Extending the Monsal Trail
Bakewell to Rowsley via Haddon Hall Tunnel

PLANNING APPLICATION DOCUMENT
with revisions arising from comments
and points raised at Rowsley Parish Meeting

March 2012
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Separate appendices:

- Bat survey in Haddon Hall Tunnels
- Ecological survey
  Prepared by Penny Anderson Associates Ltd, Consultant Ecologists
- A note on the railway history and archaeology
  Prepared for Peak Cycle Links by John Grimshaw, CBE

Report intended to be printed in full colour on A3 size paper

Graphics - Jane Debney, Paul Boston
These proposals for a Matlock and Buxton Loop were first put forward during 2009. The whole 60 mile loop has been divided up into convenient separate sections to make a manageable project. Since then the Monsal Trail sections 9 and 10 has been opened up through the Headstone, Cressbrook, Litton and Chee tunnels to reach Topley Pike.

Planning consent has been given for section 4 at Harpur Hill and planning applications are under consideration for the remainder of the Buxton ‘Horseshoe’. Planning applications for section 8 (Woo Dale and Wyedale) were made in December 2010, for 12a (Rowlsey to Harrison Way) in March 2011 and for section 11 (Haddon) in November 2011. Derbyshire County Council anticipates opening 12d via the gated road to Oker in 2012.

The local charity, Peak Cycle Links, was set up in August 2010 to deliver all the sections except the Monsal Trail which has been handled by the Peak District National Park Authority. It is anticipated that the overall programme will be coordinated by Derbyshire County Council.
Extending the Monsal Trail: Bakewell to Rowsley via Haddon Hall Tunnel

Introduction

On May 25th 2011 the Peak District National Park opened the Monsal Trail through from Great Langstone to Topley Pike. This section includes spectacular scenery and no fewer than six tunnels. The Trail currently ends with a 1:3 ramp down to Coombs Road.

This report sets out proposals to continue along the railway formation to Rowsley to extend the popular Monsal Trail towards Matlock. The task is to make an attractive route which would encourage families and novices to start cycling as well as become a noteworthy attraction in its own right. The map shows the following:

1. The A6 which is heavily trafficked and completely unsuitable for family cyclists.
2. Coombs Road / Church Road is an attractive, if rough, route with wide views but it climbs over 100m steeply up from Rowsley. This would be a considerable deterrent to popular use.
3. A potential route via the entrance to Haddon Hall which was discussed with the Estate in some detail, but left too many issues of conflict and difficulty to become a viable proposition.
4. The route through the Haddon Hall Tunnels (two tunnels separated by a 9 metre long shaft) offers a direct and level route free from conflicts with the historic landscapes above, and is proposed for walkers and cyclists only.
5. The bridlepath route option for equestrians to avoid these 900m long tunnels gives wide views from Middle Road.

These proposals have been prepared by Peak Cycle Links, who are working to support Derbyshire County Council and the Peak District National Park Authority in their pursuit of completing the 60-mile White Peak Cycling Circuit as a means of introducing this sustainable transport into the National Park.
Map 1: Monsal Trail and Elliottholme Deviation

1) The completed Monsal Trail has been resurfaced 3m with Toppcrec stone material.
2) Proposed link to Coombs Road, shown in the detail, given a 1:15 gradient suitable for families and disabled people.
3) Coombs Road to Bakewell. The road runs back under the Arches and gives good views of the Viaduct. This is the old main road to Matlock and provides one route through for equestrians and an alternative (although hilly) route for cyclists and walkers on the few days the Haddon Hall Tunnel route is closed for pheasant shoots.
4) The road to Elliottholme is the alternative bridleway route through to Middle Road and Rowsley.
5) Provide gate here to close off Haddon Hall Tunnels route on shoot days (4 or 5 per year) with map showing Coombs Road alternative and the two routes for equestrians. The Haddon Hall Tunnel route is for walkers, cyclists and wheelchairs only as far as Park Lane.
6) Start of zig-zag ramp to climb up the side of the cutting so as to avoid Elliottholme. Locked gate across railway here to prevent access to Estate Road.
7) The path continues in the wide margins of the former railway land.
8) Whilst the hillside is generally well graded, one zig-zag is required here to keep to the 1:15 gradient. The path moves into an open glade in the adjacent woodland.
9) Here the path moves into the field edge to avoid the railway margins lost by landslip during the 1860’s construction.
10) The summit, 20m above the railway track level.
11) Zig-zag on the descent made in open field.
12) Join the area of the abandoned rearing pens and follow diagonally across them to rejoin the railway formation. The length of the deviation is 650m to ensure a gradient no steeper than 1:15 each way to its summit.

KEY for maps on following pages:

Path covered by Planning Application

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Map 2: Eliottholme Deviation

Eliottholme Lodge is exceptionally close to the former railway track and no matter what the screening, the adjacent paths would be a real disturbance in this quiet area. The map and sections describe the proposed deviation.

1) Locked gate to prevent public access to the Estate.
2) The climb to the summit of the deviation starts with a 1:15 ramp constructed in earth fill, all as shown in the cross section on page 3.
3) The upper part of this first section doubles back and is cut out of the wide width of the railway land margin, before doubling back again on the natural ground level. This last section has a magnificent view out over the Coombs Road Valley and a seat would be welcome.
4) At this point the hillside is climbing at a gradient of 1:3 so a zig-zag ramp into the adjacent open woodland is required to ease the gradient.
5) The gradient can be further eased by cutting down as shown in section 5. The material excavated is required for the ramp at the start of this section.
6) Move into the field edge at the corner of the field as from this point on, the railway margin is lost.
7) The route continues fenced off from the field as shown in section 7.
8) At the summit the hillside needs cutting back to allow width for the path and to drop the level a little as shown in section 8.
9) At this gully there are the first views of Eliottholme below and the path needs to be taken back from the edge on fill and the house hidden by a privacy bank (section 9).
10) At the second hillside spur cut away as shown to fit the path in and to make a privacy bank as shown in section 10. (Jane, you could put this on the next map if you are running out of room). Any other views of the Lodge can be dealt with by evergreen planting.
11) A double zig-zag is required here to achieve a 1:15 gradient as shown in the section on Map 3.
12) Cut down diagonally across the area of abandoned rearing pens and plant with woodland trees both sides of the path.
13) Rejoin the railway formation, parallel to the Estate road.
14) Section through zig-zag dropping down to rearing field.
Map 3: Eliottholme Lodge to Tunnel Entrance

1) Cross the area of abandoned rearing pens, and plant corners remaining with trees to extend Deer Hole Plantations.

2) Rejoin the railway and run parallel to the Estate road as shown in sections.

3) Greaves Bridge under the track has been demolished.

4) Divert the path to run around the edge of the Forestry Road storage area.

5) In this area there was a third track which allows for plenty of space to run path and road side by side.

6) The bridleway route comes across the field below Eliottholme and follows the Haddon Park Farm road over the end of the tunnel.

7) The bridleway is to be diverted to run along this field edge to reach Middle Road. This diversion will allow restoration of the historic Haddon Hall Park in the area currently bisected by the bridleway.

8) Entrance to Haddon Hall Tunnels. This will be the works access because the measures to accommodate pheasant movement at the eastern end of the tunnel will preclude vehicular access from that end. The existing wall to be removed as on other Monsal Trail tunnels.
View through Haddon Hall Tunnel looking towards Rowsley

1) Note that the path would cross from running along the east side of the cutting to following through on the west side of the tunnel as this is where the ballast is thickest.

2) Haddon Hall Tunnel was built as a combination of cut and cover just below the level of the park, and a central tunnelled section through the higher ground immediately behind the Hall. Four airshafts and one large opening near the centre give a more than usual amount of light. Because the shafts are so short in length they act more as windows in the roof. The tunnel is almost straight and one end or the other will be in full view at all times.

As the ballast appears deeper on the west side of the tunnel it would be best to locate the path on this side. The central drainage system is still working although the manholes are partially blocked. These should be cleaned out and capped.

Five hibernating bats were found in the tunnel, and roosting provision in the shape of bat bricks should be built into the repair works, and alcove recesses.

Lighting will be required at the Monsal Tunnel. But rather than the street lighting units installed there, here we can use LED units which will only consume 1kw for the whole tunnel and which could be programmed to produce a whole range of colours and lighting effects. And with the two portals, which are currently blocked, opened up there will be much more light coming in from each end of the tunnel. Also the project could provide a series of loudspeakers at intervals along the length of the tunnel to facilitate music and other effects.

3) The ventilation shafts are all furnished with iron railings. Three are located in the open parkland and one in the wood. The shafts to be cleared of vegetation and their ironwork renewed. Shafts 3a and 3b to be covered with clear plexiglass dome in order to reduce loss of heat in the winter and subsequent damage to the tunnel lining from frost

4) Vent shaft number 3 was opened out in 1900 to give a large light well which is as added light bonus.

5) Reconstruct two cross drains so as to minimise water seeping into tunnel.

6) Approach cutting to be clear of dense undergrowth, and drainage opened up and then densely planted each side so as to deter pheasants from straying across path.

Map 4: Haddon Hall Tunnels

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--- Binding margin... All single sided...
Map 5: Haddon Hall Tunnel to Timber Yard

1) This approach cutting is clogged up with vegetation and as a consequence the end of the tunnel is flooded. Clear away to original track level and run the path through on a low causeway. Rebuild the drainage exit point with drinking trough in field edge.

2) Plant either side of the path densely over this section so as to prevent the public overlooking Haddon Hall and being tempted to explore the park land. Also this will deter pheasants from running across the paths from adjacent roads in Parkside Wood. As the pheasants roost in the adjacent woodlands it is proposed to construct two short tunnels, each 8m long, as shown in the sketch, in order to provide clear crossing points for pheasants, other wildlife and for estate management separate from the public way below.

3) Set path along north side of this newly fenced section as shown in the sketch. At the end cross over to the south side with a double set of gates, cattle grids and wicket gates arranged so as to allow the farmer flexible use of his fields, and free passage of the public.

4) Continue along the rough ground adjacent to the boundary fence as shown in the sketch on the next map. Keep all trees growing on the line of the boundary and plant new on the fence line to replace scrub lost to path.

5) Fence off a link path to connect to the A6 for routes south of that main road.

6) Once past the existing cross fence, run centrally on the embankment.

7) The ramp on this side is a combination of cut and fill, constructed with material from the ramp on the far side of Park Lane which will all be in cut.

8) Surface this section of Park Lane with bitmac to give a smooth crossing.

9) Culvert the ditch and excavate a ramp up to join the railway embankment.

10) Run centrally along the embankment for a little way and then move to the south side at the end of the embankment section.
1) The farm track crosses here and livestock graze across the railway. Place wicket gates and narrow cattle grids either side and concrete across track to serve farm traffic.

2) The path can be put along the side of the railway by levelling all the spoil heaps there. To do this any bushes on the boundary will need to be removed and replaced with trees which take up less room.

3) At the crossing of the farm access road, used on a daily basis by cattle, the path will be arranged as shown in the detail on page 9, with wicket gates and cattle grids either side of a concrete crossing point.

4) The new path would make an improved alignment for the existing public footpath because it could then run all the way to Park Lane. At the same time the rather intrusive public path past “The Cottage” could be closed and diverted to the new route.

5) Path to continue along former railway on land currently to be used for allotment car park. Alternative provision will need to be made for this local parking.

6) Current access track to Church Lane would be retained for local residents to gain access to the path and for a route to the Peacock Hotel and the school.

7) The original low arch bridge over Church Lane was removed to allow high vehicles through. A new bridge would need to clear the road by a combination of building up the embankment either side, and by designing a bridge bowed to the centre as shown in the sketches.

8) An existing link to the Church could be formalised.

9) Bridge over track to Chatsworth, forms the end of this planning application. The path will be set on the north side with a new parapet similar to the one on the adjacent viaduct, as shown in the section. This arrangement will minimise the presence of the path when viewed from the village in this conservation area.

10) The 4 arch viaduct over the River Derwent has room for a single line railway and a path. At this stage the path should be on the upstream side and the existing balustrade railing repaired.

11) Construct a temporary path on a convenient line through the trees growing here.

12) Move over to the south side and drop about 1.5m by cutting down a ledge on the edge of the embankment.

13) Use the material from 12 to form a ramp across the face of the embankment as shown in the sketch.

14) Join the wide grass verge at the corner of the railway boundary and construct a path through to reach the Grouse and Claret. Perhaps mark out the crossing of the parking access with zebra marking.

15) Existing path through to Peak Village car park.

16) Possible path and road crossing to bus stop and Old Station Close for route to Matlock.
Technical and fencing details

White Peak Loop Path
Haddon Hall Section
Proposed arrangement of farm crossing at back of Rowsley Allotments

Not to scale

- Provide additional wicket gate for local access only
- Existing farm track
- New path to run near the field boundary and to be fenced off from farm track
- Existing railway track and farm road unchanged
- Farm track in this area to be concreted so as to give a hard crossing for the public
- Existing track to farm
- Standard cattle grid 1.2m wide and 2.8m long together with self-closing wicket gate, both sides of farm track

To Church Lane

Typical cross-section of route
- Topdres or similar 150mm thick
- Laid to a 25mm central camber
- Polypropylene filter fabric where required
- Path foundation levelled and compacted from available material

3.0m

Section of path through tunnels
- Machine laid bitmac placed directly on levelled and compacted ballast with central camber

0.3m

Note 1 on Map 6 - Sketch looking towards Haddon Hall showing path alongside railway route to Rowsley

Plant avenue trees along this section in positions to be determined by the choice of route

Railway trackbed remains for farm traffic

Existing farm track

To Church Lane

Existing railway track and farm road unchanged

Farm track in this area to be concreted so as to give a hard crossing for the public

New path to run near the field boundary and to be fenced off from farm track

Existing farm track

1.2m centres

Support wires

Detail of livestock fencing

Note: The path crossing of the field access will be similar, namely a cattle grid and wicket gate either side of an open concreted gateway to allow free movement of livestock.

Verges from local subsoil and seeded with wildflower mix

Level spoil alongside railway for path

New field fence

JG 7/3/2012

3.0m
Summary of overall proposals from Bakewell to Matlock

A possible programme and sequence of openings

This map shows the general proposals for the route south of Bakewell. At Rowsley, Derbyshire Dales District Council have given their agreement to the path running on their land from Old Station Close to Harrison’s Way at the new recycling centre. This section should be constructed and opened before any work on the Haddon section is completed in order that Harrison’s Way can be advertised as the main starting point for the route to Haddon and Bakewell. We hope that in due course the large car park at Rowsley South Station can become the main starting point for visitors and a real business opportunity for Peak Rail in conjunction with their newly extended service to Matlock Station. Hassop’s Station is already a very popular destination further up the line.

Church Road in Rowsley will not be advertised as a starting point for the Haddon Hall Tunnel section, although it is inevitable that the village shop will be a popular staging point for ramblers and cyclists alike.

The County Council are working on bringing forward their link via the gated road from Darley Bridge and Oker. This will give a level route to Matlock which can be completed if Peak Rail comes to support a path beside their track from Rowsley South as far as Church Road in Darley Dale.

Bakewell and the Southern end of the Monsal Trail to Matlock: elements of a good route for family cyclists

Any popular cycling route has to avoid the A6 over its whole 8½ mile distance.

This can be achieved by linking together a number of existing minor roads and tracks with the exception of this 3km (2 mile) section from Rowsley to Church Road. In the longer term further sections of new path could be built, for example, following the disused railway through the Haddon Hall Estate, which would make for a more direct and less hilly route.

However, these notes discuss what might be described as an attractive interim route.

1) Current Southern end of the Monsal Trail.
2) Coombs Road makes for an attractive route into Bakewell.
3) The route through Haddon Hall Tunnels described in this Haddon Hall Tunnel report.
4) The existing mountain bike route is a farm track which climbs quite easily up to the summit – 85m in all. The two field gates should be augmented with self closing wicket gates if this bridleway is to be used more intensively.
5) Far flung views over the valley to Stanton-in-the Peak and beyond.
6) The track down to Rowsley is rather steeper and needs some repairs where erosion has gouged out deep ruts. It joins Church Lane and the main route through the Haddon Hall Tunnels.
7) This route crosses the Derwent via the existing Viaduct to end at the Grousse and Claret. From here a crossing of the A6 to serve the bus stop will provide the link through to Old Station Close.
8) This section to Church Road is described in detail in the Rowsley report. The first 1.2kms runs through the now wooded Rowsley Sidings to Rowsley South Station.
9) The second section covered in the report describes a route following the existing path beside the railway which requires the support of Peak Rail.
10) Follow Church Road and Main Road to Darley Bridge. Main Road is quite wide, except over the Derwent and advisory cycle lanes may be helpful.
11) An attractive gated road to Oker. Again the provision of self closing wicket gates would make it easier for the public and improve livestock security.
12) The road through Snitteston is an attractive route with good views, but it carries quite a lot of traffic at times and climbs 50m.
13) The County Council’s planned route from Oker would avoid both the traffic and the hills.
14) Existing cycle path beside main road past supermarket to the station.
Haddon Hall Tunnel

The tunnel was completed in 1862. It is classified as two tunnels, 380m and 365m long separated by a 9m square opening. Although its central section, the part immediately behind Haddon Hall, was driven as a tunnel under a spur of hill, most of it was constructed as cut and cover just below the ground level of the Park in order that the passing trains were not visible from Haddon Hall itself.

There are three types of tunnel construction:

1. The shallow “D” section, just 5.1m from ballast level to soffit, which is used over 3 lengths, 485m in all. These were constructed by the cut and cover method and the soil above is as little as m from 0.5m deep. In places large buttresses protrude from the grass giving additional support on the downhill side. These sections are built entirely of masonry (except for a panel of brickwork around the one vent shaft). Their section retains a good shape, the pointing appears sound and there is almost no sign of frost or other damage in the stones.

2. A higher circular arch, 6.4m high above the ballast, constructed entirely in masonry with arch stones 600–700mm deep, runs for 80m on the Rowsley side of the central vent shaft. Again it is probable that this section was constructed in cut and cover, but because of the additional depth of fill, this section was selected as being stronger. Again this section has a good shape and appears to be sound.

3. The third variant, running for 380m towards Bakewell from the central opening, has the same profile as the masonry shape above, but is constructed with a brickwork arch above masonry walls. Again the shape is good but there is considerable frost damage to the bricks over a length of about 80m starting 25m in from the opening. Behind the damage the exposed bricks appear sound with well filled joints. This area of damage corresponds with a broken field drain above and is likely to be the result of a combination of saturated bricks and severe frosts. The remedial works will possibly comprise: bolting a stainless steel mesh over the face of the arch for a length of about 150m; patch mortar spread on mesh over the worst areas; running the path centrally through the tunnel as there is only minimal frost damage in its crown; and replacing the 300mm diameter drain above the tunnel together with side ditches to minimise water in this area.

Whilst the central section of this brick lined arch must have been driven as a tunnel, at each end it may have been constructed as a cut and cover.

Drainage and Water Ingress

There is a central drain 225mm diameter which runs clear with open concrete manholes at intervals. These should be capped with reinforced concrete slabs. The cutting at the Rowsley end is clogged with undergrowth and debris, which backs water up at that end in the winter, but once it is cleared out the tunnel will remain dry. When we inspected the tunnel in March, water was cascading in at a number of points and it may be necessary to sheet short sections to deflect this water off the path.

Bats

A survey by Penny Anderson and Associates in March 2011 discovered 5 hibernating bats. These should be accommodated by the insertion of “bat bricks” in selected areas.

Temperature

Some thought should be given to measures to reduce the risk of further frost damage, perhaps by glazing over the two ventilation shafts set in the brick section, and by also glazing the upper part of the portals in the western tunnel, so as to minimise the flow of cold air along the upper part of this brick section. The proposed tunnel lighting will also serve to marginally raise the air temperature in the tunnel.

Detailed Technical Assessment

An engineering survey will be required to advise on the optimum remedial measures to the brick vault and other details. This will require the removal of one of the two blocked off ends so that a vehicle with generator and powerful lighting can drive through. Note the tunnel floor is sound ballast, although it would be useful to install permanent manhole covers at the time of this Assessment. The final asphalt surface can be laid direct onto the levelled and compacted ballast, along the south side of the tunnel so as to avoid water from the light shafts.

Lighting and Audio Designs

The lighting could be the same as recently installed in the Headstone and other Monsal Tunnels, or even more efficient LED units with the option of colour changing programmes. At the same time the tunnel should be wired for sound effects and both the lighting and studio controls taken back to Haddon Hall to a suitable “control” centre.

Note that the Haddon Hall electrical substation is located almost immediately above the tunnel, some 100m west of the central opening.