lost.

The Tarka Trail/Sustrains Route 3 would lose a safe (i.e. traffic free) portion of The West Country Way.

Residential properties close to the route would experience an increase in noise and vibration.

The character and amenity use of Instow seafront would change

BIDEFORD

9.5 Instow Station to ~~Barnstaple~~ Station

The Tarka Trail and single rail track cannot be accommodated on the same alignment. The Tarka Trail would require re-routing along the B3233 and A386 to reach Bideford Station where it would rejoin the Tarka Trail.

Environmental Effects from Construction

The construction of the track could cause major disruption, inconvenience and severance to local residents. The removal of top soil, the placement of fill material and the extension of culverts would increase the sediment/silt load in local watercourses. Noise from construction has the potential to disturb birds, this disruption would be greatest during the nesting period.

Permanent and Operation Effects

A public right of way and its associated amenity value would be lost.

The Tarka Trail/Sustrans Route 3 would lose a safe (i.e. traffic free) portion of The West Country Way.

Residential properties close to the route would experience and increase in noise and vibration.

9.6 Operation of Steam Locomotives

The operation of steam locomotives during the summer period has the potential to cause fires in dry vegetation. If the fire burnt hot and spread over a wide area the subsequent re-growth would be slow. This would cause the loss of habitat with increased erosion and sediment deposition.

10. OPERATING COSTS

Representatives from Railtrack made it clear early on that Railtrack did not wish to be involved in extending its network beyond Barnstaple. However, Railtrack would welcome a separate infrastructure connecting with their system at Barnstaple and would facilitate through services.

Operating costs for a privatised railway vary widely and are difficult to forecast. This is due to the change in resource allocation. For example, a price might be quoted but it is dependant on equipment being available. Therefore these prices are flexible and are based on basic figures in the public domain

Having discussed the issue with a representative of Wales and West, they were very unwilling to give away any information on operating costs. Neither were they very interested in extending the current service. However, whether the current service is extended or a separate service is provided, an additional unit is required. (By using an existing unit on this new route services elsewhere would have to be reduced to compensate.)

Diesel Multiple Unit

Class 156, a two car unit able to take bicycles, is generally perceived as popular with local passengers. Annual Rental £240,000, including heavy maintenance. **(However, there are currently no units of this type available to hire and price might increase.)**

Pacer Unit

A two car unit based on the idea of a bus on rails. Not easy for bicycles but possibly adaptable. Withdrawn from many southwest lines due to unpopularity. Annual Rental £80,000, including heavy maintenance. However, due to their lack of popularity, it might be possible to obtain one for as little as £40,000.

A volunteer group might be able to arrange the long term loan of a heritage unit or locomotive and coaches for a cheaper amount.

Fuel

At present, railway fuel is exempt from duty and depending on source should be available at 25p a litre. Again fuel consumption varies but £4,000 should cover cost of fuel for 1 year.

Staff

To make this project most cost effective, would require in a commercial world, an operator trained in light maintenance and cleaning who would also take passenger fares, similar to the bus. At a cost to the service provider of £30,000 per person, including uniform, 5 staff would be required giving a staff cost of £150,000

Train Maintenance and Other Expenditure

Light maintenance durables, i.e. light bulbs would have to be replaced, safety cases to be kept up to date, bank accounts to be paid for, electricity at stations, water supply and other items all add to the cost. Again, a wide range of costs to accurately forecast without knowing which option would be pursued. However, for the purposes of this exercise provisional figures are given below:

| | |
|-------------------------------------|----------------|
| Insurance | £10,000 |
| Electricity | £5,000 |
| Water | £500 |
| Postage, stationery and advertising | £1,000 |
| General Maintenance | £5,000 |
| Office, banking and sundry expenses | £5,000 |
| Total | £26,500 |

Steam Locomotive Operation

Whilst the Bideford and Instow group state that they have been offered locomotives, this project must also look at commercially operable locos which would have to be hired in.

| | |
|---|--------------|
| Locomotive Hire cost (for a small tank locomotive) | £300 per day |
| Locomotive operating cost (for a small tank locomotive) | £350 per day |
| Rolling stock hire cost (4 coaches, approx 240 seats) | £150 per day |

Track Maintenance

Assuming that the line is rebuilt with new materials, the cost for maintenance is forecast at £25,000 for 9 miles and £12,000 for three miles. Volunteer labour can reduce the costs but it must be supervised by experienced staff and cannot be relied upon for a purely commercial operation.

It is now possible to produce two basic columns, one for a commercial service, the other for a service operated by a volunteer group. The cost figures for this group will include a proportion of monies to be used for heavy maintenance and repair of equipment.

| ITEM | COMMERCIAL | VOLUNTEER |
|--|--|--|
| Diesel Unit (including Heavy Maintenance) | Between £40,000 and £240,000 | £15,000 (Heritage unit on loan to museum) |
| Diesel Fuel | £4,000 | £4,000 |
| Staff | £150,000 | £20,000 (Mainly professional fees) |
| Train Maintenance & Other expenditure | £26,500 | £26,500 |
| Track Maintenance | £25,000 for 9 miles £12,000 for 3 miles | £12,000 for 9 miles £6,000 for 3 miles |
| Total | Between £245,000 and £429,000 for 9 miles | £77,500 for 9 miles |
| Steam train over 120 days Locomotive Hire | £36,000 | £10,000 |
| Locomotive operating cost | £42,000 | £42,000 |
| Rolling Stock | £18,000 | £9,000 |
| Total | £96,000 | £61,000 |

11. POSSIBLE BUSINESS CASES

With all the information listed above, it is possible to compile the two strongest business cases. One for Barnstaple - Bideford and one for Barnstaple - Yelland. Barnstaple - Yelland is chosen as the second case as it includes freight traffic and tourist traffic revenue combined with some of the cheapest construction costs, both financially and environmentally.

Barnstaple - Bideford

Track is relaid to Bideford with Park and Ride at the new site in East the Water. (The Kynocks). A passenger service to Barnstaple, calling at Instow, a steam service in the season carrying cyclists (possibly stopping at Fremington) and a weekday freight service to Yelland from Barnstaple. Clay traffic is not included as the line terminates at Bideford.

| Case A - Commercial Venture | |
|------------------------------------|-------------------------------------|
| Revenue | |
| Passenger | Between £35,500 and £97,500 |
| Tourist (Steam Service) | Between £17,000 and £86,000 |
| Freight | £1500 |
| Total | Between £54,000 and £185,000 |
| Costs | |
| Operating | Between £245,000 and £429,000 |
| Steam Train | £96,000 |
| Total Annual Costs | Between £341,000 and £525,000 |
| Difference | Between -£471,000 and -£156,000 |
| Capital Cost | £7,358,000 |

As presently forecast, the total revenues do not meet annual operating costs, falling short by at least £156,000 per year.

Capital costs of replacing the infrastructure are entirely unsupported.

Notes:

- 1) As a commercial venture with paid staff, this service would generally be reliable but as can be seen, high in staff costs.
- 2) The Capital Cost is based on the simplest engineering solution, which as has been highlighted earlier, might prove unacceptable with regards to the Tarka Trail

| Case B - Volunteer Venture | |
|-----------------------------------|-------------------------------------|
| Revenue | |
| Passenger | Between £35,500 and £97,500 |
| Tourist (Steam Service) | Between £17,000 and £86,000 |
| Freight | £1500 |
| Total | Between £54,000 and £185,000 |
| Costs | |
| Operating | £77,500 |
| Steam Train | £61,000 |
| Total Annual Costs | £138,500 |
| Difference | Between -£84,500 and +£46,500 |
| Capital Cost | £7,358,000 |

The higher range revenue forecasts exceed annual operating costs by £46,500. This amount can be used to offset capital expenditure. However, the difference is so great that assuming an interest free loan, it would take 159 years to pay off the capital cost.

Notes:

- 1) The Capital Cost is based on the simplest engineering solution, which as has been highlighted earlier, might prove unacceptable with regards to the Tarka Trail

Barnstaple - Yelland Quay (possibly - North Instow)

Track is relaid from Barnstaple to Yelland Quay with the possibility of later extending to North Instow with a station close to the beach near the Royal Marines Amphibious Trials Unit. A weekday freight service would operate from the existing line at Barnstaple to Yelland Quay. During the season, a passenger steam service would run as a tourist attraction in association with the Tarka Trail. Clay traffic cannot be included in this scheme.

| Case C - Commercial Venture | |
|------------------------------------|--|
| Revenue | |
| Tourist (Steam Service) | Between £17,000 and £86,000 (Though the distance is shorter, a premium fare can still be charged for a steam service) |
| Freight | £1500 |
| Total | Between £18,500 and £87,500 |
| Costs | |
| General Operating | £30,000 Extracted from general costs for Barnstaple - Bideford |
| Steam Train | £96,000 Steam Train Drivers are volunteers |
| Total Annual Costs | £126,000 |
| Difference | Between -£107,500 and -£38,500 |
| Capital Cost | £3,414,000 to Yelland £4,551,000 to Instow |

Notes:

- 1) These costs do not include provision for track in a possible freight terminal
- 2) A platform and runround loop would be required for this option at the terminal, either Yelland or Instow. This is costed at £200,000. There is already a runround loop at Barnstaple.

| Case D - Volunteer Venture | |
|-----------------------------------|--|
| Revenue | |
| Tourist (Steam Service) | Between £17,000 and £86,000 (Though the distance is shorter, a premium fare can still be charged for a steam service) |
| Freight | £1500 |
| Total | Between £18,500 and £87,500 |
| Costs | |
| General Operating | £24,000 Extracted from general costs for Barnstaple - Bideford. |
| Steam Train | £61,000 |
| Total Annual Costs | £85,000 |
| Difference | Between -£66,500 and +£2,500 |
| Capital Cost | £3,414,000 to Yelland £4,551,000 to Instow |

Notes:

- 1) These costs do not include provision for track in a possible freight terminal
- 2) A platform and runround loop would be required for this option at the terminal, either Yelland or Instow. This is costed at £200,000. There is already a runround loop at Barnstaple.

12. POSSIBLE SOURCES OF FUNDING

12.1 Established Sources

There are currently two main sources of funding for railway development:

European Union Trans European Networks (TENs)

These funds are primarily intended to improve transport links within the European Union. A number of key corridors have been identified between regions and funding has been made available to develop the transport links. Whilst the Great Western Main Line and to a lesser extent the old South Western Main Line from London to Exeter and on to Plymouth might qualify for funding, it is difficult to make a case for Barnstaple to Bideford.

Department of Environment, Transport and the Regions (DETR) Freight Grants

The DETR is currently promoting its grants designed to encourage freight to move from road to rail or water. However, whilst the department are supportive of new ideas there are restrictions on the scheme. Some of these are;

A maximum limit of 50% of the scheme cost

Grant value is based on the environmental benefit of removing lorries from the road. It requires clear evidence of the likely tonnage to be moved. A start up scheme cannot provide this in detail. The current proposals are also based on an Enterprise type service which as a mixed traffic train is not a heavy tonnage service.

Given the choice of the Seven Brethren site and the Yelland Quay site, it is likely that the departments, advisors would recommend Seven Brethren as a cheaper alternative which fulfills all the short term requirements

12.2 Other Options

It has also been announced that the Strategic Rail Authority (SRA) will be given central Government funding to enable it to 'pump prime' rail projects of important national significance where these projects currently cannot be developed due to a commercial funding gap. However, whilst this money is likely to be used on projects such as the Welwyn bottle-neck and Reading it is difficult to claim that Barnstaple to Bideford is a project of key national significance.

One other option is the support of a project by either private individuals or organisations. This is normally associated with preserved railways where members donate towards the cost of the infrastructure. Current examples are the Bluebell Railway and the Kent and East Sussex Railway which are both extending their lines. It is not impossible that a National Lottery winner might wish to run steam trains from Barnstaple, but having spoken to the Lynton and Barnstaple Light Railway Company it does not appear that such an individual resides in the area at the present moment.

13. CONCLUSION

The limited potential revenue combined with the operating, capital and environmental cost required to reinstate rail services between Barnstaple and Bideford indicates that no economic or environmental case for the reopening of the entire section of line can be made for the foreseeable future. Whilst it is just over 15 years since the line closed, major political and financial changes would be needed for funds to become available for this particular project. Maunsell believes that in the present economic climate, these changes are unlikely to occur in the next 15 years. Therefore, the reopening of the line as far as Bideford is not seen as a viable option.

Should Yelland Quay be developed as a rail linked freight terminal for north Devon instead of Seven Brethren, then the Business Case for a line from Barnstaple to Yelland Quay is stronger. The development of a tourist, possibly volunteer run, steam service, as desired by the North Devon Marketing Bureau, could provide an operating profit. However, it is not forecast to generate enough revenue in order to cover the capital cost of construction. In order for such a project to succeed it requires capital funding and wholehearted local political support. Neither of these are present. No potential capital sources have been identified and North Devon District Council have not appeared enthusiastic about the idea.

Whilst the Bideford and Instow Railway Group (BIRG) are enthusiastic about the idea of running a steam service from Barnstaple, they have not previously considered the idea. Although Maunsell do not believe that this small group could not run such a service, indeed, their group would grow if the idea proved workable, it would be a very ambitious scheme. English Welsh and Scottish will be investigating the development of a site this year. Should they invest in Seven Brethren, they are unlikely to want to relocate in the short (5 year) term.

Therefore it must be concluded that unless a private individual or Company were to step forward with a capital donation of approximately £3 million, a Barnstaple - Yelland scheme would fail at the present time due to the lack of capital. It is possible that over the next 10 years, Yelland Quay develops as a terminal and BIRG raise funds to go towards the reinstatement of track on this section. Should the District Council move to a positive position about the idea, it is feasible that the scheme might become viable in approximately 10 years.

As has been shown earlier, the Net Present Value calculations indicate that it would be economically advantageous to postpone the installation of the railway underpass in the Western Bypass for 12 years. Assuming that the Council are prepared, as they are at present, to fund the underpass in 12 years time, this would allow potential service providers to formulate proposals to raise the capital required. Transfer of the cost of the underpass from the council to a potential operator would reduce the attractiveness of this scheme.

14. RECOMMENDATIONS

Question

Is the railway extension beyond Barnstaple a viable or sustainable option for future consideration?

Answer

In the next 10 years, unless an individual source were to make a donation of approximately £3 million, the extension of the railway beyond Barnstaple is not a viable option.

Between 10 and 15 years, depending on a number of factors, a line from Barnstaple to Yelland Quay and possibly North Instow might become a viable and sustainable option.

Question

If the extension of the railway is seen positively, does the incorporation of specific future rail use structures within the Barnstaple Western Bypass construction offer best value.

Answer

Assuming that the Council/Central Government were to fund the rail use structures in the Bypass at whichever time they might be deemed necessary, then the Net Present Value calculations and railway viability forecasts indicate that the Bypass should be built without railway structures but that the former track bed should not be further encroached upon. Local developments in 10 - 12 years time would indicate if there is both the will and resources to extend to Yelland. Any underpass constructed after 12 years would, according to Net Present Value calculations, based on Devon County Council figures, provide best value to the Council.

Devon County Council will obtain "Best Value" by constructing the Barnstaple Western Bypass without a rail underpass. However, the Bypass must be designed such that it is capable of rail structures being added later and the trackbed formation be preserved from other development.

It is possible that after 12 years rail operation on some of the route might become viable. Therefore, Maunsell recommend that in order to encourage possible development, a commitment is made to fund the underpass if it is proved to be necessary between years 12 and 15.

APPENDIX 1

Consultations have been carried out with representatives of the following:

Face to Face Meetings

- Sturford and Wotton Railway Group
- Devon County Council
- English Water & Scottish Railway
- Lynon and Devonian Light Railway Company
- North Devon Chamber of Commerce
- North Devon College
- North Devon District Council
- North Devon Marketing Bureau
- West Devon Rail Users Group
- Tarka Trust
- Tarvagge District Council

Telephone Consultations

- English China Clay
- Frier's Coaches
- Leacock's Coaches
- Hedder's Coaches
- Hartway Coaches
- Malpas Express

APPENDIX ONE

CONSULTATIONS

- Office of the Rail Regulator
- Railfreight Group
- Railways
- Railbus Company
- Wales & West Passenger Trains Ltd
- Wessex National
- Wessex National (continued)

APPENDIX 1

Consultations have been carried out with representatives of the following;

Face to Face Meetings

Bideford and Instow Railway Group
Devon County Council
English Welsh & Scottish Railway
Lynton and Barnstaple Light Railway Company
North Devon Chamber of Commerce
North Devon College
North Devon District Council
North Devon Marketing Bureau
North Devon Rail Users Group
Tarka Trail
Torridge District Council

Telephone Consultations

English China Clay
Filer's Coaches
Guscotts Coaches
Heards Coaches
Hookway Coaches
National Express
Office of the Rail Regulator
Railfreight Group
Railtrack
Red Bus Company
Wales & West Passenger Trains Ltd
Western National
Victoria Wharf (Agents for Yelland Quay clay developments)



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