Stockport Branch of the Ashton Canal

Preliminary Restoration Appraisal

Manchester and Stockport Canal Society

2016

Moss Naylor Young Limited

Ashton Canal – Stockport Branch

Clayton to Lancashire Hill

Preliminary Restoration Appraisal

Client: Manchester and Stockport Canal Society

Chairman – David Sumner

Secretary – Peter Scott

Funding: Private Donation

Prepared by:

Patrick Moss MRTPI

Tamarisk Kay BA (Hons)

Nick Dowling RIBA

Jennifer Smith BA MRTPI

Sara Coffield ND GS

Authorised for issue by:

Patrick Moss

Moss Naylor Young Limited

5 Oakdene Gardens
Marple
Stockport
SK6 6PN

Town Planning – Transport Planning – Waterway Regeneration

Table of Contents Page

Moss Naylor Young Limited

5 Oakdene Gardens
Marple
Stockport
SK6 6PN

Town Planning – Transport Planning – Waterway Regeneration

1. Introduction

1.1 General introduction

The Manchester and Stockport Canal Society have commissioned Moss Naylor Young Limited to scope the options and benefits for reopening to navigation a canal between the existing Ashton Canal at Clayton and Lancashire Hill, Stockport. This canal is termed the Manchester and Stockport Canal in many quarters, perhaps reflecting the two local authorities through which it passes. Historically, the canal was the Stockport Branch of the Ashton Canal, and ran from between locks 10 and 11 in the Clayton Flight of the Ashton Canal to a terminal basin at Lancashire Hill, above and near to the centre of Stockport. One of several schemes proposed to bring the canal system to Stockport, it was the only one ever completed.

The canal ran from Clayton through Gorton and Reddish to Lancashire Hill, all on one level. The trade was principally coal and raw materials to the mills along its length (coal being a primary power source in the industrial revolution) and finished products away. Opening in 1797 the canal carried considerable trade but as with many such industrial waterways this dwindled to virtually nothing by the 1930's and the canal was un-navigable by the 1950's. It was formally abandoned in 1962 but the expense of elimination, and the struggling post-industrial economy of the area the canal passes through, probably helped ensure the course was not lost in comprehensive redevelopment. The route is readily followed from Clayton to Houldsworth's Mill in Reddish, with many bridges and one aqueduct surviving. The final mile from Reddish to Lancashire Hill is lost almost without trace though a modern industrial area; only a hump in the various road crossings allowing the historian to trace a route now blocked by modern development. The Navigation Inn still stands by the former terminus, but otherwise nearly all trace is lost at Lancashire Hill.

This report summarises the option for a phased restoration, starting from the Ashton Canal Main line at Clayton Junction and working towards Lancashire Hill. It is recognised that the restoration process can be a long term one, and as a result interim restoration proposals are put forward. In the context of navigation these reflect opportunities for interim destinations and are related to the character of constraints on restoration. In addition, restoration can be phased by the creation of perceptual corridors along the route in advance of navigation. This is also explored.

The report also covers the costs of the delivery of restoration and the socio-economic benefits, and explores how the restoration process can develop a "corridor of opportunity" along the canal route. Included within this consideration is the use of the canal as a movement corridor, the opportunity for interpreting the heritage of the canal and its surroundings, and the potential role of the canal as a wildlife corridor, and the ability to build on all these assets and the spaces created within the urban area to create a cultural corridor.

1.2 Prospects for Restoration

At first sight a level canal entirely through a dense inner-urban post-industrial area might seem an unpromising candidate for restoration. There is presently no obvious destination for boaters along the route and, in any event, short-ish branches off even the busiest of canals do not attract large numbers of boaters. The market for holiday hire and private leisure ownership is very strongly driven by the tourism interest in countryside and heritage; however this is to overlook some powerful trends in the value of waterspace in urban areas. These include:

- The leisure and amenity value of a continuous traffic free route through urban areas that otherwise have only disconnected formal open spaces
- The creation of a wetland wildlife corridor through a dense urban area, especially given the proximity of the canal line to Gorton Reservoirs
- The inexorable increase in the number of boats based on the national canal network requiring space for moorings
- The increase in the use of boats as residential dwellings, moored or otherwise, which is concentrated in urban areas
- The uplift in property values alongside and near waterways: notionally 20% for residential, the real value may come in bringing forward sites for development that would otherwise remain vacant in a stagnant market

Given the above, the potential for canals to be a focus for urban regeneration: this has been witnessed in the Manchester Council and on a much more limited scale in the Stockport area at Marple Wharf.

1.3 Previous Work

This report draws on the following previous studies

Manchester and Stockport Canal Restoration – Manchester Section: Pre-feasibility study (British Waterways 2006)

Manchester and Stockport Canal Restoration – Stockport Section: Pre-feasibility study (British Waterways 2006)

Gorton Reservoirs – Options Appraisal (Manchester University 2015)

Houldsworth Village – "Restoring the Past: Creating the Future" – (author unknown 2006)

Unpublished research papers prepared by Patrick Moss and Jennifer Smith (2014)

1.4 Constraints on restoration

The key obstacles to restoration are

- Hollybush Street, Gorton, has been extended across the canal to serve a car park for the Abbey Court block of flats
- Alston Street Bridge, Gorton, has been filled in although the vertical alignment of the road remains unaltered
- The canal line has been lost across the headbank of Gorton Lower Reservoir, and the headbank has recently seen works to ensure compliance with the reservoirs acts currently in force
- Wall Way has been constructed over the canal with no bridge at Debdale Park, just south of Gorton Lower Reservoir
- There appears to be a sewer in the canal bed under the A57 Bridge, although this has not been verified. The bridge survives

- Gardens encroach on the canal at the rear of Broadfield Grove and Broadfield Crescent, North Reddish
- There is no trace of the former aqueduct over the railway in North Reddish
- The line of the canal appears to be obstructed immediately south of the railway by development at Cravenwood Road
- There are houses on the line of the canal south of Station Road Reddish
- South of Broadstone Mill, towards Lancashire Hill, the route has been lost to the extent that master planning of the area would be required to establish a new route to Lancashire Hill.

1.5 Phasing

Following an appraisal of existing information it is apparent that the restoration could fall into three self-evident major phases. The Canal Society is in the fortunate position that the canal is easier to restore at the Clayton end where it connects to the national canal network, and gets progressively more difficult, whereas a number of restoration schemes face their most serious obstacles close to their start point.

The three self-evident phases are:

- Clayton Junction to Gorton Reservoir
- Gorton Reservoir to Broadstone Mill
- Broadstone Mill to Lancashire Hill

The factors that lead to this conclusion can be summarised as follows

The canal from Clayton Junction to Gorton Reservoir is infilled but free of particular obstructions: the first problematic obstacle is the crossing of Hyde Road, which is the Stockport side of Gorton Reservoir. Gorton Reservoir itself is already a minor recreational facility and has the potential to become a destination for the canal.

Between Gorton Reservoir and Broadstone Mill the canal has a number of obstructions including Hyde Road and the railway crossing near Reddish North Station. However the route of the canal is still evident, Broadstone Mill and Houldsworth Mill, already business and retail centres, have the potential to become a new destination for the canal.

That leaves the remainder of the canal as a final, long term phase. This length takes the restoration proposal to its natural and historic conclusion: historic as Lancashire Hill is where the canal terminated, natural as beyond Lancashire Hill the land drops steeply to Stockport Town Centre. This length, as described above, is almost lost without trace, but the area itself is of a type that would be regenerated in the next few decades giving an opportunity for a canal line to be established. Nothing in this report should be interpreted as master planning of this area being imminent. However the character of the area is such that, at some point in the future, redevelopment is likely to be desirable, although this is likely to be many years hence.

The report now looks at each phase in turn

2. Clayton Junction to Gorton Reservoir

2.1 Introduction

Phase 1 has been identified as being from the Ashton Canal at Clayton Junction to Gorton Reservoir. This length has been the subject of a feasibility engineering study undertaken by British Waterways (BW) in 2006, and the canal route past Gorton Reservoir itself was subject of an engineering options study by Manchester University in 2015.

There are possible interim terminus options at Clayton, near (and probably north of) Ashton Old Road and at Hollybush Street where there is open space containing a former canal arm. The importance of an interim terminus in this phase is that it would mark the first length of the Stockport Branch to be re-opened and a suitable facility (even if only to service boaters daily requirements such as water and sewage disposal) would encourage use

Image 1: The first few yards of the Stockport Branch

2.2 Canal track

From the Ashton Canal to Gorton Reservoir (but not including the reservoir) the canal is approximately 2.3km in length and almost straight. Except for the first twenty metres from the Ashton Canal, the canal line is filled in and in use as a pedestrian route and cycle track

2.2.1 Bridges and Structures

There are four bridges over the canal that are still in place as load bearing structures for their regular traffic, these are

- Junction Bridge (Towpath only)
- Ashton Old Road/Openshaw Bridge
- Ogden Lane Bridge
- Abbey Hey Lane Bridge

Each of these bridges is intact although the canal underneath is infilled except at Junction Bridge. As these bridges are subject to a regular inspection regime and operate as if the canal were still present it is not anticipated that any works beyond reinstating the canal channel will be required.

South of Ogden Lane Bridge the canal crosses the Manchester to Glossop Railway line just east of Gorton Station: the steel aqueduct is still in place but now carries a cycle track rather than an in-water canal. However the trough is filled with earth and vegetation to approaching historic water level: it is worth noting that this will place a greater load on the aqueduct than water as earth is significantly heavier than water per unit volume.

South of the Aqueduct Hollybush Street has been extended across the canal to serve Abbey Court, a tower block residential development. The road crosses the canal at ground level to reach the block's car park. This car park is adjacent to, but not connected to, another housing area that has access to Abbey Hey Lane via Rylands Street and does not depend on access over the canal at this point.

South of Abbey Hey Lane Bridge Alston Road Bridge carries the road of that name over the canal. The road surface is at the historic height, and the abutments and parapet are present, but the arch is filled in and it's condition unknown. Alston Road is not well surfaced at this point and may be unadopted

Image 2: The line of the canal north of Gorton Reservoir

Finally, shortly before Gorton Reservoir is reached, a box culvert structure carries the alignment of the former Fallowfield Loop railway over the canal. This structure postdates the closure of the canal and predates the closure of the railway.

2.2.2 Gorton Reservoir

Gorton Reservoir was originally built as a drinking water supply and is owned by United Utilities: the reservoir is no longer used and thus is maintained at its normal maximum level as a leisure facility – nevertheless maintenance of the reservoir will still fall under the provisions of the Reservoirs Act and the Reservoir Inspectorate.

The canal line originally crossed the headbank of the reservoir, indeed the canal was on embankment here before the reservoir was created. A study by Manchester University has concluded that the best was to restore the canal across the area would be to drop into the reservoir itself, allow boats to cross and rise out again on the Stockport side.

The headbank is approximately 200m long and the reservoir extends nearly 600m upstream. It is reasonable to assume that a canal narrow boat would be able to navigate across this and for much of the length with little difficulty.

2.2.3 Gorton Works

Between Ogden Lane and Gorton Aqueduct there is a bridge carrying the towpath over the former canal arm into Gorton Works: the arm itself has disappeared. Whilst not part of the through route the bridge is part of the industrial heritage of the area and should be protected.

South of Hollybush Street another short arm is marked by the presence of trees in a public open space adjacent to the canal.

2.3 Works required for restoration

The information in this section has come from the BW report of 2006 and from a walk-over survey by Moss Naylor Young.

2.3.1 Canal Track

Except for the first twenty metres the canal is infilled and would require the channel excavating. We examine costs later in this section but the most significant cost in recreating the channel is likely to be the disposal of arisings that cannot be disposed of on site: for this reason we propose keeping the channel narrow (around 6m of navigable channel) and recommend adopting a wide corridor for the canal. This will have advantages in delivering benefits in any event, by allowing a generous movement corridor on the public (towpath) side and room for habitat creation on the non-public side. In the context of keeping costs down, this has the benefit of giving a wide corridor for the disposal of arisings without needing to transport them elsewhere. It may be of interest to note that new build marina developments of the type principally used for boat moorings rather than development, typically excavate one third of the site for water area and seldom dispose of arisings off-site. A parallel here would be a channel less than ten metres wide in a thirty metre wide corridor.

Where canal side development is proposed there will be a site management strategy for arisings and those from the canal can be dealt with through that.

We suggest a six metre wide navigable channel with a sloping edge on the non-public side to aid habitat creation, and a vertical edge on the towpath side to allow boats to reach the bank. Where visitor moorings are proposed and boats are expected to congregate the channel will need to be wider at around 8m. The overall width at water level will therefore vary between 8 and 10 metres.

The above is for feasibility purposes and should not preclude an innovative approach being adopted when the scheme is developed

2.3.2 Gorton Aqueduct

Gorton Aqueduct is in situ and largely unaltered since the canal was open save for the channel being filled with soil and other fill. This was presumably to prevent the channel across the railway filling with water when the rest of the canal was infilled. The structure belongs to Network Rail and will fall under their inspection regime – the overhead wires for the railway are suspended from the aqueduct. The fact that they have not sought to reinforce it or reduce its weight suggests the structure is sound.

Image 3: Gorton Aqueduct over the Manchester to Glossop Railway

The weight of the fill will exceed the weight of water should the canal be restored, and Archimedes principle ensures that the only additional load will be any towpath traffic. Thus it is a reasonable assumption that the current structure can take the load of the reinstated canal. That does not mean it won't leak however. An assessment will be needed of the condition of the steelwork, and the need for patching assessed. If required, a sleeve, possibly of steel or fibreglass, could be fitted inside the aqueduct to completely seal the structure.

2.3.3 Hollybush Street

Hollybush Street did not cross the canal before closure, but has been extended over the canal line to serve Abbey Court: the residential development itself is clear of the line of the canal and thus only the road crossing presents an issue.

There is insufficient clearance to allow for a raised bridge over the canal with navigable headroom, so a lift or swing bridge would be required. As this would be closed to road traffic for several minutes at a time this may not be acceptable. However, the car park is adjacent to another residential development which does not entail crossing the canal, and there are further options to give Abbey Court an alternative access: it is recommended that these options be pursued.

2.3.4 Alston Street

The arch of Alston Street Bridge has been filled in and the southern parapet is missing. The road surface changes just east of the bridge and it is not clear whether the road over it is formally adopted, the character of the road might suggest it is simply owned by the local authority rather than adopted highway. Alston Street forks at the bridge, with one route continuing east over the canal and another heading south to become a cycle track along the canal route. The cycle track is used by vehicles, presumably for access and maintenance, but is not an adopted highway.

The only traffic need is for the cycle track to be maintained, which does not affect the bridge, and for the existing single track route over the bridge to be maintained for access. The worst case scenario here is that the bridge, once excavated, will need rebuilding. It would be possible to do this in modern materials as a box culvert, although given that this bridge is one of the oldest surviving bridges on the canal it would be more appropriate to retain as much as possible of the original structure and materials and rebuild the bridge in its historic format.

2.3.5 Fallowfield Loop

Whilst not listed as an obstacle the former Fallowfield Loop line crosses the canal line just short of Gorton Reservoir. The original bridge has been replaced by a new concrete structure, the floor of which is approximately at water level. The railway line above is now a cycle track.

The existing bridge was built to take railway loadings, and it may be that Network Rail would want any replacement structure to be able to take the same loadings to serve in the event the railway reopened. However at Fairfield Junction the line is blocked by a comparatively new housing development which would suggest significant difficulties with any aspiration to reopen the loop, and thus a lightweight bridge for the cycle track should suffice

2.3.6 Gorton Reservoir

The canal line once crossed the headbank or Gorton Reservoir but has been infilled and the route obstructed by a new spill weir. Manchester University have undertaken a study of the best means to get past this obstacle and concluded that locking down into the reservoir and then locking up again on the south side is the most practical way forward. This also facilitates use of the reservoir as a leisure resource and destination, and makes a temporary terminus straight forward.

Image 4: Gorton Reservoir

It should also be noted that locking into the reservoir completely avoids any need to undertake works on the headbank. The integrity of the headbank is paramount and reservoirs are tightly controlled under the various reservoirs acts, as a result all elements of design and construction for any works on the reservoir would be much more tightly regulated than elsewhere on the canal and it is best that such works are avoided – locking in and out of the reservoir, with the locks away from the headbank, achieves this.

In this phase the only works necessary to allow navigation are those to construct a lock into the reservoir on the north side, coupled with a lock landing in the reservoir itself. However the reservoir is not currently used by canal boats and was not designed for such, so moorings would also need to be provided if boats are to be able to moor.

We have assumed that the lock would be a standard narrow lock, built in modern materials. However if water supply permits and there is felt to be a possibility of high demand at peak times the lock could either be made wide beam or longer. Making the lock wide beam would add about

15% to the cost, whilst lengthening the lock would have the benefit of allowing more flexibility use given all boats will be narrow beam

2.4 Observations on costs

British Waterways provided costs for the Stockport Canal Restoration as part of their 2006 report. The range for their option 1 (effectively the same as the proposal considered here save for the addition of a lock into Gorton Reservoir) as £7.1m to £16.1m, with all but £3m being earthworks. These are at 2006 prices, estimates of inflation vary but a reasonable figure from the office of national statistics on output prices for infrastructure suggests 30% increase might be reasonable, giving a range of £9.2m to £21.0m with £3.9m for non-earthworks.

These figures seem incredibly high: it is difficult to compare projects but with the exception of a new lock into Gorton Reservoir there are virtually no substantial structures to be delivered in this phase, which will reinstate 2.3km/1.5 miles of canal save for the lock into Gorton Reservoir, which is not included in BW's figures. By comparison, the Cotswold Canals is currently subject of lottery funding, and is costing £28 million for around 8km/5 miles which includes the refurbishment of 6 locks (one a virtual rebuild on an unstable site), 3 new fixed road bridges (one carrying the A46 over both the canal and Slad Brook), three new lift/swing bridges and a deep cutting through a former tip, with the added constraint of 3km of main river being included in the scheme. The Cotswold scheme, widely regarded as being one of the more expensive schemes currently being delivered, is less than £4m a kilometre whereas the BW rates, uplifted to 2014 prices, are just over £9 million a kilometre.

Whilst it is accepted that earthworks are the biggest cost, the variance in the BW range is entirely based on whether these can be disposed of on-site or must be transported off-site. On the basis of the promotor being able to develop a proposal that optimises the cut fill balance, seeks to reduce the arisings and seeks ways of using the arisings on site we would suggest the lower end of this range is appropriate, giving a cost of approximately £9 million.

Image 5: The course of the canal through Clayton – now a cycle track

3. Gorton Reservoir to Broadstone Mill

3.1 Introduction

This length, the proposed phase 2, would extend navigation for 3km south from Gorton reservoir to Broadstone Mill, a former industrial building now housing retail and leisure uses in Reddish. This length crosses the boundary between Manchester and Stockport Council areas and was also subject of the BW study in 2006. The connection with Gorton Reservoir formed part of the 2015 study by Manchester University

It may be possible to establish an interim terminus north of the railway crossing, which would have value if the canal can be completed this far whilst accommodating a possible long timescale for the implementation of the railway crossing.

3.2 Canal Track

Initially the canal track forms part of the cycleway that starts at Clayton Junction, however as the route heads towards Reddish gardens extend across the canal reducing the corridor to the width of the cycleway, and houses have actually been built on the line of the canal south of Station Road. The route is crossed by the Marple to Manchester Line between Reddish North and Ryder Brow Stations: the aqueduct and its abutments are no longer present

3.2.1 Bridges and Structures

The following bridges and structures carry or once carried the canal under or over other infrastructure

- Hyde Road Bridge
- Reddish Aqueduct
- Station Road
- Broadstone Road

The main Hyde Road Bridge is intact but Hyde Road itself has had an extra carriageway added which has a pedestrian subway under it, roughly in line with the canal bridge under Hyde Road, Station Road Bridge has quite disappeared and there are now houses on the line of the canal to the south. Broadstone Road Bridge is intact under the road

Reddish Aqueduct over the railway has totally disappeared.

In addition there are the following obstructions to the route

- Wall Way has been constructed over the canal with no bridge at Debdale Park, just south of Gorton Lower Reservoir
- Thirlmere Aqueduct runs south from Hyde Road along the canal bed in a 54 inch (1300mm) diameter pipe
- Gardens encroach on the canal at the rear of Broadfield Grove and Broadfield Crescent, North Reddish
- The line of the canal appears to be obstructed immediately south of the railway by development at Cravenwood Road
- There are houses on the line of the canal south of Station Road Reddish

Of the structures and obstacles identified the most technically challenging is the lack of an aqueduct over the railway at Reddish, whilst the most difficult to reconcile with the community may be the houses that occupy the line of the canal, as these necessitate either purchase of the houses or a diversion. Whilst there are always gaps between buildings that a canal could pass through, these gaps are occupied by the curtilage of each property or by the roads of the developments.

3.3 Works required for restoration

The information in this section has come from the BW report of 2006

3.3.1 Canal Track

The canal track needs re-excavating throughout, and at key locations where the route has been encroached detail design solutions will be needed to establish either a narrow corridor, a localised diversion, or purchase of land to allow the canal through. As this land will often be the gardens of residential properties this may prove problematic

This restricts the ability to develop a wide corridor for the benefit of wildlife and non-boat traffic, and will also make it more difficult to dispose of arisings on site – this last problem may be mitigated by the presence of some large open space areas that the canal passes through which may provide opportunities for landscaping using the arisings.

3.3.2 Wall Way

Wall Way connects Hyde Road with a modern pub and restaurant development, and provides access to facilities at Gorton Reservoir: it has been built since the canal closed and has no provision for the canal. At this point the reinstated canal route will be leaving Gorton Reservoir; the only fixed vertical references are the level of the reservoir and the level of the canal under Hyde Road, where the historic bridge will be reused. Thus the route of the canal and the location of the lock to climb from the reservoir to the historic level can be selected to accommodate levels on Wall Way.

3.3.3 Hyde Road

At the time the canal closed Hyde Road was a single carriageway but since closure a second carriageway has been added. The original bridge survives whilst the new crossing has a pedestrian subway approximately on the line of the old canal route.

The subway floor is too high for the canal bed so a new structure would be needed; however, the vertical alignment of the road does not need to be altered so whilst the carriageway would need to be closed temporarily to allow construction there will be no permanent changes to the road layout.

3.3.4 Sewer in Canal Line

South of Hyde Road it is apparent there is a sewer on the canal bed: we have assumed the canal can be moved sideways and narrowed to avoid this but along with other services a more detailed survey is needed as part of the design process.

3.3.5 Reddish Aqueduct

The canal crossed the railway Manchester-Bredbury railway line on an aqueduct that has completely disappeared, indeed we haven't found any photographs of it and can't be certain what it looked like. Network rail will have stringent requirements for any replacement structure which must not only clear the loading gauge of the tracks but must also not threaten the security or safety of the rail

operation in any way and may have to make allowances for future improvements such as electrification. These issues are significantly beyond the scope of this study and it is suggested that a separate study be commissioned for this one item, this is now being undertaken by Manchester University.

On the basis that Network Rail will not permit any pier between the tracks, and the skew of the canal line to the railway, the minimum single span is likely to be in excess of 30 metres and may well exceed 40 metres. The longest single span aqueduct in the UK is at Ynysbwllog on the Neath Canal which was completed in 2008: it has a span of 42 metres. Whilst this shows what might be achieved Ynysbwllog Aqueduct was built partly in situ which may not be acceptable over a main line railway.

3.3.6 Station Road Crossing

The canal crossed under Station Road via a conventional flat deck bridge that was demolished in 1975 to remove the pronounced hump in the road; as a result the existing road level is too low for the canal to pass under here. In 2006 the Highway Authority, Stockport MBC, stated there was no "in principle" reason why the highway could not be raised again but that detail drawings would be needed to confirm. Detailed design here would establish the constraints and exact deck level that a replacement bridge could be built to.

3.3.7 Broadstone Lane Bridge

This bridge is reported to be intact but infilled: however there is no evidence that the fill is actually supporting the deck, which date back to 1909. There is no evidence that the deck is in anyway stressed or damaged but a full assessment should be made before determining how to restore this structure. It is likely that the arch can simply be excavated although some reinforcement of the deck may be necessary

3.4 Observations on Costs

The costs in the British Waterways Report, which covers the length of canal from the Stockport/Manchester boundary to Broadstone Mill, range from £11.1 million to £17.9 million dependent on earthworks. As this is for the section within Stockport MBC a further £1.4 million must be added for the length in Manchester from Gorton Reservoir to the Stockport boundary (taken from the BW report on the Manchester Length).

There is considerably less cost certainty on this length mainly due to the railway aqueduct and the need to establish a route past or through the housing developments in Reddish; however we would still caution that the basis for the costs estimates seems to be on the high side. A rate of £4 million a kilometre, as discussed in section two, would lead to a cost of £12 million. A guide value for the aqueduct would be of the order of £1-1.5 million based on costs elsewhere, however there may well be a premium as this crosses a railway. Thus we have assumed £13.5 million for this length.

4. Broadstone Mill to Lancashire Hill

4.1 Introduction

This length of canal has been obstructed by development to the extent there is no recognisable corridor or track, although the historian or archaeologist can trace where the canal once went. To all intents and purposes, certainly from an engineering perspective, a new canal is required.

We have not suggested interim destinations on this length, nor is the final terminus itself necessarily fixed: we have assumed that restoration to Wharf Street, Lancashire Hill is the objective but nothing in these recommendations is dependent upon achieving that.

Image 6: the former terminus of the canal at Lancashire Hill

4.2 Canal Track

The original canal track does not survive and can only be followed where it crosses public roads. The entire area the canal passes through is industrial in character, with the units varying in age. At some point in the future this area is likely to be subject of masterplanning for either partial or complete redevelopment. At this point a new route can be planned through the area for the final length of the canal.

4.3 Routes crossing the line

The following transport routes cross the historic line of the canal

- Stockport-Stalybridge Railway
- Broadstone Hall Road South
- Whitehill Street
- Manchester Road
- Belmont Way
- Wharf Street

Our comments on these are as follows

4.3.1 Stockport-Stalybridge Railway

Unlike the other railway crossings this route goes over the old canal line, and the opening for the canal is still intact. This crossing point should be protected to allow future restoration of the canal under the railway.

4.3.2 Broadstone Hall Road South/Whitehill Street/

These two roads are very different in character, one being a fairly busy main road and one a quiet back street. The crossing point for the canal can be discerned by the expert eye but the structures do not survive and there is no intrinsic reason why the replacement canal needs to cross at exactly the same point.

4.3.3 Manchester Road/Belmont Way

In this area there has been much road improvement since the canal closed and the current road alignments do not compare with the original ones. Residential development between the two roads may result in the canal being reinstated east of the original course, possibly passing under the Lancashire Hill roundabout

4.3.4 Wharf Street

This road crossed the canal just before the original terminus, and has not been significantly altered. If the original terminus location were to be reinstated a crossing of this road would be required but should not prove problematic

4.4 Works Required for Restoration

For this length we can only comment in general terms: only the opening under the railway is fixed and the route for the canal is otherwise to be determined. At all stages the guiding principle will be to promote the desirability of the canal being reinstated through this area and prepare a design brief for a route through when the opportunity arises. How the proposals are developed and the mechanisms for delivery will depend very much on the way forward for the area, whether redevelopment is wholesale or piecemeal for example. The main task at this stage is to remain vigilant and promote the opportunities at every stage.

4.5 Commentary on Costs

There is no scheme to cost in this case, and previous reports have not attempted this, but that doesn't mean that a notional value cannot be derived for the capital works. The proposed route will be very approximately 2.3km long and have up to five highway bridges. Using a rate of £4m a kilometre we can conclude the track will cost of the order of £9 million at 2015 prices and the bridges will add around a further £2 million. These rates are consistent with those used elsewhere in this report.

However, it would be anticipated that these costs would be part of a much wider regeneration package costing many times this amount, and as such the scheme will be judged as part of those costs and benefits rather than in isolation.

5. Regeneration Benefits of Restoration

5.1 Context

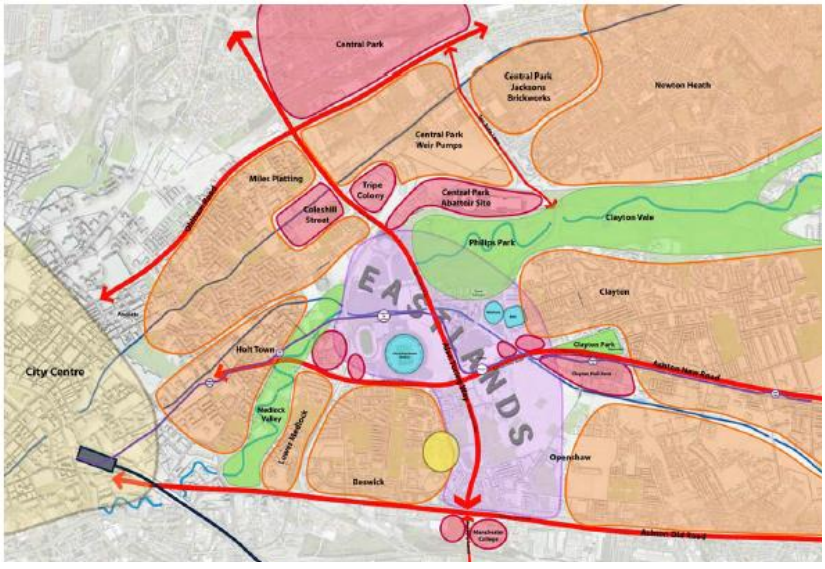
As is the case in many urban areas, the demographics of Manchester and Stockport show areas of deprivation alongside more affluent locations. The line of the former Stockport canal passes through an area of relative deprivation; most wards here are within the 20% most deprived in England and some Lower Level Super Output Areas (a smaller area based measure used in Census data) fall within the 1% most deprived in the country. With such deprivation come the compound challenges of worklessness and unemployment, low skills, poor health and low housing prices. Whilst much has been done to try and improve the physical environment and fortunes of this area in recent years, particularly around the northern most end of the canal through the work of the Eastlands Regeneration Area, challenges still remain.

Although restoration of the Stockport canal could by no means solve all of these issues, it could contribute towards talking these multifaceted challenges offering a range of economic, environmental and social benefits (as discussed below) and help to achieve some of the aims identified in both Local Authorities planning and regeneration strategies.

Eastlands Regeneration Area

Eastlands Regeneration area, which lies to the very north of the canal, has been the subject of intense regeneration as a result of the establishment of the New East Manchester Ltd (NEM) Urban Regeneration Company in 2001, and Manchester hosting the 2002 Commonwealth Games. The Games left a legacy of leisure based developments and infrastructure, and acted as a catalyst for a comprehensive regeneration programme which has halted the spiral of economic and population decline. It is now hoped that this impetus will spread out to the surrounding areas and neighbourhoods so that East Manchester becomes major commercial, leisure and residential investment location, with a key role in the development of a competitive City Region.

Source: Manchester City Council planning and regeneration pages: see: www.manchester.gov.uk



5.2 The Benefits of Canals

Canals are an important part of the cultural and built heritage in England and Wales; they are a part of our national and local identity which creates a sense of civic pride for local people. Canals can contribute to a range of national and local Government policy agendas aimed at creating more sustainable places and communities. Restoration of canals can help facilitate a wide variety of benefits including: place-making, place-shaping and becoming a catalyst for urban renaissance; facilitating housing growth and renewal; stimulating and the visitor economy, sustainable tourism and recreation; providing opportunities for improving health and well-being and options for sustainable transport. Canals and canal corridors can also help to mitigate the impact of climate change through carbon reduction, drainage and flood management as well as improving biodiversity and environmental sustainability.

Canal restoration can improve social cohesion by providing a focal point for community activity, opportunities of volunteering and skills training for local people who can help improve their overall confidence and sense of purpose. Investment in canals can have a wide variety of benefits beyond their immediate surrounds by feeding supply chains in the marine economy, helping to change perceptions and improve the image of an area. Such benefits can be very hard to specify in financial terms but there is a growing bed of evidence to make the case for canal restoration and improvement, some of which is evidenced below.

"Inland waterways are helping to stimulate regional, sub-regional and local economies and are being used successfully as tools in improving community wellbeing and urban and rural housing offers; in attracting and generating investment; in place-making and place shaping; and in delivering wider public benefit……..there is a growing national awareness of the added value and commercial betterment deriving from the presence of waterways in developments." The Town and country Planning Association, 2009, Pp1. Advice note Inland Waterways.

5.3 Economic Benefits

5.3.1 Land Values and Development

As noted at the start of this chapter, the areas through which the Stockport Canals runs, namely, North and South Gorton and Reddish, suffer from low house prices and low land values - conditions which often make it difficult to attract the development needed to regenerate an area due to low return on investment. Eastlands Regeneration Area to the north of the canal has seen much investment and regeneration through the last decade and it is now hoped that this will spread to the surrounding neighbourhoods. Restoration of the canal could potentially help achieve this by providing a clear and attractive link from / to Eastlands and creating an attractive waterfront locations, with high quality environment and increased land values. Whilst it is very hard to identify how much creation of / reinstallation of a waterway can enhance land values and the likelihood of development, there is a growing body of evidence supporting the economic value of restoration.

Research by The Canal and Rivers Trust and the Inland Waterways Association has shown that canal restoration can bring both short term and long term economic benefits including direct job creation, both during construction and after completion (in marinas, boat yards, cafes, pubs and tourist attractions), supporting the marine sector, particularly SME's and craft trades, by attracting tourists who spend locally, and by improving the image of an area and subsequently land and property values. Restored waterways can be valuable tools in place making and re-branding of areas to attract investment and enable transformational change, for example the Mail Box and surrounding waterside buildings in Birmingham were originally purchased by developers for £4m, following

redevelopment, the site was valued at £125m in 2003. Anecdotally it was suggested waterway restoration can increase property values by 15-25%. (CRT IWA, 2013).

It can be extremely difficult to quantify the economic benefits of canal restoration due to the differing nature of each individual location and complexities of supply chains, variable impacts upon land values as a result of image improvements, and the wide ranging manifestations relating to impact upon the visitor economy. Additionally, there is an extensive range of incremental values that are hard to quantify in monetary terms, such as improved community health and wellbeing, leading to reductions in the cost to the NHS and local authorities and increased sense of pride leading to greater community activism. To demonstrate how restoration can and has benefited a number of locations, the box on page 18 contains a range of case studies from research undertaken by the University of Northampton for the Canal and River Trust in 2013, demonstrating the likely economic value of some canal restoration schemes around the UK:

5.3.2 Tourism and the Visitor Economy

Inland waterways contribute to the visitor economy, in addition to being important tourism visitor destinations in their own right, they provide key links to markets, other visitor destinations and attractions and are essential infrastructure upon which a wide range of leisure businesses depend. A report by the TCPA in 2009 suggested that the waterway network owned and managed by British Waterways contributed £1.2 billion per annum to the visitor economy, with a potential for growth of up to £2 billion by 2012. Their role in attracting overseas visitors generated £30 million alone.

There is clearly significant potential for waterways to generate visitor spend, but the success of this, and level of spend, can be affected by a number of factors such as the condition of the waterway infrastructure, its accessibility by road, water and foot, the availability of other services, facilities and attractions, and the perception and image of the waterway, its towpath and surrounds. Consequently, for a waterway to reach its full visitor and recreational economic value, it must provide and attractive and accessible environment, with high quality infrastructure and be linked to and / or surrounded by complementary uses. Given that there is significant leisure development to the north of the canal at Eastlands, a wide range of outdoor recreational facilities at Debdale Outdoor Centre (which utilises Gorton Reservoir) and Houldsworth Golf Course and Highfield Country Park to the west of the canal at Reddish, Stockport Canal provides an interesting and attractive opportunity to link these developments and locations together via a 'recreational route'. Restoration of the canal would provide opportunities for less formal recreation such as walking, cycling and simply watching boats and water based activity. There is also the probability of linking the canal to Gorton Reservoir and create moorings and other recreational facilities to complement what already takes place here. Further research into the aspirations of land owners, developers, and the Local Authorities would be useful here, so as to ascertain their intentions for future development in this area, to gauge what uses / types of recreation might be considered acceptable, and to understand any other requirements they may have. This information would enable costing and economic benefits to be estimated more accurately and would help in the restoration planning and design process.

5.3.3 Social Benefits

There are a wide range of potential social and incremental benefits that could be realised from restoration of the Stockport Canal. Whilst such benefits are extremely difficult to determine and quantify, they can be highly valuable to the local community and include gains such as enhanced health and well-being as a result of more people undertaking physical activities, spending time outdoors and being close to nature as well as 'trying something new'; increased local pride and self-

The Economic Value of Canal Restoration – UK Case Studies	
Forth & Clyde - 12,800 Full Time Equivalent (FTE) jobs with 3500 FTE in construction. Encouraging business start-ups. Property developments, mainly residential. Attractions such as Falkirk Wheel attracting spend of over £3 million into the local economy (2013).	Liverpool Canal Link - Contributed to the delivery of an estimated 280,000 extra visitors annually to the Liverpool waterfront which in turn contributed to and £4.3 million additional gross visitor spend. 10 out of 16 leisure related businesses in the Pier Head / South Docks area reported an improved economic performance following the completion of the Canal Link project.
Kennet & Avon - Delivered 23 property related schemes, including marinas, retail, offices, residential – resulting in over £35 million of investment & 328 net Full Time Equivalent jobs. The restoration contributed to the success of the £250 million Oracle Centre, constructed on a which attracted over 20 million visitors in first year of opening and employs more than 4000 people.	Droitwich Barge Canal (unpublished) - Has delivered an approximate 20% uplift in towpath visitors, a positive impact on businesses close to the canal, £1.1 million visitor spend from boating supporting currently 11 full time jobs. With approximately £2 million private investment in the new marina, creating 2 jobs with plans to expand and supporting significant waterside development.
Rochdale & Huddersfield Narrow Canals - Created 150–160 Full Time Equivalent jobs in leisure and tourism. Delivered significant canal related development, including residential, business and offices on the Rochdale Canal. Visitor numbers for the Rochdale are estimated at 3.8 million visitors with a net impact of £2.5–4.1 million pa, for the Huddersfield Narrow estimates are 2.3 million visitors, with a net impact £2.5–2.8 million pa. The chair of the Huddersfield canal Society suggested restoration has been the catalyst for redevelopment and regeneration in the canal corridor, which had seen an investment of over £85 million across two Local Authorities, creating over 300 jobs.	Bridgwater & Taunton - Created 51 jobs within recreation & leisure and tourism with an estimated property value enhancement of £54 million. Over 600,000 visits were made to the canal in 2010 and these visits generated approximately £1.7 million of direct expenditure. Restoration positively supported business start-ups and business development and canal related investments often acted as a catalyst for investment and regeneration.

[Continued from page 17]

confidence from witnessing investment in the local, and higher educational attainment as a result of local schools having nearby facilities to utilise as 'outdoor classrooms' and for site visits. Given that the canal passes through areas of high deprivation where communities face issues such as poor health and wellbeing and low community aspirations, restoration presents a real opportunity to improve the accessibility and environment of this corridor and hopefully encourage more people to take low cost exercise as well as improve their confidence and sense of wellbeing through engaging with the natural environment, as discussed below.

5.3.4 Health Benefits

There is a growing set of evidence to show that access to the natural environment, including urban green spaces, improves health and wellbeing, prevents disease and helps people recover from illness. As evidenced by Natural England, experiencing nature in the outdoors can help tackle obesity, coronary heart disease and mental health problems by encouraging people to be more active and reducing levels of stress. Indeed, in 2013 the Woodland Trust estimated that the NHS could save £2.1bn a year if everyone had access to green spaces. Further to this the role of waterways and towing paths are specifically referred to within NICE: Public Health Guidance 8, Promoting and Creating Built or Natural Environments that Encourage and Support Physical Activity (January 2008) and the Department of Health's publication Be Active, Be Healthy: A Plan for Getting the Nation Moving (February 2009) for their role in encouraging people to become more active. In Scotland, it has been estimated that for every £1 invested in the canal towpath network there is a return of £7 of health benefits and that active canal towpaths contribute almost £7 million per annum of additional public health benefits through avoidance of road traffic accidents, reduction of absenteeism, exposure to poor quality air and increased levels of exercise. (Source CRT& IWA 2013).

Image 7: Cycling on the Lancaster Canal bringing environmental, social and health benefits

At the local level, Manchester City Wide Open Spaces, Sport & Recreation Study (2009) notes that in East Manchester, although there are large quantities of space, there are some gaps in accessibility. Consequently, it is important to ensure that local communities have access to facilities and that sites are appropriately located. The development of a linked green corridor network will help to improve

the health and wellbeing of the local community and encourage the use of sustainable forms of transport. In this way, green corridors can be integral to the achievement of targets for increased active recreation and improved quality of life for residents.

Restoration of the canal would contribute to improving the accessibility and usability of the existing green corridor network, making it more attractive to potential users who might see such health benefits as a result.

5.3.5 Education and Training Benefits

There are a number of educational benefits that could be realised by canal restoration including direct access to local heritage, biodiversity and the environment supporting subjects such as geography, history and biology. Schools, particularly in urban areas, have long used parks and green spaces to access the natural environment as a means of education, they provide free 'outdoor classrooms' that are highly conductive to learning and help children and young adults relate and connect to their local environment, something which can help combat the lack of understanding that feeds into a spiral of local and global environmental degradation. Additionally, restoration works can provide opportunities for local people to undertake construction skills training as well as other volunteering opportunities that can be used to enhance their CV's and provide the confidence to apply for other roles.

Image 8: Volunteer work parties bring a sense of ownership and an opportunity for training and education

5.3.6 Community Benefits

Waterways transect many of the 'most deprived' districts and wards within England and Wales and consequently are increasingly being used as a means of tackling deprivation through community regeneration. Canal restoration can offer opportunities for volunteering that enable communities to come together to focus on a collective goal, whilst gaining new skills, confidence and sense of pride.

Evidence from the Scottish Index of Multiple Deprivation (SIMD) proposes: *"That investment in canal-side communities, such as in North Glasgow, has led to a relative improvement in their SIMD* ranking. The evidence does suggest that the activities of Scottish Canals are helping to reduce deprivation in some of Scotland's most disadvantaged communities. Making communities more attractive & engaging them & fostering civic pride."* CRT & IWA 2013.

Community involvement is not just important for delivering community benefit; it is a vital part of securing success for the project, enabling community acceptance and ownership – something which can go a long way to preventing vandalism, crime and other anti-social behaviour along the corridor.

"It is important that local communities are fully engaged in the future planning of their local waterways so as to secure community ownership and use. The long-term sustainability of the waterways will be dependent upon a shared vision developed through community involvement and participation". TCPA / BW, Policy Advice Note: Inland Waterways, 2009.

With the correct management and enthusiastic leadership, it is reasonable to suggest that restoration of the Stockport Canal could provide real opportunities for engaging the community and to enhance community spirit locally. Use of local labour could help to improve skill levels locally whilst the use of volunteers could help to reduce the overall cost of restoration whilst enabling people to learn new skills, gain confidence, and form friendships. Perhaps most importantly, such an approach could help provide all important community ownership of the canal which is a vital element of gaining support for the scheme (thus obtaining planning permission), enhancing civic pride and preventing vandalism and anti-social behaviour.

5.3.7 Environmental Benefits

Traditionally, the ecological and biodiversity benefits of canal restoration have often been seen as secondary, and undervalued in comparison to the economic and social benefits of such schemes. However, organisations and individuals are increasingly starting to recognise and champion the role of canals in supporting our native wildlife and suggesting this should be just as much, if not more, of a priority of restoring canals for recreation purposes. Refreshingly, in some areas both recreation and wildlife benefits have come hand in hand as a result of restoration, something that could easily happen on the Stockport Canal.

By simply adding water to the green corridor that already exists in parts of the site, significant biodiversity gains will be realised. Provision of a new wetland habitat that links two existing wetland habitats, (namely the Ashton canal and Gorton Reservoir), will allow much greater movement of species thus reducing the risk of species isolation and ultimately extinction from that area. Furthermore it is hoped that by creating a new environment more species will be attracted to the local area. Both of these benefits will facilitate species migration, something which helps diversify breeding and food source, and hopefully leads to more resilient species.

In contrast to rivers, the *"slow flows and managed water levels (of canals) provide a unique environment that has become internationally important for nature conservation".* Pp.5 (British Waterways and Biodiversity - A framework for waterway wildlife strategies). As artificial habitats, canals differ from rivers in providing a very slow moving water body with a more regular linear profile, gently curving bed, uniformity of substrate and a relative constancy of water levels. Consequently, unlike other flowing aquatic systems, canals provide a relatively stable environment for the biota that they support. This stability, as well as habitat longevity and often consistent management has enabled many canals to support a diverse range of habitats and species.

The canal habitat itself is often a last foothold for many species whose natural wetland and aquatic habitats have diminished or disappeared. Additional habitats within the canal corridor such as banks, off-line sidewaters, and surrounding grassland, heathland, hedgerows or wooded areas provide shelter, breeding and feeding sites, for a range of species that utilise canals.

Waterway restoration can greatly benefit the local environment in a number of ways. A report by the Canal and River Trust & Inland Waterways Association – Water Adds Value, 2014 – notes that restored waterways have been found to improve bio-diversity of whole areas, bringing wildlife into the heart of our communities and acting as green lungs within towns and cities. Waterway restoration has helped to create a rise in the number of some of the nation's important and much-

loved species such as water voles, kingfishers and native crayfish. Further environmental benefits can include improved air quality and drainage in some areas, and reduction in levels of poor air quality as a result of both commuter and freight traffic decreasing in some parts of the country, as identified in research by Northampton University 'review of the impact of waterway restoration' March 2014 (which is the basis of the Water Adds Value document).

Prior to submitting any planning application for restoration works it would be diligent to consult with Local Authority Ecologists and undertake an ecological survey to identify the current (if any) ecological value of the site and identify opportunities for enhancing this and forming links to the existing network. Such an approach would avoid damage to existing species and habitats and enable the effective and appropriate way forward to be identified, in a way which complies with national and international requirements for habitat regulation and protection.

6. Capturing and Measuring Restoration Benefits

Economic benefits to the area are derived through users of the canal and visitors to it spending money in the local economy. It should be noted that economic benefits are distinct from revenue streams to the canal operator; although there are mechanisms whereby the operator can capture revenue streams from user and visitor spend. There is also a distinction between local and overall economic benefit, a distinction which is characterised in two ways: most obviously, local benefit is money spent in the local area, and, where multipliers are used local benefit is from money re-spent in the local area by the first recipient. Second, spend in the local area may well be diverted from elsewhere, an example being that boat crew spending locally may have chosen to visit this canal rather than one elsewhere in the country.

6.1 Regeneration and Development

It is fair to say that almost the entire length of the route covered by the Stockport Branch would benefit from economic regeneration; from simple increase in economic activity in some areas to the potential for full-site redevelopment in others. The canal is intensely urban with many areas of either neglect or economic stagnation. The potential for the area to regenerate is shown by the activity at Houldsworth and Broadstone Mills in Reddish.

Logically each interim terminus would provide a node for economic activity and development. These termini are:

- Gorton Reservoirs and Debdale Park
- Reddish, in the vicinity of Houldsworth and Broadstone Mills
- Lancashire Hill
- Additionally, there may be opportunities for further interim termini within each phase

We have included a limited consideration of each option whilst identifying the kind of regeneration benefits achieved elsewhere as an exemplar of those that might be achieved here. In our deliberations we have highlighted the type of land use activity that might occur at each location: where there is a direct revenue to the local economy e.g. moorings these are identified under the appropriate heading. Due to the likely timescales for restoration there is less precision in phases two and three as these are a significant way into the future and will be shaped in part by the character and success of preceding phases.

It is noted that throughout the route of the canal property values are low: this is not an inherently bad thing as it maintains property prices at a level where local businesses and residents have a better chance of access to the market, either for rental or purchase. However, low values can also encourage speculators to bank property in anticipation of a future rise in value, as well as restricting the incentive for investment both in the property and in the wider area. It is too crude to say that low property values are indicators of a sluggish or stagnant local economy, in fact excessive property values can actually cause such conditions, but overall, in the area around the canal there is evidence that economic stimulus would be welcome and this is reflected in property values.

When promoting redevelopment along a waterway, there are two impacts to take account of: the first is that typically, with regard to residential values, an uplift of up to 20% occurs in the value of

the finished property. However, it is usually important to ensure that this is not just absorbed by a corresponding lift in land value before the project commences as this can lead to land owners having unreasonable aspirations of land value and the project stalling. The second factor, which can counter this first problem is that waterside development often results in land coming forward that would otherwise remain undeveloped: for a development to be viable the final development value (the price for which the completed development can be sold or let) must be higher than the costs of land purchase, construction and associated costs to deliver the project. The uplift of 20% on property value take projects across this viability threshold and also creates the opportunity for waterside development as a new, distinctive, offering within the local market.

Taking each of the sites in turn:

At Clayton, there is no clearly defined terminal point and thus there is flexibility over the exact location so long as it is between the junction and the A635 Ashton Old Road. There is also little evidence of any focal point locally for business, leisure or community use and thus the opportunity exists to create a canal quarter, possibly behind the retail sheds located on the A635, some 750m south along the canal from Clayton Junction. The expense of reaching the A635 is likely be justified by the higher profile a development here would have.

At Gorton reservoirs the interim terminus would be in the reservoir itself. This area is already a minor local destination for leisure and any development would build on the desirability of this location. There is significant potential for leisure development here focusing on waterborne activity and waterside location around the lower reservoir. The water area is very approximately 1.2 hectares and the shoreline very approximately 1.5km in length

We have not identified an interim terminus north of the Reddish Railway Aqueduct, but given the scale of this structure it is likely the works will pause here for a period of time and a terminus could be developed.

At Houldsworth Mill and Broadstone Mill the mills themselves are already local commercial destinations and the area has a strong residential identity. The mill owners have expressed aspirations for marina developments to be associated with their outlets and thus a new canal terminus would be building on existing commercial activity and promoting complementary developments. The existing commercial focus here would make critical mass easier to achieve.

A new terminus could be established in the vicinity of Lancashire Hill and Albion Mills. There is currently some retail activity from large chains in this area, most notably Asda, Wickes, Halfords, McDonalds and Texaco, but otherwise this area could hardly be classified as a destination. There is the opportunity to plan ahead for a comprehensive scheme based around either a new canal basin or a recreation of the original, and drawing on the heritage of the area to act as a community and business focus.

Property uplift

As a provisional indicator, terraced and semi-detached three bedroom properties in the area are attracting around £145,000. Even with an anticipated 20% uplift, which only really applies to residential, values at this level leave limited room in S106 negotiations for works contributing to the construction of a canal other than at the development location itself. Alternative sources of funding will be required to fund the restoration of the canal.

Image 9: Artists impression of Houldsworth Mill and Marina (source *Houldsworth Village – "Restoring the Past: Creating the Future")*

However, there are instances where business and residential values are very much higher at a waterside location than only a short distance away. This tends to relate to the difference between regenerated areas and those awaiting regeneration or that have been reserved for low value businesses. For example, office and business premises around Paddington Basin are anything up to three times that of nearby Westbourne Park; similar examples apply between Central Birmingham and Smethwick, and currently between Central Manchester and Gorton. Differences between Canary Wharf and Bromley by Bow in London are considerably greater even though these areas are within sight of each other

It is easy to dismiss these instances as being "special cases" but care is needed. Thirty or more years ago businesses and residents avoided the now-regenerated areas and they were run down. The locations have since been re-invented and become desirable. It is unlikely that Gorton could achieve Piccadilly level property values but pockets of it could get considerably higher than they are at present. Part of this can be achieved through creating an identity that is desirable and complements the very much higher values of the central areas with a high quality offering at a lower capital and rental value away from the centre.

6.2 Canal Related Activity

At present the canal route does not exist as a waterway and is only continuous for around three kilometres from Clayton Junction to the railway at Reddish. The available corridor is used exclusively by walkers and occasional cyclists. Restoration to Houldsworth Mill could create a five kilometre lock free navigation from Clayton on the Ashton Canal. Clayton itself is on the Cheshire Ring, a popular cruising route, and on the trans-Pennine route via the Huddersfield Narrow Canal.

Boat ownership on the inland waterways is at an all-time high, new boats are built faster than old ones are scrapped, and steel narrow boats have a very long life with many examples still serviceable at well over 40 years old. The "grey market" that has fuelled much of this in the last twenty years will decline as early retirement becomes less attractive but against that many younger people are taking to the waterways as a way of life and despite bad press the vast majority of liveaboards wish to either have a proper, serviced mooring or travel significant distances on a regular basis.

Anecdotal evidence suggests that most mooring sites on the Ashton and Peak Forest are full and whilst waiting lists are short it is likely that demand is being displaced to new moorings elsewhere, a practical option for leisure boaters but less so for those who live afloat. There are no moorings currently provided between New Islington and Fairfield, both of which are part of regeneration schemes. New Islington is full and has a reasonable waiting list: Droylsden (Fairfield) is struggling mainly because the area around it has not yet been developed and it remains bleak and with very limited facilities.

It should also be noted that neither of these locations is particularly large and both have limited capacity for growth, although new moorings sites are proposed near Ancoats. New Islington can hold around 40 boats, Droylsden about 70. The nearest large marina (250 berth plus) is probably in Preston Brook, near Runcorn. There are no moorings on this scale on the Ashton, Peak Forest or upper Macclesfield Canals.

Residents at New Islington have reported problems over security and anti-social behaviour but this appears to be mainly due to poor design and management and a laissez faire attitude to security. In other cities central area and edge of centre residential moorings work well.

Overall there is probably demand for at least 250 moorings in the area, which could be provided at either a single site or in several smaller sites. Mooring fees are typically £2,000-£3,000 per annum. In a single location this number of moorings requires approximately 0.25 hectares of water space and associated land area for facilities. It is noted that this is approximately 25% of the area of Gorton Reservoir

The length provided could become an attractive option for a trip boat operation given centres of activity that this could operate from: Debdale Park/Gorton Reservoir is one obvious location

The length is also suitable for the hire of small day boats, whether a market for this exists would need to be tested. In practice such boats are generally hired in conjunction with other lines of business such as canoe hire and bike hire, to build up sufficient turnover for the operation.

Bankside users

Canals in urban areas have increasingly become recreational corridors for walkers, cyclists and anglers. Generally traffic free the watercourse also encourages a level of flora and fauna not readily found in an urban area, making an attractive environment for a range of activities.

The above could take place simply by reopening the canal corridor, but an active canal will prove more of an attraction. In the first instance creating a walking and cycling route may be the objective with restoration following alongside.

Potential economic benefits from canal based activity

This section primarily deals with forecast benefits for phase one, and then offers a commentary on benefits for subsequent phases: phase one releases the potential of Gorton Reservoir and connects to the canal system at Clayton Junction.

Coopers and Lybrand in their 1995 study of the Kennet and Avon Canal reported average visitor numbers of the order of 100,000 per mile on popular canals, one third of these visitors spending an average of £10 (updated to 2015 prices) per visit that would not otherwise have been spent in the local economy: it should be noted this extra spend was as a result of the improvement of a canal that already existed. These figures include popular locations such as Bath and Oxford as well as major regeneration sites and rural lengths of canal, and have been confirmed by subsequent surveys. At present these returns are unlikely to be typical of the Ashton Canal at Clayton; however they will be exceeded at many other spots along the local canal network including honeypot locations such as Castlefield and Marple. The popularity of other lengths of urban canal in particular around London and the West Midlands suggests that significant visitor numbers might be achieved.

Almost any canal trip boat might reasonably expect to carry 15,000 passengers a year assuming the vessel has sufficient operating capacity and works school holidays and weekends for the summer six months. In addition, we have suggested elsewhere that the canal could attract 250 moorings at up to £3,000 per mooring, with associated extra spend within the local economy.

We have not assumed that any day hire boats or holiday hire boats would be based on the canal. However, with 1,100 boat movements each year recorded past the end of the Stockport Branch, we have assumed a conservative 200 boats diverting to use the branch and make an overnight visit given a destination for this.

The following economic benefits (excluding land values) are therefore suggested

Phase 1 benefits

Visitor Type	Category	Expenditure/unit	Units	Total
Moored boats	Running costs (excluding mooring fees/licence)	£1,110	250	£275,000
	Mooring fees per annum	£1,250*	250	£322,500
	Spend whilst aboard per visit	£25**	250 boats/20 visits per boat	£156,250
Visiting boats	Hire/day Private/day	£67 £24	100 days 100 days	£6,700 £2,400
Trip boats	Passenger/trip	£5	15,000	£75,000
Angling/walking/Cycling	Spend per visit	£8 (average)	150,000***	£1,200,000
			Total	**£2,037,350** **Per annum**

* *This assumes £25 per foot per annum with an average boat length of 50 feet – this is in line with many local marinas providing medium level facilities*

***mooring spend assumes no residential users – residential boaters also spend their domestic budget in the local area*

**** assumes a 1.5 mile/ 2.3km long canal to Gorton. A successful "Destination Gorton" development will lift this figure significantly higher*

Further to the above there are many other benefits that can be assessed and captured, but would not show in a conventional revenue analysis. For example elsewhere we quote evidence from Scotland of a saving to the NHS of £7 for every pound spent on towpath improvements, through increased wellbeing and exercise.

Regeneration benefit values

At this stage we are not prepared to put a total uplift value for the whole project; however, we can offer the following perspectives:

For residential properties, a high quality waterside location can achieve uplifts of 20%. The average property value in the area is around £145,000, therefore it is reasonable to expect an uplift of £29,000 per unit. Given the canal side units are likely to be above average quality to start with, and would achieve above average values even without the presence of the canal, the uplift may be higher. Thus a canalside development of 100 residential units might increase the development value by £2.9 million, increasing the prospect of development coming forward and making an increased sum available for S106 contributions and community infrastructure levy.

Local industrial values vary dramatically from £2 per square foot to £7 per square foot per annum: these rates being found within 1 mile of Gorton on RightMove. These values are less dependent upon a waterside location but should the canal promote higher quality development then rental values will be pushed upwards.

7. Funding for restoration

7.1 Introduction

The costs for restoration are substantial: the guideline costs identified for each phase are (2015 prices)

- Phase 1: Clayton to Gorton Reservoir - £9 million
- Phase 2: Gorton Reservoir to Broadstone Mill - £13.5 million
- Phase 3: Broadstone Mill to Lancashire Hill - £11 Million

Phase 2 has a single large indivisible cost element in the form of a new aqueduct over the railway at Reddish – this cannot readily be delivered in piecemeal whereas almost all other elements of the three phases can

In view of the timescale we have not looked at specific grant regimes but at the available fields of funding for the project: these fall under three headings

- Regeneration funds (central and local government)
- Developer funds (private sector)
- Charitable funds (most notably Heritage Lottery and other lottery funds)

Taking each in turn

7.2 Regeneration Funds

Regeneration funds come from a variety of sources and often entail a mix of public and private sector investors: core public sources include local and national government, the Housing and Communities Agency (HCA), and European Central Funds.

The key characteristic of regeneration funds is that they are available to regenerate the area as a whole and are seeking a return on that basis: they are also often dedicated as much on the basis of political will as they are on certainty of outcome, the aim being to promote confidence in an area. In this respect the public sector role also entails providing infrastructure and often bringing key public buildings forward to encourage private developers to follow. “Public buildings” does not necessarily mean publicly owned or involving public administration: The City of Manchester Stadium and the Lowry Centre are examples of public-led investment that have promoted the surrounding area.

In this context incorporating the canal proposals into a regeneration scheme is expected to lead to the canal being constructed as part of that scheme.

7.3 Developer Funds

Developers are generally required to fund public projects through S106 agreements and the Community Infrastructure Levy (CIL). As certain developments will benefit from uplift in value as a result of the presence of the restored canal, and their users will benefit from it, there is a reasonable prospect that the canal restoration will attract S106 funding.

Whilst the planning system justifies this funding in a variety of ways, the developers agreeing to it primarily look at one factor only: the viability of their development. Developers normally have a budget for S106 contributions as part of their development and are not looking for a return on the resultant scheme.

In addition to the benefits the canal can bring to a development it can also contribute to the open space requirement of a proposal and payments can not only be seen as providing the canal but also footpath and cycle track infrastructure. As such a conventional return on S106 contributions and CIL payments is not required.

7.4 Charitable Funds

Charitable Funds are generally seen as those that are seeking non-financial returns: these may be the final product, in this case a restored canal that will also act as a nature reserve and movement corridor, or part of the process, e.g. training. The outcome these funds are seeking is not necessarily the one the promotors are pursuing, for example it may be that the funder is seeking an educational or health related outcome. It should be noted that the funds don't necessarily come from charities nor do they necessarily go to charities – it is the objectives that defines the funds as charitable.

The most obvious example of this type of funding in a canal context is the Heritage Lottery Fund: whilst much of the canal is new build there are heritage elements with surviving bridges and structure, the most obvious (and potentially expensive) being Gorton Aqueduct. Sport England, the Community Good Causes element of the Big Lottery, and the Arts Council may also be interested in funding individual elements.

It should be emphasised that the lottery is not the only source of charitable funds, but it is probably the largest. Again the main point to be made here is that the funds are not seeking an economic return.

7.5 Treatment of Costs for funding purposes

The above breakdown allows certain costs to be allocated against certain funding sources, and in turn reduces the need for a direct return, either to the operator or into the local economy. We have not undertaken a detailed funding analysis, but it is reasonable to assume that a conventional economic return is expected on no more than 50% of the investment in restoring the canal. This has the effect that, in each phase the economic return need only be compared with half the cost of the restoration for cost-benefit purposes. So, for example, the forecast benefits for phase one would be set against a cost of £4.5 million not £9 million. However, in the next section we have compared benefits against the full cost to ensure a robust analysis.

8. Comparison of Costs and Benefits

From sections 2-4 we have identified ballpark costs for each phase, and in section 5 we have identified potential benefits into the local economy (excluding land value uplift) from the restoration of phase 1. Given the similarity in each phase we have made an assumption that these benefits will be the same for each phase. This is not a perfect assumption and a more refined model would benefit development of the scheme. However comparing these costs and benefits give a clear initial indication as to whether the scheme is "value for money".

Thus we have assumed that the following

Costs for each phase

- Phase 1 - £9 million
- Phase 2 - £13.5 Million
- Phase 3 – £11 million

Returns into the economy post restoration

- £2.1 Million per annum (for each phase - £6.3 million pa with all three phases complete)

In addition we have made assumptions regarding the amount of the construction costs that will be spent in the local economy as this also forms part of the economic benefit, and have phased construction costs over 5 years and then assumed that benefits will build up over ten years from the completion of each phase. We have developed a spreadsheet to set these costs against the benefits, discounting future years at 3.5% per annum in accordance with treasury guidelines.

Whilst in section six we have justified discounting the construction costs by 50% or more, we have not actually done this in our model; giving a very high level of robustness should costs increase.

Using this approach the Net Present Value of Phase 1 over a fifty year period from the start of construction is of the order of £28 Million. This assumes a five year construction period and a steady growth in economic benefits from user activity in years 6-15. The scheme achieves a positive NPV in year 12.

The other two phases are slightly more expensive, but due to the timescale of fifty years, the NPV for each phase is remarkably similar. Thus each phase, when judged at 2015 prices, has an NPV of the order of £28 million.

9. Summary

The key recommendation is that the canal should be restored in three main phases, which may be further subdivided.

Phase 1: Clayton to Gorton Reservoir

This length has a possible interim terminus near Ashton Old Road

This phase is relatively straightforward, the major structures are intact and will need limited refurbishment, and the corridor is wide and unobstructed save for one minor road crossing (Hollybush Street) which can readily be amended.

The Manchester University Study recommends that the route should enter Gorton Reservoir rather than cross the headbank: this gives the opportunity to develop the reservoir as a marina/lake destination for boaters and for land based tourists. The MNY report confirms this conclusion and recommends developing "Destination Gorton" to promote the restoration of the canal this fare

Phase 1 is 2.3km in length and is expected to cost of around £9 million, this is significantly lower than the BW estimates.

Without taking into account land values and regeneration benefits, the economic benefits of reopening the canal to Gorton would potentially be of the order of £2 million per annum once the scheme is established. Given the success of other schemes in Manchester and across the UK, the benefits could be much higher.

If the finance and political will are available, Phase 1 could be complete in 3-5 years. A "canal quarter" just north of the A635 could begin to be developed in a much shorter timescale

Phase 2: Gorton Reservoir to Broadstone Mill

There are possible interim destinations are north of the railway and at Houldsworth Mill, just short of Broadstone Mill

The phase is rendered more problematic by the loss of the aqueduct over the railway, and by the presence of housing developments south of the railway either side of Station Road. The canal society has commissioned a study of the railway crossing and has confirmed their intention to commission a detailed route study through the housing developments

Phase 2 is 3km in length and is expected to cost around £13.5 million, the increased cost per kilometre is due to the need for the new aqueduct, new canal route in constrained conditions and at least two new highway bridges.

Each phase opens up similar opportunities and therefore the potential benefits are similar: it should be noted that benefits take time to build up and therefore there are some advantages to phased restoration as each new phase will bring extra opportunities as the benefits of the previous phase reach maturity. Thus the potential benefits from phase 2 are also of the order of £2 million per annum, and will be enhanced if phase 2 is developed once phase 1 is established. There are fewer regeneration opportunities in phase 2 but the development of phase 2 allows the benefits from

phase 1 to be spread along the corridor into Reddish as the corridor is enhanced and extended allowing the area around the canal in Reddish to tap into benefits generated by the Gorton scheme

On the basis that phase 1 can be completed in five years, we would suggest ten to fifteen years as an appropriate horizon for completion of phase 2

Phase 3: Broadstone Mill to Lancashire Hill

The route in phase 3 is now indistinct save for the original bridge under the Stockport-Stalybridge railway line. A historian can trace the 2.3km route but generally in engineering terms it is not retrievable.

Against this, Lancashire Hill would very much benefit from the kind of regeneration that canal restoration brings, and the historic route is generally through an industrial area with buildings and units of varying ages: in the next 20 years many of these buildings will change hands, lose their value or come to the end of their useful life, rather like the route of the Huddersfield Canal through Stalybridge.

Given a timescale of 20-25 years, which is consistent with any realistic programme to restore the canal from Clayton to Reddish, there will be the opportunity to plan a route through this area and for the canal to play a part in regenerating Lancashire Hill.

This length is expected to cost of the order of £11 million to restore.

Regeneration benefits

Whilst it is possible to assess raw benefits of the restoration in terms of spend into the local economy, which produces steady returns, the boost from a regeneration project including a canal is much more difficult to calculate and depends on other factors. The potential scale of benefits cannot be overstated – office rents in Paddington, London, were found to be between 3 and 5 times higher than just a mile away, whilst the mailbox site in Birmingham increased in value from £4 million to £125 million when the waterside regeneration at Salvage Turn progressed.

Cost Benefit Analysis

A basic cost-benefit analysis has been undertaken comparing the costs of restoration with revenue streams into the local economy following completion. This concludes that each phase has a potential positive NPV of around £28 million. The ratio of Net Present Benefits to Net Present Cost is 3.8 to 1.

Explanatory note: NPV stands for Net Present Value, the value today of spend and revenue in future years. NPV allows a valuation of future benefits (income to the local economy) to be made against front end costs (the cost of the scheme) and other ongoing costs. The NPV for phase 1 of the Stockport Canal was calculated over a period of fifty years, with year one being the year that restoration started. The cost of construction was assumed to occur over five years, and then the benefits to build up over another five, giving forty years of the full level of estimated benefits.

Future year values are discounted against the present year at a rate of 3.5% per annum, thus values in year two are 96.5% of those in year one. This occurs as the perceived value of a fixed sum of money in the future is less than the same sum of money in the present time

Conclusion

Overall the conclusion is that the canal restoration is worthwhile, that phase 1 to Gorton Reservoir is achievable and offers exciting prospects for a new destination and regeneration hub, and that phase one will provides a sound basis for phases two and three to progress.

Selected Bibliography

Canals of North West England volumes 1 and 2*: Hadfield and Biddle, 1970*

Water Adds value, Highlighting the Impact of the Restoration of Our Waterways**:** *Canal & River Trust / Inland Waterways Association, 2013*

Manchester and Stockport Canal Restoration – Manchester Section: Pre-feasibility study: *British Waterways 2006:*

Manchester and Stockport Canal Restoration – Stockport Section: Pre-feasibility study: *British Waterways 2006:*

Gorton Reservoirs – Options Appraisal: *Manchester University, 2015*

Houldsworth Village – "Restoring the Past: Creating the Future" *– (author unknown) 2006*

The economic impact of restoring the Huddersfield Narrow and Rochdale Canal: *Ecotec for British Waterways 2004*

"The Green Book" – Appraisal and Evaluation in Central Government: *HM Treasury (2003 updated to 2011)*

A review of the Impact of Waterway Restoration: *University of Northampton for Canal and River Trust (2014)*

Unpublished research papers prepared by Patrick Moss and Jennifer Smith (2014)

This list is not exhaustive but contains documents of especial relevance to the Stockport Branch of the Ashton Canal and this study.