Bedford & Milton Keynes Waterway

Economic Impact Assessment

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SQWconsulting

Contents

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Executive summary

Overview

1. This report presents the findings of SQW Consulting's economic impact assessment of the proposed Bedford & Milton Keynes Waterway (the "Waterway").

2. The Waterway is an ambitious proposal to link the Grand Union Canal at Milton Keynes with the Great Ouse at Bedford, creating a national east/west link. The route of the Waterway would pass through the local authority areas of Milton Keynes, Central Bedfordshire and Bedford, and link together a number of existing bodies of water in the Marston Vale area, including Willen Lake, Brogborough Lake and Stewartby Lake. Towards the middle point of the route, the Waterway would cross Brogborough Hill which would necessitate an engineering structure to enable boats to navigate the height difference.

3. The current study was commissioned to assess the potential economic impacts that could arise from the construction and operation of the Waterway. This is a difficult area to value as the Waterway exists only as a proposal, and its final form and implementation remain to be determined. In this study we have attempted to identify the types of economic benefit that may arise, to quantify these as far as possible, and where the evidence base allows, to estimate the monetary impact of this development.

Approach

4. The study has drawn on a number of strands of research: a comprehensive consultation programme with local and regional stakeholders; discussions with industry figures and bodies; review of suitable comparators, including interviews with personnel; and two large-scale surveys of boat-owners, one covering the Environment Agency's Anglian region, and one covering the whole of British Waterway's license-holders.

5. As the Waterway is not yet a fully realised project, we were obliged to develop and test some of the associated concepts, including the proposed "iconic" engineering structure at Brogborough and provision for boat-users and visitors.

Types of benefits

6. Historically waterways were used as transport arteries, and Britain's canal network developed to meet the needs of industrialising areas. However, the canal network was gradually superseded as a transport conduit by railways and then improved road transport, with only the bulkiest and least time-sensitive cargos still moving by waterway. This was in contrast to the continent, where several countries maintained and widened their waterways to support waterway transport.

7. Beginning in the 1960s, there was a rediscovery of the UK's waterways and a growing appreciation of their role in amenity, in the visitor economy, and in sense of place. Today's waterways provide a range of social and economic benefits, including:

- Recreation – this includes both on-water and off-water activity
- green infrastructure - the creation of natural corridors giving amenity and environmental benefits
- regeneration & property – water frontage creates more attractive environments and a focus for developments
- ecosystem services – waterways have an important role in controlling flooding and potentially in the transportation of water
- transport – freight movements on waterways still account for some 5% of all freight lifted and there are aspirations to increase this
- place shaping – waterways, and their associated structures, can contribute to the shaping and communication of local identity
- tourism – waterways have continued to contribute to the development of the visitor economy in the UK and elsewhere.

Where benefits occur

8. With a development as extensive as the proposed Waterway, these benefits can occur at a number of levels: local, regional and national.

- Local – at a local level, there are potential benefits from amenity for local communities, and income from boat traffic and from visitors.
- Regional – at a regional level, providing the route is developed with suitable supporting infrastructure, there is the potential for regionally significant levels of visitor activity; supporting the sustainable development and regeneration of residential and commercial areas; and in establishing and communicating a striking regional image. This will include developing links between the East of England and the South East of England.
- National – nationally, the Waterway route would provide an east-west link between the North Sea and the interior of the England.

Quantifying benefits

9. The main report sets out our methodology for estimating the potential economic impact of the Waterway. Below we summarise the estimated impacts based on these approaches. The main economic impacts are anticipated to come from visitor activity, boat-based activity, and from place-shaping effects. In addition, there are benefits associated with property uplift (increase in the value of property as a result of improved amenity) and the construction phase.

Visitor activity

10. Table 1-1 sets out estimates of visitor numbers based on different scenarios for development.

Table 1-1 Estimated tourism and recreation economic impact

Assumption	**Day visitors**		**Tourists**	
	Low estimate	High estimate	Low estimate	High estimate
Waterway with towpath and picnic sites	35,000	70,000	7,400	14,800
Marina/basin development	42,750	85,500	32,250	64,500
Iconic attraction at Brogborough	285,000	427,500	215,000	322,500
Total	362,750	583,000	254,650	401,800
Spend per head	£13.38	£13.83	£46.64	£46.64
Total spend	£4,853,595	£7,800,540	£11,876,876	£18,739,952

Source: SQW

11. These data would suggest gross annual spend levels arising from visitors and tourists of between £16.7 million and £26.5 million were a Waterway-plus to be developed as proposed here.

Water-based activity

12. Based on estimates of around 4,800 privately-owned boats in the catchment area, we estimate that some 7,200 boat-movement days would occur as a result of the new Waterway coming into being. Applying available data on spend, this would give rise to gross spending of £633,600 each year.

13. We estimate a hire-fleet of some 5,000 hire-weeks per year is within the catchment of the proposed Waterway. Assuming 10% of these weeks were taken-up by use of the Waterway, this would give gross spend in the area of £559,300 each year (including a proportion of the hire fees).

14. In addition to boat movements, the length of the Waterway, and its position suggest the possibility of creating at least one, and potentially two, marinas. Currently, marinas in the Waterway catchment area operate at high levels of utilisation. We estimate that two 150 berth marinas could generate annual spend of £652,500.

Gross to net conversions

15. Converting these gross estimates for the land and water-based visitor economy requires the factors of leakage, displacement and the knock-on effects on the economy to be taken into account (these estimates are detailed in Chapter 7). Applying these, then the net estimates for land-based tourism and recreation and for water-based activity, are as follows:

16. Table 1-2 summarise our estimates for the conversion of gross spending to net – adjusting for leakage, displacement and knock-on (multiplier) effects of spending.

Table 1-2 Estimated net expenditure arising from visitor economy activity

	Local		**Regional**	
	Low	High	Low	High
Land-based visitor economy	£9,393,750	£14,906,250	£5,260,500	£8,347,500
Water-based visitor economy	£1,782,040	£1,782,040	£2,046,044	£2,046,044
Total	£11,175,790	£16,688,290	£7,306,544	£10,393,544

Source: SQW Consulting

17. We therefore estimate that a Waterway, with a suitably high-impact iconic attraction, provision for waterside recreation and hospitality, and provision for water-based activity, could generate net expenditure of between £11.1 million and £16.7 million each year from visitor economy activities at a local level, and £7.3 million and £10.3 million at a regional level, once completed. Over a ten-year period, this would give net annual spend of between £112 and £167 million at a local level, and £73 and £103 million at regional level.

Place-shaping

18. With a suitably strong combination of amenity and profile – drawing on successful exemplars elsewhere – we anticipate that there could be significant place-shaping benefits. These are more difficult to quantify, but one approach is to estimate what the effect would be of a slight increase in the retention and attraction of businesses. Table 1-3 sets out what the impact of a very slight (0.5% to 1% for businesses in the immediate Waterway area, to 0.05% to 0.1% for businesses in the wider Milton Keynes South Midlands Growth area) influence on business location decisions would be.

Table 1-3 Projected net impact over a ten-year period (Waterway locale and MKSM Growth Area combined)

	Number of businesses	**Employment**	**GVA**
Low	50	460	£35,485,527
Medium	70	670	£51,685,442
High	90	900	£69,428,205

Source: SQW

19. The powerful cumulative effect of attracting and retaining companies over time can be seen.

Other benefits

Property uplift

20. Research across a number of developments supports the idea that creating water frontage, or bringing back waterways, back into use has a positive effect on the value of properties in close proximity to waterway. This is a one-time impact, and it accrues to the property owner

rather than the wider economy. Nevertheless, it can be significant. We estimate that typical property uplift effects from a waterway development applied to a 15,000 unit development in the Marston Vale area could give a one-time uplift of £45,000,000 t the development.

Construction impact

21. There would also be significant employment supported during the construction phase of the project – based on a spend of £167 million and £206 million, this could amount to between 2,370 and 2,925 person-years of employment.

Conclusions

22. The study finds that there are a range of economic impacts that could be realised through the construction of the Waterway, with impacts occurring at local, regional and national levels. TO ensure these impacts are realised will require additional work, moving from a Waterway to a "Waterway-plus" that incorporates a range of features and activities that maximise the economic potential of the Waterway. A "Waterway-plus", that incorporates features for boaters and waterside visitors, that includes an iconic structure, marina facilities, that creates positive profile through its design and execution, begins to have much more significant economic impacts than a simple transport route.

Recommendations

Visitor and tourism impacts

23. The availability of facilities, amenities and destinations at various points along the route will be important in attracting visitors, including boaters, and critical to stimulating visitor spend.

24. Facilities need to be accessible to both land and water-based users. Development needs to be facilitated by the availability of suitable sites and a supportive planning regime, and local authorities will need to take a leading role in this.

25. A commercial approach is therefore required to maximise business opportunities and expenditure by users/visitors. This will require effective marketing and promotion to create awareness/interest and generate use by all relevant markets, including local authorities, regional development agencies and private developers.

Boating

26. The development of the entire waterway, creating a new east/west transit route, is required to obtain impact from boat use. The development of one or more marinas, along with overnight/temporary moorings along the Waterway should form part of the plan for the Waterway.

27. Encouragement and support should be given to existing businesses along the route to cater for the needs of boating and other visitor markets that are created.

Iconic structure

28. To achieve the projected economic impacts, the iconic structure will need to be prominent in the landscape, of an impressive size and design, and ideally create drama in operation.

29. To capture visitor impact, the partners should draw on the British Waterways experience at the Falkirk Wheel and incorporate suitable visitor activities, including a pub onsite, better provision for business/conference tourism, educational opportunities relating to environmental and engineering themes, and potentially a hotel.

Place-shaping

30. The place-shaping benefits of the Waterway should be maximised. This will require partners and others giving thought as to how the whole route can contribute to making the region more attractive, and incorporating these into marketing messages.

31. The Waterway proposal should work to develop activity spaced along the entire route – not simply the iconic structure – and this may require additional developments along the route and/or another gateway structure or facility at the Bedford end of the route. Support from local authorities will be required for this.

Property uplift and regeneration

32. Property uplift effects should be taken into account by planning authorities when permitting change of use or other developments. While the benefit cannot be directly captured (except where the public body is the landowner), the planning authority can seek to ensure that the uplift is partially captured through planning gain.

33. Regeneration of surrounding areas is an aspect that is not currently well integrated into the Waterway scheme. As the proposal becomes more concrete, and current partners and future partners begin to appreciate its potential contribution, then this element should be built into site and area regeneration schemes, drawing on successful practice elsewhere. This will require an element of communication by the promoters of the Waterway to these new audiences.

1: Introduction

Study objectives

1.1 This report presents the findings from our research into the potential economic impacts arising from the construction of the Bedford & Milton Keynes Waterway (the "Waterway"). The proposed Waterway would link the Grand Union Canal at Milton Keynes with the Great Ouse at Bedford, creating a west/east/west link. The route itself would be formed from a series of self-contained sections linking existing waterways and water bodies: from the Grand Union Canal to Willen Lake; Brogborough Lake to Stewartby Lake; Forest of Marston Vale to Wootton; and Kempston Junction to Cardington. The project currently exists as a proposal, supported by a partnership of local and regional organisations. There are no land holdings or budgets dedicated to the Waterway and its realisation would require partners to provide the necessary resources.

1.2 The construction of the Waterway as proposed represents a major infrastructure project with the potential for a significant impact on the social, environmental and economic conditions of the sub-region and in the region more widely.

1.3 This study focuses on the economic effects, specifically on the Waterway's contribution to the visitor economy and to businesses, and on the wider development and regeneration agenda.

Measuring economic impact

1.4 In measuring economic impacts three levels of detail are possible:

- Qualitative – here the *type* of anticipated economic impact may be discerned, for instance an increase in visitors
- Quantitative – at this level, the *scale* of the economic impact can be specified (usually as a forecast) for instance the likely increase in the number of visitors
- Monetised – finally, the *monetary* value of an economic impact may be calculated, for instance the increase in spend in the local economy as a result of the increased number of visitors.

1.5 While it would be preferable to arrive at a monetised value for every economic impact (and therefore provide a good basis for comparing investment against anticipated returns) this is not always possible, especially where interventions do not directly affect the business base but contribute to the business environment, for instance "quality of place." The Waterway exists only as a proposal, and its effect on different sections of the economy can be difficult to measure. Where possible, we have sought to derive monetary values for estimated impacts, but this is not possible in every case.

Research methods

1.6 The study has been conducted using a menu of research methods, including:

- Primary research with boatowners and users
- Interviews with boat operators
- Interviews with public stakeholders
- Interviews with private developers
- Analysis of statistical data
- Case studies
- Literature review

1.7 Together, these research methods have allowed us to build up an assessment of the potential economic impact of the Waterway.

Constraints

1.8 There are however significant constraints with researching the impact of the Waterway. It is a very large project in scale and geographical coverage and one of a special type. Typically, researchers could draw on past evaluation experience of other, similar projects to assess the likely impacts arising from the proposed Waterway – but as potentially the largest single stretch of new Waterway created in the UK since the Manchester Ship Canal in 1894, this is not so straightforward. In effect, it is such a large investment that it changes the rules of the game.

1.9 An additional constraint in assessing impact is that the Waterway is entirely dependent on partners releasing land and funds for development. Any ancillary development, such as marinas or waterside facilities, would be dependent on landowners and investors coming forward to deliver these.

Assumptions

1.10 In developing our estimates of the potential economic impact of the Waterway, we have made two core assumptions:

- The proposed Waterway, if developed, is most likely to be built in stages, as financing and opportunity allows. However, this sequencing is not yet known. While there may be benefit to local areas to having a part-development of the Waterway scheme, the timing and nature of these part-links is unknown. We have therefore based our research on a completed Waterway running the full length of the proposed route.
- The second assumption concerns the nature of the Waterway itself. The minimum proposal for the Waterway is a route that is navigable by boats between the Grand Union canal and the Great Ouse. Beyond this, there is scope for interpretation as to

how the Waterway could develop, including the placing of features such as marinas and engineering solutions. The final form of these "Waterway-plus" developments would depend on a variety of land-owners, funders and partners which cannot be anticipated at this stage. In undertaking our research, we have therefore assumed that partners will be interested in maximising the economic impact of the Waterway, and will be open to approaches that help deliver this.

Structure of report

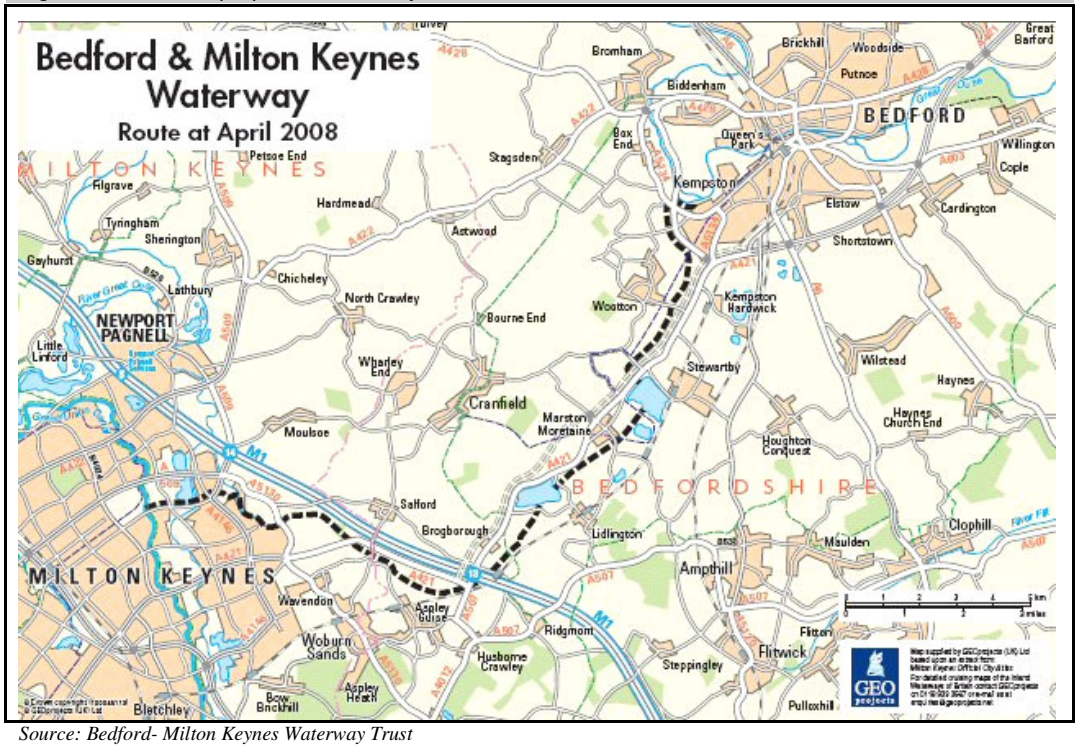
1.11 The remainder of this report sets out our findings on the potential economic impact of the proposed Waterway. We have organised our work into a series of linked themes, followed by our conclusions and recommendations.

2: The Waterway proposal

The proposed Waterway

2.1 The Bedford & Milton Keynes Waterways Trust (BMKWT) proposes the development, probably over a period of years, of a new stretch of inland waterway which will connect the Grand Union Canal at Milton Keynes with the River Great Ouse at Bedford. The new Waterway will cover a distance of 26 km and is expected to cost between £167 million and £206 million. The route links a number of administrative areas, joining the East and South East regions, the Milton Keynes South Midlands Growth Area, and the local authorities of Milton Keynes, Bedfordshire County Council, Mid-Bedfordshire District Council and Bedford Borough Council (these last three local authorities have now been replaced, in April 2009, by two unitary authorities, Bedford Borough and Central Bedfordshire).

Figure 2-1 Route of proposed Waterway



Source: Bedford- Milton Keynes Waterway Trust

2.2 The Waterway, in common with other river and canal systems, will have a variety of uses – as a transport artery, as green infrastructure, and as an addition to the amenity and identity of the area.

Development of a new transport corridor

2.3 One of the features of the Waterway will be the link it will provide between the waterways of East Anglia and the main canal system in the west. At present, the only navigable link between the Midlands and Ouse system is the River Nene (which lies to the north of the proposed new route). This is not especially attractive to canal-boaters because it can only

handle narrow beam craft (locks are restricted to vessels with a 7' beam and modern vessels tend to be up to twice this width); the route can take a long time to travel; there are few facilities for boaters and the river can be un-navigable at times because of tidal influences on rivers connected to the Wash.

Development of new green infrastructure

2.4 The Waterway has been described as a broad, linear water-park which will connect the two waterway systems, using a number of man-made lakes along the proposed route and provide an attractive alternative link from the main canal system to destinations such as Ely, Cambridge, St Neots and St Ives. In addition to catering for the requirements of canal and river boaters, the banks will accommodate a three metre, multi-user path which will allow for activities such as walking, cycling (National Cycle Route 51 will follow the route of the Waterway which it currently shadows), angling and horse-riding.

2.5 The route passes through generally pleasant, but not outstanding, countryside close to or through a number of residential settlements which have the potential to provide facilities that will be welcomed by, and which will attract custom from, boaters and other waterway users.

2.6 Taking Milton Keynes as the starting point, there are a number of marinas in close proximity to the town which provide for the needs of canal boaters (permanent and visitor berthing and various other services); the full range of visitor amenities is available in the centre of the town which lies reasonably close to the junction with the existing waterway (at Campbell Park/Woolstone). The eastern destination is Kempston which adjoins the town of Bedford. The centre of Kempston, and the amenities of the town, is close to the proposed Waterway and the River Great Ouse. The river flows through the heart of Bedford, again providing access to retail, food and drink services and other facilities; there are opportunities to moor alongside within the town and, to the east, marina services are available at the Priory Marina.

2.7 Following the route from west to east, the new Waterway will pass into Willen Lake on the outskirts of Milton Keynes; this provides a number of facilities including a hotel and extensive water-sports opportunities. New master planning for the Willen and Newlands commercial/leisure grid proposes to make the Waterway the centrepiece of development here. There is potential for marina services to be provided both at Campbell Park and on the lakeside. Beyond this, the next main landmark is Brogborough Hill (close to where the Waterway passes under the M1 at Junction 13) which will require a flight of around 12 locks. An alternative engineering solution may be introduced at this point to lift boats through the change in levels; if this happens, it creates an opportunity for an 'iconic' visitor attraction – potentially visible to traffic passing on the M1 – to be developed. This is discussed later in this report, but is thought likely to provide facilities and attractions comparable to the Falkirk Wheel at the Millennium Link (Union and Forth & Clyde Canals) in central Scotland.

2.8 It is perhaps worthy of note that the route lies close to the A421 which is in the process of being upgraded to dual carriageway. There are a number of visitor attractions in reasonable proximity to the route – these include Woburn Abbey, the Forest Centre at Marston, the Millennium Country Park, Gulliver's Eco Park at Milton Keynes, the proposed Nirah centre, near Stewartby and the Center Parcs village which is to be developed close to the village of Lidlington.

2.9 Beyond Brogborough Hill, the Waterway will pass into Brogborough Lake. A windsurfing club holds a lease to use the lake and there is potential for marina services to be provided here. The lake is owned by O&H, developers of the potential new settlement in Marston Vale. The village of Lidlington lies close to Brogborough Lake and has a couple of attractive pubs. The next settlement along the route is Marston Moretaine – the village a pub, restaurant and several shops.

2.10 Of perhaps more interest is the nearby Forest Centre and Millennium Country Park. This is a 600 acre woodland and wetland park which attracts around 400,000 visitors per annum; facilities here include a shop, woodland interpretation, cycle hire, cycling, riding and walking pathways. The centre provides conference facilities and has a cafeteria-style restaurant. It fronts onto Stewartby Lake and, although the provision of marina facilities would not be possible here due to the terms of a lengthy lease held by a local multi-activity water-sports club, there may be an opportunity to develop short-term berthing at the centre (this could generate business from Waterway boat traffic, and possibly the club, for the restaurant, shop and the cycle hire business as well as providing access to the outdoor amenity of the centre). The nearby town of Stewartby offers little in the way of facilities for boaters. However, the proposed Nirah centre is nearby. Beyond this point, the next settlement is Kempston, the eastern destination point of the Waterway.

2.11 In summary, the route passes through generally attractive countryside and lies close to a number of settlements which offer a range of facilities for waterway users and provide the opportunity to generate revenue for existing businesses and, potentially, create demand for new businesses. The route provides opportunities for temporary berthing at various points, allowing boaters to get ashore to explore, visit local communities and attractions. There are a number of sites which could accommodate larger scale marinas to cater for cruising traffic, provide permanent berthing for privately owned boats and act as bases for hire cruisers. The marina sites include Willen Lake, Brogborough Lake, a site beyond Stewartby lake where the route passes under the upgraded A421 and, potentially, at Kempston or Bedford.

Structures

2.12 There is a significant obstacle in the middle section of the route where Brogborough Hill rises up alongside the M1 motorway. Due to the topography of the area, an engineering solution would be required at Brogborough Hill to raise the level of the Waterway. This will require either a system of locks or, alternatively, a boat lift. Along the route of the Waterway, there will be requirements at some sections for locks to allow for changes in the height of the land, or to overcome obstacles such as bridges.

Specific sites

National Institute for Research into Aquatic Habitats

2.13 Currently proposed for the area adjoining the Waterway route is the National Institute for Research into Aquatic Habitats (Nirah), an ambitious private project intended to promote understanding of the connection between freshwater and life. Drawing on the success of developments such as the Eden Project in Cornwall, Nirah seeks to combine conservation

work, education, leisure and scientific research on a purpose-built site. The development would be housed in an eco-dome four times the size of the Eden Project and would be built on the site of a derelict brickworks. Upon completion, it would be the world's largest freshwater aquarium, stocked with trees, plants, freshwater fish, reptiles and amphibians.

Center Parcs

2.14 Center Parcs is a European network of holiday villages, characterised by accommodation in the form of villas, clustered together in a park environment and with a variety of facilities onsite. In 2004, the company announced that the location of its fifth UK site would be at Warren Wood, near to the line of the proposed Waterway. The development is expected to cost some £230 million, and would include 700 villas, a 75 bedroom hotel, spa and swimming pool, a lake and a nature centre. Plans have now been approved and construction is expected in 2009, with completion by 2010.

Oxford-Cambridge Arc

2.15 Within the Greater South East, and stretching across into the East Midlands, is the Oxford to Cambridge Arc. It covers the area between Oxfordshire and Cambridgeshire and includes parts of Bedfordshire, Buckinghamshire and Northamptonshire. The Arc contributes significantly to the UK economy, accounting for over 5% of national GVA (£50.3 billion in 2004). There is scope for further enhancement of the Arc as a one of the world's leading centres of the knowledge economy, given its assets including world class universities, high-tech spin-outs, innovation networks and highly skilled workforce.

2.16 Much of the Arc is within the Milton Keynes and Aylesbury Vale Growth Areas designated under the Sustainable Communities Plan. This provides a unique opportunity to combine its innovation assets and development potential. The Waterway route links four of the Oxford to Cambridge Arc's major institutions: the Open University site at Milton Keynes, Cranfield University, the Cranfield Innovation Centre, and the Bedford i-Lab. In addition, the Millbrook automotive testing facility lies nearby.

Marston Vale

2.17 The proposed route of the Waterway runs through an area that has been identified as the potential site for a new settlement by the landowners, O&H, who own of a large part of the land through which the Waterway route would run. The timing and scale of the project is currently being reviewed, but the most recent iteration, as part of the government's eco-town proposals, called for some 15,400 new dwellings, 135 hectares of land for business uses, along with retail, open space and leisure development. The proposal had a strong element of water use in it, with the developments capitalising on the existing lakes in the area, and potentially on the new Waterway. Any new proposal is expected to have a similarly strong relationship with the Waterway. The linking of the Brogborough and Stewartby lakes, forming one link in the Waterway, is considered to be essential to effective surface water management and would be a necessary precursor to any substantial development in the Vale providing green infrastructure for the new settlement.

3: Strategic context

Overview

3.1 The Waterway development takes place within a national, regional and sub-regional strategic context. For it to be successful, the Waterway proposal needs to align with the aspirations of other partners. This section reviews the fit of the Waterway proposal with national and regional economic priorities.

United Kingdom strategic context

Waterways

3.2 Nationally, waterways are viewed primarily as a form of infrastructure. Waterways in the UK come under the remit of the Department for Environment, Farming and Rural Affairs. In turn, responsibility for administering waterways in England is delegated to British Waterways, responsible for the majority of the UK's canal network, and the Environment Agency, responsible for the majority of England's rivers.

3.3 Defra's strategy on the inland waterways is Waterways for Tomorrow published in June 2000. This is currently under revision with a new version expected by summer 2009. Waterways for Tomorrow sets out the government's aspirations for the waterways, concentrating on:

- The use of the inland waterways for leisure and recreation, tourism and sport
- The conservation and enhancement of the waterways' heritage, their built and natural environment, and their biological diversity
- The role of improved and restored inland waterways in contributing to regeneration and creating a pleasant place to live, work and play, and in attracting private sector investment to create jobs and income
- The contribution that some waterways might be able to make to freight movements, including transferring freight from roads to waterborne transport for social and environmental benefits.

3.4 The Waterways for Tomorrow document stresses the role of waterways in economic development, and in recognition of this, the strategy states that the government will encourage Regional Development Agencies to support proposals for improving, restoring and maintaining waterways.

Regional strategic context

3.5 The proposed Waterway covers two regions, a 10 kilometre stretch in the South East of England and a 15 kilometre stretch in the East of England. There are therefore five significant

regional strategies that need to be taken into account in framing the potential economic contribution of the Waterway, the Regional Economic Strategy (RES) and Regional Spatial Strategy (RSS) for each of the two regions, along with the Milton Keynes & South Midlands Sub-Regional Growth Strategy.

East of England

Regional Economic Strategy

3.6 The new Regional Economic Strategy for the East of England for 2008 to 2031 sets out how the region intends to drive forward economic development. The RES stress the need for future development to be within environmental limits, and the strategy will seek to mitigate and adapt to the effects of climate change, to conserve and enhance the natural and historic environment and reduce the region's ecological footprint.

3.7 The RES sets the economic vision for the region, and anticipates that by 2031, the East of England will be:

- internationally competitive with a global reputation for innovation and business growth
- a region that harnesses and develops the talents and creativity of all
- at the forefront of the low-carbon and resource-efficient economy
- known for exceptional landscapes, vibrant places and quality of life.

3.8 The RES notes that the long-term competitiveness of the Greater South East is not assured. There are major constraints, including housing supply and affordability, some of the highest levels of congestion in Europe, lagging investment in science and a weak skills base in comparison with competitor regions. Commuting to London also has a major impact on economic performance in the Greater South East. With the majority of the East of England's commuters concentrated in the southern arc of the region (Hertfordshire and Essex) and along the main rail radials into London – there is a gap of some £10 billion between the region's workplace and residence-based Gross Value Added (GVA).

3.9 Transport infrastructure deficits and housing affordability are highlighted by the private sector as the key constraints to regional competitiveness. With low population densities and long-distance commuting, the East of England has the highest rate of travel per head of any region. Seventy-five percent of these journeys are currently made by road, and the region suffers from congestion in urban areas, on strategic road networks and on rail routes to London. Road and rail access to ports and airports does not adequately support the development of their future capacity, nor enable a greater proportion of goods and people to be moved by rail, which is important in reducing the environmental impacts of growth.

3.10 The RES also highlights the importance of the East of England being an attractive place to live in, work and do business, with economic success increasingly dependent on its quality as a place. The RES notes that many international cities and regions are now placing major focus on the factors that attract and retain talented and highly skilled people and their families. As

people become are more mobile they increasingly make choices on the basis of the vitality, environments and the quality of life. These factors are considered to include:

- the quality of the school system and designing safe and exciting places for children
- improving the public realm and creating new spaces for community use and interaction
- a distinctive retail, cultural and sporting offer
- access to high-quality green spaces and landscapes
- providing an affordable, diverse and high-quality housing stock
- networking communities and businesses to provide new opportunities for collaboration.

3.11 The East of England is considered to have unique environmental and cultural assets that can differentiate it from other regions in the UK and abroad. These include distinctive urban fabric and the heritage of the region's cities and market towns, exceptional landscapes, habitats and coastal areas. Growth needs to be managed to conserve these assets, but growth will also be an opportunity to increase access, enjoyment and create the resources to manage these assets. Developing the region's assets will require radical changes in patterns of resource-use – energy, materials, water – to reduce the unsustainable ecological footprint and carbon emissions; the conservation of existing landscapes, biodiversity and heritage assets and preventing habitat fragmentation; and the development of a network of new and restored, large-scale habitats, that are expected to bring major ecological, leisure and tourism benefits.

3.12 In terms of fit with the RES objectives, the current Waterway proposal has good alignment with the Spatial Economy priorities (ensuring physical development meets the needs of a changing economy; increasing economic gain from the region's distinctiveness and vitality; creating sustainable places for people and business; and adapting the region's places to meet the challenges and opportunities of climate change). There may also be contributions to Enterprise; Resource efficiency and Transport.

East of England Plan

3.13 Regional Spatial Strategies have been established to provide a consistent regional framework to inform the preparation of Local Development Documents, local transport plans and regional and sub-regional strategies and programmes that have a bearing on land use activities. The East of England Plan is published by the Secretary of State for Communities and Local Government and covers the counties of Norfolk, Suffolk, Cambridgeshire, Essex, Hertfordshire and Bedfordshire.

3.14 In relation to the Waterway proposal, the most significant alignment is with Policy ENV1: Green Infrastructure. The plan describes green infrastructure as networks of protected sites, nature reserves, green spaces, waterways and green linkages. Through providing for multi-functional uses – such as landscape, wildlife, recreational and cultural experience – these

networks contribute to liveability, while at the same time delivering biodiversity and other benefits (for instance, flood relief). Policy ENV1 applies region wide, and to all scales of development, but the Plan considers that green infrastructure will be particularly important in the settlements and surrounding areas that are proposed for regionally significant development.

3.15 The Plan calls for areas and networks of green infrastructure to be identified created, protected, enhanced and managed in order to ensure that an improved and healthy environment is available for present and future communities. Green infrastructure development should also be designed to maximise biodiversity value, contribute to achieving carbon neutral development and support flood attenuation. Opportunities should also be taken to develop and enhance networks for walking, cycling and other forms of non-motorised transport.

3.16 Assets of regional significance for the retention, provision and enhancement of green infrastructure include strategically significant green infrastructure projects and proposals, such as the Great Fen Project, Wicken Fen Vision, the Bedford & Milton Keynes Waterway Park, and green infrastructure projects around the fringes of Greater London and associated corridors.

3.17 The Waterway proposal also has potential relevance to the Plan's policies on freight movement (Policy T10) and access to ports (Policy T11). The East of England Regional Assembly has set a targets for increasing the proportion of port-generated freight carried by non-road modes, and opportunities for moving freight along the coast and on inland waterways are encouraged by national policy with coastal shipping could lead to increased use of the region's smaller ports. The Regional Transport Strategy encourages movement of minerals by rail, sea and inland waterway and the safeguarding of related facilities.

3.18 The phasing out of landfill, the emphasis on reducing waste and the expectation that waste will be managed locally will reduce the demand for long distance transport of waste. However, there may be opportunities for the sustainable movement of recyclable materials and products, including by inland waterway.

3.19 For retail, leisure and other services in the East of England, the Plan notes that centres in the region are competing with surrounding centres, particularly London, but also Milton Keynes, the Bluewater shopping centre and, to a more limited degree, Nottingham and Leicester. During the period of the Plan, it is expected that Milton Keynes will continue to grow and town centres in Bedfordshire will therefore need to respond to this by raising and upgrading their offer.

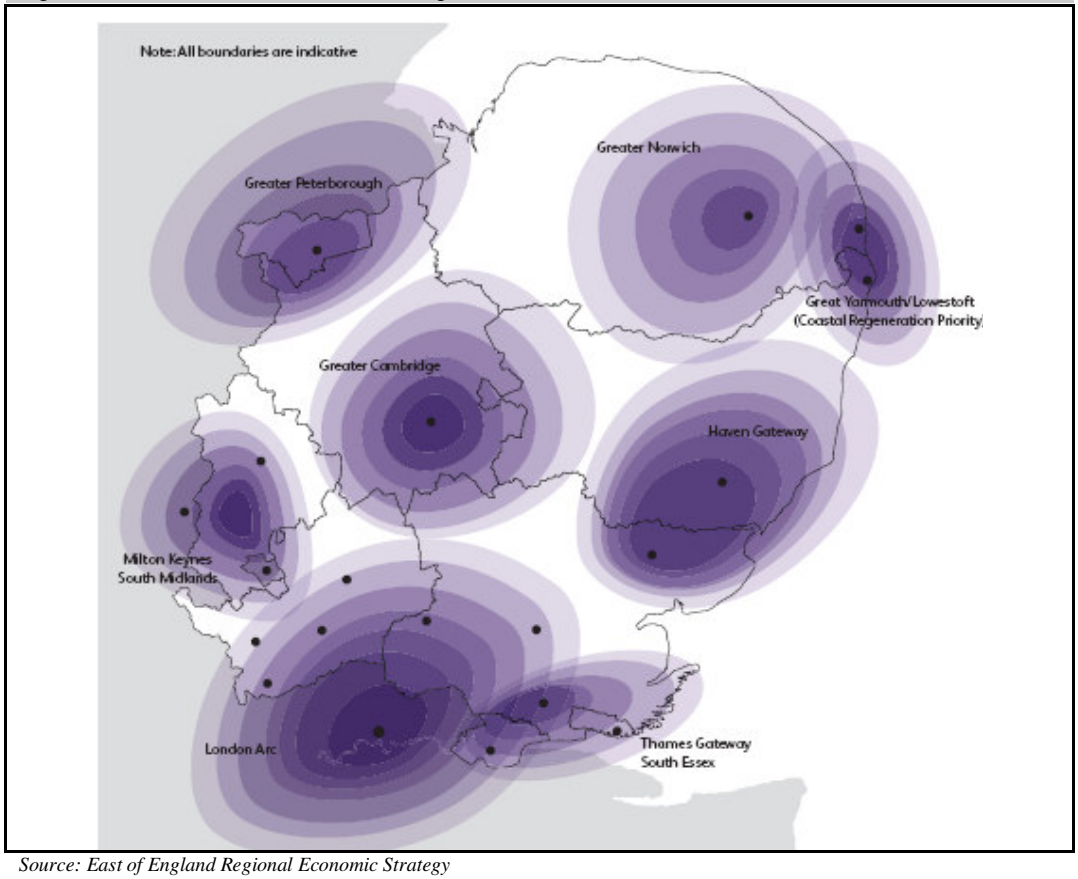
3.20 The Plan notes that the Regional Economic Strategy highlights the importance of certain sectors and clusters, some with international quality research capacity, such as life sciences including biosciences and pharmaceuticals. Other key sectors include food, automotive, construction and built environment, transport gateways, environmental goods and services and renewable energy. The Plan considers that there is potential for economic links to be strengthened between Cambridge and Ipswich and westwards through Bedfordshire to Milton Keynes and Oxford, the Oxford to Cambridge Arc.

3.21 Other opportunities for sustainable regional development should also be considered. EEDA working with partners should develop concepts and ideas and identify appropriate interventions and support, including in

- micro-renewables, biofuel production and other technologies related to the need to reduce carbon emissions; and
- 'green businesses' based on environmental industries, for example those specialising in recycling or exchange of materials.

3.22 The Waterway proposal has a very good fit with the environmental objectives of the Regional Spatial Strategy, and with potential contributions to regional competitiveness, developing better links between Bedford and Milton Keynes, and to transport.

Figure 3-1 Growth areas in the East of England



Source: East of England Regional Economic Strategy

East of England Tourism Strategy

3.23 A Sustainable Tourism Strategy for the East of England was commissioned by the East of England Development Agency and produced in 2004. The objectives of the strategy include continually improving competitiveness, continually improving quality and value for money, using tourism to improve the quality of life of residents and encouraging sustainability.

3.24 The strategy includes actions for capitalising on the environment in the East of England including:

- seek environmental enhancements, especially in key tourist destinations
- use the findings of the Countryside Agency's Countryside Character Study to preserve environmental and cultural identity
- designate more quiet lanes to encourage people to walk and cycle more freely in the countryside.

3.25 Tourism strategy in the East of England is currently under review, but the Waterway would appear to be a positive fit with regional tourism priorities.

South East England

Regional Economic Strategy

3.26 The Regional Economic Strategy for the South East of England stresses that the region, while successful in UK terms, must maintain its competitiveness in the face of intensifying international competition. However, the South East is not world class everywhere, and there are considered to be threats to the quality of living that is a key competitive advantage for the region which require urgent attention.

3.27 The RES notes that the region is linked to surrounding areas in terms of workforces, incomes, services, markets, supply chains and migration patterns, including the Oxford to Cambridge Arc (linking the East of England and the South East) and links with London.

3.28 The strategy has three themes:

- Global competitiveness – including maximising the South East's share of foreign direct investment and securing the infrastructure needed to secure continued prosperity
- Smart growth – including reducing road congestion and pollution levels by improving travel choice, promoting public transport, managing demand and facilitating modal shifts; ensuring sufficient and affordable housing and employment space of the right type and size to meet the needs of the region and create the climate for long-term investment through efficient use of land resources
- Sustainable prosperity – including supporting quality of life through reducing CO2; achieving measurable improvements in the quality, biodiversity and accessibility of green space, open space and green infrastructure; and enabling more people to benefit from sustainable prosperity across the region and reducing polarisation between communities.

3.29 The strategy emphasises the importance of sustainable development, arguing that commitment to safeguarding quality of life is an important competitive advantage. Sustainable development will also underpin a number of other themes, such as rural and cultural issues, and issues such as the security of water and energy supplies and reducing waste.

3.30 The quality of the natural and built environment is a major element in the quality of life in the South East, and a key source of competitive advantage. The environment is an economic asset in its own right: in 2003, activities linked to the environment contributed almost 250,000 jobs and nearly £8 billion GVA to the regional economy. Culture and the environment are also important drivers of the visitor economy; can help build integrated, sustainable communities; and can lead and support regeneration in both urban and rural areas.

3.31 These cultural and creative assets mark out the South East as the region with unique attractions and advantages. As global competitiveness intensifies, they must be recognised as key contributors to the region's identity, and as a sustainable source of competitive advantage. thereby strengthening its position and spreading the benefits of success more widely across the Arc and beyond. Maintaining and enhancing the area's environmental, cultural and historic assets – recognising that these represent one of the Greater South East's major sources of competitive advantage. Actions should therefore include supporting active yet sensitive management of the landscape and built environment, investing in cultural infrastructure and developing a sustainable visitor economy.

3.32 Water is also noted as a challenge, with the region described as having a lower per capita rainfall lower than that in Oman, while domestic water consumption is 15 litres per head per day higher than the UK average. Many of the South East's internationally recognised wetlands depend on groundwater levels being maintained. At the same time, the region is affected by a range of flooding issues – tidal, rivers and groundwater, with over 200,000 existing houses and workplaces located in areas of high flood risk.

3.33 The Waterway proposal therefore aligns with a number of measures in the RES, including:

- natural Resources and the Environment - Measurable improvements in biodiversity and green infrastructure
- global Business - Market the Greater South East
- smart Growth - Support for creative and leisure economy and Stimulating rural enterprise
- transport – the development of integrated, inter-modal transport hubs
- physical Development - Delivering high quality sustainable homes, Develop a strategy for private sector housing renewal, Build local authority capacity to develop brownfield land, Support development with timely environmental infrastructure
- sustainable Consumption and Production - SEEDA to demonstrate exemplary water management

South East Plan

3.34 The South East Plan stresses that the South East is a region of economic opportunity, with a varied and attractive countryside and a perceived high quality of life – but it also has considerable social inequalities, environmental conflicts and development tensions. During the period up to 2026, the region needs to nurture and enhance its assets, to maintain its high

quality of life, and increase prosperity through a sustainable programme of better management of assets, efficiency of resource use and increased adaptation and mitigation.

3.35 This combination will be required to accommodate the substantial programme of housing development and economic growth planned for the region, along with associated infrastructure services. The overall result is expected to be a healthier region, with a more sustainable pattern of development, a robust economy, better social inclusion, a more bio-diverse environment and a reduced level of natural resource consumption.

3.36 Development will be focused on the urban areas of the region, including Milton Keynes, where an effective range of services can be grouped together. A network of 21 regional hubs is identified and these highly accessible urban centres are expected to provide a focus for the provision of higher-order economic, social and cultural activities. Particular efforts will be made to improve the attractiveness of those towns and cities, to improve quality of life and achieve effective urban renaissance.

Figure 3-2 The South East Region

Source: South East England Regional Economic Strategy

3.37 Milton Keynes is identified as a growth area, and is expected to see a new phase of long-term growth establishing it as a centre of regional importance and adding a high quality public transport system to its unique advantages of modernity and good environment. Maintenance and provision of new and existing green infrastructure including parks, greenspace and water spaces within the urban area will be required, using the highest environmental standards in design and construction. A critical challenge for the area will be ensuring that economic growth and employment increase in line with the population. The RSS also identifies a regional "spoke" running from Milton Keynes to Bedford.

3.38 Natural resource management is an important cross-cutting policy for the Plan, including improving the management of water resources and quality, effective flood management, and the protection and enhancement of key wildlife habitats.

3.39 Positive support for tourism development is expected, especially in regeneration areas, along with clearer guidelines for planning major tourist attractions and tourist accommodation.

Milton Keynes South Midlands Growth Area

3.40 The Sustainable Communities Plan (2003) identified four national growth areas. Substantial parts of three growth areas fall within the East of England, including:

- London-Stansted-Cambridge-Peterborough, which now includes Chelmsford and Bury St Edmunds
- Milton Keynes-South Midlands, including Luton and Bedford
- Thames Gateway South Essex.

3.41 The Milton Keynes South Midlands Sub-Regional Strategy sets out the plan for the growth area of Milton Keynes South Midlands (MKSM), which embraces Bedfordshire and Luton (East of England), Milton Keynes and Aylesbury Vale (South East England) and Northamptonshire (East Midlands). The strategy notes that the area:

- has no dominant focus or urban centre
- economic growth rates have been high, but uneven, with Milton Keynes and Northampton developing more balanced economies, while difficulties in achieving structural changes have held back Bedford, Corby and Luton
- there is a need to improve community and transport infrastructure, including weak east-west links, and public transport
- there is a need to diversify the sub-region's local economies and attract new economic sectors and grow local and sub-regional clusters
- the sub-region contains environmental assets of national importance (e.g. the Chilterns Area of Outstanding Natural Beauty), as well as features of regional interest (including the Nene and Great Ouse valleys, Marston Vale and Rockingham Forests).

3.42 The objectives of the strategy are to achieve a major increase in the number of new homes in the area, provide for a commensurate level of economic growth, particularly in the high-growth, high-value sectors, to ensure that development contributes to an improved environment including providing green space and related infrastructure, and to create new and improved infrastructure that reduces the need to travel.

3.43 Green infrastructure for the sub-region will include pathways and routes, recreational facilities, natural and historic sites and water spaces. A network of multi-functional spaces around urban areas is considered particularly desirable.

3.44 The Waterway therefore has a potential fit with the priorities for the area, providing green infrastructure to complement the growth envisaged, and potentially anchoring related development of higher-value adding businesses where amenity is a draw.

Sub-regional context

Economic development

3.45 The economic development strategy[1] for Bedfordshire emphasises the need to support a successful transition from a manufacturing based economy to a more diverse one similar to the wider UK economy, including local growth sectors of food chain linked manufacturing, high technology manufacturing, specialist retail, logistics and air transport, tertiary education, research and development, tourism and hospitality, creative and cultural businesses, construction, and business services. Town centre renaissance is also underway across the sub-region's towns - on a particularly significant scale in Luton and Bedford.

3.46 A central plank of the strategy is support for the development of major existing and new visitor attractions, both as generators of economic activity in their own right, and for their image development and business attraction roles. The document notes the existence of visitor attractions both existing (Woburn Safari Park, Whipsnade and Luton Hoo) and proposed (Center Parcs fifth UK village and the Nirah aquatic conservation and visitor centre). Luton and Bedfordshire will work to establish a programme for the external promotion, via marketing strategies, of Bedfordshire and Luton as places to do business, and come to work, live and visit.

Green infrastructure

3.47 The green infrastructure plan[2] for Bedfordshire and Luton seeks a planned and managed network of accessible greenspace, access routes, landscapes, biodiversity and heritage which are expected to increase the attractiveness of the area for visitors and residents. The role of waterways in green infrastructure is emphasised. The strategy notes the local aspiration to enhance the connectivity of these strategic waterways linking Bedford to Milton Keynes to provide linkage between the regional networks.

3.48 The Bedfordshire and Luton Green Infrastructure Consortium has identified the Bedford to Milton Keynes Waterway Park, along with the Forest of Marston Vale, for inclusion in the revised East of England Plan as assets of particular regional significance for the retention, provision and enhancement of green infrastructure.

Bedfordshire Tourism Growth Strategy

3.49 The Bedfordshire Tourism Growth Strategy was prepared in 2007 and sets out a vision for the area as:

> *'Luton and Bedfordshire will be recognised as places that have changed for the better. They will be known for their professionalism in hosting business visitors and in exploiting their location. Visitors will enjoy the variety of town and country, outstanding attractions and events and their increased spending will support good quality local employment.'*

[1] Bedfordshire County Council (2008) *Bedfordshire and Luton joint economic development strategy*
[2] Bedfordshire and Luton Green Infrastructure Consortium (2007) *Strategic Green Infrastructure Plan*

3.50 The opportunities to develop tourism in the area are stated as including an immediate focus on turning family day visitors into staying visitors and building on the rural assets of Bedfordshire and the growing range of events and activities to attract affluent adults.

3.51 Bedfordshire is described as a predominantly rural county that offers the opportunity to participate in activities such as walking/cycling etc. The strategy states that the development of this offering and its promotion has the dual benefit of sustaining businesses in the countryside and encouraging visitors to be more active. The existence of countryside, country parks and the river can be developed into a 'green' offering that will attract a wider base of visitors.

3.52 The strategy recognises however that the image of Bedfordshire might be weak. A Mori survey stated that Bedfordshire does not have a particularly positive image amongst residents of the East of England.

Conclusions

3.53 The scale of the proposed Waterway makes it of regional interest. A finding confirmed by consultations with regional representatives. In particular, contributions to amenity and identity would align with regional priorities, along with the development of the visitor economy. Depending on the final form of the Waterway, contributions to transport and to ecosystem services, particularly water management would also be of regional interest.

3.54 At a sub-regional level, the proposed Waterway has good alignment with the priorities for amenity to complement housing and business growth, as well as contributions to the visitor economy in the area, and in the case of Bedfordshire, a stronger identity.

4: Waterways and the economy

4.1 The following chapters review in more detail how the Waterway could potentially contribute to economic development in the locale of the Waterway, and in the wider sub-region and regions. In doing so, it is worthwhile reviewing the current role of waterways in the national economy, and how this role came about.

4.2 River systems, along with coastal travel, have been central to human economies from the Mesolithic period up until the industrial age. The difficulties in crossing undeveloped and unimproved land, the lack of good road design and materials, and a reliance on human and animal motive power, meant water travel was a superior mode of transport. Following on from the improvement, or canalisation of the existing river system, economic growth led to the development of a wholly man-made canal system from the mid-1700s onwards to supplement the country's river systems and link suppliers of raw materials, producers and consumers. Further industrial development improved canal construction, enabling longer, straighter canals. Between the 1770s and 1830s, the "golden age of canal building" the network expanded to nearly 4,000 miles of waterway.

4.3 From the 1830s onwards, the canals and river systems faced a challenge from the developing railway system, which could move freight and passengers more quickly. By the 1850s, the volume of freight being moved by waterway had reduced by two-thirds, and the network (mostly) survived by focusing on niches not covered by the railways. During the 19th Century, continental countries undertook the modernising of their canal systems, including widening the waterways to accommodate much larger boats (up to 2,000 tonnes, compared to 30 to 100 tonnes in the UK system). While a few canals in the UK were modernised or developed (such as the Manchester ship canal), the majority remained with the narrow 7 foot gauge. Despite spikes in use during World War 1 and 2, the situation did not improve, and following nationalisation in the 1950s (with British Waterways established to oversee the network) by the 1950s and 1960s large-scale freight transport on the canals had declined rapidly in the face of mass road transport. By the 1960s the canal system had shrunk to just 2,000 miles, half the size it was at its peak in the early 19th century.

4.4 In the latter half of the 20th century, while the use of canals for transporting goods was dying out, there was a rise in interest in their history and potential use for leisure. Following publication of popular works such as "Narrowboat" (by LTC Rolt), the founding of the Inland Waterways Association, and the creation of new weekly boat-hire companies (based on the model already successfully applied on the Norfolk Broads) the canal network started to reinvent itself as a leisure and recreation amenity. British Waterways encouraged this process, operating a fleet of holiday hire boats, initially converted from cut down working boats, from the late 1960s onwards.

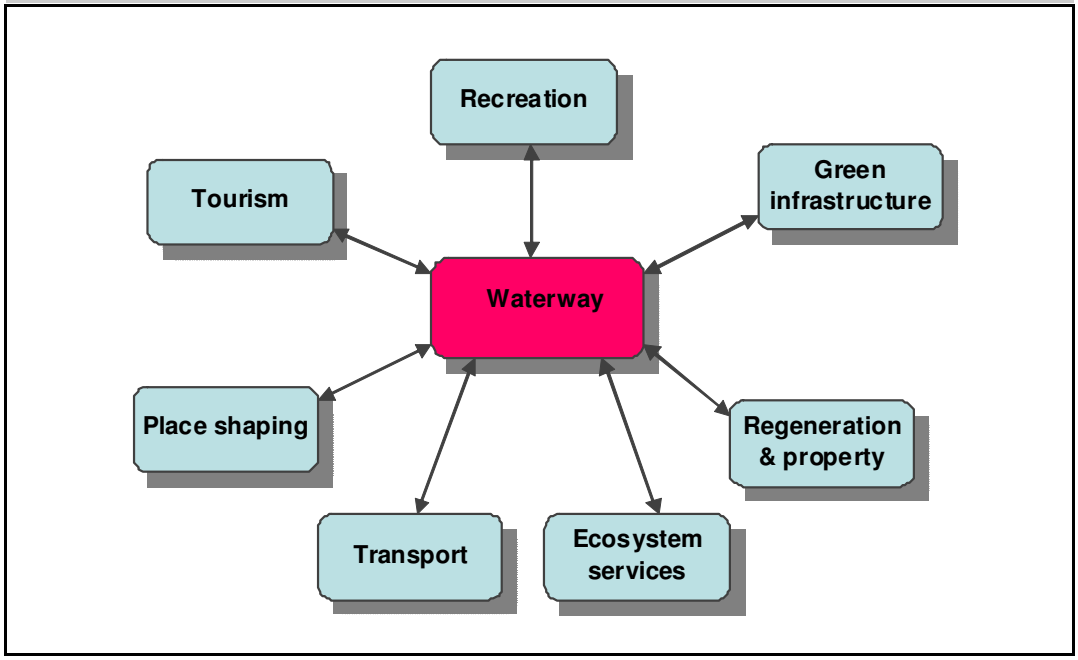
4.5 Holidaymakers began renting narrowboats and travelling the canal and waterways network, visiting the towns and villages along the way. Others bought boats to use for weekend use and longer trips. Canal-based holidays were popular due to their relaxing nature, low self-catering costs, and variety of scenery available. The revival of canals as a leisure resource came just

in time to give local canal societies the backing to resist government proposals to close commercially unviable canals. Volunteers repaired un-navigable but officially-open canals and moved on to restore officially-closed ones, demonstrating their renewed viability to the authorities.

4.6 Local authorities in turn began to appreciate cleaned-up and well-used waterways as a means of bringing visitors to towns and improving amenities. Local government increasingly rehabilitated their own watersides and campaigned for restoration of their own waterside assets.

4.7 The economic impact of the Waterway proposal must therefore be understood within a framework where a shift from freight and personal travel, to an emphasis on recreation, tourism and amenity has occurred.

Figure 4-1 Economic impacts arising from the proposed Waterway



Source: SQW

5: Tourism and recreation

Overview of current tourism performance

5.1 Bedfordshire and Milton Keynes are not obvious tourism destinations yet in Bedfordshire 5.1% of employment is supported by the visitor economy. Data on tourism volume and value is available through the Cambridge Model which is derived from the United Kingdom Tourism Survey (UKTS) and the International Passenger Survey. The UKTS is based on a sample of only 30,000 and once disaggregated to local level the sample size becomes very small indeed. Consequently this data should only be considered as an indicator of tourism performance in the area.

5.2 The Cambridge Model report for Bedfordshire states that in 2006 over 10 million trips were made, just over 1.2 million of which included overnight stays. A very high proportion (over 60%) of these overnight stays was made by visitors who stayed with family and friends (VFR). In addition to the 730,000 trips that were made by those staying with friends and relatives 360,000 stayed in serviced accommodation and 32,000 in self catering accommodation (3% of the total).

5.3 When people do stay in Bedfordshire, they tend to stay for a shorter period of time than is the case for either the East of England or England as a whole. Average length of stay on domestic visits is 2.7 nights compared to 3.1 for the East of England as a whole and 3.07 for the whole of England. According to UKTS, boat users stayed in the East of England for an average of 3.37 nights in 2007.

5.4 Not only is the number of nights per staying visitor lower, but spend for each night they do stay is lower than the national average as well. On average for 2006, staying visitors spent £45.78 per night compared to nearly £54 for England as a whole.

5.5 The Cambridge study for 2006 shows that 39% of all trips were for holiday purposes, a further 29% were for the purposes of visiting friends or relatives and 24% were for business reasons. It should be noted that some of the visiting friends or relatives market may also be on holiday. According to this analysis just under a million visitors stay in the Bedford area for leisure purposes each year of which a little over half are visiting solely for holiday purposes.

5.6 According to Visit Britain's 'Visits to Visitor Attractions Survey' the following attractions appear in the East of England's top ten paid and free attraction listings.

Table 5-1 Top ten attractions in the East of England

Attraction	Free or Paid	2007 Visitor numbers
Woburn Safari Park	Paid	469,181
Woburn Abbey	Paid	102,000
Millennium Country Park	Free	398,712
Harrold – Odell Country Park	Free	250,000 (estimated)
Priory Country Park	Free	225,000 (estimated)

Source: Visit Britain

5.7 Of course the Visits to Visitor Attractions Survey is a self completion survey; there is no obligation for any visitor attraction to supply data and VisitBritain does not verify the data provided by an attraction beyond a basic 'sense check'. In addition, visitor attractions have the option of taking part in the survey anonymously, meaning not all visitor attractions that participate in the survey are named in the report or included in ranked lists of attractions. Indeed the report excludes Whipsnade Zoo which is thought to attract around 500,000 visitors per year. Importantly, however, the Millennium Country Park along the side of which the canal is intended to run, is currently the leading free attraction in the East of England.

Tourism markets

5.8 The potential leisure and tourism markets for the Waterway area can be defined as follows:

- Inland boating market
- Resident & day visitor market – mostly from within 30 minutes drivetime
- Informal users
- Cyclists
- Anglers
- Horse-riders
- Tourist market – including VFR and holiday makers
- Informal users
- Anglers

5.9 In addition visitors drawn initially by other attractions in the area present a potential market for the Waterway project.

5.10 To assess the volume of tourist and leisure users for the waterway project we must consider the potential appeal of the product to each market. The following table shows our assessment of the likely appeal of various elements of the product against the potential markets. The table assumes a completed project.

Table 5-2 Demand analysis for Waterway

	Boating market	Resident Market	Day Visitor	Tourist Market
Waterway networks	Some demand for whole link	Use will be informal – some limited water sports activity including angling	Some demand for strategically located sites near points of interest	Low level interest from existing tourism markets and emerging Center Parcs. Future low level interest from visitors to Nirah
Multi user path	Low	Medium interest for cycling and walking from home. Also some limited horseriding	Low	Low
Temporary berthing	Medium/High	Low	Low	Low
Marinas	Medium/high	Medium	Medium	Medium
Iconic engineering solution at Brogborough Hill	Medium/high	High	High	High

Source: SQW

5.11 As can be seen from the above Table it is considered that the Waterway itself will appeal to all markets, though much of this will be low level, informal, recreational usage, local cycling and walking. Areas where activity can be seen such as marinas and or an engineering solution at Brogborough will offer a greater appeal to residents, day visitors and tourists.

5.12 Furthermore a large scale iconic attraction near to the M1 could create a symbolic development which might contribute to changing the image of the area. Given the location of such a development a hotel, retail and food and beverage development alongside the iconic attraction could attract significant numbers of day visitors, tourists and residents.

5.13 The following sections consider the available markets in more detail.

Inland Waterway Boating Market

Overview

5.14 Using various secondary sources a profile can be built of the inland waterway leisure boating market and its economic contribution. The 2007 *'Water-sports & Leisure Participation Survey'* reveals that up to four million UK adults (almost 8% of the population) regularly participate in a core range of water-sports activities including canal boating and motor-boating and cruising (this increases to almost 14 million if a number of related activities are taken into account). The observations which follow cover participation in canal-boating only. It is possible that 2008 and 2009 statistics will be negatively affected by the economic situation and that some of the growth trends illustrated by the 2007 survey will be reversed:

- Total participation falls within an estimated range of 420,000 – 560,000 adults
- Ownership of canal boats is estimated at between 31,000 – 44,000

- Participation has increased marginally between 2006 and 2007 and is now comparable to 2004 levels
- Participation is fairly evenly divided between males and females with a slight bias in favour of the former
- Predominant age range of participants is 35-54 and comes from within the ABC1 socio-economic groupings
- Lifestyle factors favour participation by families, couples, empty-nesters and (presumably better off) single parents
- Average participation levels are, surprisingly, quite low at 2.7 occasions per annum (this may be reflective of holiday hire levels and boat owners making a couple of longer trips each year) but it is increasing at a low rate each year
- Attendance at/participation in events appears to be important for canal-boaters

5.15 *'The 2006 Holiday Boaters Survey'* provides considerable insight into the behaviour and characteristics of this market, but does not quantify the numbers of people who take such holidays. Much of the analysis is of interest to boat hire operators and is not covered here. However, there are a number of issues which augment the information emerging from the survey of water-sports participants:

- The trend is towards short breaks or second holidays as opposed to main holiday (average duration 7 days or less). However, 18% of boating holidays were for 14 days or more
- There is a high incidence of taking previous, similar holiday with around 20% of the market being new
- The trend is towards smaller party sizes – 44% of parties comprised of four or fewer people
- Thirty-four percent of parties included children under 15 – down from 55% in 1998
- The market is ageing – in 2006 225 were over 65, 27% were 55-64 and 55% were 35-54
- The socio-economic profile is predominantly B & C1, with tangible increases in the latter group
- The market is primarily domestic (UK) 87% of users coming from the UK.

The industry perspective

5.16 The annual Association of Pleasure Craft Operators (APCO) survey provides details of the number of hire craft available through its membership. Over the period from 1996 – 2008, the number of hire boats declined from 1116 to 940. Following a slight rise to 1,134 boats in 1998, the decline has been steady since 1999. This situation is reflective of a number of hire

operators ceasing to trade and may indicate an increase in the average number of boats operated by the remaining hirers.

5.17 Based on a review of various published sources, it appears that there are some 206 hire-boats and 15 operators based at some point on the Grand Union (or other waterways) within a reasonable 'cruising catchment' for the proposed Waterway. One of the operators located nearest to Milton Keynes (Wyvern Shipping) operates 32 vessels. On the Great Ouse, it appears that there are currently only two operators offering 24 hire-boats to the market. Based on achievement of average hire levels of 23 weeks per annum, it would therefore appear that there are around 5000 boat hire weeks within the catchment for the proposed Waterway.

5.18 Boat registration data do not provide an accurate indication of the number of privately owned vessels likely to use the new Waterway (registration does not necessarily enable judgements to be made on where boats are used). While British Waterways estimates the number of boat movements in the vicinity of Milton Keynes at between 8,000-9,000, there are no similar estimates of boat movements on the Great Ouse by the Environment Agency. To arrive at some estimate of the likely number of privately owned vessels likely to use the new route, an analysis has been made of the number of marina berths within the Bedford & Milton Keynes catchment

5.19 There is no single, authoritative source of the number and capacity of marinas in the area. However, drawing from a number of published sources (RYA Marina Guide, Inland Waterways Map of GB; Yacht Harbour Association website; Waterways World 2008; waterscape.com) it is estimated that there 26 marinas on the Grand Union or adjacent waterways. Jointly, these offer around 3,700 berths; this may be an under-estimate and a figure of 4,000 berths has been adopted. On the Great Ouse, these sources indicate that there are 20 marinas with a total of 2,020 berths; this figure may include temporary/visiting berths at, for example, pubs and a figure of 1,700 berths has been adopted.

5.20 In total, it is estimated that there are 5,700 berths for inland waterways vessels within the Bedford & Milton Keynes cruising catchment. Assuming that utilisation of berths runs at around 85%, it appears that there are in the region of 4,800 boats which might be regarded as comprising the target boat market for the new Waterway.

Consultations with Waterway Business Representatives and Interests

5.21 Consultations were held with a number of organisations representative of various inland waterway interests. These were the Inland Waterways Advisory Council (IWAC), Inland waterways Association (IWA), British Hire Cruiser Federation (BHCF) and the British Marine Federation (BMF). BMF was also able to speak on behalf of three other organisations – Canal Boatbuilders Association (CBA), Association of Pleasure Craft Operators (APCO) and the Midland Marine Alliance.

5.22 There was general agreement on the issues raised about the proposed Waterway and the canal boating market. The following comprises a summary of the main points emerging from these discussions:

- All organisations consulted were supportive in general terms of the proposed development, particularly the opportunity it provides:
- For new places to go and for a new, easy east/west transit route. This could stimulate additional trips by boat-owners, increase demand for hire cruisers, possibly for longer trips of up to two weeks duration
- To support leisure boating businesses – hire, support services and building
- For potential new marina/berthing development
- To support waterside businesses of various sorts and contribute to local economies
- For recreation by local residents
- Potentially to increase utilisation of existing hire fleets, but not necessarily the expansion of the fleets themselves
- To accommodate wider-beamed vessels throughout the route
- Common among all consultees, was a concern that the new Waterway should not divert resources from the existing infrastructure
- Hire fleets are experiencing static levels of demand. The decline in the fleet size by 15.8% between 1996 and 2008 was cited
- Canal boat building output has also declined from around 1,000 vessels per annum 10 years ago to a current level of c500 boats per annum (it is understood that overall levels of boat ownership are increasing; average cost of a new canal boat is c£130,000). There is some evidence that hirers go on to buy their own boats
- The average size of hire fleets is 10 boats, although there are a number of smaller operators with a couple of boats

5.23 In operational terms:

- The hire season lies between Easter and October with operators achieving between 19-27 weeks utilisation depending on location
- The market for canal boating comprises families (some anecdotal evidence of families returning to domestic holidays and inland boat hire), older affluent couples/groups, recently some younger groups
- Boat owners tend to be from the higher socio-economic groups and have higher levels of disposable income
- Demand is mainly for one weeks hire and for second, rather than main, holidays
- The domestic market is predominant with international customers comprising no more than 5% of hirers

- For boat owners, annual berthing charges are, on average, between £1,500-2,000 with related maintenance and other costs averaging £750-1,500. This expenditure excludes annual licence fees payable to British Waterways or The Environment Agency.
- Hire charges range from c£425 for smaller boats to £700/800 per week in the low season to £1,200/1,700 for larger boats at the height of the season

5.24 There is a view that there is a possible over-supply of marinas at present due to the static nature of the hire market and decline in new boat building (informal enquiries made of a number of marina operators in the area suggests that they are operating reasonably close to capacity). British Waterways consider that supply has not yet outstripped demand, especially when the definition of marinas is widened to include smaller sets of moorings located off the main navigation. New marina costs, for facilities incorporating services, were indicated to be in the region of £2-4 million dependent, on factors such as size, location and site conditions.

Leisure market

5.25 The size of the potential leisure market for the Waterway can be estimated by using an average density of usage per kilometre.

5.26 A survey of activity at a number of canals in Yorkshire and Lancashire found the following levels of activity per kilometre per annum.

Table 5-3 Waterways density estimates: visits per km per year by activity

Canal	Informal users	Anglers	Cyclists
Leeds & Liverpool Canal	119,000	850	5,000
Ashton Canal	99,000	1,000	5,500
Peak Forest Canal	96,000	450	5,250
Huddersfield Narrow Canal	69,000	400	3,000
Calder & Hebble	52,000	750	4,000
Average, all 5 canals	87,000	690	4,550
% of informal users	100%	1%	5%

Source: British Waterways (2004) The Economic Impact of Restoring the Huddersfield Narrow and Rochdale Canals

5.27 British Waterways data from the Grand Union Canal (1995) shows the following average number of users per km:

- Informal users 54,000
- Anglers 1,200
- Cyclists 2,800
- Canoeists 600

5.28 The disadvantage of using this approach against using statistics from the Leisure Day Visitor Survey is that this approach will include people using canal-side footpaths / towpaths for

other purposes such as walking to and from school or work, or to and from shopping and other non-leisure trips none of which will create any economic impact.

5.29 An alternative approach to measuring the potential size of the market is to use the English Leisure Visits Survey 2005 undertaken by Natural England. This study measures the extent of participation in leisure day visits by the adult population providing estimates of visits to towns/cities, the countryside, and the coast.

5.30 This study reports that 59% of the adult population had visited the countryside in the past year, 25% had visited a stretch of 'inland water with boats' and 18% had visited 'water without boats'. According to the survey in 2005 there were 65 million trips taken to water with boats and 86 million to water without boats, both together equalling 2% of all trips made

5.31 Of those visiting inland water sites 54% did so to take a walk, 9% were pursuing a hobby or special interest and 6% went cycling.

5.32 If we apply these percentages to the number of day visitors estimated to take trips in Bedfordshire each year then the following local picture emerges:

Table 5-4 Estimated percentages of day visitors

Activity	Estimated number of participants
Trips made to inland water sites for cycling	21,180
Trips made to inland water sites for hobby/special interest	31,770
Trips made to inland water sites for walking	190,620
Trips made to inland water sites for other reasons	109,430
Total	353,000

Source: SQW

5.33 Using this model it can be estimated therefore that around **350,000** day visit trips are made each year to water sites in the Bedford and Milton Keynes area.

5.34 Many of these visitors will continue to be attracted to the existing water-based sites such as Willen Lake (currently the subject of revised master planning incorporating the proposed Waterway). However it is not unreasonable to presume an uplift in this usage might occur as a result of the opening of the Bedford & Milton Keynes Waterway, especially where local opportunities[3] created by the Waterway are capitalised on. If we consider the completed Waterway with tow path and possible picnic sites along the Waterway but without any additional destination attractions then an uplift of between 10% and 20% would be reasonable. This assumes that these are new additional visitors to inland water sites.

5.35 According to the English Leisure Visits Survey 2005 6% of all trips taken by domestic tourists from their holiday base were to water based sites. Applying this ratio to the 1,235,000 staying trips taken in Bedfordshire creates an estimated **74,000 trips** taken to water based sites each year.

[3] For example, proposals for linking the Grand Canal to Willen Lake include using water movements to create a geyser/fountain attraction, and a linear sculpture park. The Waterway will form the centrepiece of a revised master-plan for the development of the Willen and Newlands commercial/leisure grid.

5.36 Again assuming that the Waterway is completed with tow path and possible picnic sites along the Waterway but without any additional destination attractions, such as the iconic attraction, then an uplift of between 10% and 20% would be reasonable.

5.37 This assessment takes no account of future changes in the market such as the opening of Center Parcs and Nirah.

5.38 Center Parcs is planning the development of its 5th holiday village at Warren Wood near Woburn. The £200 million development will include 700 forest villas a 75 bedroom hotel and spa and two main centres including indoor sports, swimming pool, restaurants and retail outlets. It will also include outdoor sports and leisure facilities and a lake. Construction of the site is currently delayed while issues over the re- routing of bridleways and rights of way are resolved.

5.39 Center Parcs is designed as a resort experience, where everything you need is provided on site including activities, food and beverage and retail opportunities. Whilst some off site activities are offered these are usually managed activities booked through Center Parcs and travel to and from the activity is provided by the park. Based on past developments, it is therefore considered that only a very small number of residents of the park are likely to visit the Waterway. However, planning conditions for the development are expected to build in greater levels of connectivity and joint promotion which may lead to a higher number of visits to the surrounding area.

5.40 Planning consent for the £400 million science park project Nirah has been granted subject to a section 106 agreement. Discussions are taking place between the developer and the landowner and once these are completed and the 106 agreement is signed formal planning consent will be issued. It is planned that the project will include among other elements a Biotope, a water park, outdoor gardens, a spa, an hotel, a Simex-Iwerks theatre, a conference centre along with a range of retail and catering outlets. The business plan for the project projects an annual visitor number of some 3.5 million. A key issue for the project will be raising the required funding, particularly in the current economic climate however, this is an ambitious project and one which if it is realised will have a significant impact on the area.

5.41 If only a very small proportion of the visitors to Nirah visit the Waterway it will have an impact. A 1% penetration of the 3.5 million estimated visitors would mean 35,000 visitors to the Waterway project. Given the proximity of the Waterway to the Nirah site it is considered that a direct link between the two might be possible, with perhaps even a water taxi as a means of travelling to the site. However any economic impact created by these visitors would be included in the assessment of the impact of Nirah (as off site spend) and hence to include this impact in this study would be double counting. For this reason we have not included these potential visitors in our assessment.

6: Iconic structure

Overview

6.1 For the Waterway to be delivered, the obstacle of Brogborough Hill will have to be overcome. This will either require a set of locks to allow boats to surmount the obstacle or, alternatively, a boat lift of some description. Historically, height differences have been surmounted by systems of locks, as at Neptune's Staircase on the Caledonian Canal or the system of locks at Fonserannes on the Canal du Midi. Less commonly, more ambitious engineering solutions have been tried, for instance the Anderton Boat Lift linking the River Weaver and the Trent and Mersey Canal, or the Strépy-Thieu boat lift on the Canal du Centre, Belgium.

6.2 The significance of these structures to economic development are two-fold: they can provide a focal point for visitors, and therefore a concentration of potential tourist activity, and they can potentially become iconic structures, giving profile to an area. A development at Brogborough hill would be particularly well situated, overlooking the M1 at a junction that sees 4.7 million traffic movements[4] every year. In this chapter we consider the potential economic contribution to the Waterway of the development of an iconic structure. In the next chapter, we consider what contribution the profile arising from an iconic structure could make to economic impact.

Qualities of iconic structures

6.3 Human civilisations have produced thousands of structures – on occasion these have become so recognised and celebrated that they have become part of the identity of an area. The original Seven Wonders of the World were all built structures.

6.4 In the modern world, a number of built structures have come to symbolise cities or regions. This phenomenon has on occasion been accidental, the result of good design and execution, and sometime planned or aspired to, for instance Burj el Arab, Dubai; Sydney Opera House, Australia; the Hoover Dam, Colorado; or the Oresund Bridge linking Sweden and Denmark.

6.5 These iconic structures have a number of features in common:

- Size – iconic structures are typically very large, this hyper-dimensionality has enduring appeal, from Stonehenge and the Pyramids to today's signature constructions.
- Striking design – the design of the structure represents a departure from the familiar, whether the sail-like quality of the Burj el Arab or Sydney Opera House, the organic forms of Gaudi's La Sagrada Familia or Gehry's angular, titanium-clad Guggenheim museums.
- Visibility – successful iconic structures are those that have a good degree of visibility, both in standing out in their location, and being located in places that people can

[4] Highways Agency (2007) *M1 Junctions 10 to 13 Widening: Outline statement of case*

access. For instance the TWA Building in New York, or the structures of Brasilia, capital of Brazil, are admired by architectural cognoscenti but have little resonance outside of those communities.

6.6 Other engineering structures can be as innovative yet fail to capture the public imagination. The Channel Tunnel one example of a very large structure that is ambitious, innovative in design and conceptually interesting – yet has very little resonance with the public.

6.7 However, iconic structures do not need to be large in every case. There has also been growing interest in the role of public art as a means of establishing and communicating identity. In the UK, the most obvious recent example is the Angel of the North in Gateshead. Other smaller scale examples include the Little Mermaid in Copenhagen and the Manneken Pis in Brussels, which have become part of those cities signatures, echoed in marketing materials, images and products.

6.8 The success of iconic structures cannot be dictated. Their ability to capture the imagination of people cannot be reliably engineering or designed in. For instance, the Falkirk Wheel was something of an unexpected success – with recognition and interest exceeding what its designers had expected. Other attempts at setting out to create iconic structures have not always been successful. B of the Bang!, for example, a sculpture formed from enormous metal spikes, was installed at Sportcity in Manchester to celebrate the 2002 Commonwealth Games. As one of the tallest structures in Manchester, it was the largest sculpture in the UK when created and is taller and leans at a greater angle than the Leaning Tower of Pisa. Yet it achieved national prominence only when a number of its spikes started to fall off. At a cost of £1.42 million, it has not achieved the type or extent of positive profile that its supporters would have desired.

6.9 In assessing how an iconic structure might contribute to the economic impact of the Waterway, we have therefore chosen to draw on examples of where similar structures have been put into operation. The actual impact of any engineering solution used at Brogborough Hill would depend on a range of issues – quality of design, visibility, distinctiveness, size and quality of experience – which we cannot anticipate or test at this stage.

The Falkirk Wheel

6.10 In the run-up to the Millennium, British Waterways in Scotland secured funding to re-open the Forth & Clyde navigation which links the North Sea with the Irish Sea. This project included the development of a rotating boat lift which connects the Forth & Clyde and Union canals at Falkirk. The 'wheel' is unique and has become something of an iconic structure which has become better known than the re-opened navigation and has placed the town of Falkirk on the tourist map. The lift can carry 300 tonnes to a height of 35 metres and offers visitors the opportunity to take a trip in a canal boat which also provides audio-visual interpretation.

6.11 In the light of obvious visitor interest in the structure, the decision was taken to build a visitor centre related to the 'wheel'. This attracted ERDF funding. The centre is operated on highly commercial lines and is assertively marketed and promoted. Management is by BW staff.

Despite this, it is likely that the centre operates at a deficit (no figures are available) and is probably underwritten by BW.

Figure 6-1 The Falkirk Wheel

Source: British Waterways

6.12 The centre is located at the junction of the two canals, in a scenic setting which evokes the area's industrial heritage and provides opportunities for countryside walks and cycling. There is car parking (both chargeable at £2/car and free). A regular programme of events appeals to a wide range of visitors. The site is highly accessible for visitors with disabilities. Access to the site is free. There is a tourist information centre on-site and three hire cruiser fleets are based here (they collectively hire out 16 cruisers).

6.13 In addition to the 'wheel' and boat trip (which is paid for – adult £8.00; child £4.25; family £21.50 and concessions £6.50), there are a range of other facilities and attractions for visitors to which access is free of charge. These include:

- An audio walking trail
- A café with seating for 140 covers (probable average spend/visitor c£3.00)
- A gift shop (+/-1500 sq ft) which features local food produce and other souvenirs (probable average spend/visitor c£2.00)
- An unusual venue for business and social functions
- Interactive exhibitions and displays
- A sculpture trail
- A picnic area and children's play-park

6.14 British Waterways estimates that there are 15 million annual visitors to the Forth & Clyde and Union canal towpaths for various recreational purposes. Visitors to the Falkirk Wheel site currently number a fairly stable 500,000 annually – down from a peak of 600,000 at opening in 2002 and up from a low of 350,000 in 2005/06 after the flurry of post-opening interest and curiosity. Of the total visits, 140,000 pay to take the boat ride and around 120,000 each use the café or shop (allowing for multiple use of facilities BW estimates that c57% of visitors to the site convert to use paid amenities). The centre is open between February and December, seven days per week from 0930-1800, but with reduced hours during the winter months. As a largely open air site it is highly weather dependent, although management take steps to reduce business vulnerability to this through the events programme and through regular reinvestment in additional features.

6.15 British Waterways believe that the Falkirk Wheel and the visitor centre have had a positive impact on its corporate profile and on the economy and image of the surrounding area – a view readily shared by the local authority, Falkirk Council. The Falkirk Wheel is probably the flagship among a number of other local attractions, some of which present other facets of the area's industrial heritage.

6.16 BW estimates the spin-off to the local economy at some £1.5 million per annum. A number of existing and new waterside businesses (SMEs) draw custom from visitors to the site and towpath and from the fairly modest numbers of boats which transit the Forth & Clyde. Between 150/160 boats transit the navigation each year and there are 260 boats based on the canal compared to 50/60 pre-2002.

6.17 British Waterways has provided some information collected from regular visitor surveys. Key points from this are:

- Actual visitor numbers to the site over the 4 years from 2004/05 are 416,479; 304,509; 444,560; 528,075
- Visitors are spread throughout all socio-economic groups with C1 predominant (26%) followed by AB (20%); C2 (18%) and DE (12%)
- The majority of visitors - around 60% over the last 4 years - reside in Scotland; 18% are international; the remainder are (fairly evenly) from throughout the rest of the UK with a slight bias in favour of London and the south-east
- As might be expected, over 80% of visits occur between April and October – with over a third of the annual total visiting in July and August
- 22% of visitors are making a repeat visit
- Over the last 4 years, 57% of visitors were making day trips from home, 38% were staying away from home and a small proportion were breaking a trip to make a visit to the 'wheel'

The HELIX

6.18 Building on the success of the Falkirk Wheel, the HELIX project is intended to transform the landscape between Falkirk and Grangemouth, an area of Scotland that has suffered socially and visually from the decline of older industries. The project is intended to link communities and places along the route of the Forth river, the Carron river and the Forth and Clyde Canal.

Figure 6-2 HELIX project concept

Source: HELIX project

6.19 A partnership between Falkirk Council, British Waterways and Central Scotland Forest Trust, the HELIX is a key project in the My Future's In Falkirk economic regeneration initiative for the Falkirk Council area. The project includes the development of an iconic structure, the Kelpies, a pair of horse heads which will form a functional artwork at the junction of the canal and the marina basin. The heads will move alternately as water is displaced to operate the local and raise and lower vessels. The 30 metre structures will be visible from the M9 motorway and are expected to become important placemarkers for both local residents and for over 30 million passing drivers and passengers each year.

6.20 Additional visual impact is to be created through a series of public art installations, known as Sentinels, which will allow the site to be viewed from different angles. As much of the HELIX site is very flat, it will be difficult for visitors to see more than their immediate surroundings. The Sentinels are intended to give visitors an elevated view – a "bigger picture." The Sentinels will include viewing platforms, maps, periscopes, video games or camera obscuras and will be sited at key points across the HELIX site.

6.21 The overall aim of the project is to create a 'living landmark' resulting in improved quality of place, extensive public art provision, community involvement and amenity, new woodland creation, wildlife habitats and the achievement of economic benefit through business development and tourism. Up to 500ha of blighted land between the neighbouring towns of

Falkirk and Grangemouth will be improved and 750,000 trees will be planted. Five bio-diversity parks will be created and 34 km of pathway and cycle track will be provided.

6.22 Of particular interest in relation to the Bedford & Milton Keynes Waterway proposal is the 1.85 km of new canal which will substantially improve links between the Forth Estuary, River Carron and the Forth & Clyde Canal. This will be achieved through development of a new sea lock downstream from four existing bridges which presently restrict access. Boats will be lifted at this lock by a new, iconic structure, visible from the adjacent M9 motorway. The two 30m high equine sculptures will create a new displacement lift, and celebrate the role of the horse as the one-time main form of canal locomotion. The new sea lock will significantly increase access between the Forth Estuary and the canal system by yachts and motor boats.

6.23 A new canal 'hub' is also proposed. This will provide a destination for residents and visitors as well as sailors and holiday-boaters. A new marina, probably comprising 125 serviced pontoon berths, will be built. This will include various supporting facilities including a crane to remove and step masts thereby facilitating yachts to transit the Forth & Clyde Canal.

6.24 The project has taken part in a two-year long bid proposal process, and has now been awarded £25 million in funding from the Big Lottery Fund's Living Landmarks programme. Construction on the site began in 2008. It will be undertaken in three phases up until 2024[5], with construction of the waterway element in the first phase (2007-2012), followed by further habitat creation and public art in phases 2 and 3.

- The HELIX development is forecast to have a number of quantifiable economic impacts, in addition to benefits to profile. These include:
- 34 permanent jobs created in HELIX Futures and the Hub / Mariner site
- 6 permanent jobs created in the HELIX Trust in construction phase
- 100 construction jobs created (FTE) during construction phase
- 300,000 visitors in 2012 to the Kelpie hub
- £5.5 M of additional visitor expenditure in the wider economy in the construction phase
- More than three million viewers of the Kelpies and icons per annum

6.25 By 2015, the majority of local residents recognise the HELIX brand and can explain its ethos and what it means - Civic pride is high as Falkirk's reputation as a tourist destination increases.

6.26 Local people know about and are regular users of the HELIX and are proud to recommend it to visitors.

6.27 This ambitious project is being developed at the eastern end of the Forth & Clyde canal by the Helix Trust, a partnership between Falkirk Council, British Waterways and the Central

[5] HELIX Partnership *Place - the masterplan* (http://www.falkirkonline.net/helix/PDFs/bid_doc_place.pdf)

Scotland Forest Trust. The £49 million project is being financed through the partners and has secured financial support of £25 million from the BIG Lottery.

Other examples

Anderton Boatlift

6.28 The Anderton Boat Lift lies near the village of Anderton, Cheshire, in north-west England provides a 15.2 m vertical link between two navigable waterways: the River Weaver and the Trent and Mersey Canal. Built in 1875, the boat lift was in use for over 100 years until it was closed due to corrosion in 1983. Restoration work started in 2001 and the boat lift was re-opened in 2002. The lift and its associated visitor centre and exhibition are operated by British Waterways. It is one of only two working boat lifts in the United Kingdom; the other being the Falkirk Wheel in Scotland. The nearly 130-year old structure is a magnificent feat of engineering for the time (although in full operating mode, with regular boat movements through the Lift, British Waterways have discovered some difficulties with the historic workings).

Figure 6-3 Anderton Boat Lift

Source: Ed O'Keefe

6.29 British Waterways report that it has been able to fulfil all bookings and are satisfied with visitor numbers. A reported 70,000 visitors attended in the first three months after re-opening. An economic impact analysis of the Boat Lift found that 22 full-time jobs were directly supported by boatlift, with an additional 15 jobs locally and 30 at county level as a result of visitor spend.

Canal du Midi

6.30 The eight locks of Fonserannes on the Canal du Midi attract so many onlookers that they have become the third most popular tourist attraction in Languedoc, attracting some 300,000 visitors a year.[4],

6.31 The Fonserannes locks are formed of eight successive chambers which carry boats across a difference in ground level of 21.44 metres and offer the sight of a 304 metre long water staircase. In 1983, an inclined plane was built for boats too large for the locks to bypass the staircase, but this has been out of action for many years. In addition to the lock system, there are a number of historic buildings on site. These, along with an annual locks festival held in June (featuring canal trips, historical re-enactments and exhibitions) have helped maintain the level of visitor interest.

Figure 6-4 Fonserannes locks, Canal du Midi

Source: Canal à la Une

Conclusions

6.32 There are strong potential impacts arising from an iconic structure – in both profile and visitor activity. The economic impacts are further considered in Chapter 7. However, it is worth stressing the importance of a dramatic engineering structure to outside perceptions of the Waterway proposal. Conversations with a number of consultees found that while agreeable to the idea of Waterway, they did not perceive any great additional benefit for the area. It was only when the engineering structure was introduced, and comparisons drawn with the Falkirk Wheel and the size of visitor impact outlined, that their interest was engaged. For many potential partners – the "enough canals already" group - it will be the engineering structure that resonates with them, more so than a stretch of waterway.

6.33 A boat lift or other dramatic water-based engineering structure has the potential to become such an iconic structure. The experience of other areas demonstrates that there is an intrinsic interest for residents and visitors in the presence and workings of such structures.

6.34 For an engineering solution at Brogborough Hill to succeed on the scale of examples such as the Falkirk Wheel and similar structures would require:

- A large, highly visible structure
- Innovative engineering (creating drama for spectators)
- Suitable facilities for visitors and users

6.35 A development at Brogborough Hill would have the advantages of both catchment and placement. The area has a substantial population (much greater than that surrounding the Falkirk Wheel), and would be visible from the M1, which could also give good access to the site. There is also the potential for educational visits based around engineering and environmental management themes from institutions throughout the area, including London.

6.36 Importantly, the Brogborough Hill iconic structure could benefit from the experience of other sites, incorporating their lessons as to how to maximise economic impact. The lessons include planning in visitor activity, better provision for business tourism, and working with the local community to develop the sense of place.

6.37 One potential drawback within the wider context of the Waterway is that the iconic structure, and therefore a substantial part of the visitor impact, would occur closer to Milton Keynes than to the Bedford end of the route. Thought would therefore need to be given to how visitors could be drawn further along the route. There can be expected to be substantial drop-off the further along the route visitors go, but interest and activity could be raised through the use of recreational facilities, public art and features of interest, and additional viewpoints. Discussions are currently underway with the MKSM cultural coordinator and English Heritage as to how features and attractors could be developed along the route. One approach could be to establish another gateway structure (symbolic rather than functional) at the Bedford end of the route to complete the place-shaping effect of the route. Current proposals for this section of the route are focusing on the Kempston junction, and include the creation of an innovative, glass-floored archaeological interpretation centre.

7: Estimating the contribution to the visitor economy

Tourism and recreation

7.1 In developing our assessment of the market potential of the Waterway certain assumptions have had to be made. As the detail of the product concept is still to be defined assessment of market demand has had to assume that facilities could be provided which would stimulate visitor spend. However, without a defined product concept some of the estimates of visitor numbers could be viewed as indicative of what might be achievable rather than firm estimates based on robust evidence. This is a reflection of the current position of the project and is unavoidable. Once a more defined concept is available these estimates should be reappraised.

7.2 In general terms those parts of the Waterway that are closest to settlements will see greatest use by cyclists, walkers and anglers; those parts of the Waterway that are on the periphery of settlements will see greater use (albeit at a low level) by horse riders and those parts of the Waterway in more rural locations will appeal to day trippers and tourists looking for picnic sites or simply quiet countryside places plus a degree of cycling from those wishing to use NCR 51. The proposed cycle route is expected to be particularly accessible, as a new development, it will be fully compliant with the requirements of the Disability Discrimination Act.

7.3 However, for the majority of day visitors and tourists some form of focus for the trip is required; something that creates a destination. This might be a simple as a picnic area with tables and good parking; a set of locks or temporary moorings where boating activity could be viewed or a specific visitor attraction with a range of facilities.

7.4 The greatest level of economic impact from the Waterway will be achieved where additional facilities are provided creating a focus for a day out and opportunities for visitor spend. Locations where tourists and day visitors can participate in, or simply watch others participating in, Waterway based activity will generate the greatest appeal. Such locations could include facilities such as:

- Boat hire
- Canoe hire
- Bike hire
- A large car park and good road access
- A boat basin or moorings
- Restaurant/café facilities
- Retail facilities

7.5 At such locations visitors will be attracted by the availability of a number of 'gentle' activities including taking a boat out for a half day or cycling for a couple of hours. Opportunities would be available to boat or cycle to another nearby destination where the visitor could moor or park and spend some time obtaining refreshment or shopping. Such facilities could attract day and overnight visitors from within a 1 – 1.5 hour drivetime isochrone. An example of this can be found at the Dundas Canal Visitor Centre (www.bathtv.tv/?video=dundas-canal).

7.6 Such facilities could be provided as an extension to the existing offers at Stewartby Lake or Willen Lake or could form part of a new development along the Waterway. A potential opportunity for such a development could be an enhancement of the facilities currently available at the and Forest Centre and Millennium Country Park.

7.7 A further option would be to provide such facilities on a larger scale if an iconic attraction based on the requirement for an engineering solution on the Waterway was to be built at Brogborough near to the M1. This could create a symbolic development which might also contribute to changing the image of the area. Given the location of such a development a hotel, retail and food and beverage development alongside the iconic attraction could attract significant numbers of day visitors, tourists and residents. An iconic symbol such as a large wheel which was visible from the M1 could begin to raise the profile of the area in the minds of the passing motorist. Whilst the economic impact of the Angel of the North cannot be measured there are few that would deny that is has made a significant contribution to the rebranding of Newcastle Gateshead as a city tourism destination. An iconic structure visible from the M1 could form a central strand in an image strategy for the area.

7.8 The following paragraphs consider the available markets in more detail. However it is important to note that the concept for the project is still in development and therefore the size and possible achieved penetration of these markets will depend on the final outcome. In the meantime demand estimates are based on an outline concept and assumptions developed by the consultancy team, based on the concept put forward by the Trust.

7.9 To arrive at an estimate of visitor numbers and related spend created by the development of the Waterway a number of assumptions have been made. These are as follows:

- That as a minimum the project will include a completed Waterway with a towpath and opportunities for boat mooring along the route. In addition a number of picnic sites will be developed with car parking allowing day visitors and tourists opportunities to spend some time by the waterside.
- That a marina/basin type project will be developed either as an add on to an existing destination or as a new development and that this will include a large car park, food and beverage, retail, boat hire, bike hire etc
- That an engineering solution based iconic attraction will be developed at Brogborough and that this will include a visitor centre, an hotel, retail and food and beverage developments etc
- That potential demand from boat users is based upon estimates of privately owned boats and hire cruisers located within a geographical catchment that will enable the new Waterway to be included within a cruise of up to seven days duration.

7.10 On the basis of these assumptions it is considered that the following leisure visitor usage might be achieved. Please note this excludes any local usage, instead concentrating on day and tourist visits which create economic impact.

7.11 Combining these estimates of day visitors, tourists and boaters, we can therefore assess the potential impact of a simple Waterway, a Waterway plus marina development, and a Waterway plus marina and iconic attraction.

Table 7-1 Estimated tourism and recreation economic impact

Assumption	**Day visitors**		**Tourists**	
	Low estimate	High estimate	Low estimate	High estimate
Waterway with towpath and picnic sites	35,000	70,000	7,400	14,800
Marina/basin development	42,750	85,500	32,250	64,500
Iconic attraction at Brogborough	285,000	427,500	215,000	322,500
Total	362,750	583,000	254,650	401,800
Spend per head	£13.38	£13.83	£46.64	£46.64
Total spend	£4,853,595	£7,800,540	£11,876,876	£18,739,952

Source: SQW analysis

7.12 This would give an estimated land-based tourism and recreation spend of between £16,730,471 and £26,540,492. Assuming the benefits from the Waterway persisted over a ten-year period, this would give **gross** annual spend of £167 million and £265 million over the period.

7.13 Of course some of the visitor spend incurred as a result of the development might have occurred anyway and some might be displacing business from elsewhere. To arrive at a economic impact figure we have therefore considered leakage, displacement and multiplier effects as follows:

7.14 Leakage is the (proportion of the economic impact that will occur outside of the target area. In the case of the local area (Bedfordshire and Milton Keynes) it is considered that a reasonable high proportion of the benefits will be retained within the area. However, some of the economic impact will leak out to other areas. For example this might occur when tourists visiting the Waterway are staying outside of the local area. Consequently a leakage of 25% has been assumed at a local level.

7.15 It is anticipated that at a regional level (East of England) much less of the impact will leak to other areas; consequently leakage at a regional level has been assessed as being only 10%.

7.16 Displacement is the proportion of benefits accounted for by reduced benefits elsewhere in the target area. For example some of the visitor spend at the Waterway and its attractions might have been spent elsewhere had the Waterway project not happened. Whilst it is expected that the majority of the expenditure will be new expenditure it is anticipated that some spend will

be displaced from existing attractions/destinations. At a local level it is assumed that much of the activity will be new and therefore that such displacement will be low.

7.17 That displacement that does occur will mostly displace business from other destinations within the region. It is assumed that once fully operational the Waterway and its attractions will bring in additional business from outside the region in the form of new visitors to the East of England. However a reasonable proportion of the impact created by the Waterway will displace activity elsewhere. It is assumed therefore that a high level of displacement will occur at this level.

7.18 In addition to the direct impact occurring as a result of the Waterway development an indirect impact will occur as suppliers (hotels, attractions and restaurants) demand more goods and services from their suppliers (food wholesalers, laundries etc) and so on through the supply chain. In the East of England a multiplier of 1.4 is assumed.

7.19 Applying these factors to the forecast visitor expenditure figures produces the following estimates of net impact.

Table 7-2 Estimated net impact from visitor spend

	Local Impact		**Regional Impact**	
Gross Impact	£167,000,000	£265,000,000	£167,000,000	£265,000,000
Leakage	25%		10%	
Displacement	25%		75%	
Multiplier	-		1.4	
Net impact ranges	£94,000,000	£149,000,000	£53,000,000	£83,000,000

Source: SQW

7.20 Local economic impact is higher than regional impact as there is a higher level of displacement (caused by people within the region making use of the facilities). However, this is off-set to a degree by the multiplier effect at regional level of spend cascading through the economy supporting other economic activities.

Economic benefits Attributable to Boating Activity

7.21 The benefits accruing from boating and related activity on the proposed new waterway will be generated from three principal sources;

- Private boating/cruising activity
- Hire/holiday cruisers
- Possible development of a new marina at some point on the route of the new Waterway

7.22 The following paragraphs set out the estimated benefits and the sources of information used for each of these activities.

Privately Owned Boat Activity

7.23 Based on estimates of boats based at marinas within a reasonable cruising catchment of the proposed Waterway (see Chapter 5) it has been estimated that there are around 4,800 privately owned vessels that could potentially use the new link.

7.24 Two recent surveys provide data which assists with estimates of expenditure by private boat-owners – an IBP survey of private boat-owners for the Environment Agency and the BDRC survey of boat-owners for British Waterways. Although the surveys used different questionnaires and the resultant data differ on some points of detail, the results are not materially at odds with each other. Both provide a number of key pieces of information which allow an estimate to be made of likely expenditure by this market which can be attributable to the new Waterway; where necessary we have 'averaged' figures from the surveys to arrive at our expenditure estimates. The following table summarises the relevant information from the two surveys.

Table 7-3 Key points from surveys

	IBP Survey of EA boat-owners	BDRC Survey of BW boat-owners
Average days cruising per annum	21 days	53 days
Average daily cruising distance	12 miles	12.6 miles
Average crew on-board	3	2.7
Average daily spend per party	£102	£73.78
Average daily spend per head	£34	£27.33
Likelihood (very likely/likely) of using new waterway	30% (rises to 60% among Ouse-based owners)	53%

Source: SQW analysis

7.25 Both surveys give a positive indication of the likelihood of boat-owners to use the new Waterway. In the IBP survey, 30% overall were 'very likely/likely' to use the Waterway; of those who responded favourably to the question, 74% indicated that that a new west/east/west link would encourage them to make trips of longer duration; 62% would make trips of longer distance and 61% would be encouraged to travel further. In the BRDC survey, 53% overall were 'very likely/likely' to use the Waterway. Among those, 31% would use it as part of their normal cruising activity and 13% would use it for cross-country transit purposes. This indicates that the new Waterway would have a reasonably high degree of additionality in attracting users, although this will include a level of boating activity (and expenditure) which will be displaced from other parts of the inland waterway network.

7.26 One third of respondents to the question in the IBP survey would 'only use the new link once out of curiosity'; a broadly comparable number (24%) in the BRDC survey would only 'make a one-off visit'. We have discounted these as their activity will, in all likelihood, represent mainly displaced activity.

7.27 To calculate the expenditure attributable to the private boating market we have assumed that 60% of the potential market of 4,800 boats (2,880) would include the Waterway in one trip per annum. This assumes 2.5 days within the Waterway (allowing for the average daily cruising distance of 12 miles). In advance of final decisions on the route to be followed by the

new Waterway it is uncertain how many locks will require to be negotiated by a boat travelling through the entire section; the greater the number of locks, the longer will be the duration of passage and, consequently, the level of spend[6]. However, the new waterway is only 26 km in length and the duration of an overall journey may inhibit some boat-owners from making a through trip thereby restricting the time spent and the resultant expenditure. Taking an average daily spend per boat of £88 (daily expenditure by boat averaged over the two surveys) the estimated expenditure amounts to **£633,600 per annum** (2,880 boats x 2.5 days x £88 per day) in gross terms.

Hire Cruiser Activity

7.28 The number of hire-boats and hire-boat-weeks based in the potential catchment for the new Waterway have been estimated (see Chapter 5) at 5,000. There is no data which provides any indication of the extent of time these vessels will spend cruising the new Waterway. This is estimated, on a purely arbitrary basis, at 10% (equating to 500 hire-weeks per annum). It is assumed that this activity is additional, resulting from a new and interesting route coming into being in the region. Assuming that these vessels spend 5 days (outward from and return to cruiser hire base) on the new link, and that hire-boat passengers (average party size of 4) have the same spending pattern as private owners, this would generate an estimated annual expenditure of £220,000 (500 vessel/weeks x 5 days x £88/day).

7.29 The British Waterways *Holiday Boaters Survey 2006* indicates that the average daily hire cost amounts to £135.72. It is reasonable to attribute a proportion of the hire charge to the existence of the new Waterway. Based on an apportionment of 5 days hire-charge (£135.72 x 5) by 500 boat weeks gives an annual figure of £339,300. This suggests that the combined value of hire-boaters expenditure and an apportionment of hire charges might amount to **£559,300 per annum**.

Development of a new Marina on the Proposed Waterway

7.30 From consultations with informed sources, it appears that there is a strong likelihood that a new marina (or marinas) could be developed along the route of the new Waterway. A number of sites have been identified as potentially suitable for such development at various points on the route. For the purposes of estimating the impact from this type of development it has been assumed that there might be scope for two new marinas on a 26 km stretch of waterway. Taking account of information provided by the British Waterways *Inland Marina Investment Guide* it seems that a new development of, say 150 marina berths with boat sales/brokerage, shop, fuel supply, hard-standing/boat storage and some support/technical services could generate a capital investment (including land acquisition) of c£3.2m. This would support around 4 full time equivalent (FTE) operational jobs on an ongoing basis. Assuming the creation of two new marinas would give rise to capital investment of some £6.4m and ongoing employment of 8 FTE staff.

[6] Current indications are that there could be as many as 33 locks on the route. Applying the "rules of thumb" for calculating boat miles – each lock is considered to be a "mile" – this total of 33 boat-miles is then divided by an average cruising speed of 3 miles an hour, giving a transit time of 11 hours – which compares with our own estimate of 2.5 days to transit.

7.31 It is understood that most of the inland marinas in the area of the new Waterway operate at fairly high utilisation levels (around 85-90%). On this basis it has been assumed that there will be relatively low displacement of demand for marina berths and that a new marina might operate close to capacity within a short time frame; 75% utilisation has been assumed in the following estimates. Using average annual berthing fees of £1,700 and average ancillary expenditure by berth-holders of £1,200 per annum, suggests that two new 150 berth marinas might generate expenditure in the local economy of **£652,500 per annum.** Expenditure by boat-owners while cruising (daily spend) and at marinas (annual) excludes licence fees payable to British Waterways or The Environment Agency. This expenditure is reckoned to be non-additional to the new Waterway as the project itself is unlikely to lead to significantly increased levels of boat ownership.

Net economic impact from boating activity

7.32 To arrive at a net estimate of the economic impact of boating activity, we need to take into account a number of factors:

- Leakage, where spend occurs outside the area, is considered to be negligible as boaters will be resident on the boats during the period they are on the Waterway.
- Displacement, is where existing activity in the area now occurs on the Waterway instead. This is considered to be low at local level as there is only limited activity at present in the area. Displacement will be higher at regional level, however, we consider this to be balanced by the creation of an east-west link of national importance.
- Multiplier – at regional level a multiplier of 1.4 has been applied to take into account the indirect effect on the local economy of increased demand.

Table 7-4 Net economic impact of boating activity

	Boating		**Hire**		**Marina**	
	Local	Regional	Local	Regional	Local	Regional
Gross	£633,600	£633,600	£559,300	£559,300	£652,500	£652,500
Leakage	-	-	-	-	-	-
Displacement	10%	40%	-	-	-	20%
Multiplier	-	1.4	-	1.4	-	1.4
Impact	£570,240	£532,224	£559,300	£783,020	£652,500	£730,800

Source: SQW Consulting

Conclusions

7.33 Taken together, the estimates for land-based tourism and recreation and for water-based activity, give the following annual results:

Table 7-5 Estimated net expenditure arising from visitor economy activity

	Local		**Regional**	
	Low	High	Low	High
Land-based visitor economy	£9,393,750	£14,906,250	£5,260,500	£8,347,500
Water-based visitor economy	£1,782,040	£1,782,040	£2,046,044	£2,046,044
Total	£11,175,790	£16,688,290	£7,306,544	£10,393,544

Source: SQW Consulting

7.34 We therefore estimate that a Waterway, with a suitably high-impact iconic attraction, provision for waterside recreation and hospitality, and provision for water-based activity, could generate net expenditure of between £11.1 million and £16.7 million each year from visitor economy activities at a local level, and £7.3 million and £10.3 million at a regional level, once completed. Over a ten-year period, this would give net annual spend of between £112 and £167 million at a local level, and £73 and £103 million at regional level.

7.35 Assuming the GVA generated in tourism businesses in the area is 35% of turnover (which is assumed here to be the same as tourist expenditure), then the total estimates for GVA contribution over a ten-year period would be between £25.6 million and £36.4 million at a regional level.

8: Place shaping

8.1 Place shaping is a term coined by Sir Michael Lyons in the 2007 inquiry into local government. While its main recommendations on the financing of local government have not been implemented, the report was influential in arguing for a strengthened leadership role for local authorities.

8.2 The Lyons Inquiry called place shaping:

> *"The creative use of powers and influence to promote the general wellbeing of a community and its citizens". 'Place shaping' is seen as the responsibility of local government and all the local partners in the public, voluntary and business sectors. It is about creating attractive, prosperous, vibrant, safe and strong communities where people want to live, work and do business.*

8.3 The inquiry highlighted a number of potential roles that could be played by regional and local authorities in shaping their communities:

- building and shaping local identity;
- representing the community;
- regulating harmful and disruptive behaviours;
- maintaining the cohesiveness of the community and supporting debate within it,
- ensuring smaller voices are heard;
- helping to resolve disagreements;
- working to make the local economy more successful while being sensitive to pressures on the environment;
- understanding local needs and preferences and making sure that the right services are provided to local people; and
- working with other bodies to response to complex challenges such as natural disasters and other emergencies.

8.4 The Waterway, seen as a local and regional project, is considered by consultees to have the potential to help build and shape local identity.

Creating identity

8.5 The 2006 Local Government White Paper, 'Strong and Prosperous Communities,' referred to local government as "a strategic leader and place shaper". In economic terms, increased profile, more positive perceptions, and improved environments can translate into the retention

and attraction of high-value individuals and businesses. The Waterway proposal therefore has the potential to support the attraction of investment through two primary means:

- The creation of a large-scale development (potentially including an iconic structure) that raises the profile of the area
- The creation of an area of high-amenity, with opportunities for leisure and recreation for individuals and families

8.6 Developing place perceptions is one of the hardest areas to value. Marketing, even for companies engaged directly in selling products to consumers, can be difficult to value. When the marketing effort is directed at increasing awareness of a place and raising its profile as an attractive or interesting location – with benefits being captured much further down the line – then the difficulties increase still more.

8.7 A recent UK example of place-shaping has been the Angel of the North. A sculpture in Gateshead that has struck a chord with residents and visitors – combining the area's industrial traditions with a forward looking design – and helped raise the profile of Gateshead. Yet those benefitting from the increased profile confess the difficulties in estimating the extent of the benefit:

> *Measuring the impact of a success story like the Angel of the North is verging on the impossible, certainly in the terms required by the Government and funding bodies. Landmark projects are just not appropriate for the kind of bean-counting processes currently in place. Built on the site of a former colliery, no-one would contest that the Angel project has brought good economic benefits to the area. You could measure results in terms of positive messages and images being sent around the world. Just in the first month the equivalent global advertising spend would have covered the cost of the project.*
>
> *We draw visitors from around the world all the time, both tourists and governmental visits. But we wouldn't, for example, be able to measure the number of jobs created or learning opportunities over 30 hours. Some things can sensibly be measured, some can't.*
>
> *(Bill Macnaught, head of cultural development, Gateshead)*

8.8 In the view of its backers, the real impact of the Angel of the North has been through an increase in confidence and a shift in attitudes across the region, both towards development projects for the area, and to the value of culture as a whole. In the view of Gateshead Council, the lesson to government and other funding bodies is the need to take a broader view on the range of positive impacts that such landmark projects can lead to. Lessons from the Angel of the North project included grassroots engagement, with the news of the project spread by word of mouth and children and schools engaged. The project also capitalised on the engineering heritage of the area. – many people unimpressed by "art" admitted their admiration for the skill and sophistication involved in the sculpture as a feat of civil engineering.

8.9 Other evidence for the role of the environment in shaping and promoting identity comes from research carried out for the Scottish Government on international perceptions. Research in

America, Germany and China found that it was the quality of Scotland's natural heritage that engaged and interested people, and was pivotal in attracting visitors and potential investors.

8.10 For the Waterway locale and wider area, there are currently mixed perceptions. Milton Keynes enjoys a national profile as a new, fast-growing town with modern infrastructure and good transport links. Bedfordshire by contrast has rather fewer positive perceptions. Research[7] for Bedfordshire County Council found that the County ranked relatively low in popular appeal – with lower very favourable rankings than any other County than Essex.

Figure 8-1

Absolute Analysis % Respondents	Base	% Positive 95% Confidence Interval Mean	5 Very favourable	4 Fairly favourable	3 Neither favourable or unfavourable	2 Fairly unfavourable	1 Very unfavourable
Base	**1083**	**50.6% ±3.0% 3.56**	**227 21.0%**	**321 29.6%**	**407 37.6%**	**92 8.5%**	**36 3.3%**
Cambridgeshire	187	60.4% ±7.0% 3.74	48 25.7%	65 34.8%	58 31.0%	10 5.3%	6 3.2%
Norfolk	159	57.9% ±7.7% 3.71	46 28.9%	46 28.9%	48 30.2%	13 8.2%	6 3.8%
Suffolk	130	48.5% ±8.6% 3.58	26 20.0%	37 28.5%	55 42.3%	10 7.7%	2 1.5%
Essex	166	30.1% ±7.0% 3.10	17 10.2%	33 19.9%	76 45.8%	29 17.5%	11 6.6%
Bedfordshire	237	44.3% ±6.3% 3.46	34 14.3%	71 30.0%	109 46.0%	17 7.2%	6 2.5%
Hertfordshire	204	61.3% ±6.7% 3.77	56 27.5%	69 33.8%	61 29.9%	13 6.4%	5 2.5%

Source: Bedfordshire County Council

8.11 Respondents with negative perceptions of the Bedfordshire citied issues such as urban problems, poor personal experience, and a lack of tourism interest, giving no reason to visit. The most memorable landmarks cited by respondents were Luton Airport (by some way) and the River Ouse as a runner-up. The most recalled tourist attractions Woburn, Whipsnade Zoo and Luton Football Club. The lack of strong identity was illustrated by respondents referring to areas outside of Bedfordshire, including Milton Keynes (widely mentioned) as well as Baldock, Newport Pagnell, St Neots and Olney.

8.12 The lack of knowledge about the area, poor experience and a poor perception of Bedfordshire are all factors that could in part be addressed by a high profile amenity like the Waterway – given a suitable focal point or points – although as mentioned above, with the engineering focal point located closer to Milton Keynes, consideration would need to be given to how to realise place-shaping benefits for Bedford itself – possibly through a gateway structure or facilities for the Great Ouse end of the route.

[7] Bedfordshire County Council (2008) *Business perceptions of Bedfordshire*

Contribution to business attraction

8.13 The role of distinctive structures lending themselves to place marketing efforts is clear – whether it is Big Ben, the Eiffel Tower or the Angel of the North (this is discussed in more detail in Chapter 6).

8.14 The second way in which the Waterway could potentially contribute to business attraction is in the development of high quality natural amenities, easily accessible by residents. Attracting businesses to a location (either existing businesses looking to relocate or new businesses deciding where to start-up) is dependent on a mix of factors, which will vary by type of business and the interests of manager-owners.

8.15 At a national level, the interest is very much in international firms locating in the UK (Foreign Direct Investment). At a regional or sub-regional level, there is obviously interest in creating a competitive location that appeals to businesses in both the UK and abroad. The academic literature identifies a number of factors that help determine the level of inward investment in an economy. These include:

- Geographical and economic factors such as size of accessible market, distance between host and home country, relative endowments of factors
- Openness factors such as the exchange rate regime including currency union, participation in free trade areas, trade barriers, etc
- Product market regulations
- Subsidies to Foreign Direct Investment
- Labour market legislation
- State of the economy's infrastructure
- Agglomeration of Foreign Direct Investment and clustering of economic activity
- Quality of the national innovation systems

8.16 Not all these factors have been conclusively found to encourage FDI, and in some cases contradictory results were obtained by different studies. Attracting inward investment has become an important strategy for national and regional governments. Within the UK (and to an extent across the European Union) the institutional and economic playing-field is relatively level. Locations have therefore to compete on additional factors that can influence business decisions.

8.17 In 2000, as part of a major study on the attractiveness of Zurich as a business location, a survey was undertaken of business leaders in six major European cities (Frankfurt, London, Milan, Munich, Paris and Zurich) on the relative importance of a range of factors that influence location decisions.

Table 8-1 Location factors in attracting business investment

Location factor	Ranking	Location factor	Ranking
Proximity to technical higher education institutions	1	Non-financial economic assistance	9
Proximity to universities	2	Cost of capital	10
Proximity to research institutions	3	Financial assistance	11
Quality of life	4	Quality of telecommunications	12
Proximity to suppliers	5	Proximity to businesses in the same sector	13
Stability of legal and political environment	6	Energy costs	14
Business-friendly environment and acceptance of new technologies	7	Access to European internal market	15
Quality of graduates from technical higher education institutions	8	Public R&D support	16

Source: Metropole Zürich

8.18 For a developed economy, where competition was based on more intangible factors, quality of life was an important factor. Quality of life is a difficult area to measure, with personal preferences (urban versus rural, flats versus detached housing, car versus public transport) influencing perceptions.

8.19 That quality of life is important is borne out by research on locational preferences in English local authorities. The evidence from survey work and in-depth interviews highlighted the fact that quality of life is important to economic development provided that the basic traditional factors are already in place. Indeed, quality of life provides the cutting-edge in the competitive process when a number of potential investment locations are on a "level playing field" in terms of traditional factors. Quality of life alone can provide a very desirable living environment, as confirmed by the spatial patterns identified by the research. However, it was the combination of quality of life and traditional factors such as land, quality workforce, infrastructure and accessible locations which created the most successful economies, and which are characteristic of the English home counties.

8.20 The Waterway concept is about more than simply providing amenity and leisure opportunities. In line with regional and sub-regional aspirations, the partners seek to leverage the creation of this substantial green infrastructure development to attract investment by businesses – especially higher-value, knowledge-based industries. This also aligns with the objectives of the main property developers within the Waterway locale, who are interested in developing an environmental business cluster to complement any new settlement in the area. Should the Waterway play a role in attracting knowledge-based, higher-value environmental

businesses to the locality then the economic impact would be larger still than would be the case with attracting/retaining conventional businesses.

Quantifying the benefits

8.21 Attempting to quantify the benefits of marketing and amenity are fraught, both because of the difficulties in estimating marketing and quality of life benefits, and because the final form of the Waterway proposal (in terms of iconic structure, if any, additional environmental features, etc.) is not yet known.

8.22 In attempting to put some sense of the scale of the potential contribution to business attractiveness, we would need to take into account the fact that marketing profile, quality of life and attractive family-friendly environments are one, more minor, element among more hard-edged factors such as labour and premises availability, access to customers and suppliers etc. The effect of high quality environments can also be greater where businesses and business owners are located closer to the amenities.

8.23 Place shaping is a very difficult area to quantify. The effects, while widely recognised, are subtle, slight and part of a mix of competing and complementary actions. From a social perspective, there may be benefits in terms of personal happiness, better physical and mental health, and social cohesion. From an economic perspective, place shaping can influence business decisions on where to start or relocate a business to.

8.24 For the Waterway proposal, we have looked at how such a subtle effect may play out on business retention and attraction. We have made the following assumptions:

- that the developed Waterway enjoys a good profile (including from an iconic structure) forming part of the local and regional marketing mix (as the Falkirk Wheel does in Scotland)
- the Waterway has associated high-quality amenities and opportunities for recreation.

8.25 Based on a proposal of this type, we have conservatively assumed a very slight effect on business owner decisions to start a new business or relocate a business in the Waterway locale, and a similar, still weaker effect, on business decisions in the Milton Keynes South Midlands Growth area.

Table 8-2 Assumed place shaping influence of the Waterway on new business locational decision-making

Effect	Waterway locale	Wider MKSM area
Low	0.5%	0.05%
Medium	0.75%	0.075%
High	1%	0.1%

Source: SQW

8.26 These estimates assume a slight influence on business decisions to relocate or open in these areas.

8.27 We have drawn on the data for annual VAT registrations/deregistrations for these areas for the latest year available (2007). We have conservatively assumed that the new/attracted businesses are slightly smaller than average, with ten full-time employees. We have used the average workplace Gross Value Added per head for the East of England and the South East (£18,857 and £21,037 respectively, to give a composite workplace GVA per head of £20,037.

8.28 Applying these estimates to the net new business population in the Waterway locale would give the following values:

Table 8-3 Waterway locale – single year

	Number of businesses	Employment	GVA
Low	4	19	£385,712
Medium	6	29	£578,568
High	8	39	£771,425

Source: SQW

8.29 Applied to the MKSM Growth Area, the following values would be produced:

Table 8-4 MKSM Growth Area – single year

	Number of businesses	Employment	GVA
Low	1	4	£73,886
Medium	1	4	£87,186
High	1	6	£128,599

Source: SQW

8.30 These gross estimates of impact should be adjusted for displacement, which takes into account companies whose business is displaced by these new companies or employees that are attracted from existing firms. As the Growth Area is expanding rapidly in both population (creating demand for new services and products) and business base we have applied a displacement factor of 50%.

8.31 We have applied a multiplier effect (the impact of new businesses consuming local goods and services) of 1.4, based on a recent evaluation[8] of inward investment support in the East of England.

8.32 Assuming the place shaping benefits of the Waterway last for ten years, then, based on the estimates above, the following cumulative impact would arise:

Table 8-5 Projected net impact over a ten-year period (Waterway locale and MKSM Growth Area combined)

	Number of businesses	Employment	GVA
Low	50	460	£35,485,527
Medium	70	670	£51,685,442
High	90	900	£69,428,205

Source: SQW

[8] SQW (2008) *Attraction of inward investment*

8.33 This would give a projected **net** GVA increase of between £35 million and £69 million over the period, depending on the strength of the place shaping effect of this major development. These values assume that no business attracted or created would disappear over the period – in reality a number of them would – or that some businesses would not expand – which they would. However, these outline estimates show the powerful cumulative effect of attracting businesses over a period of time.

9: Transport

Historical overview

9.1 Britain's canal network was originally constructed to provide freight transportation services. However, from the mid 19th century onwards, railways began to replace canals, particularly those that had been built on the standard narrow gauge with 7 ft bridges and locks. Additional competition from improved roads and internal combustion road vehicles further undermined the competitiveness of canals as freight routes

9.2 There was a late burst of wide-waterway building for commercial use (including the deepening of the Caledonian Canal in 1847, the Manchester Ship Canal opened in 1894 and the New Junction canal, opened in 1905). The movement of bulky, non-perishable and non-vital goods by canal continued into the 20th Century, but the severe winter of 1962-1963 when canals became icebound for three months meant many customers switched to road haulage. The growing containerisation of freight has been an additional factor in a preference for sea/road haulage in place of canals. The last major investment in the commercial use of canals was the Sheffield and South Yorkshire Navigation which was upgraded in the early 1980s to handle barges of standard European dimensions (with beam widths up to 5 metres), however the recession of the early 1980s meant that most of the traffic never materialised. Specialist use of canals in some places continued until much later, for instance delivering coal to the Aire power stations until as late as 2004.

9.3 However, movement of freight by waterway continues to be of interest as it offers a way to reduce traffic movements by road – which are a major cause of congestion and pollution – using a more energy efficient form of transport.

Current usage

9.4 At the present time, freight carrying on canals is almost entirely confined to a few of the larger waterways, mainly river navigations managed by British Waterways; and the Manchester Ship Canal. Freight transport does however remain an important function for some tidal waterways although, compared with other transport modes, the amount carried in national terms is relatively small.

Table 9-1 Freight movements by mode in the UK, 2007

Mode	Freight lifted	Freight moved
Road	84%	68%
Rail	4%	8%
Pipeline	6%	4%
Water	5%	20%

Source: Department for Transport

9.5 The data also indicate that rivers are currently the most heavily used routes for freight transport.

Table 9-2 Main waterborne freight routes

Route	Freight lifted (million tonnes)	Freight moved (billion tonne-kilometres)
River Thames	22.0	0.82
River Forth	8.3	0.17
Manchester Ship Canal	6.7	0.09
River Mersey	6.7	0.11
River Humber	6.0	0.23

Source: Department for Transport

9.6 In terms of freight moved, the majority of inland waterway freight movements were related to crude petroleum and petroleum products; other liquid bulk; agricultural products; other dry bulk; and unitised cargoes.

9.7 Traffic on inland waterways did increase between 2006 and 2007, with an increase of 2% in freight lifted to 52 million tonnes and freight moved by 4 per cent to 1.7 billion tonne-km. This was due mostly to increased dry and liquid bulk traffic. Traffic movements on inland waterways are relatively short, with an average length of haul of only 41 kilometres.

Potential of the Waterway

9.8 Given the current limited usage of inland waterways in the UK for freight movements, the economic potential of the Waterway acting as a freight route are considered to be limited. There are three main areas where the Waterway could potentially act as a conduit for freight:

- To move construction materials during the construction of any new settlement in the Marston Vale area
- To move freight locally
- To act as a link in trans-regional or trans-national freight movements

9.9 The movement of construction materials, which fit the bill for waterway freight by being bulky, heavy and non-perishable, is considered by stakeholders to be an ideal use of the Waterway. However, this would depend on the sequencing of the development of the eco-town with a functioning stretch of Waterway needing to be in place ahead of the construction. Given the current uncertainties surrounding the construction of any new settlement in the area it is not possible to say how the two developments would interact. In addition, these freight movements would be time-limited, ending when the construction phase of the settlement came to an end.

9.10 Local freight movements were considered to be a second area where the Waterway could potentially contribute. Here was envisaged the movement of refuse, recycling and other bulk, non-perishable cargo. This would reduce road movements, and was considered a good fit with idea of making any new settlement in the area more environmentally sustainable.

9.11 Finally, the Waterway could potentially act as a link in trans-regional or trans-national freight movements moving along the West-East axis. The Great Ouse is highlighted as one waterway

with sea access, and the theoretical possibility of moving bulky, non-perishable or abnormal loads into the centre of England via this route. However, the East of England generally appears to have a dearth of freight moved by inland waterway.

Figure 9-1 Major waterways for freight movement in the UK

Source: Department for Transport

9.12 The potential for increased trans-regional or trans-national movements of freight via the Waterway in the near term is therefore considered low. It would require a change in the wider transport framework for inland waterways to be more fully exploited for freight use. There are

ongoing attempts to achieve this, focusing on changes to the planning regime, the simplification of charges for use, extension and greater flexibility of Freight Facilities Grants to inland waterways, and an improved dredging programme. While these actions may reduce barriers to use, ultimately it will require a change in the economics of freight movements for inland waterways, including the proposed Waterway, to significantly increase their level of usage.

9.13 In the near term, the greatest potential for increasing freight movements on any new Waterway would come from the planning system. Should local and regional authorities take advantage of the opportunity created by new development in the area, then the initial build phase could draw on the Waterway for movement of materials, collection and recycling/disposal facilities could be created to make maximum use of the Waterway, and faster water-based passenger transport could be realised. This would require ambition on the part of the relevant public authorities, but would underpin the desire for new settlements to be more environmentally sustainable and could form a model for development elsewhere.

10: Ecosystem services

10.1 Ecosystem services - the natural environment provides basis for all human activity, social and economic, and the existence of a healthy environment capable of absorbing and recycling human outputs is fundamental to economic development. Waterways contribute to the maintenance of the ecosystem through irrigation, watershed protection, and landscape and biodiversity creation and protection. There is growing interest in the literature in ecosystem services, recognising the vital role that the natural environment plays in hosting the "real" economy and attempting to value this. However there are two difficulties with measuring the contribution of projects to ecosystem services: there is no agreed valuation of these services, and there is no agreed method for assessing the value of an individual project to the overall environment.

10.2 Ecosystem services identified include:

- Global life-support services (e.g. atmosphere and climate regulation, carbon storage).
- Flood and erosion control (e.g. river storage, wave attenuation).
- Water quality and quantity (e.g. aquifer recharging).
- Pollution control (e.g. land preparation, physical health from pollution capture properties, noise and wind reduction).
- Soil provision (e.g. soil formation processes and soil erosion prevention).
- Landscape formation (e.g. river and coastal geomorphological processes).
- Waste decomposition and disposal (e.g. micro-organism processes and scavenging).
- Pollination (e.g. crops and flowers).
- Biological control (e.g. pest reduction through predators).
- Habitat provision (e.g. spawning grounds for commercial fish).

10.3 For the proposed Waterway, there are two primary ecosystem services: water supply and flood control.

10.4 For water supply, there is the potential to use the Waterway as the source of water for new development in the area, reducing the need for major infrastructure to be installed. This would, however, depend on the sequencing of development along the Waterway, with the Waterway needing to be in place ahead of residential and business development. The GHK estimates[9] for the value of such infrastructure were £3.1 million, based on a total length of 24.96 km of water mains infrastructure.

[9] Based on Water UK estimates of 325,000 km of water mains and 302,000 of sewers in England and Wales with a total value of £150 billion - GHK (2005) The Bedford Milton Keynes Waterway – Cost Benefit Appraisal

10.5 Water UK figures[10] state that there are 325,000 km of water mains and 302,000 km of sewers in England and Wales with a total value of £150 billion. This suggests a total £240,000 per km, of which £124,000 could be attributed to the value of water mains per km. An estimate for the total value of 24.96 km of water mains infrastructure (i.e. the same length as the Waterway) would therefore be around £3.1 million. However, rates of water loss mean that it is currently unlikely that the waterway would be used as a means of transporting water over longer distances in this way.

10.6 Flood control is a growing issue in the UK, particularly in the south of England where new developments have been built on sites not previously used to human habitation. Potentially, design of the Waterway could see it acting as a flood control mechanism in the area, safeguarding economic development by reducing damage to life and property and the disruption that accompanies flooding. For example, the current proposal would take one two hectare area at the junction of the River Ouse in Bedford out of the floodplain, opening up a four hectare site for possible development.

10.7 Improved valuation of ecosystem benefits, and making payments to support their delivery, may develop in the future, but at present, these are not contributions that can easily be valued.

[10] Water UK (2004) *Capital Maintenance and National Infrastructure, Price Review 2004, Background Brief No .4*

11: Property uplift and regeneration

Regeneration benefits

The value of waterside properties

11.1 The literature on the economic benefits of waterways has a strong emphasis on what is termed "property uplift", the increase in value of property situated close to a restored or new waterway.

11.2 Further, some of the valuation literature confuses 'benefits' derived from green spaces with the monetised expression of benefits. For example, the increase in the value of properties resulting from their proximity to a park is not a benefit *per se*. Instead, it is the expression/realisation of the value of a series of benefits that accrue to residents. These benefits include pleasant views, ease of access to recreational facilities, cleaner/safer environment etc.

11.3 Most properties alongside waterway are owned by third parties. There is considerable evidence to show that property values are enhanced by canal and river-side locations, particularly in the residential sector and in consumer oriented businesses. Studies indicate that residential property values are enhanced by 15%-20% by good quality waterside locations.

11.4 In an appraisal of the public benefits of BW's strategy, OXERA undertook two alternative approaches to estimate the value of the premium associated with domestic waterside property along BW's waterways. One method gave a value of £260 million (equivalent to an annualised amount of about £11 million). The alternative method gave a higher value of £660–810 million (annualised to around £32 million). In contrast to employment effects, this is not a diversion of value from one part of the UK to another (so that other property elsewhere in the UK is worth proportionately less), but an improvement in the value of the *total stock* of UK property.

11.5 For retail and office schemes, there is less evidence to show that property value premiums can be associated with proximity to water. However there is evidence to show that properties can be sold on quicker, due to environmental and aesthetic factors.

Economics of land/property

11.6 The supply of land is fixed, thus it is inherently scarce. Its price reflects three things:

- Its scarcity value
- The value of improvements made by the landowner
- The value of improvements made by other people, especially the public sector.

11.7 The first and second of these conditions almost entirely swamp the second. Since 1947 in the UK there has been a command-and-control system for land-use planning. Thus, the market

value of land can increase dramatically when its designation changes from agricultural to commercial.

11.8 However, high land prices do not, in themselves, cause high property prices. Both are caused by restrictions in supply but ultimately high property prices feed back to high land prices. Generally a developer will assess what he can afford for land after costs and profits are taken into account (the residual land value). On this basis the direction of causality flows from property prices to land prices. Thus, the nature of the development will have a significant impact on land value.

11.9 An increase in property values can be classed as an indirect benefit of waterway developments. From the literature reviewed, in the UK the impact of investments in waterway type developments on property values is seen as been positive, but there has been less emphasis on exact amounts in much of the literature. Table 1 summarises the evidence that is available.

Table 11-1 Range of values for property uplift

Study	Area	Uplift property values
Garrod & Willis, 1993	Canals	Value of new residential properties beside canals is enhanced by an average of **19%**
Garrod & Willis, 1994	Canals	Study suggests that a waterfront location added a premium of between **3** and **5** per cent to the sale price of a property.
Garrod & Willis, 2000	Waterway developments	The waterside premium is between **9%** and **20%**
Wood & Handley, 1999	Waterfront regeneration	In terms of enhanced rental rates, this equated to some **10-40%** (mean nearer **20%**) for residential property
Ecotec, 1998	Waterway developments	Waterway enhancement clearly contributes to the marketability of many properties, sometimes providing the unique selling point, although it is difficult to translate this into monetary values.
Ecotec Case Studies, 2001	Waterway developments	*Market Harborough*: Waterside residential values are generally higher than those for equivalent properties else where in Market Harborough *Tower Wharf, Chester:* Minimum **5-10%** premium for residential properties *Newark:* Waterside properties have fetched premiums of **18%** over prices for detached Houses in Newark centre.
IWAC, 2007	Inland waterways	Increases of **10%**, **19%** and **21%** have being recorded in urban settings.

Source: SQW

11.10 However caution should be noted when assessing data on indirect benefits and induced benefits of waterways as these are patchier and less robust than for other direct benefits.

11.11 The property uplift effect can appear quite powerful. For instance, applying it to the main property development previously proposed for the Waterway locale, the Marston Vale eco-town, would give the following results.

Table 11-2 Property uplift effect applied to the former proposal for the Marston Vale Eco-town

Element	Value
Marston Vale Eco-town housing	15,000 units
Assumed average house price	£200,000

Element	Value
Uplift of 20% applied to 750 houses – taken to be those situated on the waterfront	£30,000,000
Uplift of 10% applied to 750 houses – taken to be those close to the waterfront	£15,000,000

Source: SQW

11.12 These assumptions would give a one-time uplift to property values of £45,000,000. In practice, discussions with the developers of the proposed eco-town found that they considered the main benefit of a waterfront/waterway location to be the increased attractiveness of these properties, allowing them to be sold more quickly allowing developers to recoup their costs.

Capturing Uplift

11.13 There have been many failed attempts by different governments to capture some of the uplift in land and property values, the most notable have been:

- The 1947 Development charge
- The 1967 Betterment levy
- The 1973 Development gains tax, and;
- The intended 'planning gain supplement' which was scrapped in October 2007.

11.14 The current arrangement in the UK that comes anywhere near capturing uplift is the Section 106 system, which is hampered by a range of problems that hinder delivery – lack of transparency, uncertainty and the slow nature of negotiations. The current proposal for the Waterway would see part of the cost of construction met through Section 106 agreements.

Role in regeneration

11.15 Waterway schemes elsewhere have often achieved economic impacts as part of a wider area regeneration effort – major examples include Brindley Place in Birmingham, Spiers Wharf in Glasgow. These schemes should be seen in the context of the overall regeneration effort. Historically, the waterways have served industry in these locales – as this industry has declined and disappeared these areas have become run-down. Often situated in city centres, these sites are ripe for re-development. The waterway element can provide additional interest and a focus to the redevelopment, but it is part of the mix, rather than the leading reason for re-development.

11.16 For the proposed Waterway, the potential role in regeneration is much less clear. The central section of the route passes through a rural and post-extractive environment, only at either end does the route interface with the built environment. For the Milton Keynes end of the route, there is currently limited interest in the potential of the Waterway in supporting the development of Milton Keynes. The general view is that the immediate area is already quite well provided for in terms of waterways and green spaces (certainly compared to comparators – such as Leicester - put forward by interviewees). The priority areas for regeneration in

Milton Keynes, where the most deprived communities are located, also lie away from the route of the proposed Waterway.

11.17 There would appear to be greater potential for bringing the Waterway into the regeneration of Bedford, an historic town which, as consultees observe, has oriented its development away from the riverside in recent decades (the route of the Great Ouse through Bedford is also interrupted by two low bridges). Currently there are no developed proposals as to how a functioning Waterway through Bedford could be capitalised on, but the Environment Agency, whose responsibility the Great Ouse is, is currently planning to undertake a study on the navigation which will include consideration of how the potential of the river frontage can be maximised.

11.18 There are a number of exemplars of how waterways can be used as the centrepiece or in support of urban regeneration efforts. British Waterways[11] has highlighted a number of these:

- Creating a high quality water environment in support of development as at Gas Street Basin and at Aston Science Park in Birmingham
- The development of attractive pedestrian corridors within development sites, increasing footfall and economic viability, as at Merry Hill, Dudley, Brindley Place in Birmingham and Victoria Quays in Sheffield
- Using waterways to provide a common link between separate sites along a development corridor, as in Blackburn

11.19 From an economic development perspective, therefore, past experience shows that waterways can play a role in regeneration efforts. The Waterway could contribute in this area, but the proposal is only now developed to a stage where potential partners are ready to engage with it and incorporate it into their own plans. One instance of this is the recent decision by the Environment Agency to undertake a technical scoping study for the Great Ouse navigation at Bedford, including incorporating issues of town centre regeneration and an upgraded river frontage.

Construction employment

11.20 The construction of the Waterway will itself generate economic impact, including employment in construction sector. Construction employment is not in itself a reason to invest in projects (although the current economic downturn may make projects that offer a substantial stimulus to the construction industry more desirable), but the contribution made to employment in the region should be recognised. The scale of this construction employment impact will vary, depending on the final form of the Waterway, and how labour intensive the different elements of the project are.

11.21 To illustrate the potential scale of the impact, a useful comparison is the anticipated construction employment impact associated with the London Olympics[12] which gave an estimate of 60,000 person years of employment created from a construction spend of some

[11] British Waterways *Waterside Properties*
[12] Experian (2006) Employment and skills for the 2012 Games: research and evidence

£2.5 billion – a cost per person year of £70,422. This agrees with Ecotec's historical review[13] of construction impacts, which gave a range of £55,000 to £80,000 per person year supported.

11.22 Applying the London Olympics estimate as more likely to represent construction costs in the region, then a spend of between £167 million and £206 million[14] would generate direct employment of between 2,370 and 2,925 person-years during the construction phase.

Conclusions

11.23 The main property uplift in the proposed Waterway area can be expected to come from the change of use permissions for greenfield and brownfield land to be used for residential and other economic uses. The mechanism by which this uplift will be captured for wider public benefit will be through the planning system, in particular Section 106 agreements.

11.24 There will undoubtedly be an uplift in land and property values as a result of the creation of the Waterway. In the view of expert consultees, the primary benefit will be to the increased desirability of properties and their more rapid sale. Should such an effect be realised, developers would be able to recoup their investment more quickly, re-invest and build further. The overall effect would be that the developments would happen sooner and their associated economic benefits realised sooner and for longer. This form of time additionality could be an important contribution to the success of the developments. It would however depend on the timing of the Waterway and other developments. It could be anticipated that there would still be an uplift if potential buyers and investors knew that the Waterway was planned, although this effect could be expected to be weaker.

11.25 The construction of the Waterway would in itself support employment during the build period. While this is not in itself a reason to fund projects, the employment impact can be significant, an estimated 2,370 and 2,925 person-years based on a spend of between £167 million and £206 million.

11.26 Finally, the Waterway could potentially contribute to re-development in the urban areas it runs through, particularly in Bedford. This will require confidence in potential partners that the Waterway will be realised; a greater sense among these partners of the potential benefits to amenity, sense of place and the visitor economy; and the adoption of the Waterway into their plans.

[13] Ecotec (2007) East Midlands Inland Waterways Study: A Report to the East Midlands Development Agency
[14] The spend figure is based on Halcrow's outline costings for the route.

12: Conclusions and recommendations

Conclusions

12.1 The purpose of this study is to examine the potential economic impacts arising from the proposed Waterway, not to dictate whether or how the Waterway should be realised. However, in considering how economic impacts could arise from the Waterway, we have had to develop the concept, drawing on evidence from other, similar developments. We note the historical shift from waterways as communication and transport routes to amenity and contribution to the visitor economy – the success of waterway-related developments such as the Falkirk Wheel also point to the potential contribution to place-shaping and profile. Our analysis has therefore led us to incorporate certain features – which can in turn be interpreted as recommendations as to how the economic impact of the proposed Waterway can be maximised.

12.2 Our overall conclusion is that partners need to work to maximise the economic impact of the Waterway. A Waterway on its own that delivers a through route for boat traffic will have only limited economic impact. A "Waterway-plus", that incorporates features for boaters and waterside visitors, that includes an iconic structure, marina facilities, that creates positive profile through its design and execution, begins to have much more significant economic impacts.

Tourism and recreation

12.3 Milton Keynes and Bedfordshire are not currently major tourist destinations; although some 5.1% of Bedfordshire's economic activity is supported by the visitor economy. The evidence suggests that a higher proportion of visitors are visiting friends or relatives (rather than tourists), that they stay for less time, and their spend is lower than is the case nationally. There therefore appears to be room for improving the visitor offering.

12.4 Reviewing the potential appeal of the Waterway for different tourism and recreation markets

Table 12-1 Demand analysis for Waterway

	Boating market	Resident Market	Day Visitor	Tourist Market
Waterway networks	Some demand for whole link	Use will be informal – some limited water sports activity	Some demand for strategically located sites near points of interest	Low level interest from existing tourism markets and emerging Center Parcs. Future low level interest from visitors to Nirah
Multi user path	Low	Medium interest for cycling and walking from home.	Low	Low
Temporary berthing	Medium/High	Low	Low	Low
Marinas	Medium/high	Medium	Medium	Medium
Iconic engineering	Medium/high	High	High	High

	Boating market	Resident Market	Day Visitor	Tourist Market
solution at Brogborough Hill				

Source: SQW

12.5 We can attempt to estimate the likely level of demand for these elements, drawing on visitor patterns elsewhere, and adjusting for the population catchment for the Waterway. Applying average spend data allows us to estimate levels of spending from these groups.

Table 12-2 Estimated tourism and recreation economic impact

Assumption	Day visitors		Tourists	
	Low estimate	High estimate	Low estimate	High estimate
Waterway with towpath and picnic sites	35,000	70,000	7,400	14,800
Marina/basin development	42,750	85,500	32,250	64,500
Iconic attraction at Brogborough	285,000	427,500	215,000	322,500
Total	362,750	583,000	254,650	401,800
Spend per head	£13.38	£13.83	£46.64	£46.64
Total spend	£4,853,595	£7,800,540	£11,876,876	£18,739,952

Source: SQW

12.6 These data would suggest gross annual spend levels arising from visitors and tourists of between £16.7 million and £26.5 million were a Waterway-plus to be developed as we have proposed here.

Boating activity

12.7 The Waterway is intended to function as a through route between the Grand Union canal at Milton Keynes and the Great Ouse at Bedford. Boat movements are therefore a raison d'être for the Waterway coming into being. We have been able to explore the potential impact on boating through interviews with industry representatives and the results of our own telephone survey with boat-owners in the Anglian and Thames areas.

12.8 Based on estimates of around 4,800 privately-owned boats in the catchment area, we estimate that some 7,200 boat-movement days would occur. Applying available data on spend; this would give rise to gross spending of £633,600 each year.

12.9 We estimate a hire-fleet of some 5,000 hire-weeks per year is within the catchment of the Waterway. Assuming 10% of these weeks were taken-up by use of the Waterway, this would give gross spend in the area of £559,300 each year (including a proportion of the hire fees).

12.10 In addition to boat movements, the length of the Waterway and its position suggest the possibility of creating at least one, and potentially two, marinas. Currently, marinas in the Waterway catchment area operate at high levels of utilisation. We estimate that two 150 berth marinas could generate annual spend of £652,500.

Iconic structure

12.11 The partners have indicated their aspirations for a large, iconic engineering structure to overcome the height differences at Brogborough hill. There is currently no developed proposal for the form this might take, and we have therefore been obliged to develop our own concept.

12.12 Our research indicates that a suitably realised structure has good potential for both place-shaping and as a draw for visitors. The possible place-shaping impacts are discussed below. For the visitor economy impacts, we have drawn on the experience of the Falkirk Wheel – as well as other structures on waterways.

12.13 For an engineering solution at Brogborough Hill to succeed on the scale of examples such as the Falkirk Wheel and similar structures would require:

- A large, highly visible structure
- Innovative engineering (creating drama for spectators)
- Suitable facilities for visitors and users

12.14 A development at Brogborough Hill would have the advantages of both catchment and placement. The area has a substantial population (much greater than that surrounding the Falkirk Wheel), and would be visible from the M1, which could also give good access to the site.

12.15 Importantly, the Brogborough Hill iconic structure could benefit from the experience of other sites, incorporating their lessons as to how to maximise economic impact. The lessons include planning in visitor activity, better provision for business tourism, and working with the local community to develop the sense of place.

12.16 In terms of economic impact from such a structure – based on the specification discussed above – we estimate that between 500,000 and 750,000 day visitors and tourists could be attracted each year. Applying average spend data would give gross annual spend of between £13.8 million and £20.7 million.

Net visitor economy impacts

12.17 Converting these gross estimates for the land and water-based visitor economy requires the factors of leakage, displacement and the knock-on effects on the economy to be taken into account (these estimates are detailed in Chapter 7). Applying these, then the net estimates for land-based tourism and recreation and for water-based activity, are as follows:

Table 12-3 Estimated net expenditure arising from visitor economy activity

	Local		**Regional**	
	Low	High	Low	High
Land-based visitor economy	£9,393,750	£14,906,250	£5,260,500	£8,347,500
Water-based visitor economy	£1,782,040	£1,782,040	£2,046,044	£2,046,044
Total	£11,175,790	£16,688,290	£7,306,544	£10,393,544

Source: SQW Consulting

12.18 We therefore estimate that a Waterway, with a suitably high-impact iconic attraction, provision for waterside recreation and hospitality, and provision for water-based activity, could generate net expenditure of between £11.1 million and £16.7 million each year from visitor economy activities at a local level, and £7.3 million and £10.3 million at a regional level, once completed. Over a ten-year period, this would give net annual spend of between £112 and £167 million at a local level, and £73 and £103 million at regional level.

12.19 Assuming the GVA generated in tourism businesses in the area is 35% of turnover (which is assumed here to be the same as tourist expenditure), then the total estimates for GVA contribution over a ten-year period would be between £25.6 million and £36.4 million at a regional level.

Place shaping

12.20 Place shaping, developing and communicating local identity, is considered by partners to be an important part of the Waterway offering. We can look to numerous examples elsewhere, where landscapes, high-quality environments, and man-made structures shape the experience of places.

12.21 Place shaping has important social benefits, which lie out with the remit of this study, but it also contributes to the attraction and retention of companies and their workforce. The evidence from the inward investment literature shows that the strongest determinants of location are hard factors such as access to markets, premises, labour force, regulator environment etc. but that once these are satisfied, then softer elements of quality of life, healthy environments, culture, etc. become factors in developing a competitive location.

12.22 One issue for the Waterway is that the strongest communicable element of the marketing mix is the iconic structure. Several interviewees were neutral about the idea of the Waterway – broadly agreeable to its happening but not in any way a priority. It was only when the idea of an iconic structure was brought into the discussion, and examples like the Falkirk Wheel cited, that any excitement was aroused. This strengthens the case for an iconic structure, but the structure would be located close to Milton Keynes, which already has its own profile, and at a distance from the Bedford end of the route which arguably stands in more need of place shaping activity.

12.23 The potential economic impacts arising from place shaping are much harder to assess. The decision on where to move a company or locate a new company are complex, multi-factor calculations and we know from our own experience of evaluating inward investment

assistance that these decisions often cannot be adequately deconstructed even by the decision-makers. We have therefore taken a conservative approach to estimating potential impact, concentrating on the new business population arising in the Waterway locale and wider Milton Keynes South Midlands growth area. We have project forward this business growth, attributing only a very slight influence on location decisions. The companies are assumed to have a slightly below average level of employment, reflecting the level of start-up companies among them. We have then applied an average GVA per head to the employment base, and impact adjusted for displacement and an appropriate multiplier is applied. Over a ten-year period, assuming that these companies neither disappear nor grow, then the following net results are obtained.

Table 12-4 Projected net impact over a ten-year period (Waterway locale and MKSM Growth Area combined)

	Number of businesses	Employment	GVA
Low	50	460	£35,485,527
Medium	70	670	£51,685,442
High	90	900	£69,428,205

Source: SQW

12.24 The powerful cumulative effect of attracting and retaining companies over time can be seen.

Transport

12.25 Transportation was the reason the UK's canal network was originally created, however competition from rail and then road transport has massively reduced the use of waterways for freight or personal transport. Consultees during the study expressed optimism that a Waterway could be used to move goods, helping reduce environmental impact, and this would certainly fit with regional and national aspirations. However, the evidence to date is that there would be very limited use made of the Waterway for these purposes. The most promising element would be the use of the Waterway to move building materials for the construction of any new settlements in the Marston Vale area; however this would be time-limited and dependent on the sequencing of the respective developments. Longer-term, it is possible that changes in fuel costs or policy might see an increase in water transport, but we are not able to anticipate this.

Ecosystem services

12.26 Consultees considered that the Waterway had potential in both flood control and in water transport. The difficulties in estimating the economic benefits of these services are two-fold: the relationship between the proposed Waterway and other proposed developments in the area are unknown (Will one or more proceed? What would be the sequencing?), and there are no good estimates of what these impacts might be in monetary terms. Greater certainty on the likelihood, scale and location of adjacent developments would be required, along with the sequencing of the different developments, to estimate potential impact.

Property uplift and regeneration

12.27 Several studies on the economic impact of canals have focused on the effect that water frontages have on property values. The evidence for these uplifts is strong, with increases in value, depending on proximity to watercourses or water bodies, of up to 20% of value. This property uplift effect can generate quite eye-catching figures. However, it is worth considering what these values mean in the context of public investment:

- The benefit largely accrues to property developers or existing property owners (some of which may be captured through planning gain)
- The benefit is only achieved once
- The benefit to the local or regional economy is uncertain – how developers or owners choose to use this uplift cannot be dictated

12.28 In addition, the body of literature supporting these property uplift estimates often comes from larger regeneration schemes, where a range of physical infrastructure is being over-hauled. In these cases, the waterway element is likely to be only one facet in the overall uplift.

12.29 For the proposed Waterway, where much of the route will run through greenfield or brownfield land, this uplift will be less evident, as will regeneration benefits in general. Nevertheless, where the Waterway interfaces with property development, especially residential property development (commercial property values typically being less affected by proximity to water) and uplift can be expected. For the purposes of illustration, the main development previously proposed within Marston Vale was for some 15,000 housing units. Assuming an average price of £200,000 and that 750 are located close enough to the Waterway to achieve a 20% uplift, and a further 750 located further away achieve a 10% uplift, then this would represent an one-time uplift in value of £45 million.

12.30 In practice, consultees consider that the value from their perspective is that more desirable housing (which is what the increase in value captures) would allow houses to be sold more quickly, recouping investment, enabling a faster build, and realising the benefits of a new settlement more quickly and securely.

12.31 As noted, the majority of the route is through greenfield and brownfield land. There is therefore limited opportunity for the Waterway to contribute to regeneration in its middle section. At the Bedford end of the route, there would appear to be scope for a through-route contributing to the animation of the area and assisting in the regeneration of Bedford. Consultees acknowledge that the development of the area over time has become orientated away from the river. However, the possible contributions here would require partners to capitalise on the opportunities created by boat and visitor traffic. At the moment, uncertainties over whether the Waterway would happen and the route it would take, mean it is not factored into plans as much as it might otherwise be. For the Milton Keynes end of the route, consultees consider that it would have less relevance to their activity, with the most deprived wards located away from the route.

12.32 There would also be significant employment supported during the construction phase of the project – based on a spend of £167 million and £206 million; this could amount to between 2,370 and 2,925 person-years of employment.

Where benefits occur

12.33 Economic developments occur at a local level in every case. Where a development is as extensive as the proposed Waterway, these benefits can become of regional or even national significance. Should the Waterway be developed to its full economic potential, then it can expected that impacts will occur at local, regional and national levels:

- Local – at a local level, there are potential benefits from amenity for local communities, and income from boat traffic and from visitors.
- Regional – at a regional level, providing the route is developed with suitable supporting infrastructure, there is the potential for regionally significant levels of visitor activity; supporting the sustainable development and regeneration of residential and commercial areas; and in establishing and communicating a striking regional image. This will include developing links between the East of England and the South East of England.
- National – nationally, the Waterway route would provide an east-west link between the North Sea and the interior of the England.

Recommendations

Visitor and tourism impacts

12.34 The operator of waterway will require a commercial approach to maximise business opportunities and expenditure by users/visitors. This will require effective marketing and promotion to create awareness/interest and generate use by all relevant markets.

12.35 The availability of facilities, amenities and destinations at various points along the route will be important in attracting visitors, including boaters, and critical to stimulating visitor spend. This will require sites on and close to the waterway (boaters will be reluctant to travel much more than a mile to access facilities). The facilities need to be accessible to both land and water-based users. Development needs to be facilitated by the availability of suitable sites and a supportive planning regime, and local authorities will need to take a leading role in this.

12.36 Potential visitor facilities need to be master-planned to: take advantage of suitable locations including accessible existing businesses and settlements; ensure market appeal; take account of visitor movement patterns; generate ‘dwell-time’; and take account of physical and other barriers to access.

Boating

12.37 The development of the entire waterway, creating a new east/west transit route, is required to obtain impact from boat use. The piecemeal development of the route will inhibit economic impact.

12.38 In addition to the "boater-friendly" developments noted above, the development of a new marina and overnight/temporary moorings along the route of the waterway should be considered.

12.39 Encouragement and support should be given to existing businesses to cater for the needs of boating and other visitor markets that are created.

Iconic structure

12.40 The iconic structure must be more than a simple engineering solution (for instance a flight of locks). For maximum impact it will need to be prominent in the landscape, of an impressive size and design, and ideally create drama in operation.

12.41 In capturing visitor impact at the site, the partners should draw on the British Waterways experience at the Falkirk Wheel – including missed opportunities. These include a pub onsite, better provision for business/conference tourism, and potentially a hotel.

Place-shaping

12.42 Place-shaping benefits should be maximised. This will require giving thought as to how the whole route can contribute to marketing messages – not simply the iconic structure – and may require additional developments along the route and/or another gateway structure or facility at the Bedford end of the route.

Other impacts

12.43 Property uplift effects should be taken into account by planning authorities when permitting change of use or other developments. While the benefit cannot be directly captured (except where the public body is the landowner), the planning authority can seek to ensure that the uplift is partially captured through planning gain.

12.44 For regeneration benefits, the Waterway could be brought more into local schemes, both public and private. This will require assurance that the scheme will take place, and communication of the potential levels of visitor and boating activity that could be realised. Examples of redevelopment around waterways are numerous, and the development of through traffic in Bedford especially should be capitalised on.