

SWANSEA EASTSIDE CONNECTIONS

MAY 2015



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**

URBAN
FOUNDRY

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INTRODUCTION

ONE



Urban Foundry is commissioned by Natural Resources Wales ('NRW') to 'explore the potential offered by the Lower River Tawe, Kilvey Hill, Crymlyn Bog, and the Tennant Canal, the connections of these green spaces to each other and the surrounding communities'.

CONTEXT

The Tawe Trial

This commission is a part of the 'Tawe Trial', which is 1 of 3 trial areas that have been set up by NRW to test and explore the 'ecosystem approach' to natural resource management at an area level.

The ecosystem approach is:

"a holistic and inclusive approach to looking after the natural environment. It helps apply current thinking about ecosystem services (what nature does for people) in line with sustainable development. It is the primary framework for action under the international Convention on Biological Diversity (CBD)."

(ecosystemsknowledge.net)

Natural resource management is the management of natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the quality of life for both present and future generations.

The Tawe Trial and the policy context

The Tawe Trial aims to work with local partners to examine the issues, challenges and opportunities for using and managing natural resources to deliver more for people, the environment and the economy. There are nine projects underway across the Tawe catchment, with this commission one of them.

The information and learning from the various projects will be used to develop a draft 'Area Statement' setting out the key issues, opportunities and priorities for the future use and management of natural resources in the Tawe catchment.

In turn, that will inform how NRW implements the requirements of the Environment Bill, which proposes a new duty for NRW to prepare area statements that set out the priorities and opportunities for the sustainable management of natural resources for that place.

The Environment Bill has the following underlying principles:

- Wales' natural resources are among our most valuable assets;
- our natural resources are as fundamental to the long-term success of our economy as they are to the quality of the natural environment and the well-being of our communities;
- long-term economic prosperity must go hand-in-hand with the health and resilience of the environment that supports us; and
- strategic challenges we face demand a long-term approach to decision-making with an emphasis on managing natural resources in a proactive, joined-up and informed way by using the best available evidence directed at achieving the maximum possible lasting benefit.

The principles above stress a long-term approach and this report takes a similar, strategic view, albeit initiatives are identified that are achievable in the short and medium term. The Environment Bill will provide a fresh legal framework to manage Wales' natural resources in a joined-up and sustainable way and support achievement of wellbeing goals – it has strong links to the Wellbeing Bill processes, principles and aims.

With further support, the intent is for the Tawe Trial to provide benefits to deprived communities by improving health and wellbeing as well as

benefitting the wider economy by creating a tourism destination.

On completion of the trials NRW aims to develop a successful template for the implementation of area-based planning across Wales.

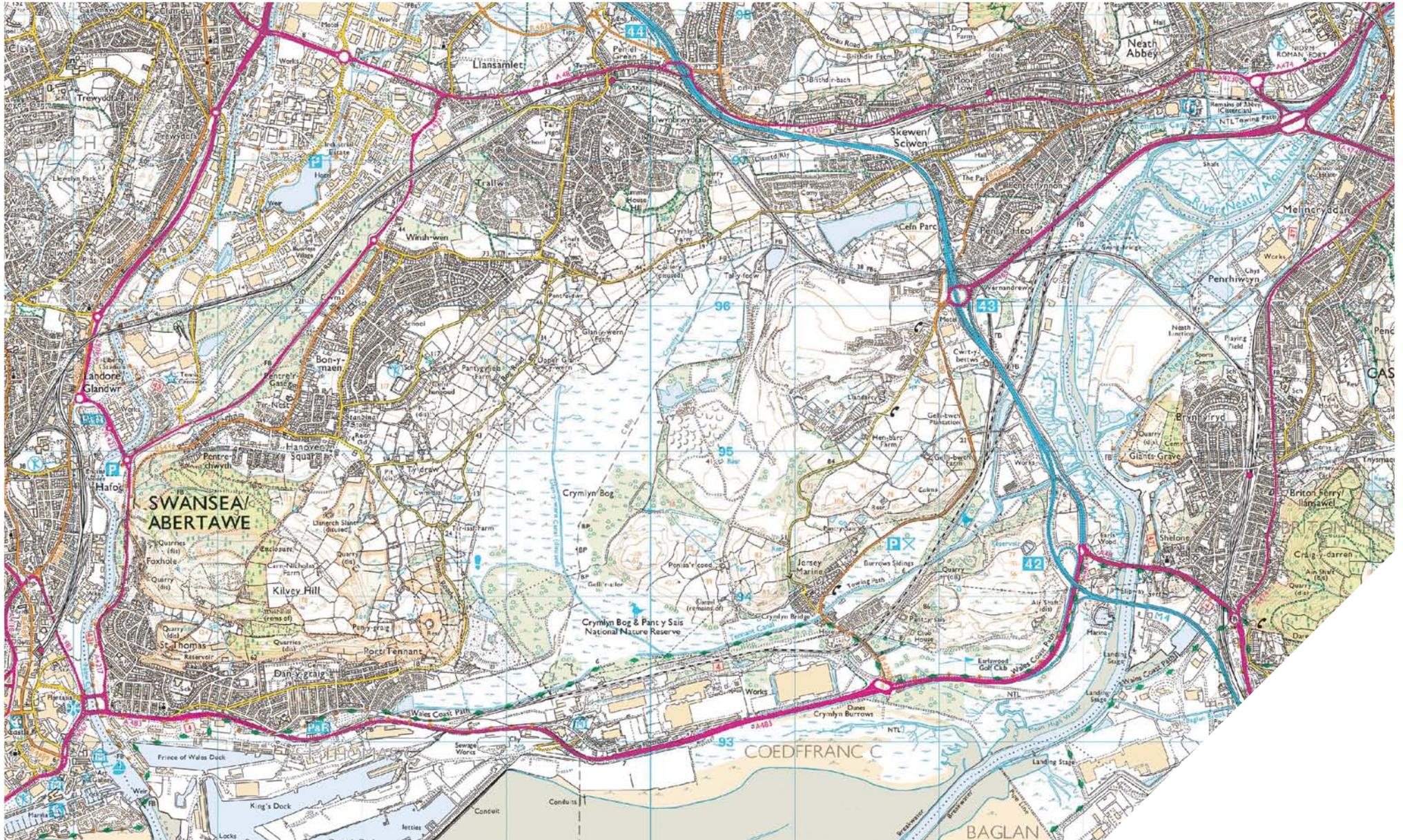
STUDY AREA

As part of the Tawe Trial NRW staff identified several underutilised key sites that sit in Swansea East, namely:

- Kilvey Hill;
- Crymlyn Bog;
- the Tennant Canal; and
- the Lower Tawe (for the purposes of this study this is the section of river from the Liberty Stadium to the sea and includes both banks).

These four areas form the study area for this commission.

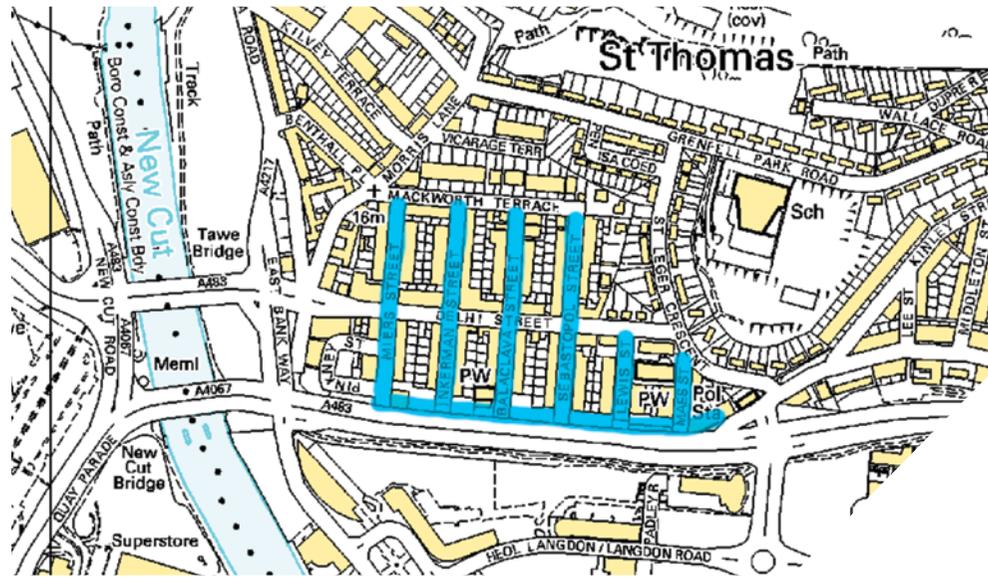
The study area is currently isolated and relatively peripheral to development thinking. Despite long-standing recognition of its isolation from the rest of the city and the need to rectify that, it remains disconnected with no clear current strategy for its effective integration in physical or thematic terms. Indeed, many recent developments have further exacerbated the relative isolation of these areas.



The reasons for its disconnection are in part geographical, due to the river, and a steep and polluted hill (a legacy of the industrial revolution), beyond which lies the wetlands of Crymlyn Bog. The west bank of the river is bounded by the river on one side and railway lines on another. In addition, two major human-related obstacles, the east side road and hugely busy Fabian Way, created in the post-War period, significantly altered the city's central structure.

As the new route to Cardiff (previously the route went to the north of the city up the Swansea Valley) gained prominence and motor vehicle traffic volumes steadily increased, the east side communities became increasingly cut off to pedestrian and cycle movements. Modern traffic schemes, including the most recent changes to the Tawe road bridge junctions and the west end of Fabian Way have paid little heed to pedestrian and cycle movements.

Similarly, for all of its positives and potential for the city, the investment in the SA1 area to the south of Fabian Way has paid scant attention (in spatial alignment and physical design at the very least) to the established community to the north. There are no effective connections to those communities.



Poor connectivity between the St Thomas grid and SA1

Following on from the Lower Swansea Valley project (to the north west of this study area) the once barren hillsides, blighted by the very industry that defined much of the form and position of modern Swansea, have been replanted.

For some time, Crymlyn Bog and Kilvey Hill have been recognised from an ecological perspective for their biodiversity and they are seen as 'wildlife reservoirs', with the former a Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), and a designated wetland of international importance under the Ramsar Convention. The Tawe

riverside is recognised as a 'wildlife corridor', and these sites are all recognised as key ecological assets within a citywide mapping of such corridors and reservoirs.

Whilst they are geographically peripheral, the environment in these areas is well understood, valued and protected in a formal sense, principally by NRW and the two local authorities.

This study recognises a considerable array of work and knowledge that exists in terms of the ecological riches and also the associated

challenges and does not seek to revisit these in detail – Appendix 1 contains references to various documents that give further context.

The countryside of the hill is clearly valued by the communities that bound it – it is clearly their countryside and there is much informal recreation, as well as more formalised activities through NRW woodland on the hill, including mountain bike trails, community woodland initiatives and various community arts projects amongst other initiatives. However, the valuation of these assets from a nature conservation standpoint and by the communities that immediately surround them has not translated into their valuation for wider development thinking as part of the socio-economic regeneration of the city. As assets of the City Region they have great potential but they are currently significantly underachieving.

Despite its peripherality, the east side of the city does not remain static and the urban area is sprawling – urbanisation has been slowly creeping along the northern edge of the study area, heading eastwards, for some time. The increased urbanisation of the significant Coed Darcy development to the east of Crymlyn Bog will further underline that process. But the south, until relatively recently, was leftover industrial wasteland – declining port and associated rail yards and industrial uses. No longer – a £450m second campus for Swansea University will be operational

imminently, with full completion by 2017, and University of Wales Trinity Saint David is planning a similarly ambitious development of the Prince of Wales Dock and surrounding land in partnership with Welsh Government. These, coupled with major investments at Bay Studios and Amazon, along with the potential of a £1bn investment to create the world's first tidal lagoon will stimulate development of the Fabian Way corridor. Access to the landfall for the Lagoon is planned to be a relatively short distance to the south of the bog and eastern fringe of Port Tennant community.

A masterplan produced by the City and County of Swansea Council indicates expected development towards the Swansea University second campus in the not too distant future. It is not a significant stretch to see how to the south the city will join to the urban areas of Neath Port Talbot in the east.

Join these urban areas up and the natural assets cease to be a peripheral area to the north east of a compact and geographically constrained city centre. Instead, they become central to the larger conurbation; Swansea's Central Park – an urban wilderness to be recognised and planned for as such. That is the ambition of this process – to realise the potential of these remarkable natural assets, proud accoutrements of so many other cities, but which are taken for granted, seen as problems, even as landfill and dumping grounds.

Effectively connected (physically and thematically) with the wider city, the potential of these assets as core elements of the city's offer can be realised for the benefit of local people as well as visitors from further afield.

Urban sprawl gradually encircling the study area



Fabian Way corridor draft masterplan. Source: City and County of Swansea Council

APPROACH

The study area is vast. This study is principally focused on connectivity – overcoming the physical barriers to people accessing these natural resources. The study does consider what happens once that access is achieved, but the primary focus has been on initiatives that get people to these natural assets from the surrounding and future built environment.

At the outset an inception meeting generated a detailed background and context for the commission, tested some of our initial assumptions, explored potential areas of conflict, and reviewed our proposed approach particularly in light of the range of other Tawe Trial projects and initiatives underway, including a number of community consultation activities.

A desk-based study of existing documentation held by NRW was followed by a workshop with NRW staff, which sought to develop a logic chain – identifying the key issues and the desired outcomes for this study. The results of that workshop are detailed later in this section.

Following the workshop we undertook a broader desk-based study of documentation from a variety of stakeholders (references are included in Appendix 1), conducted a series of discussions with key individuals from various organisations with an interest in the study

area, and carried out fieldwork developing a detailed understanding of the nature of the key connectivity issues as well as potential means of addressing these, further tested in discussion with various key stakeholders, including NRW officers.

OUTCOMES

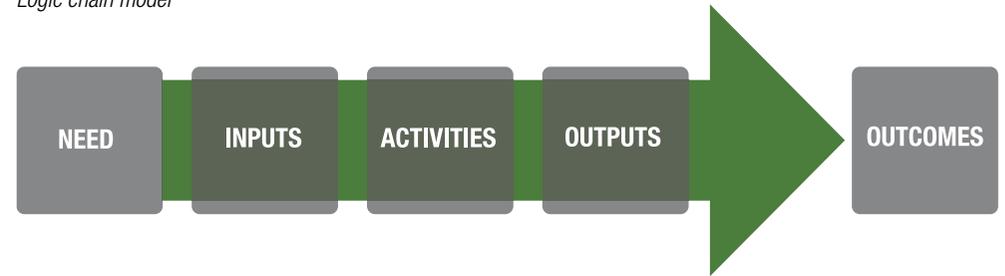
Our workshop-based approach generated a logic chain for the initiative, drawing the causal links between need (including whose needs they were) and desired outcomes.

The purpose was twofold – firstly, to ensure wide internal stakeholder ‘buy in’ within NRW, and secondly to ensure that the work had a clear focus that can be translated (with some further revision once the Tawe Trial is concluded) into a clear rationale for the allocation of public resources.

Specifically, the logic chain places the issue of physical connectivity into a wider context, which fits within the broader ecosystems approach.

The workshop also considered the constraints for realising the identified outcomes as well as some initial thoughts on the activities needed to achieve them.

Logic chain model



Need

Several broad issues affect the study area; these were identified and summarised in the workshop with NRW officers into a series of key needs/issues as follows:

- poor awareness and attitude towards these assets;
- poor physical connectivity;
- relatively weak engagement by the public with the natural environment in these areas;
- poverty (including a range of poor health data);
- insufficient joined up thinking across agencies for these areas;
- habitat under threat/in need of improvement (including fly tipping issues); and
- poor water quality.

In the case of water quality, this has improved year on year in the local area but then reached a plateau. NRW has realised that it is not possible to get improved water quality unless people are involved across the whole catchment. Links to, and the nature of, surrounding urban areas are important to this.

Stakeholders

The workshop then considered whose needs these were, and began to identify the range of stakeholders to whom the study was relevant. A list is attached as Appendix 2.

The intention was not to develop a comprehensive list, but rather to highlight the range of complimentary and competing interests within the study area.

Outcomes

Needs were related to a series of outcomes, which were prioritised and collated to produce a focused set of outcomes from the workshop. The outcomes framework developed is detailed overleaf.

If NRW and its partners, supported by this commission (as well as other Tawe Trial projects) can:

- improve physical connections to and within sites (including ecological connections);
- increase awareness of these natural assets; and
- increase the number of activities for people to engage with within the study area;

then we can:

- improve accessibility of these green spaces to communities;
- improve the use of specific assets (including key sites like Crymlyn Visitor Centre and footfall in the Reserve); and
- improve attitudes towards these natural resources;

and this in turn will encourage:

- more people to become involved in the planning and management of these natural resources;
- reduction of conflicts and anti-social behaviour (e.g. fly tipping);
- safeguard the natural environment; and
- contribute to wider socio-economic development of local communities (including improvements to health and wellbeing of local people) and the wider City Region.

There is a substantial and growing body of knowledge that details the impacts of improved access to the natural environment – a brief summary of the key impacts is provided in an accompanying paper drawn from our evaluation work.

Drawing the long-term causal links between the achievement of improved awareness of and access to the natural environment and wider social, environmental and economic impacts and the long-term impacts is important in justifying the importance and positioning of these initiatives. Many of these wider impacts directly contribute to specific local policies, such as Swansea's designation as a WHO Healthy City and the Swansea East Communities First Cluster.

Once the full range of project findings has been established a series of activities/initiatives can be identified and prioritised for further action – many of these initial findings and proposals will require further detailed study to assess their feasibility, providing a firmer indication of the inputs required, allowing NRW to establish a series of quantifiable outputs. At that stage, a more focused evaluation framework can be developed into SMART (specific, measurable, achievable, relevant and timed) formats with associated indicators that allow for shared multi-agency measurement of progress and impact.

CONSTRAINTS

Aside from the physical geographical constraints outlined previously, there are various other constraints to realising the potential of these assets, with two particularly prominent ones identified by NRW officers as follows:

A diverse and often conflicted group of stakeholders

The study area is large with a lot of stakeholders. There are various highly localised conflicts, such as:

- walkers/riders/cyclists (access) v landowners;
- motorbike scramblers v other users/conservationists; and
- anglers v other water users.

There are also more general issues affecting the whole area (e.g. tensions between vehicular movement and pedestrian/cycle movements).

- car movement v pedestrians and cyclists;
- longer-term strategic planning v shorter term limited discrete initiatives; and
- economic development v 'greening' (often a perceived conflict).

Whilst public sector agencies are evolving and changing, much of it in part driven by the

constraints of austerity and the need to find new ways of delivering services, the significant and continuing reductions in budgets is placing severe strain on public bodies and approaches are not always joined up and are often risk averse and/or under-resourced.

Mixed landownership

The land ownership across the area is mixed. Two local authorities own some large tracts of land, and NRW has ownership/leasehold of large areas, but there are many private landowners and other agencies, not all of whom have an interest in/are particularly willing to engage with efforts to realise the wider benefits of these natural resources for the benefit of the local population and the wider City Region.

Activities

Finally, the workshop considered some of the activities or initiatives that might be undertaken in order to achieve the outcomes identified. These formed the beginnings of the following report and were augmented and added to through our further fieldwork.

REPORT STRUCTURE

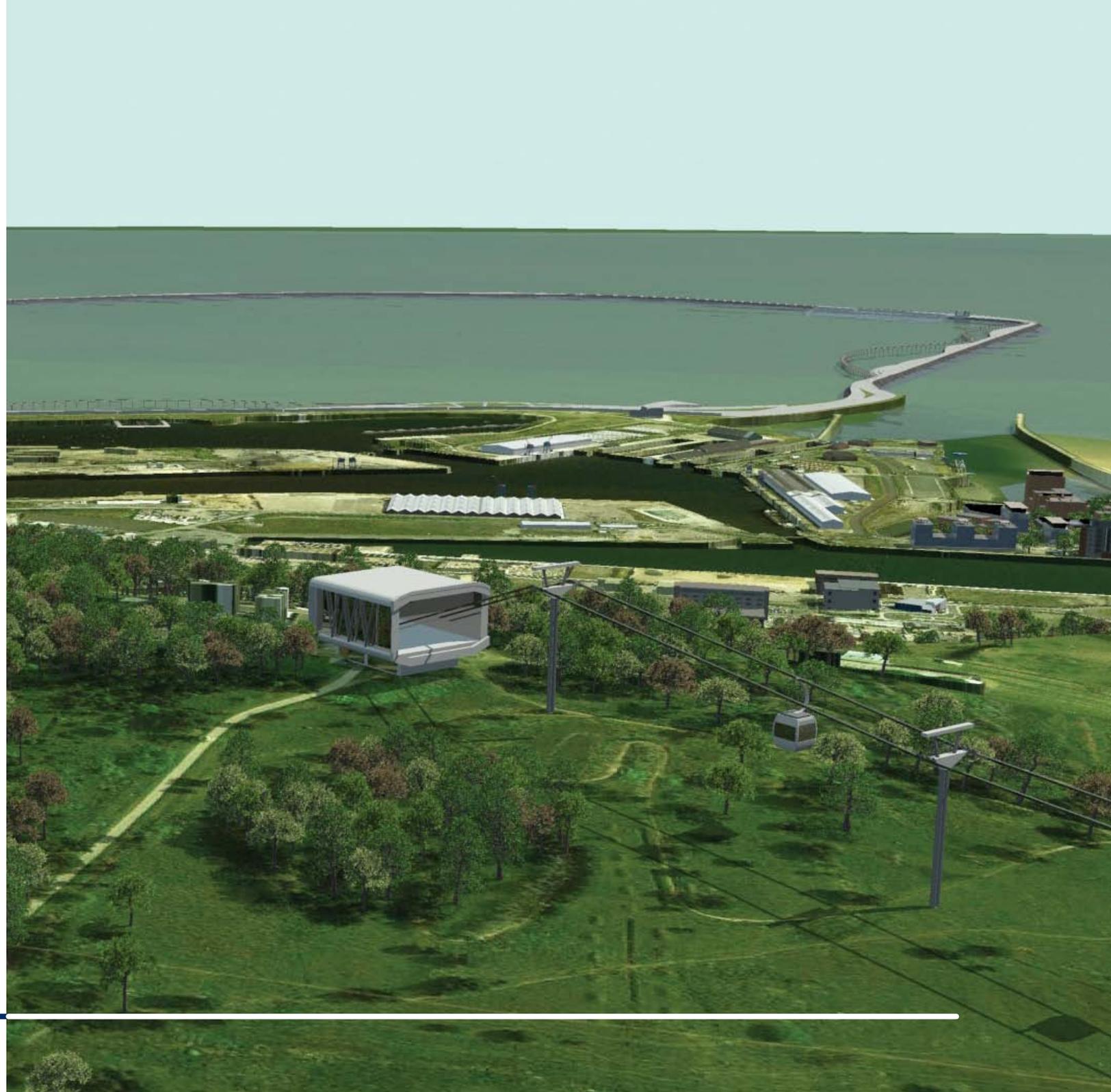
The report considers the study area in three sections; Crymlyn Bog (including the Tennant canal); the Lower Tawe; and Kilvey Hill. Each section summarises some of the key issues for these three areas and then identifies a range of initiatives to address issues of connectivity. A further section identifies a series of non-physical issues to be considered to improve connectivity before a brief conclusion and summary of the key recommendations.

Various documents relate to the study area and these are referred to at key points and are also summarised in Appendix 1. Additional supporting materials are attached in the appendices.

At various points through the report we reference past initiatives that were undertaken by the bodies that came together to form NRW – the Countryside Council for Wales, the Environment Agency and Forestry Commission Wales. For ease, we refer to all past work being that of NRW.

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CRYMLYN BOG AND THE TENNANT CANAL

SWANSEA
ABERTAW

Kilvey Hill

Port Tennant

Crymlyn Bog

Crymlyn Bog & Pant y Sais
National Nature Reserve

TWO

Prince of Wales Dock

King's Dock

Queen's Dock

Conduits

Conduit

COEDFFRANC

Crymlyn Burrows

Dunes

Works

Hotel

Crymlyn Bridge

Jersey Marine

Pant-y-Sais

Penisa'r-coed

Gelli'r-allor

BP

BP

BP

Pen-y-graig

Resr

Quarries (dis)

Quarry (dis)

Enclosure

Llanerch Slant (disused)

Carn-Nicholas Farm

Quarries (dis)

Foxhole

Quarry (dis)

Quarries (dis)

St Thomas

Reservoir

Dan-y-graig

Sch

Pol-Sta

P&F

Sch

Wales Coast Path

Sewage Works

Chy

FB

Conduit

Conduits

Crymlyn Bog is a vast SSSI area – a real wilderness on the city's edge, which is unknown to many long-time residents and accessed by relatively few people. It is managed by NRW and there is an existing study that identifies a series of boardwalks and initiatives for the site, which remains relevant and worthy of reading in its own right – key points from that study are repeated here.

There has been past interest in opening up the Tennant Canal, which connects through to Neath and beyond, and the Canals Trust as well as local community groups, including the community organisation that has established the Copper Jack Community Boat, have an interest in seeing the canal develop with associated studies undertaken to assess viability. Despite that, the canal does not feature significantly in current development thinking despite the city's 'waterfront' branding.

KEY ISSUES

The bog is isolated, with hills enclosing it apart from at its southern edge, and with railway lines and Fabian Way cutting it off to the south.

It is poorly signposted with few visual cues that there is something there to be accessed – the topography of the land shields the bog from

view from the more urbanised areas and busier roads in the south. NRW's Crymlyn Bog Visitor Centre is accessed along a relatively narrow road. It is tucked away and suffers from low visitor numbers.

In the southwest corner, the bog touches against the eastern edge of Port Tennant, but modern developments here, as with other locations in the study area, have paid no attention to the visual riches of the stunning natural environment close by.

At what we shall call Crymlyn Basin – the old canal basin to the east of Port Tennant, just north of Fabian Way where the Tennant Canal now terminates as it dwindles to a small culverted stream beneath Fabian Way – the modern housing development is inward looking, turning its back on the basin. Yet, as so often happens, whilst the housing developers did not recognise the richness of the assets on their doorstep, the people that live there have. There is evidence that residents here value the resource with fencing panels removed to create access. That access needs to be facilitated and encouraged.

The community facilities at Ashlands, though relatively well used and treasured, suffer from relative isolation from the communities that they are there to serve, and are visibly subject to security rather than welcoming features.



*Houses at Marcroft turning their backs on the basin
Removed fence panels indicate a desire to access the natural asset so nearby*

Running from the former basin, eastwards along the southerly fringes of the bog is the Tennant Canal – it is presently largely overgrown for much of its length and blocked further east (to preserve water quality upstream due to potential harm from sedimented pollutants in the lower stretches at the Port Tennant end) but the canal bed and banks are still there. The spur of the Glan y Wern canal extends off to the north, whilst the Tennant Canal continues

towards Neath. Following the canal route to the south, between the southern edge of the bog and the railway lines is the Wales Coastal Path, used by cyclists and walkers (many for getting to work at the huge Amazon warehouse to the east end of the path) but with scope for much greater footfall for recreational purposes.

South of Fabian Way there is significant investment by Swansea University with the development of its second campus, nearing completion, plus the successful Bay Studios at the former Visteon car plant to the east. Additionally, to the southeast, there is the imminent commencement of development of the SA1 site through a partnership between University of Wales Trinity Saint David and Welsh Government.

These developments, which will be significantly boosted by a positive response to the Tidal Lagoon proposals, are fuelling renewed interest in the SA1 area for development with some speculative infill development likely in the near future between these sites. That brings the likelihood of quite significant activity south of Fabian Way, plus the likelihood of further development on the northern stretch from Elba Road down past the studios to Amazon and perhaps beyond.

The creation of a new access road behind Amazon, plus the addition of a northern link to Coed Darcy from that road, further changes

the dynamics of this area – it is changing, and will do so rapidly over the coming years.

Connectivity for residential, academic and business users, as well as visitors (especially if the Lagoon gets the go ahead) will need to consider not just existing developments but a rapidly changing Fabian Way corridor where the temptation will be to look east and west and south towards the Bay but to allow the traffic heavy Fabian Way to create a barrier to northward connectivity. Resolving that with such a key arterial route in the way presents a major challenge but one that the key agencies, with NRW at the fore, must address.

Moving back northeast from the basin towards the substantive areas of the bog, the large Tir John landfill site dominates a large area, with its associated security measures – fencing and a restricted access road. But this will also become part of the bog in the relatively near future with landfill operations ending there and a handover of the site likely in the medium term.

Beyond that, the bog stretches north, surrounded by land that is largely rural or wild in nature, but urbanisation is creeping around that northerly fringe – communities of Bonymaen, Trallwn and Winch Wen, Skewen to the far north, and to the east the significant St Modwen's Coed Darcy development (which will overlook the eastern fringes of the bog).

All are growing and slowly encircling the area. A road is also planned from the 'Amazon Road' in the south with a bridge over the bog to connect to the Coed Darcy development. All of that creeping urbanisation can have positive benefits for the bog – framing it and valuing it as a prized natural resource, but only if it is approached strategically. Currently, development pays little attention to the bog and that must be redressed.

The bog is a site with significant potential – the key task is to identify and improve access and connectivity both for existing communities as well as putting in the right markers for future developments, whilst being sensitive to its SSSI status.

Various documents already exist that consider the accessibility of the bog both from the surrounding areas and within it. Particularly, accessibility within the bog itself is already well thought through, with a clear understanding of the key routes and sites to consider – this was developed as a Communities And Nature (CAN) bid, which was unsuccessful at the time, but which has most of the key principles covered. That report needs to be revisited and updated, but is essentially sound in its thinking. Therefore, this section of the report principally focuses on the connectivity to the edges of the bog and its immediate surroundings.

INITIATIVES

The first task is to ensure that local communities (and the emergent new ones), all round, have ready, enjoyable access to, round and down the hills to the bog and over to the hill itself.

Crymlyn Basin circular walk

The first suggested project – a relatively 'quick win' – is on the eastern fringe of the borough. The Crymlyn Basin used to provide moorings and turning space for the industrial barges of the 19th century. Nature has reclaimed virtually the whole area with reed beds and woodland. Wildlife abounds.

Just past the Ashlands sports ground, a footbridge is proposed over the Tennant canal to the eponymous Chemical Island, now an intriguing nature reserve in its own right. Here, nature has fought back against pollution over the past 150 years or so.

“A footbridge is proposed over the Tennant Canal to the eponymous Chemical Island.”

A survey of that island from a natural reclamation environmental bio diversity basis is advisable – explore it and make it part of

a route, an ecological venue in its own right, but it will need further study to determine the impact that providing access to that currently isolated site will have.

Extend boardwalks from the north side of the island to meet the edge of the landfill site and skirt that edge at the lower level until it meets the Tir John access road car park further down. With the existing Coastal Path in the south, and the remainder of the route along the Tir John access road and Ashlands entrance, this will offer Port Tennant residents, and the wider population, a walking circuit around the basin – beginning to elevate its prominence and introduce a first 'taster' of the more extensive bog and network with a relatively low cost, 'quick win' initiative.

“Extend boardwalks from the north side of the island to meet the edge of the landfill site and skirt that edge at the lower level.”

As well as recreational walks there is also an opportunity to use additional boardwalks for public monitoring of the leechings of nitrates and nitrites, phosphates and ammonia from the Tir John landfill site nearby and there is scope for both natural asset interpretation as well as interpretation of how the reed beds

are nature's way of recovering the site – that is a good story to tell and worthy of a small initiative in its own right.

This is just one gateway to be opened eastwards to a new network of boardwalks around the vast boglands. The Tir John site will, in the long term, cease to be a fenced area and will open up for public access. At this stage it is not possible to map specific routes through the Tir John site, though some of the existing service roads at a higher level may have some future role to play.

This initiative at Crymlyn Basin begins the process of opening up a south west gateway that can be continued through a future re-opened Tir John site and on into the bog to connect with boardwalks that already exist/ have been previously identified by NRW.

Proposals in the NRW CAN bid remain relevant and should be adopted – this includes extending boardwalks to skirt the Tir John site and extending along the Glan y Wern Canal towpath.



Crymlyn Basin walk

Gateway initiative for Ashlands

A picnic area with tables/seating and a children's play project should be established as a gateway at the Ashlands entrance to encourage more activity on this fringe of the residential area and announce the basin and the bog beyond to the local community.

“A picnic area with tables/seating and a children's play project should be established as a gateway at the Ashlands entrance.”

This would help to develop wider interest in the canal basin project and begin to make the initiative sustainable through enhanced activity at its western end. It would also assist in making the Ashlands site itself that much more connected to the local community. Community events and activities can be focused in and around this site to further encourage activity and consolidate this as a community resource and an emerging community to the eastern edge – ‘Crymlyn’.

Development of housing in the Port Tennant fringe area

The end of Port Tennant, reaching towards the hillside and including the newer estate at

Marcroft merit inclusion in a housing and sub-centre plan that will likely burgeon as the new university campuses and the Lagoon settle in, just across Fabian Way. In the next decade or so, housing is likely to spring up all over this area and more detailed urban design study of these settlements is warranted to ensure that it is ready to meet these new demands, including how a new sub-centre might evolve there for the benefit of existing and future residents.

“More detailed urban design study of these settlements is warranted.”

As well as the additional ‘market’ that this creates for local amenities and the increased density of people that will access natural resources in these areas as a result, the value released from selected development in these areas can, with imagination, be applied in whole or in part to the support of those natural assets.

“Some modest residential infill development should be encouraged.”

At the rear of the modern Marcroft housing development some modest residential infill development should be encouraged to look

out on to the newly cleared basin and canal beyond, constructed along the current Tir John access road and back to the existing estate, perhaps also opening up some of the currently fenced connections.

Secondly, two blocks to the south of Marcroft can be developed for residential use. Both are wooded and it will involve the loss of some urban greenery – NRW and partners will need to make value judgements about this – but developing further density in that area, bringing residential life and active frontage overlooking the basin, will further consolidate Ashlands and the Crymlyn Basin, which form the gateway to the bog beyond for those communities.

“Two blocks to the south of Marcroft can be developed for residential use.”

For the westerly block, there are two high walls that once supported the higher-level railway line that ran here. There is some heritage argument for their retention, but in order to open up and create a more permeable space here and allow for further development, those walls should be removed. Perimeter blocks should be created with frontages facing outwards from each side of the blocks, protecting gardens behind – for the eastern of the two blocks, frontage on the southern side will face the end of the former

Tennant canal before it disappears beneath Fabian Way through a culvert. There is value to be created here – residential property with water frontage and acres of green space on the doorstep.

To the south of the western block are the hints of a now rather obsolescent small sub-centre next to the footbridge crossing to SA1. That too warrants inclusion in a study for this area, to include any emerging residential areas south of Fabian Way. With further density, a sub-centre may once again be viable here or nearby.

The crossing over Fabian Way at the end of Wern Terrace, currently extremely weak and inhospitable, requires attention to encourage north-south linkages of people.

“The crossing over Fabian Way at the end of Wern Terrace requires attention to encourage north-south linkages.”

Pedestrian crossings are always better at grade rather than over footbridges – that is difficult territory with the importance of the road and traffic flow seen as paramount in current city thinking. The traffic can slow for key crossing points – there are lights coming up there for traffic heading into the city anyway; the traffic

can slow a few hundred metres earlier than it would have. These concessions are minor given the benefits that can accrue from getting connectivity right here.



Nearly obsolete subcentre on Fabian Way

A third development opportunity exists at the current park and ride site, situated on the north of Fabian Way. Land to the west of the park and ride is already identified in the Fabian Way Corridor Masterplan. The existing Park and Ride site should be added to that as potential development land.

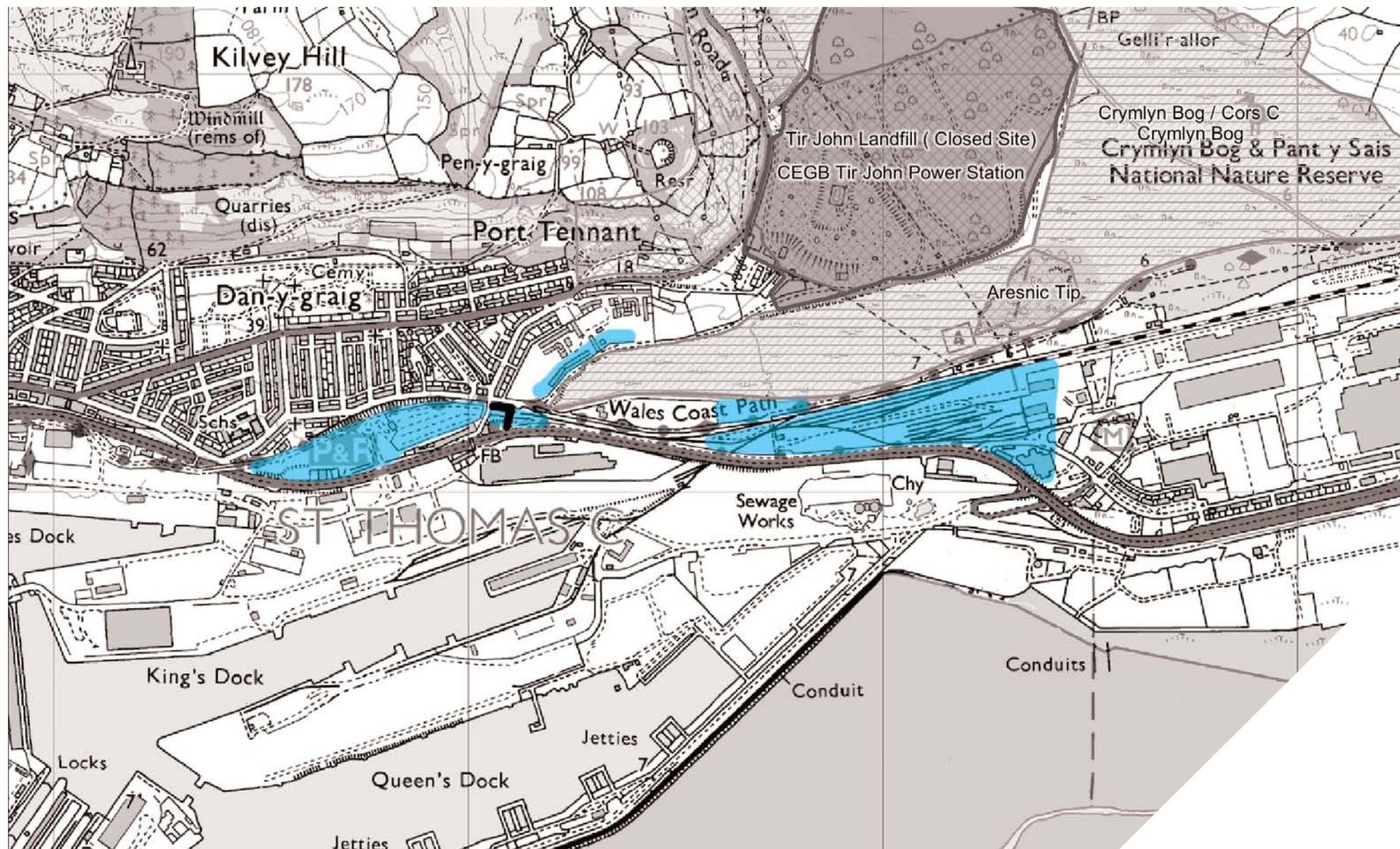
In the Fabian Way masterplan, housing is currently allocated adjacent to the Water Treatment works. That is a challenging sell, given the associated smells there. So, a ‘land swap’ should be considered – the park and ride should be moved to the more problematic development sites adjacent to the Water Works, releasing the existing park and ride site for residential development.

“The park and ride should be moved to the more problematic development sites adjacent to the Water Works, releasing the existing park and ride site for residential development.”

Moving the park and ride also permits expansion of capacity with the benefit of a road junction that is currently being upgraded to cater for Swansea University’s second campus anyway.

Alongside the existing allocated site to the west of the current park and ride site, this forms a large area, the development of which could significantly contribute to both the settlements to the north, feeding local amenities – shops, post office, pub as they emerge in a new sub-centre – as well as increasing the numbers of people living adjacent to and able to support and nourish the natural assets of the Crymlyn Basin and the bog beyond as well as northwards up on to Kilvey Hill. There are challenges to connect to the rear of the site with quite a significant change in level between it and the existing community but it is achievable. Accompanying this, the existing Fabian Way ‘McDonalds’ junction should be enhanced as a pedestrian and cycle crossing

Indicative sites with future housing development potential



point – that can become a key north-south junction, encouraging people in the newly created residential areas south of Fabian Way through to the north, further supporting any emerging sub-centres in the north, and connecting to the natural assets beyond.

“The existing Fabian Way ‘McDonalds’ junction should be enhanced as a pedestrian and cycle crossing point.”

Further housing developments in the south

To bring further residential density and more frontage and activity overlooking and valuing these natural assets, land should be identified for housing development near to the rail yards between Fabian Way and the southern edge of the bog, to the east of Ashlands.

“Land should be identified for housing development near to the rail yards between Fabian Way and the southern edge of the bog.”

That development could be serviced both from the east with the new developments around the

new junction that is being developed currently from Fabian Way for the Swansea University second campus and up through Elba Crescent/Baldwin’s Crescent, as well as through the railway underpass beneath Fabian Way (see below). There are other connections on to Fabian Way at ground level already – these are precious and currently road developments pay scant attention to the potential for crossings.

The forested area immediately to the east of Ashlands playing fields should also be considered for housing development. Again this requires a value judgement in terms of retention of greenery versus the creation of greater density to consolidate and protect the larger natural assets of the bog to the north. Development here will begin to link the communities to the north of Fabian Way with the potential for further development that will likely take place in the longer term along the stretch of land opposite the new Swansea University campus and Elba Crescent/Baldwins Crescent, where the studios and other ex-manufacturing facilities are currently located. There is a small isolated residential community there now and linking these areas thematically, east-west as well as ensuring they are linked north-south across the road, will greatly improve their condition.

There are railway lines here, but these are in decline and the land will likely become surplus to requirements in the future. As with much

of this study, this is about placing markers and creating strategy for the long term – some elements can be enacted immediately, for others it is a case of ensuring there is a strategy in place ready for when circumstances inevitably change as the Fabian Way corridor develops.

Link beneath Fabian Way

The development of the new university campuses and SA1 area is progressing with every indication that the areas to the south of Fabian Way will develop sooner rather than later, and that they will do so with a reasonable degree of residential accommodation. Additionally, the potential development of the Tidal Lagoon will see the key access route come along Langdon Road and turn south around the ABP ports to meet the Lagoon’s western landfall. That turn – the key access point – will be a relatively short distance to the south of the bog.

“The existing railway underpass beneath Fabian Way should be developed as a pedestrian and modest road link.”

A north-south linkage is needed to facilitate access between these areas and the existing

railway underpass beneath Fabian Way should be developed as a pedestrian and modest road link – there is ample room to do so.



The Fabian Way underpass

The current opportunities for exploitation for links across Fabian Way are too limited – two have been identified in this section. The underpass connection is relatively easy to establish as it uses an existing tunnel. But other opportunities need to be explored for crossing Fabian Way – multiple crossing points at human scale are needed, friendly to pedestrians and cyclists, and several should be provided along its length.

“Other opportunities need to be explored for crossing Fabian Way – multiple crossing points at human scale are needed.”

The prevailing thinking remains heavily in favour of designing exclusively for motor vehicle speed and flow rates, but in the longer run, the key issue will be the social integration of homes, business, light industry, the university campuses, and perhaps also the Lagoon. The road system should be catering for crossovers now and there is currently scant evidence, along the full length of Fabian Way, that this is the case. Bringing Crymlyn Bog, the hill and the canals into touching distance of new developments on the bayside will generate social and economic paybacks that warrant these initiatives.

Fabian Way corridor transport links

Transport links along the Fabian Way east-west routes are currently under review although, as has often been the case, they are a poor relation to the extensive motor vehicle provision nearing completion, ostensibly for the new Swansea University campus.

Along with a north-south (Morrison to the Singleton Park University campus/Singleton Hospital) line, a public transport line from Mumbles to the new Swansea University Crymlyn campus and onwards to Neath, should form the strategic core of public transport planning for the city and the bay, not only for motor vehicles as it currently is.

The strategic public transport route to be

served by a bus system (at least) should be community-oriented and, presently, that points towards a line along Langdon Road, servicing both the University of Wales Trinity Saint David as well as the Swansea University second campus, as well as the emerging business and residential in between.

“A public transport line from Mumbles to the new Swansea University Crymlyn campus and onwards to Neath, should form the strategic core of public transport planning for the city and the bay.”

In due course, as the population of St Thomas and Port Tennant becomes more student-oriented, there will be a need to consider a route along Delhi Street and Wern Fawr, crossing to the Swansea University second campus. This will also be of considerable benefit to these traditional communities and their existing resource centres, not to mention access to the natural environment currently under consideration.

Secondly, priority has to be given to cycle routes through SA1 from the Sail and Trafalgar Bridges as well as from the Tawe bridges with a set of simple planning criteria. Routes both sides of the Prince's Dock are fundamental and

will feed all the way to the Crymlyn Campus and beyond, as similar consideration is applicable from Neath, Briton Ferry and Jersey Marine.

“Priority has to be given to cycle routes through SA1 from the Sail and Trafalgar Bridges as well as from the Tawe bridges with a set of simple planning criteria.”

On the north side of Fabian Way, current access and routing for cycling and the Wales Coastal Path will certainly be maintained and improved although that too will be under pressure from potential residential developments on adjoining land as the second Swansea University campus settles in and (in the near future) a second major University of Wales Trinity Saint David development takes root to the south west.

Provisions to protect and support these routes and the adjoining natural environment should be laid down now with three simple criteria: frontages overlooking public spaces and natural heritage; a density that facilitates (makes viable) and integrates much needed social and commercial resources for the existing as well as the new communities; and transportation provision and connectivity to minimise the necessity for private motor vehicle use.

Given the likely continued decline of current heavy freight rail needs and the already dwindling commercial docks function, coupled with (for the most part) ample land availability along the Fabian Way corridor, more ambitious linkages should be considered, potentially a light rail connection to link the city core with Neath and/or Port Talbot Parkway and from there linking with the existing rail networks. However, a metro bus (upgraded to a more eco-sustainable format in future to reduce pollution and, in the long term costs) can service this equally well and there are already considerations on the Neath Port Talbot side of the country boundary for linkages to better link bus services with Port Talbot Parkway station. Whilst these routes must ensure that pedestrian and cycle linkages are also considered within them, a focus on facilitating improved public transport linkages is to be welcomed and actively encouraged.

Re-opening the Tennant Canal

At a relatively modest cost (previously costed by NRW) the canal stretch between the canal basin in the west and the junction with the Glan y Wern Canal should be cleared of vegetation and made navigable once again.

Further specialised study is required to determine the effect (if any) on the watercourse to the east of the existing canal barrier if it were to be removed – the water course to the

east is used to provide clean water to industry and the Tennant family derives an income from that supply, so before the opening of the full waterway can be considered, the effects of doing so need to be better understood. However, the aspiration should be to find a way to ensure that the Tennant Canal is reopened as a navigable waterway at least from Crymlyn Basin to Neath and beyond – much of that route to the east is navigable already.

“The canal stretch between the canal basin in the west and the junction with the Glan y Wern Canal should be cleared of vegetation and made navigable once again.”

It is unlikely that the canal can support regular motorised traffic – the banks are mud and not stone and the wash from regular motorised traffic will raise maintenance costs and create ecological challenges. But low volume and low power/unpowered traffic has plenty of scope to enliven the waterway. Coupled with heightened activity at the Crymlyn Basin end, plus the existing Wales Coastal Path, these assets begin to reinforce one another and generate a critical mass of activity that will generate greater interest and footfall. That all feeds and improves connectivity not just in the physical sense but thematically also.

These are all assets of which the City Region can be justifiably proud. They need some tender loving care and to be sensitively and sustainably exploited. Previous studies on the reopening of the canal (see next section) and the NRW officer with responsibility for the bog concur with such an approach, subject to sensitivity to the fragile ecosystem. Further specialised impact study may be required to fully understand the implications and also to give confidence to the Tennant family that the current barrier at the junction with the Glan y Wern Canal can be removed and under what circumstances.

Reconnecting the canal with the docks and the Tawe

There should be a long-term aspiration to link the city’s waterways by joining the Tennant Canal through to the Kings Dock.

“Link the city’s waterways by joining the Tennant Canal through to the Kings Dock.”

A study was undertaken by Ian Walker and Associates in 1994 to establish the key issues of (re)creating a link between the docks in the SA1 area and the Tennant Canal north of Fabian Way. The study, though dated and in need of revisiting to reflect current conditions

and prices, concluded that the creation of a link was viable. It considered two options – a link with the Prince of Wales Dock and a link with the Kings Dock. In both cases it is recommended that the link is created via a new spur under the existing Fabian Way railway bridge, rather than attempting to take the original line extending from the western end of the canal basin where the water from the canal currently continues under Fabian Way onwards to the docks through a culvert.

There is room to do so beneath Fabian Way and this is identified in the Local Authority’s Fabian Way Corridor Masterplan, where there is a preserved line for the reconnection of the canal to the Prince of Wales Dock.

The cost of connecting the canal through a new channel of that length is likely to be significant (estimated in the 1994 study at £1.51m) and may not be feasible in the short to medium term, but the maintenance of a preserved line is advisable. However, a secondary route should be considered and preserved as a more cost effective option – a far shorter connecting route would be to take the canal through the underpass and connect to the Kings Dock as recommended by the Ian Walker and Associates report in 1994 (estimated costs in the 1994 study for this route was £1.15m).

The Canal and Rivers Trust, with input from Lambert Smith Hampton (LSH) and

Weatheralls, conducted a study of the uplift in value provided by water frontage in a development in Milton Keynes. A new green field development there had a requirement for balancing ponds for surface water drainage. The local authority was willing to increase the density of the development in the blocks with a water frontage and LSH demonstrated that water frontage added 20% to the value on average in that location (comparison of sale prices for similar properties with and without water frontage confirmed the initial ‘academic’ expectations).

The reinstatement of that section of canal could be justified using a model based on recouping a proportion of costs through uplift in land value as a result of newly created waterway. At present there is a surplus of land overlooking water frontage along the river, around the Prince of Wales Dock and in the longer term potentially around the King and Queens Docks (currently owned and operated by Associated British Ports). Even taking into account future uplift in land value through the creation of further water frontage for development, the costs in either scenario are not insubstantial.

When considering this link for the purposes of connecting the canal to the docks, the function of the underpass for ground level pedestrian and vehicular access to service future development north of the road needs to be retained.

“The function of the underpass for ground level pedestrian and vehicular access to service future development north of the road needs to be retained.”

That underpass may have to serve multiple functions – that can be achieved, but needs careful planning.

ABP operate the dock area and there are security concerns in relation to its continued use as a commercial port. However, it is likely that the commercial dock functions will contract over time. The connecting route through the Kings Dock (proposed in the 1994 report) could conceivably be entirely water-based for barges/kayaks etc. to connect the two canals – pedestrian routes alongside the canal can either be fenced or diverted around the perimeter of the secured docks area if that is necessary for security considerations in the short term.

This offers a more viable solution to connecting the waterways than the long channel currently proposed. The Ian Walker and Associates report (1994 – Appendix F, section 4.0) suggests that ABP concerns about such a link are misplaced for the following reasons:

1. the 1994 report indicates that a lock system will be required in order to resolve differences in water level between the canal and the docks and so entry of canal craft into the docks can be strictly controlled by ABP at that point;
2. ABP can restrict access to licensed users, with part of the criteria for licensing the ability to evidence a proper understanding of how to navigate in the docks;
3. ABP can similarly make relevant insurances and indemnities, and agreement to be placed under the jurisdiction of the ABP Harbour Master a requirement of any licensing;
4. ABP can determine the times during which passage is permitted to suit operational needs;
5. volume of usage for linking between the river and the canal is likely to be low and most usage is likely to be clear of normal dock operations, and no mooring is proposed related to the creation of this link, therefore any craft that use the dock are likely to be within it for a very short period;
6. ABP could require a piloting service, provided by them for any craft unfamiliar with the Dock, for which a charge can be levied; and
7. there is a benefit to ABP from the provision of gravity fed fresh water supply (currently constrained), reducing ABP pumping costs.

If this connection (or indeed the longer connection on the current Fabian Way Corridor Masterplan) were to be achieved, then a further connection should be included at the western end of the Prince of Wales Dock to connect to the Tawe.

“A further connection should be included at the western end of the Prince of Wales Dock to connect to the Tawe.”

There are already options considered for: a route through the dry dock at the University of Wales Trinity Saint David peninsula site in the south west corner of the SA1 area; and/or a shorter route that extends from the western edge of the south-west corner of the Prince of Wales Dock to meet the Tawe with the added advantage that on connecting with the Tawe at that point there is no need for craft to then go back up through lock gates – the former dry dock route would take boats out below the barrage.

These options were costed in a broader study conducted by Atkins in 2002, which explored the viability of connecting the Neath, Tennant and Swansea Canals, via the docks and Tawe to create up to 32 miles of navigable inland waterway. These connections also feature

in the 2003 British Waterways Waterspace Strategy for the Prince of Wales Dock prepared for the Welsh Development Agency.

The creation of a waterway in the manner described here, running through the docks and connecting with the river, creates a much larger system that will require management and resource. The costs are not just capital costs of reinstatement, but also the maintenance costs of ongoing care and repair as well as a need to manage the route for the purposes of navigation.

There are additional benefits to weigh against this from increased land values from the creation of further waterfront development sites and potential for berthing in a marina, and the 2002 Atkins Study and the 2003 British Waterways Waterspace Strategy go into some detail of the options, the costs and potential sources of funding.

The Atkins Study concludes that this larger initiative is feasible and recommends that it should be pursued, providing cost benefit arguments and this is reflected in the subsequent British Waterways Waterspace Strategy (which is focused on the Prince of Wales Dock rather than the wider network). However, the costs identified by Atkins are significant (around £50m at that time for their recommended scheme, which was also of course a very different pre-austerity public

funding environment). Nevertheless, there are merits in revisiting the proposals to determine whether a scaled down version is feasible. The Canals Trust has extensive experience in this area and should be encouraged to take a lead in that process (suitably supported with financial input and partnership support by the two local authorities and also NRW).

Additionally, whilst the 1994 study identified various potential implications for the bog from reinstating the canal and concluded that it would be a positive initiative, that element should be revisited with an updated study (not

least because the previous report was written at a time when the BP refinery, a major user of water from the canal, was still in operation at Llandarcy).

The connection of the canal to the river through the docks is a longer-term aspiration with relatively significant (though perhaps not prohibitive judging by the 1994 and 2002 studies) costs attached. If achieved alongside the opening of the Tennant Canal to Neath, it could offer a navigable waterway at least from the northern stretches of the Tawe towards Clydach and Pontardawe, extending east as

far as Neath (the Atkins Study goes further, considering linking the Swansea Canal and Fendrod also).

The creation of a lengthy stretch of inland waterway connecting the docks, river and canals is a worthy aspiration, and is worth revisiting to assess viability. Such an investment would give resonance to the city's industrial past, bringing new connectivity and life through invigorated waterways both for cultural/leisure use as well as more practical connectivity between different parts of the city. It has scope to significantly add to the sense of place and the city's water-based identity. However, this is extremely ambitious and in terms of securing access to the natural assets in the study area and achieving the desired outcomes, it is not as high a priority as other initiatives, and NRW may wish to relegate this to a 'desirable' rather than 'essential' list.

Access links in the north

To the north of Crymlyn Bog creeping urbanisation is still some distance from the perimeter of the boglands below, with the immediate surroundings still predominantly rural in character. This is changing, not least with the development of Coed Darcy to the east. The task in the short term is to ensure that new development is planned and managed in advance, with a view to enabling connectivity and sustainability of these communities as

they emerge – connectivity between new and existing built areas and to the local ecosystem should be a key requirement of masterplans for new developments and a key criterion for planners to consider.

“Connectivity between new and existing built areas and to the local ecosystem should be a key requirement of masterplans for new developments and a key criterion for planners to consider.”

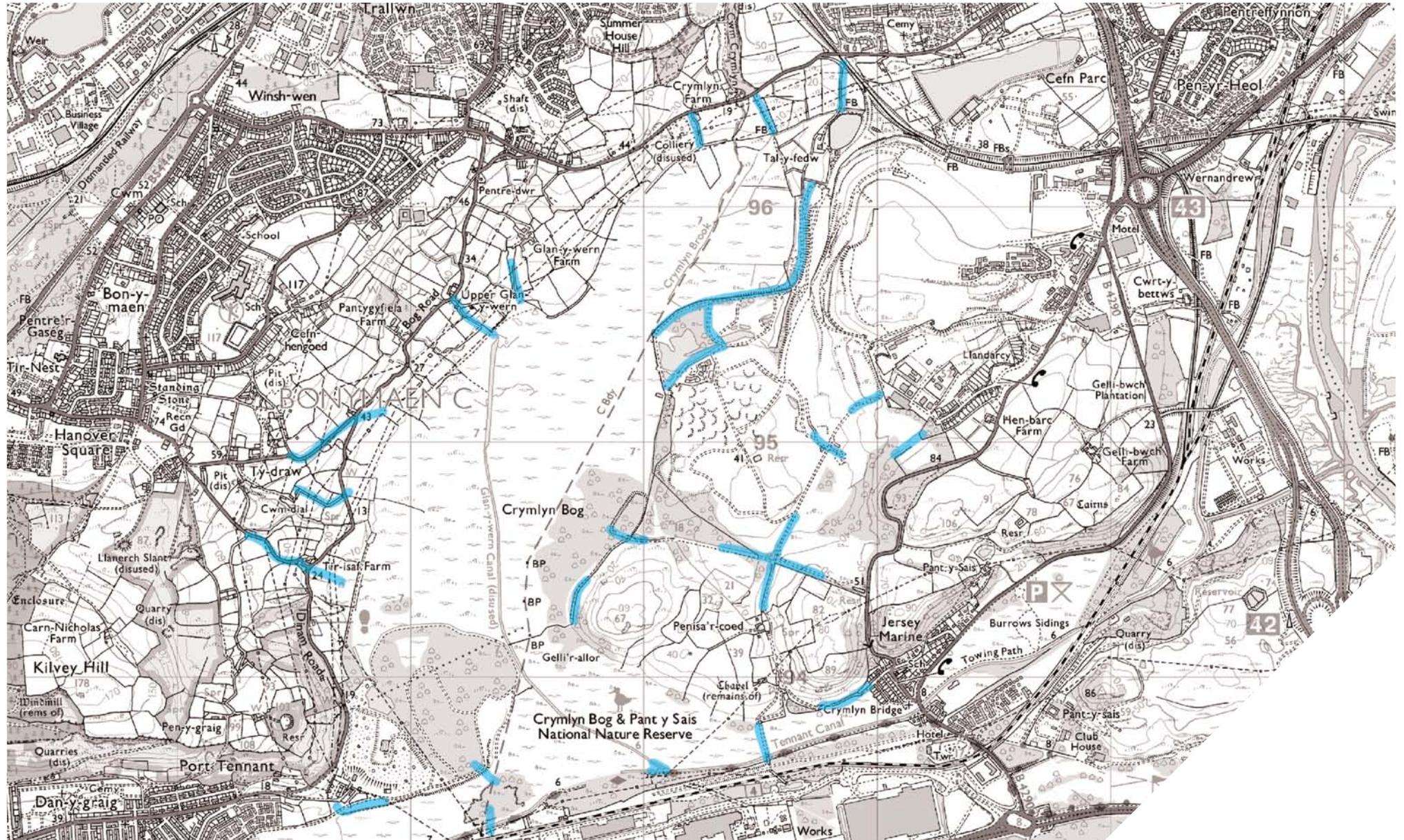
There is also a need to ensure that existing communities retain character and the potential to access the natural resources that presently are for their almost exclusive use.

To the east, Llandarcy Village is a little distance from the bog, but there is clear potential for linking from the end of that settlement through the trees to the edge of the bog. Boardwalks spanning the bog may be some distance in the future, but NRW should plan for those connections regardless with entry points and walks to the east. The precise location of those walks can be dictated by topography and pragmatism of landownership at the bog edges, provided that connections are as straight as they can be through lines of least resistance – these are the 'desire lines' that



Canal route to Kings Dock

Key access points surrounding the bog



people would naturally take all other things being equal. Those lines can be nurtured around the bog and occur again from: Skewen; down the hill from Pentrechwyth, Bonymaen, and Hengoed, Ty Draw, Pentre Dwr and Winch Wen; emergent 'Crymlyn' in the south; Port Tennant; Jersey Marine; the aforementioned Llandarcy and of course Coed Darcy as it eventually develops right down to the edges of the bog.

“Access points around the bog should be noted and their potential for the future recognised for planning purposes for those communities to the north.”

These potential access points around the bog should be noted and their potential for the future recognised for planning purposes for those communities to the north. Additionally, where they exist, historic paths from communities down the hillsides towards the bog should be formalised as rights of way to preserve routes.

“Historic paths from communities down the hillsides towards the bog should be formalised as rights of way.”

However, the key to enhancing physical connectivity to the bog in the short term lies to the south with the initiatives mentioned previously.

Connecting through the boglands

An existing, well thought through report (Crymlyn Bog CAN Project) considers the connections within the bog itself using boardwalks and taking into account the sensitivities of encouraging and facilitating access through the SSSI. There is no need to review the conclusions of that report, which are all still relevant.

The recommendations of the CAN report should be retained with the addition of one or more cycle-friendly links through the bog (including an east-west link from Coed Darcy) using the old dram ways and/or boardwalks or a combination of the two.

“The recommendations of the CAN report should be retained with the addition of one or more cycle-friendly links through the bog.”

Whilst care will need to be taken not to make the bog too much of a 'through route', the more that cyclists can be given opportunities and encouraged to utilise these connections

through the boglands, the greater the likelihood that local people will cherish and nurture the bog as a resource. It may be that these routes become formalised as part of local cycle networks, extending from Coed Darcy in the east through (or skirting) the bog and connecting to the communities to the north of Kilvey Hill and down to the Lower Tawe and Lower Swansea Valley.

The way we move around our cities is changing and will change further and we should take every opportunity to ensure that connectivity is thought of in pedestrian and cycle terms (as well as water borne modes where possible and appropriate) and move away from a focus on cars.

This recommendation is made with the understanding and significant caveat that the bog is a sensitive ecosystem and any such provisions that involve routes through the bog must first and foremost ensure that the SSSI is protected.



THE LOWER TAFE



THREE

The river is a great under-achiever for the city, indeed along with the other elements of this study plus the Bay beyond, these are the city's principal assets. Of the areas covered by this study, the river offers the greatest potential for mixing new urban development and a natural asset with the beating heart of the world's first globally integrated industrial city.

The last remaining vestiges of that are located at Copperopolis and White Rock and are worthy of world heritage status, which has been recognised by Swansea University. Early efforts to reclaim and value the site have demonstrated the riches that can be harnessed there, but these are the earliest phases of a much larger, longer-term initiative to reclaim and celebrate this unique industrial offer. That, alongside a wonderful, and currently largely unrealised, riverside environment with Kilvey Hill beyond, provides the ingredients for a rich package for development, conservation and celebration.

KEY ISSUES

Cities across Europe have pride in, and value their rivers as key assets. Until relatively recently, the potential for the river's west bank for development (north of the Tawe road bridges) was recognised but has been largely aspirational, with no robust strategy for development.

The major development activities along the river's west bank in recent years have seen the contraction of the light industry land use function, releasing land. That has resulted in some relatively weak (in urban design terms) housing developments that have not recognised the qualities of the natural assets on their doorstep. The Bellway development to the immediate north of the Tawe road bridges on the west bank is extremely weak in terms of its relationship to the river, with seemingly no thought given to either overlooking and/or connecting physically with the riverside.

Bellway housing development



Additionally, Network Rail has undertaken a relatively large engineering project to extend the trackway sidings, resulting in the loss of the Maliphant Street road connection. That link is still accessible to pedestrians across a new switchback bridge, though it is far from ideal.

Prospective developments include the Morfa Distributor Road (a follow-on from the formerly proposed Hafod Bypass but essentially the same scheme in terms of its likely effects) and a prospective but as yet unrealised development by Persimmon, used in no small



part as the justification for the new road. The site is located at the top of the wider section of west side river bank before it narrows and steepens prior to reaching the Copperopolis site further north.

There, just before the river passes under the next major road bridge, there is a hint at the potential for the Tawe. The initiative by Swansea University at Copperopolis with early stage works reclaiming, safeguarding and interpreting the key industrial remnants of the city's once booming and world leading copper trade is an excellent project, and lays the foundations for connecting the city to its river.

On the West Bank, the river promenade is missing in key places, and in others has been fenced off and made inaccessible. The direct visual and physical connections leading to the river from the city, from High Street, from Neath Road, Maliphant Street, from Morfa Road, from Landore, are missing. The potential for a key connection towards Copperopolis and the Liberty Stadium is unrealised.

On the lower east side of the river, the major task is to reconnect communities with their city centre. Industry, the river, roads and traffic have isolated St Thomas especially, undermining its erstwhile commercial and social vitality. Reopening the direct city connections from Kingsway/Welcome Lane to Delhi Street, St Thomas, Kilvey and the bog will revive the lifeblood of St Thomas and bring

these wonderful natural resources closer to the life of the city. Even more, it will boost the city centre and emphasise the potential of the beautiful river Tawe.

The east river bank is already parkland but also merits tender loving care, with: new walks; better links to east side communities and cycle routes; perhaps play at the south end; featured woodland further up; water projects from the hillside, probably running into the old high canal and on to the river; water play at a sunny spot; a pontoon for the community boat.

INITIATIVES

Improved east-west linkages

The current City Centre Framework discusses the redevelopment of Parc Tawe, which should certainly be considered for high density residential accommodation – integrated town (not an inwards looking housing estate development) with high standards of urban design.

“Any developments that are on or near to the waterfront must have active frontage facing the waterfront.”

Of most importance in Parc Tawe is to ensure that any developments on or near to the waterfront have active frontage facing the river. Straight lines of east-west communication to the riverside, faced by active frontages, are essential – every effort must be made to preserve and develop these crucial links.

“Straight lines of east-west communication to the riverside, faced by active frontages, are essential.”

Particularly, the design proposals for the current city centre strategy propose the creation of a more direct route, but this remains slightly offset – insofar as it is possible a straight line route should connect Delhi Street in St Thomas with the Kingsway/Welcome Lane with active frontage all along its length.

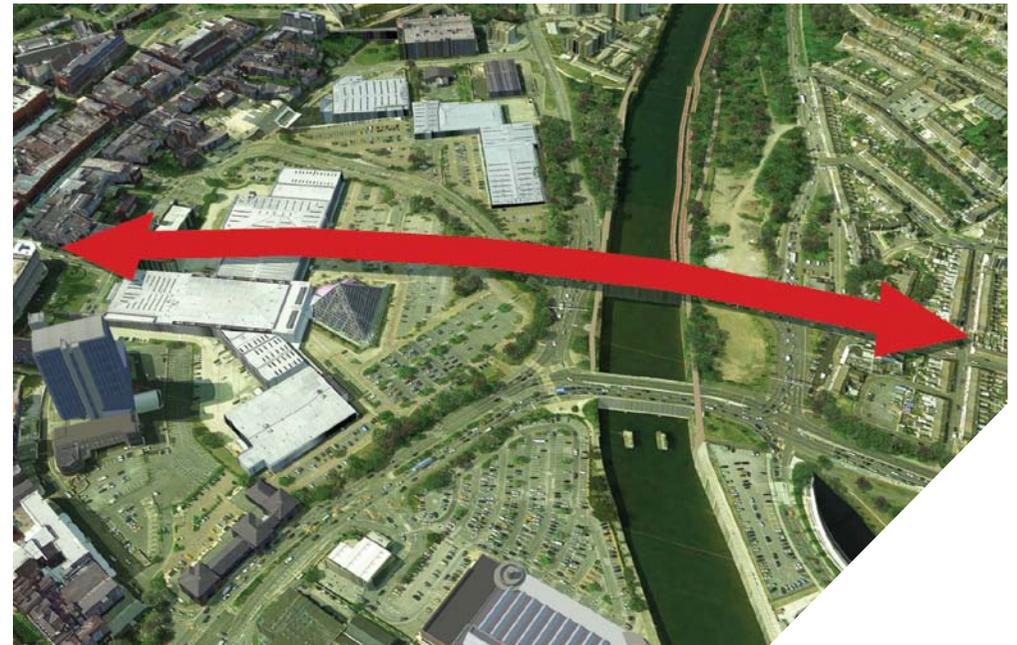
“A straight line route should connect Delhi Street in St Thomas with the Kingsway/Welcome Lane with active frontage all along its length.”

When the Parc Tawe site is redeveloped that will create a strong backbone and communications

route (along which design must be mindful of how pedestrians and cyclists can easily cross from one end to the other) that will help to make the Parc Tawe site, as well as considerably strengthening east-west communications within the city.

The bridge itself will need attention to enhance it as a pedestrian environment – the current pavement there is narrow and does not encourage shared use by pedestrians and cyclists, nor does the road system there favour cyclists. It actively discourages east west connectivity by anything other than

car. Connectivity to the east riverside, not to mention the east side communities and the hill beyond, must come from the west as well as the south and east. So, getting that river road bridge crossing right for pedestrians and cyclists is essential. That applies not just to the length of carriageway along the road bridge itself, but also crossing points at either end, which should fit the key desire lines – straight lines of pedestrian/cycle communication along the riverbanks. A dramatically improved pedestrian and cycle environment using the existing northern road bridge across the Tawe must be the aspiration.



East-west line connection between Kingsway and Delhi Street

“A dramatically improved pedestrian and cycle environment using the existing northern road bridge across the Tawe must be the aspiration.”

The current city centre strategic framework review led by DTZ shows the creation of an inlet to the north of Parc Tawe – creation of more waterways for frontage can have benefits for the increase to property values, although there is ample development frontage on watersides in SA1 and along the river already to meet any demand in the short to medium term. Whilst we do not take a strong view on the creation of that inlet, what is important is to ensure that the riverside walks are maintained, and to consider a footbridge to maintain the existing straight line route to encourage walking and cycling directly up the riverside.

Wales Coastal Path

At the Trafalgar Bridge the Wales Coastal Path extends to the east through SA1 to meet with the southern edge of Crymlyn Bog. Unlike the sea front path around Swansea Bay, that easterly stretch loses its identity by moving away from the water’s edge in order to go north around the ABP facilities of Swansea Docks. So, its status as the Coastal Path could be reinforced there and could thematically

feature and be supported by the University of Wales Trinity Saint David development at the peninsula site at the eastern end of the Trafalgar Bridge.

The Wales Coastal Path route through SA1 would benefit from some improved marking and highlights, not least as a further means of signalling that further along it skirts more wonderful natural assets with Crymlyn Bog as well as the canal further along, before returning closer to the coast in the east.

“The Wales Coastal Path route through SA1 would benefit from some improved marking and highlights.”

To the south of the Trafalgar Bridge the riverside wall and walkway are crumbling and closed to public access. The breakwater beyond is accessible from the beach and there is an adjacent pathway a short distance away that pedestrians can use to negotiate between the open riverside path to the north and the breakwater, but it requires a small detour. Whilst not the highest priority project in this list of initiatives, the riverside wall and walkway immediately to the south of the Trafalgar Bridge should be reinstated to create an unbroken riverside walk.

“The riverside wall and walkway immediately to the south of the Trafalgar Bridge should be reinstated to create an unbroken riverside walk.”

East River Eco-park

On the eastern bank, a combination of steep terrain, and narrow flat areas plus precious remnants of industrial history make development difficult and undesirable. The green character of the area is already a favoured route for many walkers and cyclists but it is in need of attention to realise the potential of this urban parkland. Whilst the area has been effectively designated as riverside park for at least 25 years (the 1990 ‘Eastside Initiative’ document refers to such proposals as being ‘longstanding’), it is not formalised or managed to any significant degree or valued/recognised sufficiently as parkland.

The city should formalise a riverside ‘Eco-Park’ with a focus on its industrial heritage – views should be opened up, access routes enhanced, and small areas can be created to allow for occasional flooding from run-off of the adjacent Kilvey Hill.

Whilst flooding from run-off is not a major concern (due in large part to NRW initiatives much further up the catchment), with tidal surges representing the major flood risk in the lower Tawe, there is nevertheless scope to further reduce water run-off as well as creating features in an eco-park here.

“The city should formalise a riverside ‘Eco-Park’ with a focus on its industrial heritage.”

Industrial heritage through the site, culminating in the White Rock site, needs care and attention. Efforts have been made to safeguard and interpret the site, including by community groups. There is a danger that the (warranted) focus on the Copperopolis site on the west bank could overshadow the less physically prominent but no less important remnants of industrial history on the east bank – the Swansea Vale Railway bridge and remnants of the White Rock Copperworks, the Smith’s Canal Basin and tunnel, an inclined plane railway, and a preserved riverside Barge Dock and Quay are all to be found on the eastern bank.

Inspiration and lessons should be drawn from exemplary recent work on former industrial river banks in New York and Paris as well as a wonderful history of European urban rivers.



New York Riverside Park

The park should be given a name, perhaps East River Park – it needs formalisation and to be cherished as a resource, rather than being perceived as ‘left over’ land. That need not mean significant landscaping or onerous management – areas can (and should) be left wild as habitat. What is proposed here is a formalisation and some management whilst retaining its character. Maintaining and cherishing go hand in hand with other initiatives (including on the west bank) to enhance footfall and cycle traffic.

“The eco-park should also aim for an eastern riverside walk to complement the one on the west bank.”

As well as routes through the trees from the road edge, the eco-park should also aim for

an eastern riverside walk to complement the one on the west bank, albeit with a ‘softer’ feel, with more rustic paths along the river’s edge.

There are no major physical barriers to creating an extended riverside path extending from the St Thomas station site all the way to White Rock to join existing riverside walks to the north. The East River Park can be a relatively ‘quick win’ initiative and there is a strong argument for NRW playing a role in developing and managing the park.

The major obstacle to an unbroken east side riverside walk from the sea is the southerly road bridge that connects Fabian Way and St Thomas to Oystermouth Road/New Cut Road. Here, the pedestrian and cycling environment is exceptionally poor with an overwhelming dominance of car-focused thinking.

As well as the creation of an unbroken riverside walk, further prominence is given to this location with the development of the University of Wales Trinity Saint David development to the south – the north-south linkage along Kings Road for that development is important and so the pedestrian (and cycle) environment here warrants urgent attention. There are crossing points at the junction but they pay no attention to the desire lines of pedestrians or the needs of cyclists and that must be rectified if the north-south linkage here is to function.

“The existing east side crossing points will need to be moved to reflect desire lines.”

The pedestrian and cycle environment at the eastern end of the southerly Tawe road bridge needs urgent attention. When the traffic lights are on stop, pedestrians and cyclists must be able to cross at points that reflect desire lines, particularly the north-south desire line along the rivers edge. The existing east side crossing points need to move to reflect desire lines.

St Thomas Station site

There is an open expanse of identified development land on the eastern bank, immediately to the north of the second road bridge, on the riverside. An eco-housing scheme was proposed under the Warm Wales initiative, which has since stalled. Whilst we are supportive of the Warm Wales initiative, there are numerous appropriate waterside sites available, and indeed other locations (e.g. the Vetch site in Sandfields) that would be suitable from several viewpoints for such an initiative.

In this report, we are generally cautious about block development on this site, firstly because it will be difficult to form an ‘all sided’ frontage that benefits all aspects – the river, St Thomas,

the street (to be ‘softened’ for a pedestrian route into town) and the north facing façade towards an East River Park, where site width becomes increasingly problematic for development.

The St Thomas Station site should be conceived as a welcome to the city, to the park, to our river and industrial history, for information, for parking and a gateway to the park and the city, including a pontoon for river boat access on the east side.

At this point the thematic link can be made with the line extending along Morris Lane up to the top of Kilvey Hill (explored further in the next section) – that link should include a pedestrian desire line crossing to encourage that.

“The St Thomas Station site should be conceived as a welcome to the city, to the park, to our river and industrial history, for information, for parking and a gateway to the park and the city, including a pontoon for river boat access on the east side.”

River bank walk – west

On the western bank the priority is the riverside path. It is largely intact from the sea to the

Liberty Stadium and the aspiration should be to create an unbroken riverside walk on the west bank, and from the stadium back to the Kings Dock and the Trafalgar Bridge, at the key site of the University of Wales Trinity Saint David redevelopment plans.

“Create an unbroken riverside walk on the west bank.”

At two points new path will/may need to be created, but they are relatively modest in length:

- the Pipehouse Wharf site is owned by the City and County of Swansea Council and is currently in use as a vehicle depot though it will be sold for redevelopment in the not too distant future. At this point the higher level site slopes steeply down the river bank with no walkway; and
- at the Swansea Industrial Components site where the pathway exists but site fencing extends right out to the waterside preventing a through route for pedestrians.

In the case of Pipehouse Wharf, the development brief for the site should require the building and maintenance of a riverside walkway to link the stretch that runs behind the Bellway development in the south to the existing riverside walkway north of Pipehouse Wharf.

This sale or the development brief should be firm about the requirement for residential frontage facing on to a riverside promenade.

In the case of Swansea Industrial Components, it appears that there is a stretch of walkway that is fenced off (we were unable to gain access to this short stretch but from the existing walkway on either side of the fenced area it appeared intact, at least immediately on the other side of the fence at both ends). This may simply be an accessibility issue – a negotiation with the landowner to step their fencing back to allow access to the walkway. Alternatively, stepping out around the site using pontoons will be required to extend the walkway around. The former is likely to be less costly.

Urban design improvements to existing west bank developments

The pedestrian and cycling environment in and near to the Bellway and large student accommodation development on the west side are very weak and do nothing to encourage east-west linkages between the city and the river. Indeed, the developments pay no real attention to the river at all, actively turning their backs on it.

“Access routes to the river should be opened through the Bellway and surrounding development.”

Access routes to the river should be opened through the Bellway and surrounding development – making it more permeable to pedestrians and cyclists. As Parc Tawe is redeveloped, the existing green space to the southern edge of the Bellway development lends itself to some formalisation as a riverside access.

All future development contracts must ensure direct visual and physical connections to the river.

Further discussion on this is provided in the following sections.

“All future development contracts must ensure direct visual and physical connections to the river.”

The Tawe High Line

Drawing inspiration from the larger scale New York namesake, Swansea should establish its own ‘High Line’ running from the railway station to Copperopolis and the Stadium.

Starting from the railway station forecourt, the High Line would step down, potentially through the former Quakers burial ground (with some sensitive interpretation there) and travel along the disused lower track bed that

The elevated section of former trackway



begins at a lower level, adjacent to the train station forecourt. That track bed once housed a turntable for trains and there is scope for some further interpretation there also.

“Swansea should establish its own ‘High Line’ running from the railway station to Copperopolis and the Stadium.”

Further along, a currently open pedestrian tunnel runs beneath the railway line connecting the rear of the Ty Bryn Glas building (the old Land Registry facility) with the Strand. There is a point where the tunnel ceiling opens to the higher level High Line rail track, where steps and a ramp could drop to connect back to High Street. A similar connection can be made at Jockey Street.

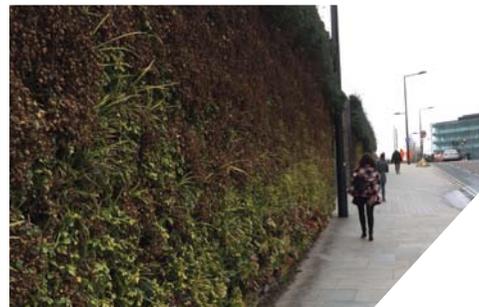
The disused High Line trackway then bridges

Underpass opening on to the High Line



over the Strand, meeting the level of the current rail line and running alongside it, terminating near to the Network Rail parking area not far short of the Maliphant Street bridge crossing.

The New York High Line (top and middle) and green wall landscaping to soften edges (bottom)



The Swansea High Line



At Maliphant Street the higher level track comes closer to ground level. Here is the crossing point linking Neath Road and Landore via Maliphant Street and the new bridge, returning pedestrians and cyclists to the same direct line towards the river, crossing the proposed Morfa Distributor Road with a considerable degree of safety and priority and extending through the southern end of the Persimmon development site to join the west riverside walk. Given the impact of both road and rail in separating Swansea people from their river, these few connecting routes are precious indeed.

Additionally, the continuation of the link across the edge of the Persimmon development site to link with the river must be of high quality. Design criteria for the Persimmon development should ensure that a connection to the riverside is preserved, overlooked by active frontage, so that it becomes a (pedestrian) street.

Good natural surveillance and a wide, green, open feel to that link route are all essential if that link is to work. These are modest requirements of the developer.



A further criteria for the Persimmon and other developments is to require Sustainable Urban Drainage Systems (SUDS) to be incorporated into designs. The major flood risk is from tidal surge, but the further reduction of ground water run-off into the river is no bad thing and a strong marker for future sustainable development.

Morfa Distributor Road

The new Morfa Distributor Road is already approved and due for works imminently. Whilst we have reservations over the justification for the creation of a full length road as far as Landore, the report presumes this road scheme will happen.

Working on that assumption, the key issue is to ensure that this does not create another barrier to east-west connectivity.

“All pedestrian crossing points must represent current and prospective desire lines.”

Shared surfaces should be considered and future residential development in this area that branches off the new Morfa Road road might consider a ‘Home Zone’ approach to ensure that vehicle speeds are kept low, in what should be a pedestrian priority area.

All pedestrian crossing points must represent current and prospective desire lines and the road should be cyclist friendly recognising the potential of the riverside as a key cycling link. Shared surfaces encourage these routes as walks in their own right.

“Design criteria for the Persimmon development should ensure that a connection to the riverside is preserved, overlooked by active frontage.”

It is essential that the riverside walk on the west bank is overlooked and supported by active frontages for any new developments (business or residential). An early target is to ensure that the Persimmon development site utilises perimeter blocks with active riverside frontage.

“It is essential that the riverside walk on the west bank is overlooked and supported by active frontages for any new developments.”

The mistakes of the southerly Bellway development must not be repeated otherwise it will harm the viability of the western bank walkway.

“The Morfa Distributor Road must be designed as a pedestrian and cycle friendly environment.”

It is essential that this is not just viewed as a vehicular access road – the Morfa Distributor Road must be designed as a pedestrian and cycle friendly environment, both in terms of the full length of its linear north-south route, as well as crossing points east-west across it at key locations.

Signage along the route should clearly signpost the nearby river and, again, links across from the road to the river should be straight lines – wide and inviting with active frontages, and doing whatever is possible to allow views of the river at those key points.

“Signage along the route should clearly signpost the nearby river.”

The priority routes include:

- at the Strand/Morfa Road Junction;
- at Pipehouse Wharf Depot (where the culverted Burlais Brook runs under the northern edge of the current Council Depot – currently marked for preservation as a ‘green line’);
- through the private sector plots north of Pipehouse Wharf;
- at Maliphant Street through the southern end of the Persimmon site;
- at Landore near the social club; and
- through Copperopolis to the river.

In each case these should follow the same criteria with active frontage and a wide, green open feel to them. At these points there should be ‘at grade’ pedestrian crossings and steps up to the High Line. This can be phased as development progresses along this route.

The priority is to (re)connect the people of Hafod and Landore with Copperopolis, the emerging riverside communities, and the riverside. Every possible opportunity should be taken to ensure that priority in what we recognise is a difficult environment with the railway lines – the road should not compound those difficulties.

Along the route of the High Line views of the river are important and riverside development planning should seek to ensure that key views are maintained to signal that there is a river there. It is difficult to see the river

presently along the High Line – much of the area in the foreground between the High Line and the river will be redeveloped in the near future and so there is scope to build this into planning criteria. The creation of further link routes noted above will assist in creating these viewing channels.

View east from the High Line towards the river



West side High Line

The High Line can be mirrored on the western side of the tracks through augmentation of the route currently taken by the buses over the bridge next to the former Canoldre Centre at Bethesda Street, which runs between the railway line and the Hafod/Landore.

“Bargeman’s Row should be reopened and given back its name.”

There are hints to history at its southern end near to the railway station – Bargeman’s Row should be reopened and given back its name, and a strategy should be developed to manage (by design) the route under (or over) the railway bridges towards the cycle path.

The Local Authority owned Canoldre site at Jockey Street is currently on the market for redevelopment and includes the green corridor incorporating Bargeman’s Row on its eastern edge, between the site and the Upper Strand/New Cut Road. This is an important link between the west side High Line via the underpass at Jockey Street to the easterly High Line route. Preservation of that route, and ensuring that it is overlooked with good quality design from any development at Canoldre is an important early outcome to achieve following the submission of this report as sale of that site looks to be imminent.

An underpass (currently open to pedestrians) runs from Jockey Street on the west side of the railway lines and meets the Strand/Upper Strand beneath the railway and offers a second link option beneath the railway along with the underpass a little further south.

Pedestrian subways are generally not good means of connecting places due to safety and security issues (both real and perceived) but in this case they represent the most realistic option for linking the east and west sides of

the tracks – the tunnels are already there and used, increasingly so due to student housing to the east and other likely developments.

Linking these routes to the High Line can raise footfall through the underpasses and improve safety and security. Footfall – surveillance by lots of different people – is the best way to make people feel safer in more isolated environments, but creative interventions are needed to improve visibility and feelings of safety and security in the railway underpasses. Installation of good creative lighting, curved mirrors where there are corners, decoration, planting and art works would all help.

“Creative interventions are needed to improve visibility and feelings of safety and security in the railway underpasses.”

Existing connections to the Strand need to be improved – further up the Strand, where it begins to rise to meet Llangyfelach Road, the cycle and pedestrian path that drops down from the higher level High Street needs to be strengthened and encouraged with better signage of through routes to the river under the bridges. The informal link through to the Upper Strand in Hafod also needs to be formalised and improved.

“Existing connections to the Strand need to be improved.”

The Strand/New Cut Road at this point is conceived wholly for motor vehicles with pedestrian and cycle allowances essentially tokenistic – it is another example of a very poor pedestrian and cycle environment that needs to be softened. The woodland either side of the road here is valuable public parkland and green space and needs to be better utilised and valued as a resource, rather than being a ‘left over’ green area.

Pedestrian refuges are needed on the Strand / New Cut Road and the vehicles will need to slow to make the pedestrian environment more conducive to crossing and ultimately accessing through to the river.

“Pedestrian refuges are needed on the Strand / New Cut Road.”

Extending northwards, at Vernon Street, Villiers Street, Jersey Street and Earl Street cul de sacs terminate in block walls where the rail yards would once have been on the other side. There is now a roadway between them and the railway line, with a pedestrian pathway – the walls of the cul de sacs in Hafod should be

opened up to encourage pedestrian and cycle linkage through to the west side High Line walk.

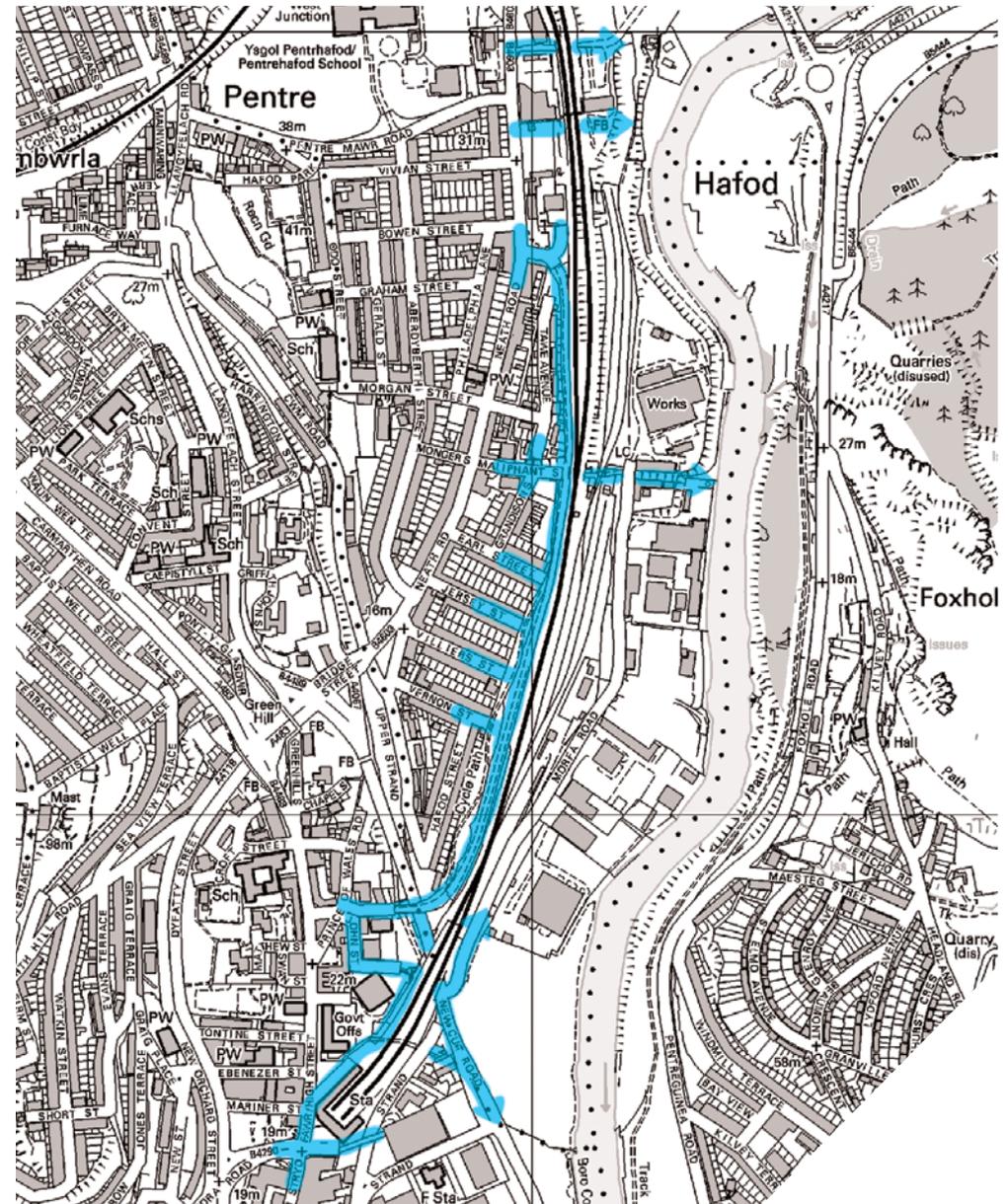
“The walls of the cul de sacs in Hafod should be opened up to encourage pedestrian and cycle linkage through to the west side High Line walk.”

At Maliphant Street the route turns beneath the railway line through the existing road tunnel, now closed to motor vehicles due to the creation of the extended railyards on the eastern side. Although a lost opportunity, the Maliphant Street route should be formalised for pedestrians and cyclists now – highlight it, publicise it as a link through to the riverside.

“The Maliphant Street route should be formalised for pedestrians and cyclists now – highlight it, publicise it as a link through to the riverside.”

Immediately to the north of Maliphant Street the new housing development of Tawe Avenue is cut off from the Maliphant Street link – it is at a higher level, with fencing to prevent access down to the lower level.

The West Side High Line and key connections



“The routes and connections from Tawe Avenue down to Maliphant Street should be formalised along desire lines.”

There are clear signs of people making their own routes here and also out to the bus route – they are already used as short cuts and the routes and connections from Tawe Avenue down to Maliphant Street should be formalised along desire lines.

Formalise the provision of river activities

City of Swansea Rowing Club (Wales’ biggest rowing club), supported by the Welsh Rowing Association and other local rowing clubs, is assembling initiatives for the river. They are interested in points of access to the river for rowing, kayaking, and fishing – all excellent themes to be encouraged and pursued both at a focal point with a ‘clubhouse’ for the rowers, as well as along the river to encourage various entry points for different users.

Presently, the group is focused on achieving a presence in the V&S shed – a difficult location to make economically sustainable and with problematic access (even with the various initiatives outlined in this document).

These objectives, namely to protect and bring into use the building, or at least its facade; to establish good locations for pontoons; and to establish a presence for the rowing club and related activities; are excellent. However, whilst this can provide a positive use for that site, it will be a significant capital cost to refurbish and develop that site for this purpose, let alone a challenging initiative to sustain its costs there in the longer term.

To be viable, and to contribute to wider regeneration, a feasibility study should explore whether the ‘clubhouse’ element of the rowing initiative can be integrated with projected development on the commercial sites alongside the southern Tawe – adjacent to the Sail Bridge or as part of the University of Wales Trinity Saint David SA1 development, and establish a real presence down there. This will bring much needed life to the river at relatively modest cost.

“The ‘clubhouse’ element of the rowing initiative can be integrated with projected development on the commercial sites alongside the southern Tawe.”

In the longer term, as footfall grows, river ferries might be reinstated to cross the river east-west

by using the stepped access points down from the quay side that still exist in places from the former industrial era when crossing was only feasible by ferry boats.

Every effort should be made to establish a series of riverside pontoons for use by rowers, and as pick-up and drop-off points for water taxis and also the existing and excellent community boat. Inspiration can be drawn from sites such as Kings Cross.

“Establish a series of riverside pontoons.”

The Clear Streams Tawe Trial project has been tasked with identifying suitable access points to the river and to associate such recommendations with data from users/potential users focusing on barriers to usage and desires for further provisions on the river to facilitate more activity.

When considering access points, care is required to ensure that pontoon locations and the like are convenient for boating activities as well as community access – aligning with east-west riverside access routes and current/prospective desire lines that link directly to communities.

Kings Cross steps and pontoons (top), Tawe riverside steps, and Swansea Community Boat (bottom)



Copperopolis

Northwards, the High Line will take people up the river and to Copperopolis and the Liberty Stadium beyond. There is pressure at Copperopolis to realise the value of riverside land for development. Whilst the pressures of development in the current economic climate are understood, the prominence of the site for Welsh, UK and world history is too significant to consider this as a stand-alone development.

The achievement of world heritage status, a reasonable aspiration for such unique heritage, warrants a much larger strategic project and the conservation deficit both in capital and revenue terms of saving and re-establishing Copperopolis for future generations should be met from other sources rather than the need to maximise private sector development potential within the confines of that site.

“Any private sector development on or adjacent to the site must be tempered by a focus on retaining and enhancing the unique qualities that give Copperopolis its status.”

Any private sector development on or adjacent to the site must be tempered by a focus on retaining and enhancing the unique qualities

that give Copperopolis its status. Currently, the proposals for the site have merit but in our view give too great an emphasis to the riverside development block there.

This is of vital importance to connectivity, in part because of the physical links from Hafod through Copperopolis to the riverside (and as can be seen below beyond onto the east side) but also because the strength of this asset, if harnessed and developed in the right way, focuses the story for this area and delivers a compelling narrative that other initiatives, including the more ambitious proposals below, can build on.

New river footbridge at Copperopolis

The existing road bridge is heavily motor vehicle dominated and whilst it is possible to cross as a pedestrian or cyclist, it is a very poor environment for non-motor vehicles. Additionally, the existing road bridge is at a higher level than the riverside walk, requiring a detour to cross.

“A footbridge should be installed to link Copperopolis over the river to the White Rock side.”

Along with the consultants for the Copperopolis project, we too are recommending that

New pedestrian and cycle bridge between Copperopolis and White Rock



a footbridge should be installed to link Copperopolis over the river to the White Rock side, to maximise the extraordinary historical tale to be seen and heard there. This location provides an outstanding option for a City Region tourism focus – a hub for walkers, cyclists and with as much parking as required. It is a potential world heritage site and it is vital to realise the potential of this remarkable opportunity.

The footbridge links to east-west lines to extend linkages through riverside activities and directly connect with Hafod/Landore – perhaps following or as close to as possible, the original entry point to the Hafod works. Insofar as possible, the extended line from the bridge should follow a direct linear route.

Bascule Bridge

The City and County of Swansea Council has assessed the condition of the Bascule Bridge, which is near to the Liberty Stadium. Presently, the bridge is unsafe and is a barrier to navigation of the Tawe due to its instability. The Council has established a refurbishment figure and is some way towards achieving the total required for its repair.

The reinstatement of the Bascule Bridge needs to be pursued to enhance the navigability of the river – with that obstacle removed it opens up far more possibilities for longer term linking

of the city via its waterways, potentially as far as Clydach where canals are being opened up – and to link the east and west riverside paths and create a loop.

“The reinstatement of the Bascule Bridge needs to be pursued.”

Cable car

At Copperopolis and across the river at White Rock the city's industrial history is focused. Here is where there is scope to pull all of the rich strands of the story together – come up the river paths, through the East River Park, walk up the High Line from the Railway Station, take a river trip on the community boat, or some more energetic rowing, or just a pleasant stroll to the football. Here there is an opportunity to unite the river, its industrial history, and the city itself, with the east side by launching a cable car to the top of Kilvey Hill to a hilltop viewing platform looking out over the Bay.

A cable car has been proposed in the past, but often from other start points. There are several advantages of this location over others: it would be a steep and relatively swift rise to the top of the hill; it does not require the route to go over any residential areas (or indeed any built areas); and it offers views of Swansea's river setting, most of the city up the Valley, and

downwards towards the docks. From the top: the bay; from Mumbles to Porthcawl; the city centre; Gower and England across the estuary; and perhaps the world's first tidal lagoon in the foreground.

“Launch a cable car to the top of Kilvey Hill to a hilltop viewing platform looking out over the Bay.”

Copperopolis may be the focus but all around are the most beautiful natural resources, many of which are yet to be discovered by local people. This confluence of a range of riches forms a powerful story for the purposes of bids for public funding and gives real narrative strength to this proposition.

White Rock cable car





KILVEY HILL



FOUR

Kilvey Hill dominates views eastward in the city, rising above the city centre and commands breathtaking views of the Bay, the mountains of Neath and Port Talbot to the east, the Gower to the west, and northward up the Swansea Valley and over the hills to the Brecon Beacons in the far distance.

Along with other assets in this report, it is also a great underachiever. Unlike other aspects of this report, there have been a number of initiatives with the community and various reports that relate to the hill, yet it remains stubbornly isolated and disconnected from the wider city.

KEY ISSUES

Much of the current focus is on Kilvey Hill and anti-social behaviour. People around Kilvey Hill use the area but levels of local activity could be increased. The hill has a poor reputation, with some of the uses considered unsavoury by some (e.g. scramblers) and there is a perception that it is not an area that people are drawn to/involved in.

Connectivity to Kilvey Hill, as well as the approach to the foot of the hill, are seen as challenges yet access points onto the hill from all of the surrounding communities are, in the

main, utilised both by residents and walkers/riders (bikes and horses) from further afield – there is also a culture of ‘pony and trap’ here. Recreational activity on the hill takes place, with good mountain biking routes that are actively used, and fine walks to be had. It is used, but there is significant potential for enhancement and development.

There is a good network of paths. The gateway points and paths themselves need formalisation in some areas, upgrade in others, and a general improvement in awareness and attitude towards these resources so that they are better signposted, identified and utilised. In the first instance the challenge is to secure access at key points to feed into the existing pathway network and then to formalise the network of pathways with rights of way designation.

The hill and the bog and its surroundings are so vast that they can accommodate all sorts of recreational and commercial activity. But there are conflicts with disputes over some key routes that require resolution as well as conflict between users, for example scramblers.

There are insufficient designated rights of way and until very recently nothing was formalised. Additionally, access is not restricted to just pathways, but also bridleways and in some cases vehicles (horse and cart) clearly used to use some of these routes – tracking for

horse and cart use is clearly evident in places. The principal issue is that these were not all designated as rights of way.

The hill suffers from anti-social usage, including setting of fires (a substantial fire is burning on the hillside and visible from the city centre at the time of writing this report) and there has been a historic problem of dumping and burning of cars there and of fly tipping. These abuses exacerbate a sense of an area where unsociable behaviour takes place.

Housing and communities are the big issues. With the university expansion in the south and the sprawling urban development in the north, these communities deserve careful regeneration strategies in their own right. Presently, development is sprawling to the north – the Local Development Plan recognises key major development sites, but there is incremental development ongoing and existing development has taken place with weak or no real sustainable relationship to the long suffering urban form.

That manifests itself in a range of issues within the communities to the north particularly, with no definable centres to communities and local amenities struggling to survive. In the south, despite their isolation, the grid system of St Thomas and the maintenance of a reasonable residential density there has enabled local amenities to survive, albeit not without a

struggle in recent years due in no small part to the cutting off of the grid system of roads in order to accommodate rapid car transit along Fabian Way.

Wider issues than just spatial form fuel problems experienced in these areas and their persistent presence on the Wales Index of Multiple Deprivation (albeit they fare better than some other areas of the city). For the purposes of connectivity, the issue is principally how communities relate to the surrounding natural environment – to the north they draw on the fabulous vistas, south and southeast, over the SSSI and area of outstanding natural beauty. Rather than let this whole area continue to develop piecemeal, recognition of these valuable assets demands that house building and other developments are planned carefully to ensure both appreciation, use and protection of the beautiful eco-system on their doorstep.

Despite their continued isolation in physical terms, the hill and east side are not by any means ‘forgotten’. Over the years a number of different initiatives were carried out on both the Public Estate land and that managed by the Local Authority.

The City Council's Strategy for Greening the City (1988) identified the area as a key wildlife reservoir and the forested area was identified as community forest under the Forestry Commission Wales' Forest Initiative (1991).

Between the mid-1990's and 2001 a joint project between NRW and the Local Authority had a series of dedicated Project Officers who carried out land management work and community projects on the hill. In 1993, the Kilvey Community Woodland Project (which also includes wooded areas in the Lower Swansea Valley to the north of the study area) was launched with the first Project Officer appointed in April 1994 whose role was to manage the woodland under the guidance of a Steering Group.

Successive Project Officers engaged with a cross section of the community and carried out a range of tasks on the hill, including the introduction of much of the 'infrastructure' that still exists on the site and is currently managed by either NRW or the Local Authority. This was probably one of the most successful periods of management and engagement within the area and many of the personnel involved still have a role within the Local Authority. A management plan, which was compiled with broad stakeholder consultation, has been in place for the woodland since 1997.

Subsequent, successful projects between NRW Rangers and the Kilvey Community Woodland Volunteers have continued the work begun under the previous phase. The Ranger post was also in place to undertake a large-scale community consultation on the newly (2004) approved Forest Design Plan.

Various projects have taken place on Kilvey Hill, including:

- development of a community downhill mountain bike route;
- development and installation of a Sculpture trail;
- community management agreements with the Kilvey Community Woodland Volunteers;
- adoption of a Public Rights of Way network at the site;
- community events taking place on the football field;
- conservation management work by both NRW and the Local Authority to improve the biodiversity of the site, namely the heathland areas; and
- work by the Kilvey Community Woodland Volunteers with pupils from Cefn Hengoed at Goblin's Garden in the woodlands above Pentrechwyth.

Community activity, including support from NRW's Come Outside initiative needs to be protected and nurtured. As with many such initiatives in communities there is great potential but limited resources. The Kilvey Community Woodland Volunteers group continues and they are making an agreement with NRW to manage some land near Hanover Square on the Bonymaen side for cultivation (a community growing project – potentially with fruit trees). Land there is used for scrambling, so raising issues about the sustainability of

the proposals and an example of the clashes of interest for using the hill. There is scope to pursue further forestry projects on the hill with the community.

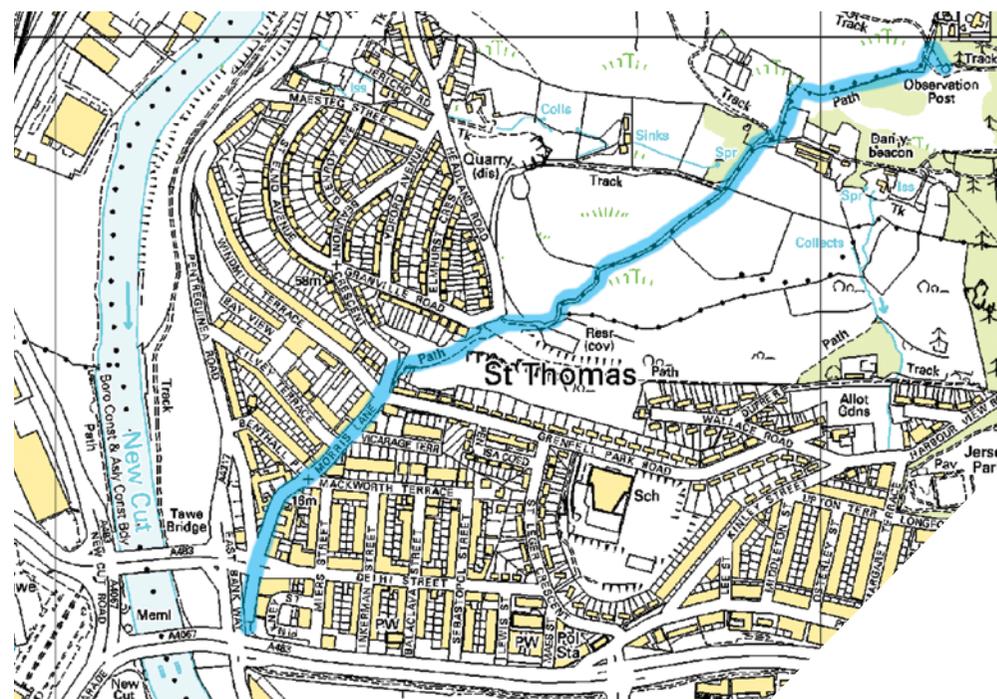
Management of the existing Kilvey woodlands (around 72 hectares), which is on land owned by the Local Authority and leased by NRW, is relatively low-level. The Forestry section of NRW would benefit from improved access routes. NRW's formal access route is from Pentrechwyth but this is currently not suitable for vehicles, and vehicle access is via an unofficial route accessed from Bonymaen.

INITIATIVES

Walkable access routes on to Kilvey Hill itself are plentiful, although the entry points and the network of paths all around merit some tender love and care, and need consolidation.

Morris Lane link

On the south side, access up the historic Morris Lane is worthy of a special 'walking route' project in its own right, with information boards all the way from its riverside origins



Morris Lane link

(see notes in the Lower Tawe section also) to the climb up to the existing viewing area at the summit.

“Morris Lane is worthy of a special ‘walking route’ project.”

Gateway enhancements

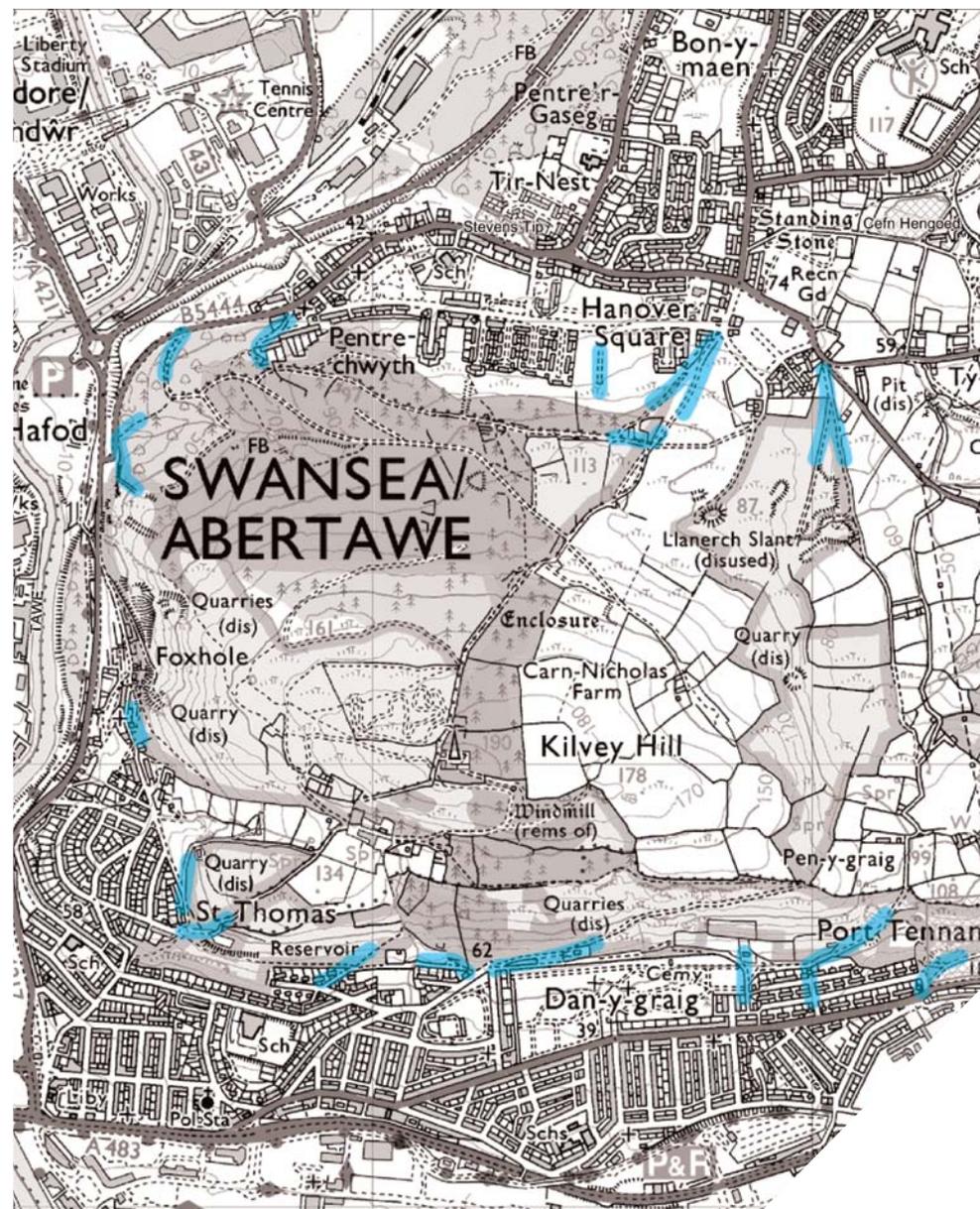
There are several gateway sites on to the hill, and these access points are largely sufficient to allow for community access to the hill in number with some benefitting from past projects to improve them. However, to varying degrees, the access points on to the hill require enhancement and formalisation by signposting, making features, parking in certain areas, and disabled access improvements wherever feasible.

“Access points on to the hill require enhancement and formalisation by signposting, making features, parking in certain areas, and disabled access improvements.”

Some specific initiatives at relatively low cost and easy to complete for the most part include:

- NRW’s entrance gate at the end of Danygraig Road needs attention to be opened up and made more inviting (or potentially removed and replaced with something that restricts motor vehicle access but that signals that other users are welcome);
- on the south side, improved access around the cemetery;
- at the back of Jersey Park on Gwyn Terrace 2 access points up on to the hill warrant formalisation through signposting and publicity;
- at Dupre Road, better access onto the hillside would help open up a steep hillside, the old reservoir and a disused quarry and through route – indeed this is an area that is worthy of a small study to create a small recreation project in its own right;
- on the road that leads up to the school/community centre there is a path just opposite that also warrants further improvement and highlighting;
- key points at the top end of Grenfell Park/Elmhurst Crescent could be highlighted, including the historic connection down Kilvey Road through Foxhole to White Rock; and
- on the northern side of the hill the access to the hillside at the end of Taplow Terrace and Rifleman’s Row at Grenfell Town is a gem of old industrial Swansea – the urban realm here is tough and has been subject to measures to discourage joy riding. But treated with care, this location might be treated as a fine entry point on to the hill.

Key gateways on to Kilvey Hill



Enhanced cycle networks

New cycle connections have recently been agreed that link to Bonymaen – there is an existing short cycle path off Jersey Road in Bonymaen, which drops steeply to Atlantic Close in the Lower Swansea Valley (traveling beneath the A4217 road and the main Swansea to London railway line). From there, the route will now split as follows:

- one route will continue along the pavement northwards alongside Valley Way to the lake, where it will join the existing cycle path on the east side of the Tawe, which runs down to the Liberty Stadium and the NCN 43 cycle route, plus a northern route around the lake, and onwards to the Tawe and up to the Morryston 43 route; and
- the second route, which also starts with the short cycle path from Jersey Road, will turn southwards using the disused railway (to the old Cwm Halt station) and then follows a muddy track to Pluck Lake, going through the existing underpass under Nantong Way and on towards Morrisons, where it will then join the existing cycle path through the Morfa shops to join the 43 route at the Liberty Stadium.

In addition, there are plans to also complete the short missing link of cycle route NCN 43 (on the east side of the Tawe) between the cross valley dual carriageway road bridge and Brunel Way where it crosses the river.

The emerging cycle network in and around Bonymaen and the Lower Swansea Valley should be developed onward with links north and east of Jersey Road to link up with Trallwn and Llansamlet plus an eastern link to join up with the new Coed Darcy development to the east, potentially through the bog.

“The emerging cycle network in and around Bonymaen and the Lower Swansea Valley should be developed.”

A modest study would map out a viable route swiftly, and much of the route could likely be formalised and developed at very low cost in the short term.

Rights of way

The rights of way network on the hill is inadequate – it does not fully represent the historic footways and bridle paths, giving rise to conflict. If the hill is to be a popular recreational resource, including for bikes and horse riders, the routes crossing it are vitally important and should be registered and consolidated as popular rights of way and bridleways.

Various paths and tracks are indicated on the City and County of Swansea Council’s Unitary

Development Plan and other maps, but they are not all formally recognised as rights of way and/or bridleways. They should be.

Two points of note in this regard are the age and obvious existence of two lanes, Morris Lane – Windmill Lane, and Reservoir Way, which are not recorded as restricted byways or bridleways or highways. There are also “tracks” that should have formalised status.

One of those routes goes through Dan y Beacon to Windmill and is the source of some conflict – other routes do not appear to be as controversial but still warrant protection. The problem has arisen since the rights of way designation, which has been weak. To our knowledge, nobody is objecting to people walking anywhere and therefore access per se is not an issue. But for non-designated routes there is no protection – legal access is identified by the Countryside Rights of Way (CROW) legislation. Because some routes have been designated, other routes are downgraded in perception.

These other routes are vulnerable and subject to the lease between the city and NRW and also to the rights of private landowners. They are for the most part traditional pathways, some of which are still visibly tracked roads suited to carriages (not just footpaths) and should be maintained and formalised as such for a variety of users, not just walkers. Many of

the routes that would be most appropriate for horses are patently wide track routes not just footpaths. This has to be resolved. It is not a significant issue if some routes need gating, as long as they are accessible. At the moment they are being blocked for certain users – if we are interested in the long-term utility of popularising this vast natural resource then agreements about the use of these routes should be pursued.

From discussion with NRW officers, the existing lease that NRW has requires NRW to issue permits for the use of horses and horse-related activities for areas not designated as rights of way. Whilst it seems that any such lease would almost certainly be granted, the lease wording merits revisiting to remove the need for such licensing, and in any case a more robust rights of way network would remove the need for this anyway for the key routes. The lease to NRW seems to have facilitated much better access and public rights over the land – it is managed and encouraged, but it is not formally part of the Countryside Rights of Way (CROW) legislation.

We should stress that nobody (to our knowledge) is challenging access, including the owners of the disputed stretch of pathway at Dan y Beacon, rather it is restricting certain types of access and highlights the potential for further restrictions/loss of access if routes are not formalised.

Therefore, it would be of significant benefit for the local communities to formalise tracks. All the tracks into the area should be recorded as public rights of way, preferably with restricted byway or bridleway status.

“All the tracks into the area should be recorded as public rights of way, preferably with restricted byway or bridleway status.”

Beyond local communities though, if the hill is to be seriously considered as a tourism and visitor destination (within whatever ecological safeguarding parameters NRW’s specialists wish to bring to bear) then, as a minimum, the pathway network needs formalisation and consolidation. The conflicts that are arising already may be replicated elsewhere and this needs some urgent attention by key partners to resolve it before any key access routes are lost.

Kilvey Hill, along with Crymlyn Bog and the canal, are enjoyed by the public and belong in the horse-driving culture, which is strongly embedded in the area. Development of the enjoyment of the countryside on foot, horse or cycle can provide employment as well as benefiting the public.

The pathway network and gateways should

be such that they encourage the development of associated activities – pony treks to the summit, horse and cart rides – these have an authenticity with roots in local culture and people who can deliver them, providing income streams for local people as usage of the hill grows. The infrastructure, including the formalisation of the network of paths to preserve routes, must be in place to support that so that it can grow and develop.

“The pathway network and gateways should be such that they encourage the development of associated activities – pony treks to the summit, horse and cart rides.”

In addition to the above, a further modest but important initiative will be the upgrades of various existing paths/tracks to improve access on the hill from all surrounding communities. Ensure reasonable accessibility rather than the costly (both in terms of establishment and upkeep) process of laying formal paths of dust/ash/chippings or hard surfaces.

Ensuring sustainable urban development

“Bonymaen and Hengoed need an urban design study.”

Bonymaen and Hengoed need an urban design study to establish where houses can be built and how a new district sub-centre could be developed/sustained to resource the existing community let alone any new development. It is certainly an area of creeping development all the way down to and beyond the Hengoed Court Carehome. Much of this is relatively new and is just spreading – development needs to be controlled and planned.

Brokesby, further south, is similar and warrants particular mention given its boundary with the Kilvey Hill resource.

Brokesby can be strengthened through building to protect the vulnerable backs of houses that are open to the hillside. Such a development completing the block there could provide scope to run a road in front of a new row and at the same time contribute to formalising the forestry access from near that point. That also needs to be wrapped into a more detailed urban design study of that community, neighbourhood and green space.

“Brokesby can be strengthened through building to protect the vulnerable backs of houses that are open to the hillside.”

The Local Development Plan consultation draft

indicates at least 4 substantial development sites around the backs of these settlements.

“Development to the north of the hill should be encouraged where it strengthens existing communities and also to create new communities.”

Development to the north of the hill should be encouraged where it strengthens existing communities and also to create new communities. For these more traditional, post-War communities some basic principles should be laid down early to guarantee fundamental design parameters and to require that the edges of existing communities are given every opportunity to establish their own sub-centres to provide much needed social and economic resources.

“Each community warrants its own study to explore the issues in detail.”

The complexities of sustainable community development are such that each community warrants its own study to explore the issues in detail, and this is a worthwhile process, but

there are several fundamental principles to adhere to, namely:

- planning for communities to be supported by their own sub-centres, which means sufficiently dense residential settlement within 400m (approximately a 5 minute walking distance) of sub-centres;
- suitable facilities to cater for differing users, including children's play and street designs that recognise and cater to families – home zone style developments that encourage street activity and manage motor vehicle speeds;
- a range of housing type and tenure to ensure a mix of population;
- perimeter blocks where vulnerable backs of houses are protected through 'back to back' developments with frontages all facing outwards; and
- a permeable street grid system to permit easy access on foot to diverse socio-economic resources – shops, pub, schools, play and to the natural environment.

Iconic feature and visitor centre

At the summit of the hill, where the cable car terminates, the existing viewing platform should be augmented with the addition of a visitor centre to provide a focus for mountain biking, pony trekking, walkers and visitors.

Get the cable car and routes up the hill functioning and it is likely that the private

sector can colonise a site there to provide a café and visitor centre.

“The existing viewing platform should be augmented with the addition of a visitor centre.”

The notion of an iconic artwork atop the hill near to the viewing point has been oft repeated and never realised. It appears again in current discussion documents in relation to the City Region. There is merit in considering an iconic feature on top of Kilvey Hill, but the visitor centre itself could provide that iconic structure through innovative design.

Kilvey Hill dominates views east from the city centre and yet it is easy for it to almost blend into the background for local residents. Initiatives are needed that visually connect the hill to the city. As well as an iconic design at the summit, one or more features could be developed to further encourage visual links – these might be on the hill as well as at key points in the city e.g. framing devices that encourage people to look through them towards the hill. These need not be purely physical – virtual aspects should also be considered.

“Initiatives are needed that visually connect the hill to the city.”

At night, the radio masts could be lit and/or a light sculpture atop the hill can be created – a dramatic ‘son et lumière’ feature. An artwork can be created, which may be a structure but may also be laid on the hillside (e.g. the Cerne Abbas Giant or the ‘Rude Man’) on the green field, which is visible looking eastwards to the hill from the city’s Kingsway.

Given the visual framing of the side of the hill by the buildings, and the link suggested to run from Kingsway to St Thomas, initiatives that encourage people to look up and see the hill will help to thematically link it to the city centre and the wider population.

It is easy to overstate the potential for artworks like these in terms of connectivity and alone the impact is likely to be relatively modest, so the scale needs to be appropriate to the likely impact. Nevertheless, as part of a raft of initiatives this can add a further dimension to connectivity as well as raising awareness locally of the hill as a natural asset for the wider Swansea community.

This latter project can be developed in conjunction with the Art Across the City initiative – a well established and high quality arts initiative that takes place annually in Swansea. Locws International, who coordinate the event, have expertise in raising funds for such initiatives and delivering them to a high standard.

Developing projects that build on local horse culture

Pony trekking, horse riding and cart rides should be developed with the local community – they will provide additional means of accessing the higher areas on the hilltop and sides and can deliver a tourist attraction and community resource in their own right. A community project or projects can be established to support that endeavour, with associated income generation potential to support the project and wider community initiatives on the hill. The private sector on the hill may also be interested in developing such an initiative.

“Pony trekking, horse riding and cart rides should be developed with the local community.”

Forest management

An existing volunteers group is active on the hill and community woodland initiatives have been delivered. Such projects are notoriously difficult to sustain, are heavily reliant on public sector support (either in cash or in kind), and, given the prevailing economic conditions, will be more and more challenging to sustain. However, there is a substantial forest resource on the hill, not used for significant commercial activity by NRW.

A modest commercial initiative led by the community could manage the NRW forestry and generate income from sale of woodland produce in finished and unfinished format.

Wood recycling and other activities can also be developed if access can be consolidated and improved adequately. Such uses can be complimentary to other uses for forest, including mountain biking, horse riding and walkers.

“A modest commercial initiative led by the community could manage the NRW forestry and generate income from sale of woodland produce.”

Links between this and other existing woodland projects under one umbrella will create mutual support.

Community permaculture activities should also be established on the hill in conjunction with a forestry initiative, perhaps in partnership with the Swansea Community Farm and Swansea Environment Centre/Swansea Environmental Forum.

“Community permaculture activities should also be established on the hill.”

Community renewables initiatives

Solar gain projects on the south side of the hill should be explored – we are aware of an early scheme for photovoltaics in one of the old quarries. Visual intrusion there is minimal whilst offering scope for energy generation with its southerly aspect.

NRW should consider such projects in conjunction with the community and with the solar research base at Baglan, with proceeds from sale of energy back to the grid covering capital costs initially and later providing an income stream towards funding projects of community benefit. Again, this may be a private sector led opportunity with retained community benefits.

“Solar gain projects on the south side of the hill should be explored.”

Motorcross

The study has not identified a suitable space for motorbikes – they clash with other users and residential uses. It is not sustainable, advisable or desirable to attempt to ‘cleanse’ this from the area. There will be people wanting to ride scrambler bikes regardless of attempts to regulate or remove it and so the best approach is to make suitable provision. So, this needs

resolution and formalisation – they are a user group in their own right and merit a project to accommodate them. However, it is difficult to envisage a suitable site to accommodate this on the hill alongside other users and so the answer to this may lie elsewhere – perhaps in the nearby Lower Swansea Valley/Swansea Vale with the formalisation of a motorcross/ scrambling course that is easily accessible (physically and in terms of affordability).

A small study is required to identify a suitable site or sites for motorcross outside but sufficiently close to the current study area and a management process for that site, with the users at the heart of any such approach. This too has potential to become a social enterprise.

“A small study is required to identify a suitable site or sites for motorcross outside but sufficiently close to the current study area.”



Torbay myplace project BMX and motorcross facility

Events programme

Events and activities that draw attention to and promote the hill and its features provide further opportunities to raise awareness and change attitudes and behaviour. An events programme should be established with dedicated resources (person time and finance) to support it.

These events should be conceived to have a broad appeal – city-wide and beyond, whilst retaining accessibility and benefit for local communities.

“An events programme should be established with dedicated resources (person time and finance) to support it.”

A Kilvey Road Race for cycles around the hill along the bog road, up through Ty Draw, through Bonymaen, up the steep incline at Foxhole and around through St Thomas and Port Tennant would be a challenging extreme ride that could attract sponsorship and significant interest with relatively modest impact in terms of road closures and the like.

There are numerous opportunities: a downhill mountain bike race; a ‘peak challenge’ run from the base to the top of the hill; a zip wire

from the summit – all of these are modest in cost and can begin to change perceptions of the hill and encourage new users.



Downhill cycling racing

Site-specific theatre; lighting events and activities that highlight the natural environment; a hilltop presence with supporting private sector led facilities (café or similar) with opportunities for small scale music events and performances – there are numerous opportunities for creative initiatives to showcase the environment and attract a wide array of visitors.



BROADER STRATEGIC CONSIDERATIONS



FIVE

There are further non-site specific considerations that should be adopted into the strategic thinking of the two local authorities that cover the study area, as well as NRW and its partners.

INITIATIVES

Place promotion and city branding

There is a broader issue for Swansea (Bay) to redefine its identity, further complicated between the dual identity between a city with surrounding satellite settlements, and a wider City Region concept. In both cases the city (region) has a confused and poorly articulated 'brand', which needs to be resolved as part of its wider regeneration efforts.

“The natural environment should feature as a key asset and brand driver for the city's branding.”

Irrespective of the final message that is crafted, the natural environment should feature as a key asset and brand driver for the city's branding, and it is essential that there is a cohesive and broadly understood meaning attached to this. Historically, this is restricted to the Bay and Gower. But as this study has demonstrated,

the assets of the river, the hill and the boglands warrant inclusion in crafting and pushing that identity.

As noted previously, in the longer-term it is quite likely that the urban area will surround the study area, gradually merging Swansea with Neath Port Talbot with the study area in the centre as a wilderness in the heart of the city (region).

That identity – an accessible urban wilderness, a nature reserve and country park in the heart of an urban area, can be evolved, particularly as the Fabian Way corridor develops, to 'sell' the sites as a whole but with very different constituent parts – the stunning views and outdoor recreation offered by Kilvey Hill; an East River Eco-Park and west side High Line on its western fringe along the river focusing on a potential world heritage site at Copperopolis; the SSSI wilderness of the bog; and the canals linking it all together. It is an incredibly rich package.

Planning criteria

The City and County of Swansea Council as the planning authority covering the bulk of the study area, but also Neath Port Talbot County Borough Council, should ensure that a holistic view of connectivity is taken when considering developments in or immediately adjacent to the study area.

“Ensure that a holistic view of connectivity is taken when considering developments in or immediately adjacent to the study area.”

This applies to industrial development and highways as well as broader urban development for housing or other purposes.

Highways developments that have not considered (or have not made adequate arrangements for) pedestrian and cycle links are the most significant barrier to connectivity to date. All future highways developments must consider pedestrian and cycle access to key sites both alongside their routes and also across them. Such initiatives might require traffic flow to be reduced in some instances - that is a price worth paying.

“All future highways developments must consider pedestrian and cycle access to key sites both alongside their routes and also across them.”

Air quality issues raised by idling traffic are often cited as a barrier and an argument for increased flow (which generally means

increased speed and a poorer pedestrian environment) and can be used as a way of preventing schemes that might hinder traffic flow in any way, particularly cycling and pedestrian scheme improvements.

There are means of providing acceptable levels of flow whilst giving pedestrians and cyclists greater prominence – the example of Poynton is worthy of reference here, indeed that should serve as a model for most key junctions across the city. There are other innovative solutions, already successfully adopted in the US and elsewhere, such as the creation of parking protected bike lanes on key roads.

Shared surface in Cardiff



Protected cycle lane in New York

Such innovative approaches should be trialled in the study area to showcase exemplar projects for pedestrian and cycle connectivity and the universities should be at the forefront of such thinking.

“Innovative approaches should be trialled in the study area to showcase exemplar projects for pedestrian and cycle connectivity.”

There are other means of innovative thinking to further reduce arguments for prioritising motor vehicles in order to prevent reductions in air quality, for example NRW’s iTree initiative in Neath, which is piloting a scheme to assess how effective different trees are at removing pollutants – this might be rolled out in the study area.

Additionally, the swift adoption of electric vehicles should be planned for and encouraged, with for example a requirement for electric charging points in all new developments, and certainly in/near to the new university campuses and the Lagoon.

“The swift adoption of electric vehicles should be planned for and encouraged.”

Current trends suggest a relatively slow take-up societally, but that is not to say that it cannot be accelerated through a concerted effort and clever design that encourages it at a local or regional level.

As noted elsewhere, the key requirements for new development in and around the study area are for crossings to be at grade, following desire lines, and for pedestrians and cyclists to be given precedence or at the very least parity with motor vehicles. The emphasis should be on accessibility to a wide range of users.

In residential areas, Home Zone style initiatives should be encouraged to keep traffic speeds low and to encourage street life and connectivity for pedestrians and cycles at that scale, which can be extended through to further encourage connection with natural assets.

“In residential areas, Home Zone style initiatives should be encouraged.”



A Home Zone

Planning criteria should take account of the natural assets that will enhance value for new developments if they are harnessed correctly.

That applies both to promoting/preserving the physical accessibility - connectivity - between residential, educational and commercial activity and those assets (celebrating the assets rather than turning their back on them as has happened in several developments referenced previously) but also preserving ‘vistas’ – visual as well as physical connectivity to the city’s natural assets should be considered as part of planning criteria.

Already, views of the river are being lost through a lack of consideration of maintaining sight lines – there is a visual as well as physical connectivity of these natural assets to the city’s urban areas and being able to see them from key vantage points is important in signalling their presence and how one might reach them, as well as maintaining a broader sense of place

“Visual as well as physical connectivity to the city’s natural assets should be considered as part of planning criteria.”

The city must take care not to repeat the problems it is currently trying to overcome due

to its lack of connectivity with the sea – that is as much about the lack of visual connection (at ground level) as it is the physical connectivity between the city and the sea.

Signposting

Whilst sight-lines are important, the topography of the area and the nature of the built environment mean that, at ground level, there will inevitably be a requirement to signpost these resources for pedestrians, cyclists and motor vehicles.

Imaginative signage needs to be implemented, both as a means of wayfinding, but also adding to and reflecting the identity of the area. The style and system adopted should allow for adoption more broadly e.g. at Copperopolis and in the Bay, providing continuity and thematic links to indicate that these are all part of a much larger and connected whole. As part of a broader theme, there is an emerging ‘Dylan Thomas font’ that might be used across city signage for example – compare with the way in which a Charles Rennie Mackintosh font is increasingly being used throughout Glasgow.

“Imaginative signage needs to be implemented.”

There are already small-scale sculpture trails on the hill and this report recommends further

measures to encourage visual connection with the hillside from afar. Those measures warrant their own interpretation and celebration with extended trails and associated materials.

Additional trails and walks to encourage people to access them should be formalised, and a coordinated marketing process should be established for these and other initiatives (e.g. pony treks to the summit, mountain biking).

“Additional trails and walks to encourage people to access them should be formalised, and a coordinated marketing process should be established.”

Signposting is of course more than a physical process and virtual resources also need to be developed, linking the natural environment and the city's heritage and providing a range of virtual mapping, interpretation and learning opportunities.

“Virtual resources also need to be developed, linking the natural environment and the city's heritage.”

Interpretation should not lose sight of the people that bring those stories to life, both in the past and now as residents and custodians of the natural environment.

There are hints in place names to the area's rich history – Bargeman's Way, Rifleman's Row, Grenfell Town. The etymology of place names opens up a window to the past and can uncover that rich history and further develop a sense of place.

These initiatives need not take place in isolation – there will be further phases of work at Copperopolis and both universities should be engaged in this initiative to take advantage of their complimentary skill sets, for example historical interpretation through Swansea University coupled with the cutting edge digital animation of University of Wales Trinity Saint David offers a tantalising prospect.

The possibilities here are many and varied and this warrants a project in its own right.

As a start point, the two universities should be encouraged to review this report and consider how the recommendations might fit with their existing course structures (undergraduate and postgraduate) and how they might as institutions add value to these proposals whilst also benefitting their students.

“The two universities should be encouraged to review this report and consider how the recommendations might fit with their existing course structures.”

Recognising there are hills here

The cable car will need provision for bikes, but there will be other users that will want to access the hill and other assets from different points. A simple, low cost initiative (which should be adopted city wide and not just in the study area) is to include bike racks on buses – the city has steep hills and whilst many cyclists will relish the challenge, making cycling part of people's everyday activity for transport and not purely a leisure activity needs acknowledgement that the terrain in the city is steep in places and that assisting transit up steeper inclines may encourage more people to cycle.

“Include bike racks on buses.”

Another simple provision is to encourage the installation of bicycle racks in visible, overlooked locations that are safe and that in themselves signal that cycling is encouraged, viable and celebrated.

“Encourage the installation of bicycle racks in visible, overlooked locations.”

Other simple initiatives are to include shower and locker facilities in the work place. The public sector should do this, but the private sector should be actively encouraged to do so also. Again, this is a citywide recommendation but applies to the encouragement of connectivity to this area (the universities and businesses in SA1 and Crymlyn particularly but also developments at Copperopolis).



Prominent provisions for cyclists

Make the routes for cyclists safer, make it easier to cycle, and pay attention to the key access points, and it will encourage further journeys by cycle for general transport, not just for leisure. Using the routes in and around the natural environment for connectivity through as well as to them for leisure purposes (with the necessary safeguards to ensure the environment is suitably protected, in the bog particularly) will further bring them to people's attention and build a sense of ownership and pride as they become part of day to day lives and not just somewhere to occasionally visit.

Maintaining initiatives

Connection routes will require upkeep and development; most are likely to fall into public ownership, but some may remain in (or may become) privately owned. In the case of the former, costs of maintaining these key assets, particularly in the likely continuing constraints on public funding at least in the short term, will need to be a key consideration.

“There should be a more imaginative application of Section 106 funds to support the natural environment.”

Given the significant total development value of the Fabian Way corridor, the riverside and also

on land to the north of Kilvey Hill, there should be a more imaginative application of Section 106 funds to support the natural environment. This would signal their worth and provide a substantial funding resource for maintenance.

“Charges for occupants of large new housing developments should be applied to contribute to the maintenance costs of the local natural environment.”

There are precedents for developing a maintenance allowance through sales/lease of new homes where they are created, for example the Portbury Wharf site near Portishead where planning consent for the Port Marine housing development was granted on condition that the developers designate a nature reserve on the adjoining land.

The site is funded through Port Marine Management Company that receives income from each of the residents on site (avonwildlifetrust.org.uk).

Similar charges for occupants of large new housing developments should be applied to contribute to the maintenance costs of the local natural environment.

“Incorporate high standards of design and materials at the outset in order to reduce longer-term maintenance costs.”

Additionally, whilst the pressure will be to reduce costs, care should be taken to incorporate high standards of design and materials at the outset in order to reduce longer-term maintenance costs – it is better to do a smaller number of projects that will last than several that will become dilapidated and unsustainable.

“For larger development sites, the establishment and maintenance costs of key routes should be built into development agreements.”

Where sites are privately owned, accessibility in the long-term needs to be preserved formally. For larger development sites, the establishment and maintenance costs of key routes should be built into development agreements. Rights of Way should be formally established to preserve all key access routes that are not currently designated as such and amendments to any Rights of Way on key access routes should be resisted.

“Rights of Way should be formally established to preserve all key access routes.”

Community engagement and ownership

As detailed in the logic chain at the outset – the principal first phase outcomes, focused on connectivity and raising awareness, are intended to drive enhanced community engagement and ownership. Discussion with key stakeholders indicated a sense amongst people on the east side of ‘always being consulted but not a lot happening’, so delivering some ‘quick win’ projects that will better connect people with their local natural environment can swiftly begin to build greater awareness of, attitude towards, and engagement with natural assets by local people.

“Local people should be involved in the delivery of projects either directly through social enterprise and community action, or as active participants on multi-stakeholder partnership approaches, as well as through apprenticeship and job creation schemes.”

Community engagement needs to go beyond consultation – local people should be involved in the delivery of projects either directly through social enterprise and community action, or as active participants on multi-stakeholder partnership approaches, as well as through apprenticeship and job creation schemes related to the Council's Beyond Bricks and Mortar approach.

Projects to establish boardwalks and gateway features can create employment opportunities and also engage local volunteers. The nearby Bay Studios has contributed significantly to the local economy by maximising its use of local suppliers – there is a model to follow. There is a commonly held misconception that public sector procurement prevents this – it does not, it just requires careful thought and care when preparing tender documents.

Encouraging and enabling effective community engagement requires dedicated resources over a sustained period of time, but there are various support agencies active in the area and the city more widely, some of them – the universities for example – have a wide array of resources aside from direct community engagement activities, that can be brought to bear to assist in this process.

Regardless of austerity measures an imaginative, innovative multi-agency collaboration should be established, including

NRW, the two local authorities, the two universities, the ABMU and the two CVCs covering the study area.

“Regardless of austerity measures an imaginative, innovative multi-agency collaboration should be established.”

Those agencies can provide the necessary support to deliver an effective and dynamic community engagement process and they can provide the mechanism to lever in additional support where necessary.

Measuring impact

The study began with the mapping of a logic chain and a series of outcomes. With refinement, this produces the beginning of an evaluation framework. Any initiative needs an accompanying evidence base to demonstrate impact against desired outcomes. It is essential that any such process is outcome (not output) focused, and that it recognises itself as a formative process. Many initiatives will need testing, and many will take time to achieve impacts.

These are not problems, but they do present challenges for the effective monitoring of progress and evaluation of impact. However,

with appropriate resources, this is entirely achievable and an evidence-based approach to application should be developed and championed through a formative, ongoing evaluation process.

“An evidence-based approach to application should be developed and championed through a formative, ongoing evaluation process.”

Alongside this report we have provided some indication of the wider evidence base in a separate paper. That will need augmentation but provides the basis from which the potential longer-term impacts of the various initiatives identified here can be understood.

CONCLUSION



That the east side and its natural environs are cut off from the city is well understood. Given that longstanding acknowledgement of the issue, there has been relatively little concerted effort to redress it. As part of an ecosystems approach, in which social, economic and environmental considerations interrelate, this study places connectivity within a logic chain that illustrates the causal links between connectivity to assets and wider benefits.

Within the study area there are a wide range of stakeholders, with a complex set of interrelationships and various conflicts – that creates complexity, but also provides significant opportunities for collaboration and creation of mutual benefit.

The river is becoming more prominent in city development thinking, but remains relatively peripheral; the hill, canals and boglands barely feature. The excellent start at Copperopolis needs to be maintained and developed in conjunction with Swansea University. Combined with the developments to the south by University of Wales Trinity Saint David, which has the potential to bring real life to the SA1 river frontage, these developments highlight the potential of the river and can assist in further driving the changes identified herein.

The study has demonstrated a series of initiatives that NRW can help to drive, either as a lead partner or as a ‘catalyst’ – there

will be much work to be done to make these recommendations sufficiently central to development thinking, with a considerable emphasis on city centre regeneration, which (though well placed) can draw attention from initiatives elsewhere.

The initiatives identified in this study range from quick win and low cost, to more ambitious schemes that will help to better connect these natural assets to the city and bring attention to an all-embracing city tourism hub at White Rock and Copperopolis.

The initiatives are a combination of those that will work at a micro level, better connecting communities that live in or immediately adjacent to these assets with them; and those that will work at a macro level, better connecting these assets to the wider city both physically and thematically.

There are various constraints to achieving change, not least the need for public bodies to take a lead on them at a time when public finances are under unprecedented pressure. However, that pressure drives the need to find new ways of doing things, and there is potential for a collaborative multi-agency approach to realising the aspirations outlined in this study.

There are multiple stakeholders with a range of constraints and differing agendas and pulling those partners together, generating consensus and moving these projects forwards (initially

with further detailed feasibility work and subsequently with project implementation) will require dedicated resources to drive them.

As a start point, a partnership should be formed with NRW, the universities, the City and County of Swansea and Neath Port Talbot Country Borough Councils, the ABMU Health Board, the Swansea Environmental Forum, and the local councils for voluntary services to identify how the development of these initiatives fits within their existing priorities and work streams and establish the scope and parameters for taking them further.

These natural resources are gems – unique elements of place that the city is currently dramatically understating. They warrant serious, strategic efforts from multiple stakeholders as part of the long-term development of the city and the wider City Region. A first step is to secure wider buy-in and formal recognition of their key role, focus on achieving some ‘quick wins’, and identify resources for developing these proposals to the next stage.

We begin our work with the premise that the surest sign of effective regeneration is local people visibly loving, cherishing, and involving themselves in their city and its natural assets. The ingredients in Swansea Bay are all there, and some of the foremost assets are those that this study has focused on. These assets need to be brought to the fore, connected, celebrated, and loved.

APPENDIX 1

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APPENDIX 2

STAKEHOLDERS

The initial workshop with NRW officers considered the key stakeholders whose needs (summarised in Section 1 of the report) are driving the logic chain that underpins this process and in turn this study. The list is not intended to be exhaustive – the focus of this study is on projects of strategic benefit to improve connectivity. Most of the recommendations in this report will require further work to develop them, including more detailed feasibility studies for several aspects. Many, if not all, of the stakeholders listed here will need to be (re)engaged and others added as the initiatives identified in this study progress towards implementation.

Public bodies and partnerships

- City & County of Swansea Council;
- Neath Port Talbot County Borough Council;
- Elected Members locally, AMs and MPs;
- Welsh Government;
- ABMU Health Board (along with GP and health referral centres);
- Swansea University;
- University of Wales Trinity Saint David;

- Local schools;
- Police (probation);
- Fire services;
- Community Councils;
- Local Service Board;
- Swansea Environmental Forum and its various sub-groups;
- Clear Streams Swansea.

Third sector and community groups

- Swansea Environment Centre (and any sub-projects);
- Communities First East Cluster;
- GSP Partnership;
- Sustrans;
- Keep Wales Tidy;
- Open Spaces Society;
- Ashlands Sports Management Trust;
- Local Housing Associations;
- CADW;
- GGAT;
- Welsh Water.

Users

- People in local communities (including various residents associations both current and prospective);
- New residents of Coed Darcy and other new local developments that emerge (e.g. in SA1);

- Kilvey Hill Woodland Volunteers Group;
- Kilvey SOUL (Save Our Unclassified Lanes) Forum;
- Swansea residents from outside the immediate locality;
- Tourists;
- Off roaders (Wales' off-road committee);
- Ramblers (Swansea Access Forum);
- Mountain bike and cycle groups;
- Cycling related businesses (shops) in the area (Tredz, Giant Store);
- BMX groups and shops in the area;
- Tawe and Tribes anglers;
- White Rock Ramblers;
- Hafod Morfa Friends;
- Heritage interest groups;
- Graziers / farmers;
- Swansea Community Boat Trust;
- Swansea Rowing Club;
- Local canoe/rowing clubs/paddle boarders, kayakers;
- Local playgroups, parents and toddlers;
- Various other recreation groups.

Private sector

- The Tennant Canal Company;
- Network Rail;
- The operators of the Tir John Landfill Site (though this will revert to the Local Authority in future once the landfill is fully capped);
- St Modwen – particularly for the Coed Darcy development to the east of the bog, which has significant potential impact (both

- positive through increased access but also negative if connections are not well thought through, or the value of the bog a natural asset is not recognised through design);
- Associated British Ports;
- Business and property owners in SA1, particularly with the development of the two new University campuses there;
- The Duke of Beaufort – owns much of the river bed and other areas (there are some areas of contention of landownership);
- The Tidal Lagoon – a decision on the Lagoon is imminent at the time of writing;
- Hotels and private tourism accommodation, particularly those in the SA1 area and the city centre, but more broadly if the potential for all of these assets can be realised in conjunction with city centre, Tidal Lagoon, SA1 and other thematic (e.g. City of Culture) developments;
- Stan Garvertt – land owner of the golf club, around Jersey Marina Village;
- Various private landowners, including farms but also private landlords on and around Kilvey Hill particularly;
- Businesses located along the Lower Tawe;
- Prospective housing developers.

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