



Alton Station Footbridge Restoration Prospectus 2017



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Report: v4 23 October 2017

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COVER IMAGE

Artist's impression of the footbridge section being lifted, by Alan Hayward

INTRODUCTION

Alton in Hampshire (UK) is a historic market town famed for its connections to Jane Austen and Fanny Adams, its role in the English Civil War (1642) and now a gateway to the South Downs National Park.

The aim of the project is to restore to working order the only surviving timber Victorian railway footbridge over a mainline railway, which is part of the town's identity and history. It is also vital to the local economy and tourism.

Alton station is well-known to many people because it is where the Mid-Hants Railway (Watercress Line) meets the national railway network. Anyone visiting prior to 2013 would have walked across the timber 1892 footbridge in order to get to platform 3 where the steam trains depart. Then, as part of a national project to make stations accessible for all, a new footbridge was constructed with lifts. This was welcomed, but it then became apparent that Network Rail was going to remove the original timber footbridge. This is when Friends of Alton Station was formed and we have produced this prospectus to promote our plan to retain and refurbish it.

This prospectus is designed to help would-be funders, donors and volunteers to understand the background and proposals to save the 1892 heritage footbridge for posterity. This plan will obviously go out of date as things progress, so for up to date information, please refer to our website www.friendsofaltonstation.org.uk

HISTORICAL BACKGROUND

Whilst there are books that cover the history of Alton station in detail, here is a summary to give a historic reference for this prospectus.

The railway reached Alton in 1852, connecting it to Guildford with a single-line track line. It wasn't until 1870 that the link line from Farnham toward Woking was constructed, connecting Alton to London. The line was extended west to Winchester in 1865 and it was at this stage that the current through-station was constructed. The footbridge was provided in 1892 and, once the Basingstoke & Alton Light Railway (1901) and the Meon Valley Railway (1903) opened, it became the only access to the new island platform created to serve them.

Timber footbridges were fairly common in the early railway period because they were comparatively cheap and quick to construct. Cast iron was generally the alternative material at the time, but this was brittle and more expensive. It was not until the production methods for wrought iron and later steel were improved that wooden structures were outmoded. However, by 1892 when the bridge at Alton was built, metal bridges were the standard. It is therefore a curious anomaly that timber footbridges were installed at Alton and at four stations along the Meon Valley Railway.

The former footbridge at Wadebridge shows the same timber framework as at Alton, later concealed by the added roof and glazing.



The London & South Western Railway wooden footbridges were an open structure with lattice sides, as shown above. Alton's footbridge differs from the rest because it was enclosed following a petition organised by the Suffragette wife of the local MP on behalf of the "ladies of Alton". The roof was added in 1894 and the windows in 1896.

The important thing to note is that the only metal in the structure is the roof and its supports, some angle iron to strengthen the corners, and the bolts and screws that hold the timber parts together. The main structure is a modified Howe truss design, the top of the truss originally forming part of the handrail. The original drawings, still held by Network Rail, show an earlier design which featured angled corner braces. We are fairly certain that this never applied to Alton's bridge, it's just that the drawing office staff were never told!

In its time, this design was reasonably common across southern England. The best photograph of the type installed at Alton station is of the former footbridge at Wadebridge station (above). There are also photos of similar footbridges at Andover Town, three of the Meon Valley stations and Woolston station. We also have a very distant image of West Clandon station in Surrey, which was built to an earlier design. All have gone, and we don't have photos of the unmodified footbridge at Alton Station, so our best references are the plans and the bridge as it stands today at Alton. Our research has established that it is the only Victorian timber footbridge still in existence over a mainline railway.

Its position as an integral part of the station buildings means that its removal would tear the heart out of this iconic Victorian station. The Mid-Hants Railway, operating from platform 3, benefits from the fact that Alton station, complete with its footbridge, adds to the atmosphere. We want to preserve this structure for future generations to enjoy the Victorian craftsmanship.



Alton station in the 1980s

THE STORY SO FAR

In 2013, Network Rail spent £1.7million on building a new footbridge with lifts at Alton station, part-funded by Hampshire County Council. It was assumed at the time that the heritage footbridge would remain in place because of Alton station's importance, not only as a terminus for the Mid-Hants Railway, but also for role in Alton's tourism.

A steering group was formed in 2014 to save the heritage footbridge, firstly by getting it listed. English Heritage recommended that we apply to list the whole station, and then turned down the application.

We subsequently applied to list just the footbridge, but this was also turned down - there is an on-going review of this decision. A meeting with a representative of Network Rail (NR) in May 2014 elicited an agreement, making use of their demolition budget to repair to the footbridge so that it could remain in situ for up to 5 years while funds were raised by FAS.

In 2015, NR commissioned a visual inspection and they contracted Osborne to make the repairs set out in the report. This commenced in July 2015 but stopped after a day when they found that the repairs required were greater than their allotted budget. It was considered that the footbridge structure was so compromised that it was closed and that is how it has remained. A second, more in-depth, survey was commissioned and large timbers arrived on-site from Canada. Work started again in December 2015, but stopped again because the scale of the repairs was greater than identified in that report. After considering the costs, the Network Rail engineers announced at the end of March 2016 that demolition was the most cost-effective solution.



Paul Ebbutt, Kim Collins (Integral Engineering Design) and Gary Appleton on the day of the interior inspection of the footbridge

In June 2016 FAS met with NR representatives and were given six months to show that funding could be sourced. This was a tall order. FAS concluded that if funding were to be sought, we needed to be sure that the structure was feasible to repair. Through 'Save Britain's Heritage' we found a structural engineering company accustomed to surveying historical structures: Integral Engineering Design. East Hampshire District Council kindly funded their work, so a site visit was made in November 2016. Our retired railway engineer, Paul Ebbutt C.Eng FICE MStructE MPWI MCILT, worked closely with them and eventually issued a report in January 2017, encompassing the engineers' report and those commissioned by NR from Hyder.



The 3 engineering reports

The Ebbutt Report concluded that the bridge span is basically sound, but that it needed stiffening to resist lateral wind pressure. It was also clear that timbers on the half-way landing and one of the corners would need replacing. Later in the year renowned bridge engineer (retired) Alan Hayward FREng CEng FICE FStructE joined our group. He studied the various reports and concluded that the best option would be to lift out the centre section for repair off-site. This would minimise the costs of closing the working railway and give FAS time to raise further funds once the section was safely stored.

Despite all this work going on, Network Rail have now decided that the heritage footbridge could not remain in situ after April 2018, when they would demolish it. They are aware of our project to save the footbridge, but are insisting that someone else will have to take ownership and take responsibility for the on-going upkeep. This latter demand remains a sticking point, but we are not letting it divert us away from the immediate issue of salvaging the footbridge for repair.

At the time of writing, FAS is about to become a company limited by guarantee and has applied for registered charity status. Once established as a registered charity, FAS will be able to claim back gift aid. The company status will provide us with a legal entity suitable to take ownership of the footbridge. FAS have been a membership organisation in September 2015 and pledges amounting of more than £10k have been received from local people. We also have Network Rail's pledge to offer some or all of the £250k demolition budget, providing that they can see that we have the capacity to raise the extra required funding. We are beginning the process of seeking people who are prepared to contribute.

Our current estimate for the works is £500k, but in order to break the project up into more achievable targets, we have created three phases: *Rescue*, *Refurb*, *Restore*. The following pages outline these phases in more detail.



The bridge frame exposed during the inspection



The original design of the bridge exterior, visible on platform 3

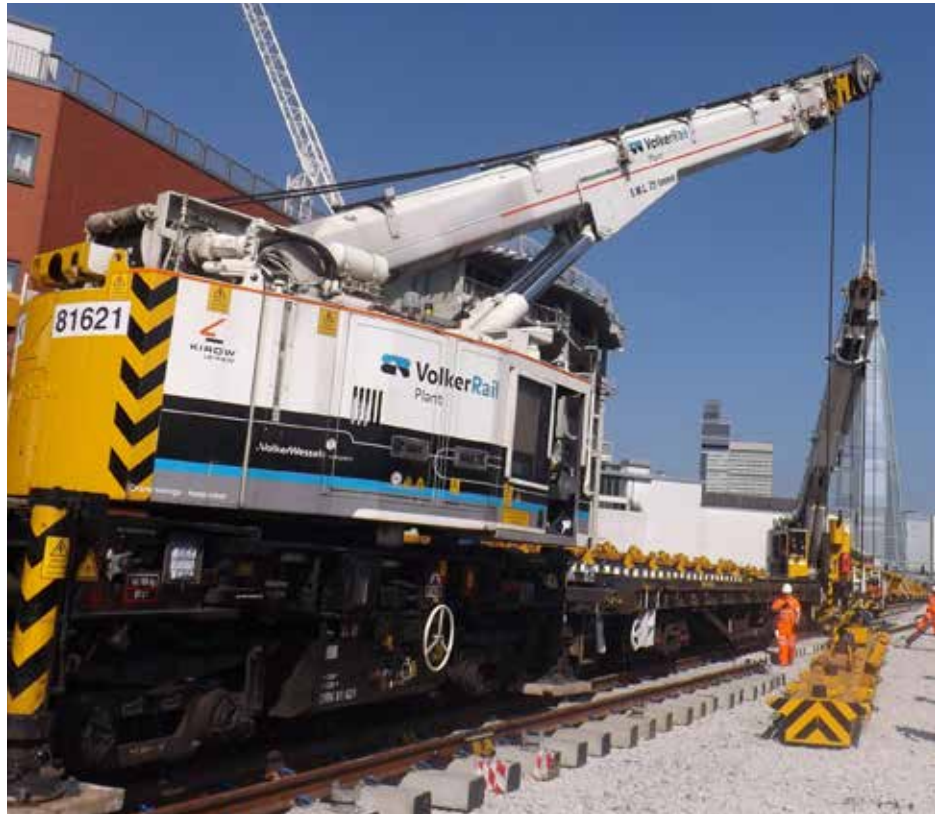


Alton's footbridge recreated in 3D CAD, using the original LSWR plans as the basis. In practice, it was built as per Wadebridge.

Phase 1: Rescue

This stage is critical to the whole project, both in terms of funding and in changing the programme from demolition to rescue. The current preliminary estimate suggests a budget of circa £170k for this phase.

This phase will start with us taking ownership of the footbridge and whilst we hope the sale price will be nominal, the legal fees may add to our costs. Once we have ownership, we will commission a measured survey of the bridge and its intended temporary resting place. We will need to have a “cat’s cradle” lifting frame (pictured on front cover) manufactured and hire a suitable crane. Our hope is to use a very large Kirow rail-borne crane (pictured right) for the lift-out. This could be done with an over-night possession, considerably reducing the costs incurred closing the mainline railway.



*Kirow 1200 rail crane, capable of lifting 125 tonnes.
Operated by Volker Rail*

The storage site will need to be cleared and a base prepared, along with protective covering to keep the weather off the structure. Network Rail will have to remove all the services from the footbridge.

Phase 1 will finish with the central section being placed in its new storage site and covered. The landing and staircases will be left in situ, so the open ends left by the removal of the centre section will need to be covered over to protect them from the elements, and to prevent the public from accessing it. We will also have to take responsibility for these remaining parts of the structure.

There will be a lot of preparation and planning so that we can be sure that the central section can be disconnected within the short six hour night-time period available. The lifting cradle will need to be an accurate fit, so that’s why we need the measured survey, possibly using a 3D laser scanner for the purpose. We will need to be sure that the trackbed in the areas where the crane will operate will tolerate the loads. Finally, we will need to secure the new site to stop vandals and over-zealous railway enthusiasts from gaining access.

We have Alan Hayward’s watercolour painting shown on the cover to illustrate the lifting process. He insists that it depicts the replacement of the bridge section, as this is the desired positive outcome.

Phase 2: Refurb

This will have to follow on immediately after phase 1 is completed because we want a working bridge, not a white elephant. There will need to be a thorough assessment the removed section and the stairs to establish what work needs to be done. We can then draw up a specification and price up the major components required.

We are fortunate to have timber building specialist, Gary Appleton, on our team who can help us to decide what work will need contracting out and what we might ask volunteers to do. Several people in *Alton Mens Shed* have expressed an interest in doing some of the carpentry work. We will also need to appoint someone to be the project manager and someone to manage the every-day finances.

We anticipate large-scale carpentry work being done off-site, but some work will be done to the structure where it stands. The fact that the structure is bolted and screwed together should mean that replacing parts or removing them for renovation should be possible. The nuts may be rusted in place, so bolts will need to be cut off in order to remove parts. If we have to cut the very long bolts that hold the landing trestles together, we may have to get replacements especially made, so there are hidden costs in every aspect of the work.

An important consideration will be to enhance the resistance of the bridge against lateral wind as has been identified, probably by internal strengthening frames within the length of the span. Equally, the metal corrugated iron roof may require replacement, but if still serviceable, it will require a protective coating.

We know that all the timbers in the trestle on platform 1 will need to be replaced, and one of the corner posts above the trestle on platform 2. The stairs themselves will probably need remedial repairs. The window sashes will need removing from both the stairs and the centre section for renovation. The surrounding frames will almost certainly need replacing.

The remaining issue is the external appearance which currently looks rather bland. This is because the outside was boarded over, probably between the wars, to stop rot in the cross-bracing. Prior to that, the exterior looked like the section facing platform 3, pictured above and on page 5. Although our inspection revealed that it was probably unpainted originally, we have the option to remove the boards to reveal the cross-bracing and paint it in green and cream, making the bridge look far more picturesque.

The process of restoration will probably take a year or more, depending upon how much money we raise, the problems we encounter, the scale of the work and the available workforce and workshop space.

The advantage of the bridge section being on show whilst under restoration is that it will increase people's awareness of the project, both for passers-by, and for those looking at our website and Facebook page.



The shaped wooden brackets, platform 3



Rot visible in trestle legs on platform 1



Interior view



Phase 3: Restore

The matter of putting the heritage footbridge back together again is likely to be less protracted than phase 1. We anticipate that it will be practically the reverse process of lifting out the section.

Tied-in with this last phase will be preparing and planning for the continued maintenance of the structure. It will have to be painted at regular intervals, which can only be done by Network Rail approved contractors, and only when the line is closed or overnight. We have to consider insurance, electricity costs for lighting and the required load testing and inspections. It is estimated that we will need to raise £10k a year to be able to build a fund big enough to cover these ongoing costs.

The issue of the ongoing costs weighs heavily on the minds of the FAS committee. It is one thing to fund-raise for restoration, but it is another to seek continual funds for an on-going commitment. One of the options is to pass ownership to one of the three tiers of council or back to Network Rail.

Funding, Donations & Information

We are seeking funding for the three phases of this project. Whilst we will continue to welcome small donations, we need people with means & funding bodies to step forward. We are considering some way to recognise those who are able to contribute a sizable sum towards our project, preferably on the structure once it has been restored.

Please get in touch if you wish to know more or if you need questions answering. Our full contact details are on page 2 of this prospectus. There is also information on our website, including a detailed history of the footbridge, station and the various railway lines which served the area.

We look forward to hearing from you, whether you are an interested party, a small donor or a large contributor. We are also seeking suitable funds and trusts that are able to offer grants for our project. We are also looking for more volunteers to help contribute to the running of the organisation, especially in the fields of accounting, marketing and Facebook.

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