

COMMUNITY RAIL STEERING GROUP

An Investigation into Affordable Waiting Shelters for Community Rail Lines – Revised 23.7.15

Action 5.1 from CRSG meeting 19th June 2012 – Neil Buxton/Julian Crow

In May 2012, Catherine Philips (CRO Heart of Wessex CRP) raised the issue of affordable waiting shelters with Jerry Swift, Network Rail. The CRP's aspirations were to replace or enhance several shelters at lightly-used stations but cost was becoming a problem, especially if the current Network Rail-approved designs were to be used. On behalf of the Steering Group, Julian Crow (FGW) and Neil Buxton (ACoRP) agreed to start looking at a briefing sheet based on affordable station shelters – this paper summarises the information we have received to date.

Sarah McManus, Senior Group Property Project Manager for **FIRST GROUP** observed that, in her opinion, there was no approved NR design which had to be used. First Group had used cheaper shelters but it depended on the style required. The companies Sisk and STG were considered relatively cheap.

FIRST GREAT WESTERN had already undertaken some cheaper installations, four examples of which are shown below:



Aldermaston
(2 small waiting & cycle shelters)
£43k



Langley
(1 large shelter)
£57k



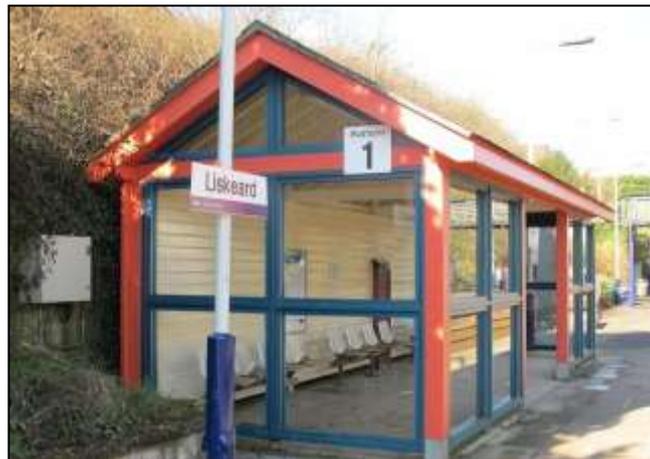
Honeybourne
(1 small shelter)
£30k



Pershore
(2 small shelters)
£43k

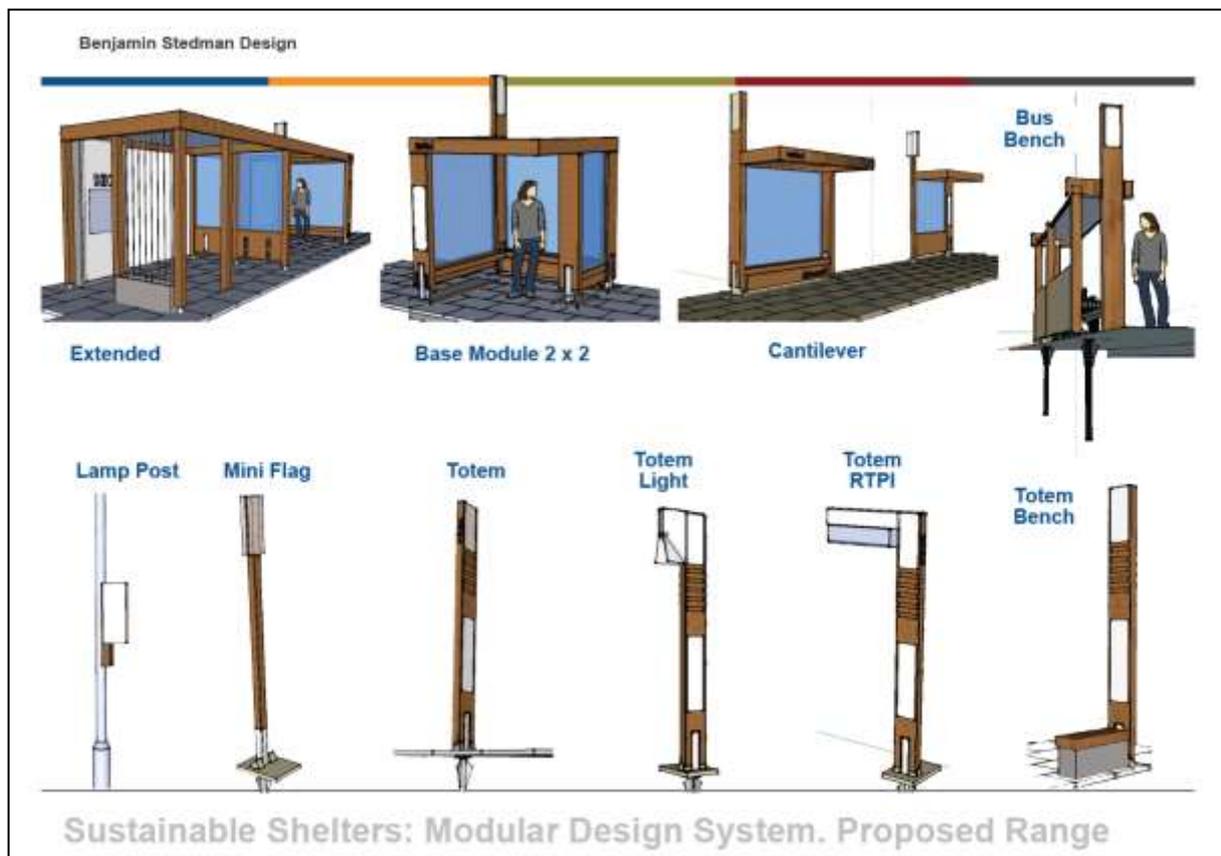
It was suggested that delivery of similar shelters would be approximately 5-6months to allow for consultancy appointment, design, approval, lead in and installation.

CORNWALL COUNTY COUNCIL reported that they had been investigating a robust form of 'Eco shelter' for bus stops, with the possibility of developing a rail version. The Liskeard shelter shown below has a degree of support from colleagues as a potential model for Cornish station improvements. It could be built with sustainable materials but no costs are available at present. There is an indication that Network Rail's chief architect has a liking for it.



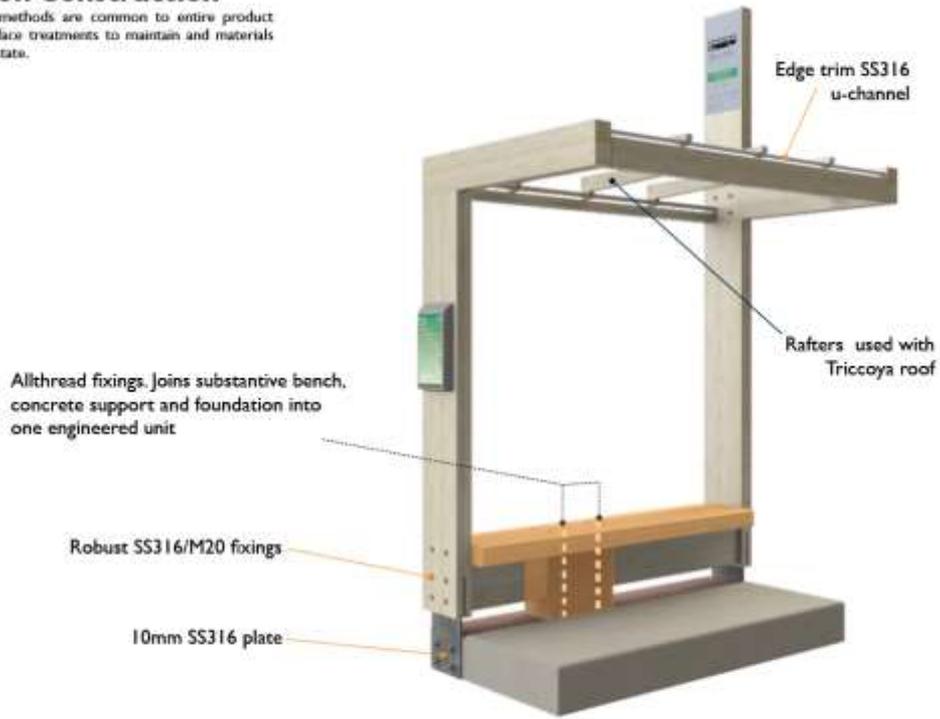
Liskeard eco-shelter

Cornwall CC also provided the relevant specification sheets for this type of shelter:



Common Construction

Construction methods are common to entire product range. No surface treatments to maintain and materials left in natural state.



4 Structural Integrity

Bequeen Stobru Design Partnership

Two by Two



Bequeen Stobru Design Partnership

Two Plus Two

As the shelter is based on 2x2 square it can be rotated.

The modular panels can be swapped for glass, Tricoya or Accoya panels. This provides a wide range of aesthetic and custom options for the community.



16 Details. System Rationale

Benjamin Bolinas Design Partnership

Two Plus Two



Benjamin Bolinas Design Partnership

Two Plus Two



48

Benjamin Bostrom Design Partnership

GREATER ANGLIA reported that the ultimate affordable shelter at Berney Arms (*pictured right*), constructed by the workshops at Crown Point Depot, had finally succumbed to high winds.



However, new shelters by Littlethorpe Ltd had recently been installed at South Woodham Ferrers on the Southminster line (*see right and below*). The cost of this shelter was £10k, fully installed.



South Woodham Ferrers –
End view



South Woodham Ferrers –
End view close-up



South Woodham Ferrers –
Shelter roof



South Woodham Ferrers –
Leg fixing detail



South Woodham Ferrers –
Internal view

SCOTRAIL reported on the distinctive style of the HITRANS shelter at Beaulay station (see *image right*), also seen at bus stops, ferry terminals and airports. No costs were supplied however.



NORTHERN RAIL suggested their eco-shelter at Maryport, Cumbria. This is a timber shelter made by Littlethorpe of Leicester (FSC certified supplier). As shown in the picture (*right*), it has solar panels on the roof and uses glass rather than polycarbon. Advice suggests that it is also carbon neutral.

The cost of the shelter was originally quoted at £50k but the company were apparently open to negotiation. By going directly to the supplier, rather than through a contractor, the cost was eventually reduced to £32k. The company also guarantee spare parts.



Maryport, Cumbria

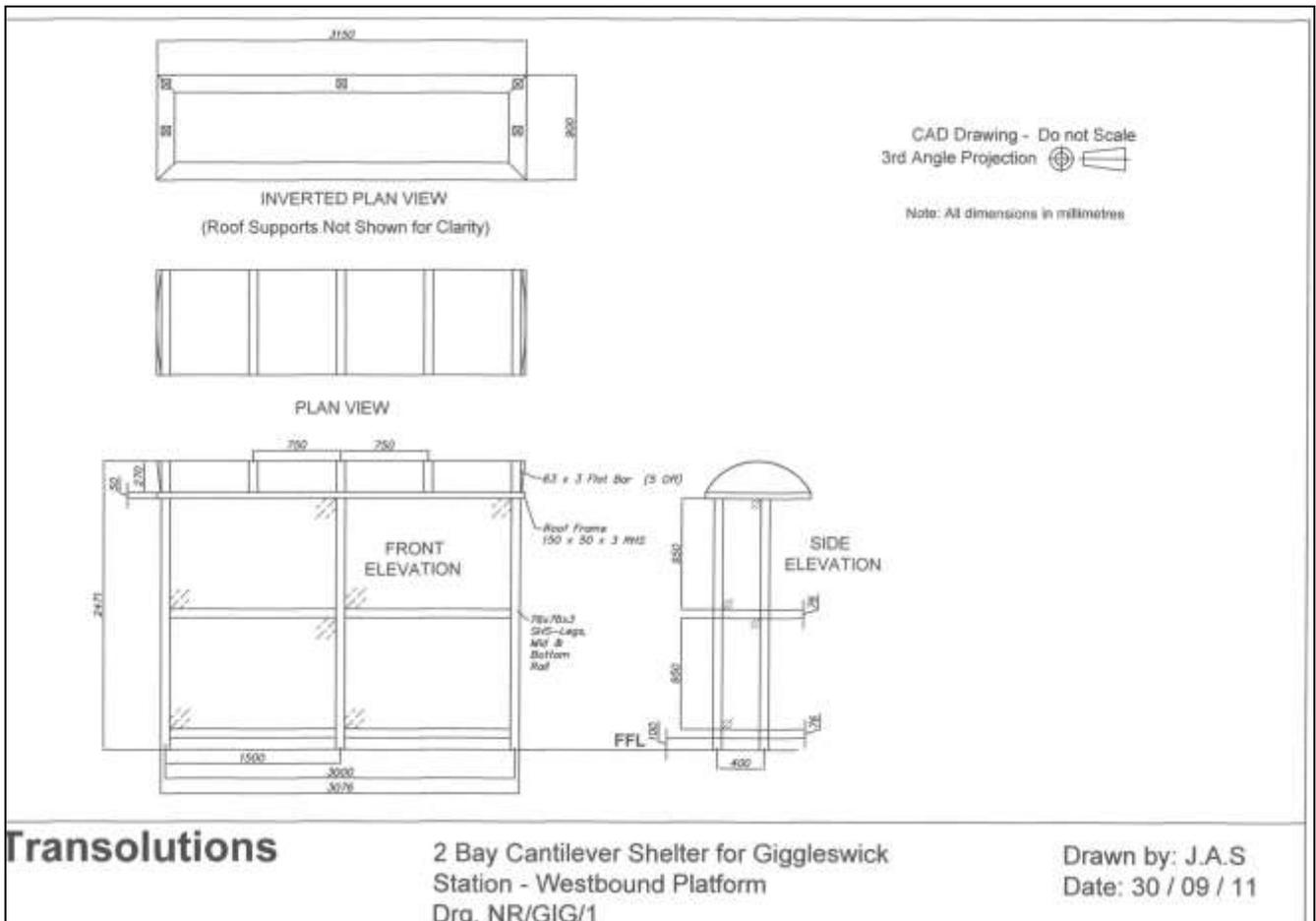
The shelter was installed in September 2011 and Northern are very happy with it. To date it hasn't been vandalised and the manufacturer says this is typical with their products (they also do bus shelters). Northern suggest it may be a result of the community taking pride in them?

Northern have also worked with Lancashire County Council on a small wooden eco shelter for Ravenglass. These cost around £24k – adding PVs for solar lighting, increases the cost to £28k, which includes costs for Landlords Consent and Project Management.



Ravenglass,
Cumbria





NETWORK RAIL have forwarded the draft of a small shelter that is proposed for Giggleswick station (see above). There is no indication of cost to date, although now the Leeds-Lancaster-Morecambe line has been designated, it should give access to limited funds which might enable the shelter to be erected on an experimental basis.

Anecdotal information suggests however, that this shelter may in fact be too small to be of any use in the difficult climate experienced in that location, particularly in the winter. In this case, the only alternative option appears to be a larger shelter that would need to be cantilevered out from the back of the platform, thus increasing the cost.

Network Rail have subsequently suggested that unless waiting shelters are part of larger enhancement schemes, the most economic way of installing them would be for the TOC to drive the scheme under the Landlord's Consent process. It would seem sensible then to understand the process from the TOC side as well. In the meantime, Network Rail will map out the Landlord's Consent process from their perspective.

It was also noted that CP5 would have a £100 million station improvement fund - would small platform waiting shelters be eligible for this?

SOUTHERN report that they don't have many small shelters on their network. The only ones that match the 'low-key' nature of this investigation tend to be historic rather than new – this picture of Plumpton station (*right*) is an example. Otherwise, they apparently use Macemain when replacing shelters and they acknowledge that they aren't especially cheap.



Plumpton, Sussex

Contacts to date:

1. ACoRP
 - *Neil Buxton, General Manager*
2. Cornwall County Council
 - *Philip Boorman*
3. First Group
 - *Sarah MacManus, Senior Group Property Project Manager*
4. First Great Western
 - *Julian Crow, General Manager, West of England*
 - *Dave Holmes, Property PM,*
5. Greater Anglia
 - *Geraint Hughes, Partnerships Manager*
6. Heart of Wessex CRP
 - *Catherine Phillips, CRPO*
7. Lancashire County Council
 - *Richard Watts, Rail Projects Manager*
8. Network Rail
 - *Jerry Swift, Head of Community Rail Planning & Development*
 - *Laura Stronge, Community Rail Executive*
9. Northern
 - *Colette Fowler, Public Affairs Manager*
10. ScotRail
 - *John Yellowlees, External Relations Manager*
11. Southern
 - *Yvonne Leslie, Stakeholder Relations Manager*
12. Settle & Carlisle Railway Development Co
 - *Marion Armstrong, General Manager.*

Suppliers:

ADDRESS	TELEPHONE	EMAIL	WEBSITE
Ace Shelters Low Mills Albert Road Morley Leeds Yorkshire LS27 8LD	0113 252 2611	info@aceshelters.co.uk	www.aceshelters.co.uk
Apex Shelter Systems Apex House Units 3-4 26a Hart Street Southport PR8 6BT	01704 546522	sales@apexshelters.co.uk	www.apexshelters.co.uk
BSW Group Unit 60 Dyffryn Business Park Llandow Vale of Glamorgan CF71 7PY	01446 795444	bus@shelters.co.uk	www.shelters.co.uk
External Solutions Limited, Unit 2 5 Elwes Street Brigg North Lincolnshire DN20 8LB	01652 655933	enquiries@external-solutions.co.uk	www.external-solutions.co.uk
Falco UK Ltd Unit 8 Leekbrook Way Leekbrook Staffordshire ST13 7AP	01538 380080	sales@falco.co.uk	www.falco.co.uk
Littlethorpe of Leicester 142 Church Hill Road Thurmaston Leicester LE4 8DE	0116 260 3777	sales@littlethorpe.com	www.bus-shelters.co.uk
Macemain + Amstad Boyle Road Willowbrook Industrial Estate Corby Northants NN17 5XU	01536 401 331	sales@macemainamstad.com	www.macemainamstad.com
NBB Unit 5 145 Sterte Road Poole Dorset BH15 2AF	0800 1777 052	sales@nobutts.co.uk	www.nobutts.co.uk

Queensbury Shelters Ltd, Fitzherbert Road Farlington Portsmouth PO6 1SE	02392 210052	sales@queensburysshelters.co.uk	www.queensburysshelters.co.uk
Shelters4Less, 3rd Floor Enefco House, The Quay, Poole Dorset BH15 1HJ	0800 160 1002	sales@shelters4less.co.uk	www.shelters4less.co.uk
Shelterstore LLP 55 Charlotte Road London EC2A 3QF	0800 612 7503	info@shelterstore.co.uk	www.shelterstore.co.uk
Toptech Europe Ltd: PO Box 627 Ipswich Suffolk IP8 3WZ	01473 373400	info@toptech.co.uk	www.toptech.co.uk
Urban Design & Development Ltd (Street Structures Division) Units 4 & 5, Incomol Business Park, Derby Road Clay Cross Chesterfield Derbyshire S45 9AG	01246 862319	streetstructures@aol.com	www.streetstructures.com



PRICES TO MARCH 2013

Tel. 01162 603777

www.littlethorpe.com



CROPTON £4,380
Size: 2.48m long Roof size: 3.1m x 1.6m



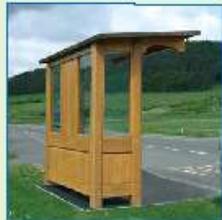
EATON £4,380
Size: 2.48m x .73m Roof size: 3.1m x 1.6m



HASOOKS £4,380
Size: 2.48m x .73 Roof size: 3.1m x 1.6m



BUSHBY £4,380
Size: 2.48m x .73m Roof size: 3.1m x 1.6m



ASHKIRK £4,380
Size: 2.48m x .73m Roof size: 3.1m x 1.6m



UPPINGHAM £8,100
Size: 4.82m x .75m Roof size: 5.4m x 1.6m



SURREY £6,640
Size: 2.48m x 1.28m Roof size: 2.9m x 2m



NEWSTEAD £5,380
Size: 2.48m x .73m Roof size: 3.1m x 1.6m



MERDEN £5,380
Size: 1.78m x 2.48m Roof size: 2.9m x 1.6m



GREAT LEIGH £6,200
Size: 2.48m x 1.28m Roof size: 2m x 3.1m



SHEFFIELD Size & 1st spring £6,880
Size: 1m x 2.98m x 1.5m Roof size: 2m x 3.46m



RETTENDON £5,180
Size: 2.48m x 1.28m Roof size: 3.1m x 1.6m

ALL PRICES INCLUDE SEATING
Except the Cropton



ON ALL OUR BUS SHELTERS



ON HEAVY DUTY GLASS



WE HEVBY SHELTER



MADE IN ENGLAND



ISO9001: 2008



INVESTORS IN PEOPLE



FSC



BWF

BY USING ONLY FSC CERTIFIED HARDWOOD

WE ARE SUPPORTING BETTER MANAGEMENT OF THE WORLD'S FORESTS

Traditional Methods, Traditional Materials, Exceptional Quality



RUTLAND all versions £8,800
Size: 4.16m x 1.63m Roof size: 4.76m x 2.15m



REDMILE all versions £7,880
Size: 3.12m x 1.63m Roof size: 2m x 3.6m



REDMILE all versions £7,880
Size: 3.12m x 1.63m Roof size: 2m x 3.6m



ST. NEOTTS £8,300
Size: 2.98m x 1.63m Roof size: 2.5m x 3.46m



DIENBIGH £7,440
Size: 1.63m x 2.98m Roof size: 2m x 3.46m



HARBOROUGH 1st length glass £11,380
Size: 4.61m x 1.63m Roof size: 5.09m x 2m



HARBOROUGH glass with steel rail £11,380
Size: 4.61m x 1.63m Roof size: 5.09m x 2m



UFFINGTON 1st length glass £7,800
Size: 2.98m x 1.63m Roof size: 3.46m x 2m



BROMHAM £7,880
Size: 1.7m x 4.82m Roof size: 2m x 5.1m



PARK SHELTER £13,630
Size: 4.8m x 2.4m Roof size: 5m x 2.8m



COUNTSTHORPE £6,750
Size: 2.98m x 1.63m Roof size: 2.15m x 3.46m



KILWORTH £6,100
Size: 2.48m x 2.07m Roof size: 3.1m x 2.17m

ANCILLARY ITEMS

- Flag bracket to take "bus stop" plate £80ea
- 15mm toughened glass guaranteed for 12 months against breakage from £100 per pane extra
- Polycarbonate glazing instead of 6.4mm laminated glass at no extra charge
- Perforated Steel glazing from £100 per pane extra
- 240v lighting £450
- Solar powered lighting £1,200
- Autocad drawings of all shelters and associated ground works, available on request FOC
- Metal Display Case in silver from £250

LITTLETHORPE OF LEICESTER LTD.
142 CHURCH HILL ROAD
THURMASTON,
LEICESTER LE4 8DE



Scan the QR code with a smartphone for more information

For further details and colour brochure call:
01162 603777



OUR SHELTERS ARE DELIVERED FULLY ASSEMBLED. All prices are ex works i.e. the cost of delivery needs to be added, this will vary depending on how far away the installation site is. Ring with an address or post code and we will quote a fixed price for delivery. We have AutoCAD drawings for all our shelters and these include the full ground work details. The drawings are available to all our clients FOC; we can e-mail them to you or send A3 size copies in the post (or both)

Email: sales@littlethorpe.com

www.littlethorpe.com

Evidence from Suppliers & Organisations (*redacted*):

Company 1

This company was given an order for a rail shelter by a County Council in the spring, with instructions that it had to be completed by the autumn. Despite the timescale, the company could not get the RAMS passed. However, as soon as the rail franchise changed hands, the job went ahead quickly and easily with no change to their RAMS. This meant it took a year to get installed - from spring to spring – rather than the planned six months. No explanation was forthcoming about the delay although from their view point, it looked as if the job was blocked until the franchised changed.

There is general frustration at the way the passenger shelter work is administered. It goes through too many hands and in the end the goods are bought on price by the sub contractor, not on the cost of ownership or visual suitability.

Company 1 does not have separate prices for bus and passenger shelters.

The system of getting permission to work on the platform is also difficult; they never really know who they are dealing with. As a company, they feel they need to be talking to and dealing with the end users, as they do in local authorities. Individual jobs can have one company doing the Q/S, another one project managing and a third sub contractor who, on winning the tender, subs out all the work. In addition, there are then the companies who actually do the physical work. This company would like to know why they can't work directly with the client and give them the best price. They feel that their product is quite specialised and in order to give good advice and best value they do need to speak and work with the end users directly.

Company 2

Provided some observations on how they felt costs could be kept down:

1. Try to install each shelter on to a concrete base. This would enable the use of shelters incorporating base plates which can be bolted straight down to the surface without any ground works being required (*installing shelters on to a asphalt, gravel or anything that isn't a concrete foundation can almost double installation costs for one shelter*)
2. Their view is that powder coating is not always necessary. Hot dipped galvanising can provide up to 20 years protection.
3. Costs can be reduced if multiple stations or sites can be put on one order. The supplier suggests that money can be saved by having only one delivery charge (providing the sites are close to each other) enabling installation teams to go from one site to another without having to return to the warehouse in between appointments.
4. In their opinion, wooden cladding always drives up the cost. Cheapest options are usually steel or polycarbonate.
5. Cycle shelters without the racks might also be used as cheaper waiting shelters

Company 3

This company provides bespoke shelters, so was unable to provide exact prices. However they suggested that they could provide a basic structure for around £3,000. Their observations were as follows:

1. Working on a rail platform immediately increased the price considerably, due to the need for certificated staff. This company's installers were basically ordinary people in

the building trade and although they appreciated that there were safety issues, they felt that the 'premium' for using specialist rail labour was too high.

2. Using their own labour for installations in rural areas often increased the cost too. Their estimate was that a 'deep rural' installation could tie up three men for at least two days.
3. When pressed, this company suggested they could supply a basic 2m x 1m mild steel shelter for £3,000 but that again would depend on location.

Company 4

This company quoted £14k - £15k to supply and install one of their 3-bay stainless steel shelters, which would include lighting and DDA-compliant seating. They commented that:

1. The main cost differences between roadside and rail shelters were the material used and the installation method. Roadside shelters tended to be constructed using aluminium or mild steel, while rail shelters were manufactured from stainless steel.
2. Due to the harsh environment of railway platforms and the required longevity of shelters, they felt that the only realistic option was stainless steel.
3. Installation costs also tend to be higher due to the logistics of transporting a shelter (in kit form) onto a platform which could sometimes also involve movements up and over a railway bridge etc.
4. In addition, there was usually quite a lot of manual transportation required, whereas with a roadside installation, a ready built shelter could be taken off the bed of a lorry and put straight into position using a HIAB.

Organisation 1

This organisation has been involved with installing shelters in the past but has asked to remain anonymous. Although some of the following information is now in the past, it gives a perspective on how costs can increase on some projects.

1. This organisation had obtained funding for 5 shelters but in the end, could only afford to install three, as the installation costs had escalated massively since the original costings had been planned. Architects' fees were particularly expensive apparently.
2. They also observed that as soon as 'Railway' or 'Railway Budget' is mentioned, the price automatically doubles.
3. They reported that in the past, Network Rail had changed regulations for new-build shelters *after* the architect's plans had been drawn up and refused to make an exception. This cost the organisation £3,000 in wasted fees.
4. The organisation went direct to a manufacturing company who offered to supply and install a shelter for £12,000. On contacting the TOC, they were told it could be done through the TOC's contractors but that the cost would be £25,000. Needless to say, the organisation arranged to install it through the manufacturing company!
5. Another issue was the mismatch of railway project dates with grant-funding cycles. Although not directly related to cost, it does impact on the ability of organisations to fund smaller infrastructure projects like shelters, especially if the railway industry are not prepared to be flexible or make special allowances in these circumstances.
6. Where bike shelters were being installed, perhaps as a franchise commitment, the organisation suggested that a bike-cum-passenger shelter might be considered instead. External match-funding might be available for the passenger element if the railway industry couldn't justify the additional cost.

7. Finally, the organisation suggested that a method of keeping the cost of shelters down in more rural areas would be to consider solar-powered lighting, thus avoiding the cost and safety issues of installing mains electricity.

SUMMARY AND CONCLUSIONS

Whilst producing and compiling this report, it's become obvious that all parties understand the need to reduce the cost of railway structures and especially on rural and local lines. It's also clear that there is a growing appetite for innovative solutions to some of the railway's more intractable problems. I would therefore like to thank everyone who has contributed to this document.

Despite many suggestions and observations however, there is still no definite answer to the problem, although it has become clear that the special requirements of working on and around the railway do contribute quite substantially to the cost of installing waiting shelters. It's also become apparent that the requirement for the rail industry to be completely transparent in their accounting sets them at a disadvantage when compared to their colleagues in highways departments. A number of anecdotal comments suggest that some of the costs associated with installing a bus shelter are simply 'lost' in local authority's overall highways budgets, thereby giving the impression that installation is that much cheaper.

A concluding meeting was held early in 2013 with the aim of creating some clear suggestions for presentation to the Steering Group. The conclusion below is an amalgam of notes from Jerry Swift (Network Rail) and Catherine Phillips (Heart of Wessex CRP).

1. 'Unpicking' the costs.

When considering the cost structure for installing and replacing a shelter, it became apparent that the necessary processes/procedures and correspondent consultancy fees appeared to account for a large proportion of the difference between the total cost of customer shelter provision on railway stations versus highways*. A cost breakdown for the proposed shelter provision at Freshford showed that just under half the cost was for the shelter itself, although it was mentioned that this proportion would of course vary according to shelter size and complexity of project

- The Property Project Manager from FGW agreed to provide a breakdown, from feasibility to conclusion, of the procedures required and the associated costs.
- The Bath & North East Somerset (BANES) representative agreed to provide similar costs for a bus shelter installation
- To enable benchmarking, it was suggested that both sets of figures should apply to a shelter of approximately the same size, Freshford being given as an example.

** On this point, Network Rail observed that FGW's use of consultants helped to cover off the wider design requirement which the TOC felt was best not left with the installer. They believed that better value for money could be achieved using this route. For similar reasons, FGW put installation out to tender, without assuming it would be undertaken by the shelter manufacturer. The key design considerations would be:*

- *CDM and the need to make sure that every aspect of the project complies with all safety and standards requirements*

- *Signal sighting – a new shelter cannot be allowed to interfere either with a driver's sight lines or with sight lines of station staff engaged in train despatch. Note that staff may have a firm opinion as to where they stand to complete station duties.*
- *Landlord's consent – a Network Rail, web-based process that now appears to be running smoothly. There is however, a need for quality submissions, with FGW suggesting this is best undertaken by experienced and recognised consultants*
- *Station change - removal of a facility (i.e. an old shelter elsewhere on the station) can make this more complex*
- *If the project is being undertaken as part of the NSIP scheme, there is a need to confirm landlord's consent beforehand.*
- *Power load testing – some station supplies are marginal and would not meet modern standards*

2. Comparison of shelter costs.

Both Network Rail and BANES wanted to check if shelter suppliers were applying a premium to the rail industry over and above that applied to Local Authorities for an identical, or close to identical, product.

FGW agreed to forward examples of styles and prices to BANES, to enable comparison with price lists for Local Authority bus shelter provision.

3. Choice of Suppliers.

Regardless of supplier or funder, one of Network Rail's principal aims was to achieve the best whole life cost for any given project. This aimed to ensure that investment in stations was securely managed, in order to provide the best value for money over the long term. Whole life value was part of the reason for supporting products from particular suppliers who had demonstrated consistent reliability and robustness, Macemain being perhaps the most trusted to date. FGW pointed out that First Group did use other suppliers but that even the best of them have occasionally caused problems. "Glitches" in design or project delivery* could add additional cost and lose valuable time within an extremely full programme of property management; hence 'tried and tested' being the default position for new projects.

- *At this point, it was observed that apparent cost savings from some past suppliers had ultimately been swallowed up by snagging. In this respect, it was agreed that:*
- *All parties needed to be confident that the product would perform as expected and that installation would not involve any unexpected and expensive surprises*
- *That the price must be sustainable. There was no point in developing a solution, with all the attendant costs, if subsequent units failed to continue their cost benefit*

4. Potential for a future project to develop alternative/more affordable shelters.

Clearly it would not make commercial sense for suppliers of well established, proven shelter products to accept a brief to develop "cheaper" alternatives. The most likely route to developing more affordable alternatives may therefore be with suppliers who do not yet have a strong foothold in the market. Information elsewhere in this document may suggest suppliers or developers who might potentially supply prototypes for further national application.

The most interesting possibility may be a dual approach of adding value by either reducing cost and/or attracting additional funding. One example could be shelters designed for advertising (e.g. through CBS Outdoor), although the example of Freshford (*pictured right - official footfall figures circa 33k p.a.*) seems unlikely to be an attractive option for sponsors. A better example may be sustainable or 'eco' shelters, as developed in Cornwall and Cumbria.

These improve the prospects for affordability through grant eligibility, even if not necessarily reducing unit cost for the structure.

Additional funding for shelters might be available through ACoRP's Designated Community Rail Development Fund (DCRDF), which can supply up to £5k in match funding for community rail partnership projects and has supported, for example, the eco shelter project in Cumbria.

Additional third party grant funding sources may also be available for innovative ideas showing sustainability benefits. In this respect, the Wessex CRP Officer suggested the possibility of a "water harvesting" shelter. To date, water butts have only been possible for the Heart of Wessex station gardens where older buildings with guttering are available. Network Rail mentioned similar initiatives that had been supported by DCRDF on other lines. It was agreed that water supply can be a substantial challenge in maintaining community gardens that add so much value to many station environments. There might therefore, be a way of designing shelters to collect and store water more efficiently than the traditional guttering + water butt arrangement.



The view from the Heart of Wessex CRP was that a new project of this nature would need to be led by the relevant Local Authority (or maybe the Rail Partnership) and would require substantial input and guidance from First Great Western, implying a resource commitment that could not be expected currently. There may however, be potential to revisit this idea at a later date. Network Rail also confirmed that their asset teams would be open to consideration of novel designs, provided a TOC was satisfied that they met their requirements and represented value for money.



5. Some shelter prices, outlined by FGW:

Location	Dimensions	Cost	Cost/sq. metre
Weston-Super-Mare	6.0m x 0.5m	£19,000	£6,333
Twyford	4.5m x 3.0m	£26,750	£1,981
Oxford	6.0m x 2.1m	£32,000	£2,540
Bristol Parkway	15 linear metres screen wall	£41,000	£2,733/metre
BANES installed		£5,000	

6. Conclusion

Although many of the waiting shelters detailed here are attractive, (relatively) affordable and in some cases, innovative, there is no approved Network Rail design that needs to be followed. The key objective would appear to be the desire to provide something that is fit for purpose whilst also delivering a good whole-life cost.

Whatever aspirations a CRP might have, they should always approach their TOC in the first instance.

Neil Buxton
General Manager
ACoRP

November 2013

ADDITIONAL INFORMATION 23.7.15

Since this paper was produced in 2012, further developments have been brought to the author's attention:

Abellio's Jeremy Whitaker provides two very interesting examples, one of which is an extraordinary demonstration of literally, 'thinking out of the box'!

The first 50 sustainable and eco-friendly bus shelters made from world-leading modified wood products, Accoya and Medite TricoyaExtreme have been installed across Cornwall. Created by **Benjamin Stedman Design**, (www.naturalshelter.com) the distinctive shelters form part of Cornwall Council's Green Peninsula project and mark the beginning of a four-year agreement that will see 150 Accoya and Medite Tricoya Extreme shelters installed across the county.

Responding to the Council's quest for durable bus shelters able to withstand exposure to changeable weather conditions along the Cornish coast, designers Jonathan Stedman and Yorick Benjamin created the cubic shelters oriented to face away from the prevailing weather. Their design carefully reflects the cultural heritage of the Cornish landscape, imitating the iconic ruined engine houses that punctuate the skyline.

Accoya and Medite Tricoya Extreme are two of the most advanced wood products on the market today, using Accsys Technologies' proprietary acetylation technology to deliver outstanding levels of performance, stability, durability. This results in a non-toxic, attractive and cost-effective wood which matches or exceeds the properties of tropical hardwood. Exceeding the high-quality and aesthetic attributes of tropical hardwoods, they also boast excellent environmental credentials by using wood sourced from FSC[®] certified and sustainable forests.



Particularly beneficial for outdoor bus shelters exposed to changing weather conditions, both Accoya and Medite Tricoya Extreme also demonstrate superior resistance to UV degradation and are virtually rot proof, with swelling and shrinkage from heat and moisture reduced by 75% compared to other wood materials.

Yorick Benjamin, Designer at Benjamin Stedman Design, said: "Existing bus shelters are either steel or aluminium, and after a short while can look old and begin to look tatty due to corrosion or wear and tear. However to mitigate this problem we were keen to work with Accoya, as it is guaranteed to last for 50 years when used above ground, and will maintain its aesthetic qualities throughout that time. Additionally we were keen to avoid using metal as it can contribute around eight tonnes of carbon dioxide for every shelter; the Accoya shelters are virtually carbon neutral as the wood sequesters CO₂ within its large section sizes."

A second, truly innovative concept is that produced by **Isospaces** (www.isospaces.co.uk). Their **Cargotecture** range uses existing, unwanted cargo containers and converts them into anything ranging from a 10' square 'Coffee Pod' to a 40' office.

The following extract is taken from the Isospaces catalogue recently commissioned by Abellio:

There are over 30 million shipping containers in the world currently lying dormant....

Made of CORTEN steel, shipping containers are designed to last at least 50 years at sea, resisting the toughest of weather conditions, guaranteeing that they are robust, hermetic and fire-resistant.

- The company claim to be able to provide a bespoke customisation service for any container
- Every container is totally secure, with lockable barn doors, anti-vandal glass (with roller shutters if needed) and remote controls for hydraulic operated equipment.
- A container can be run off a generator, plugged in straight to the mains or run completely off grid.
- The shipping containers are easy to vibrantly brand up. They can be painted in any RAL colour with vinyl logos applied, or entirely vinyl wrapped with a photograph, graphic or logo.
- The UK transport network has been designed to cater for the transport of containers e.g. trains, roads, ships, therefore it is easy to load your container on to the back of a truck and take it anywhere.
- Due to the nature of the shipping container, they are completely versatile and can be used for a wide range of applications from homes to shopping malls, classrooms to swimming pools.
- There are multiple combinations and design possibilities in using shipping containers allowing them to be flexible, staging implementation of projects and easily scalable in the medium or long term.
- Having been designed with a view to optimize logistics it can be adapted to practically any location.

Abellio will be trialling this concept shortly at Bathgate station, Edinburgh.

Isospaces are currently working with Tesco, BBC, Boxpark, Channel 4, EE, Wetherspoons, Jeep, Bullitt, Ministry of Defence, Snoozebox, CAT, Ted Baker, Kodak and Ministry of Sound.



COFFI CO.

Converted from two joining containers (20ft & 40ft), this is Coffi Co's quirky new coffee shop located in Cardiff Bay. The bi-folding glass doors allows the space to completely open up and extend the internal space.

RIVERSIDE CLASSROOM

Converted from two 20ft. shipping containers joined together, this maritime themed conversion provides a large, open plan teaching space located on the river front in Falmouth.



BOXPARK IN SHOREDITCH

The latest addition to Boxpark in Shoreditch is this acoustic stage for their Sunday Busk the Box sessions, recycled from a 20ft shipping container! The hydraulic deck allows them to transform from securely locked container to a spacious stage, all at a press of a button.



In a similar vein, **Paul Salvesson** is promoting the concept of a 'Caboose'. In rural Mid Wales – Presteigne – a local company owned by David Bamford that specialises in eco-friendly 'passiv haus' homes, has come up with the 'caboose' concept.

Looking like the classic BR 'fitted van' it's built to modern standards using sustainable materials and claims are that it's relatively inexpensive. It provides room for small businesses, station adoption groups, and local community groups and could be used as a small shop, a booking office and convenience store, a bike hire business – or whatever the local need might be. Network Rail, the Welsh Government and train operator Arriva Trains Wales are supporting a pilot project at Llandeilo.

Neil Buxton
General Manager
ACoRP

July 2015