

**“The Garden by the Sea”**

**A Tree Strategy  
For Penarth**



# Penarth – “The Garden by the Sea”

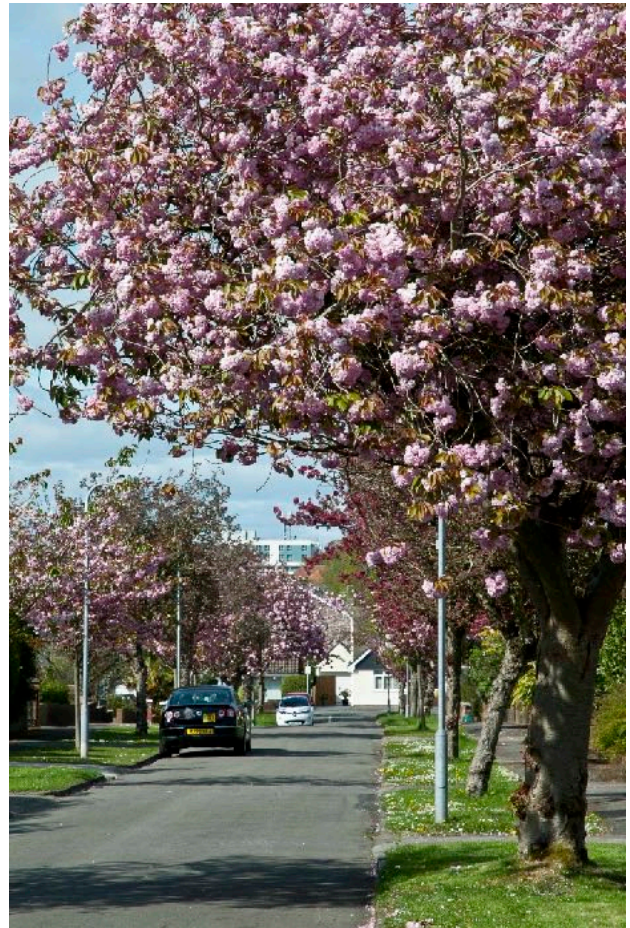
## A Tree Strategy for Penarth

### Summary

Penarth Civic Society has undertaken to prepare a Tree Strategy for Penarth. This proposes a new approach to tree management, one which focusses on the values of individual trees, and the benefits to society and the environment that an expanded and healthy tree canopy will bring. Proposals are included for protecting existing trees, and for new trees to be planted. Opportunities are identified on private land - particularly front gardens, on development sites, and in parks and other public areas.

Discussions have been held with the Vale of Glamorgan Council, who are supportive of the Society’s proposal to prepare this strategy, and are happy to enter into discussions about how such a strategy would fit within a wider strategic approach by the Vale Council.

A Tree Forum has been held in October 2016 and again in May 2017 in order to gauge the views of the community. Particular concern has been expressed about the continued loss of street trees, and the effect that this has on



public wellbeing and the image of Penarth as being a “Garden by the Sea”.

A wide range of relevant literature has been reviewed, and one source in particular provides the strategic context for this strategy is “**Town Tree Cover in the Vale of Glamorgan**” (Natural Resources Wales).

In the light of the research undertaken, this Strategy:

- Summarises the issues and background information relevant to



the preparation of a Tree Strategy for Penarth

- Identifies the potential role of and actions by the Civic Society to implement the Strategy
- Provides to the Vale of Glamorgan Council the Society's view of what a tree strategy for the Vale of Glamorgan might include
- Sets an agenda for the Society to engage the support of the Community of Penarth in the delivery of the Strategy objectives.



Broadly the actions proposed are of three types:

- Those where the actions can be delivered within the remit of the Civic Society

- Those where the Civic Society can only "encourage" the Vale Council to take action or to adopt a policy
- Those where the Civic Society can work in partnership with the Council to support

the development and implementation of a Tree Strategy for the Vale of Glamorgan.

The Civic Society, as a charity, is in a good position to apply for funding for tree planting schemes.



In places, the original avenues of street trees in Penarth have been lost, weakening the town's claim to have "a tree lined town centre".

The Civic Society proposes a single overall target for the Tree Strategy, which would need to apply to both the Civic Society and the Vale of Glamorgan Council actions:

- ➔ **Within 10 years to achieve "Woodland Town" status for Penarth.** By reversing the decline in tree canopy cover, and increasing it from currently 17.4% up to a target 20% Penarth could achieve "Woodland Town" status under the UK Forest Standard.

**To achieve this target the following actions are proposed, listed according to the principal organisation:**

### **The Civic Society:**

- Proposition 1. By preparing a Tree Strategy for Penarth, the Civic Society will aim to assist the Vale of Glamorgan Council in preparing a strategic approach to managing urban trees across the Vale.
- Proposition 4. That the Penarth Civic Society includes in its Tree Strategy for Penarth a clear role for the Society in promoting to the community the value and benefits of urban trees.
- Proposition 5. As a community organisation the Civic Society will work actively within the community to raise awareness of the importance of a healthy tree cover to the quality of life and commercial viability of the town. In doing this, we will also be working in support of the Vale Council's own Tree Strategy.
- Proposition 6. That the Penarth Civic Society will offer to support the Vale Council in the preparation of its own Tree Strategy by arranging and facilitating the workshops that will be needed to engage with the community of Penarth.
- Proposition 9. That the Civic Society encourage residents to identify individual trees in Penarth that have the potential to be included on a register of "Veteran Trees".
- Proposition 10. That all tree planting and management works under this strategy should aim for the greatest benefits they provide to the community and the economy of Penarth, and with a particular focus on protecting the Victorian and Edwardian legacy of trees.
- Proposition 12. That the Civic Society should seek to support the Vale Council in the preparation of its Tree Strategy.
- Proposition 13. That the Civic Society should explore all funding opportunities

for the implementation of tree planting schemes.

- Proposition 15. The Civic Society will produce a leaflet encouraging residents to plant trees, and giving some basic guidance on appropriate species. The Civic Society will encourage the Vale Council to publicise the availability of these leaflets to households in Penarth, for example when the council sends out tax demands.
- Proposition 23. The Civic Society will analyse the town centre streets and the key approach roads, routes to the beach, etc, where a tree planting programme will bring economic benefit to the town. We will examine all potential funding sources.

### **The Vale of Glamorgan Council:**

- Proposition 2. That the Vale of Glamorgan Council be encouraged to undertake a survey to establish the true financial value of the urban tree resource in the Vale of Glamorgan.
- Proposition 3. That the Vale of Glamorgan Council be encouraged to focus on the benefits of trees to people, the economy and the environment in preparing a tree strategy for the Vale of Glamorgan.
- Proposition 8. That the Civic Society should promote the benefits of larger trees, and the Vale Council should be encouraged to include in its Tree Strategy provisions to protect larger trees, particularly the town's Victorian and Edwardian trees. Also to require a high degree of protection for mature trees in any development proposal.
- Proposition 10. That all tree planting and management works under this strategy should aim for the greatest benefits they provide to the community and the economy of Penarth, and with a particular focus on protecting the Victorian and Edwardian legacy of trees.
- Proposition 11. That the Vale of Glamorgan Council be encouraged to base its Tree Strategy on a modern



## Penarth Civic Society

base its Tree Strategy on a modern approach to Tree Management.

- Proposition 14. That the Vale of Glamorgan Council be encouraged to commit to the preparation and subsequent adoption and implementation of a Tree Strategy for the Vale of Glamorgan, and to nominate a single officer to take a corporate lead on behalf of all relevant areas of the authority.
- Proposition 16. That the Vale of Glamorgan Council be urged to include requirements that appropriate developments should contribute toward tree planting in the local area when planning approval is subject to Section 106 Agreements and the Community Infrastructure Levy.
- Proposition 17. That the Vale of Glamorgan Council be encouraged to review its guidance on requirements in relation to trees on development sites.
- Proposition 18. That the Vale of Glamorgan Council be encouraged to review its policy regarding the replacement of street trees in the light of evidence of best practice elsewhere. Also to then adopt a policy that meets the objectives of this strategy, supports local social and economic needs, and contributes to the target for increasing the urban tree canopy cover of Penarth to 20%.
- Proposition 19. That the Vale Council be encouraged to adopt a robust and evidence-based approach to the assessment of claims for the removal of trees due to subsidence claims. Also to

**These Propositions are explained in more detail in the body of the Strategy document.**

In preparing this strategy we have drawn heavily on a number of published resources. In particular we are grateful for the support of the Trees and Design Action Group. Their publication "Trees in the Townscape" describes the benefits of urban trees, as well as the critical components of a tree strategy. See next page. Also, "Trees in Hard Landscapes: A Guide for Delivery" describes in detail the technical aspects, particularly in respect of street trees.

## A Tree Strategy for Penarth

adopt a value-assessment policy to the replacement or retention of trees subject to insurance claims.

- Proposition 20. That the Vale of Glamorgan Council, the Civic Society and the community be urged to establish an initiative for planting new trees in areas of public realm which will act as "proxy" street trees. These areas could include grass verges, areas of incidental open space, large areas of paving, and environmental improvement schemes.
- Proposition 21. That the Vale of Glamorgan Council be urged to explore all potential sources of funding for tree planting in the public realm.
- Proposition 22. That the Vale of Glamorgan Council be encouraged to adopt a policy to value and seek compensation for trees removed or lost without due cause or without the necessary authorisation.

## Penarth Town Council

- Proposition 7. That the Penarth Civic Society will encourage the Penarth Town Council to be an active partner in promoting the strategy and in influencing the Community's attitudes to trees in the town.
- Proposition 10. That all tree planting and management works under this strategy should aim for the greatest benefits they provide to the community and the economy of Penarth, and with a particular focus on protecting the Victorian and Edwardian legacy of trees.

# The Trees and Design Action Group's 12 Principles for Urban Trees





# Penarth – “The Garden by the Sea”

## A Tree Strategy for Penarth

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### Acknowledgments

The Society is grateful for the support and encouragement in the preparation of this strategy received from the Vale of Glamorgan Council, Natural Resources Wales, and the Trees and Design Action Group Trust. Other organisations have given consent for the use of their material as indicated in the text. Unless otherwise stated, photos are © the Penarth Civic Society.

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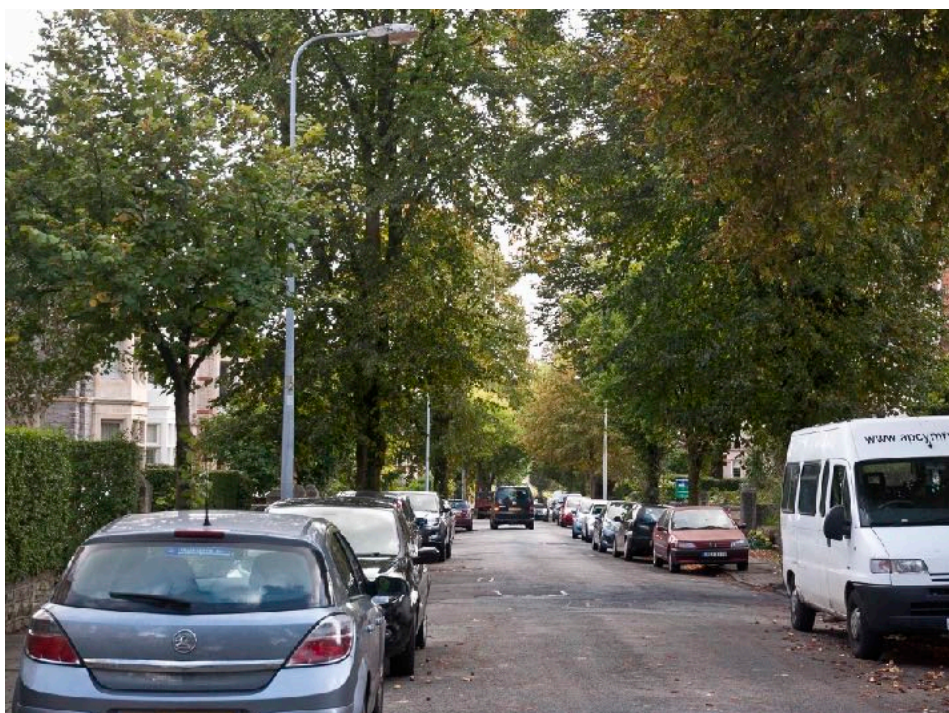
### 1.1 Introduction

Penarth is marketed to the wider world by the Vale Council in terms that draw on the quality of the townscape, such as:

*“Just across the water from Cardiff Bay, Penarth is a seaside town full of charm and character.*

*Penarth’s Victorian and Edwardian founders created an elegant resort with fine public buildings and ornate houses.....*

*Penarth boasts a number of splendid parks that link the seafront to the quirky independent shops in the tree-lined centre and is just a stone’s throw from Cardiff Bay.”* <http://www.visitthevale.com/en/Destinations/Penarth.aspx>



However, many residents are becoming increasingly concerned that the continued loss of trees, particularly street trees, is detracting both from the image of “a Garden by the Sea” and from the quality of life for the people of Penarth. Many also feel that the design of tree planting in new developments does not reflect these values.

Trees have been proven to have many benefits, and the reports we have reviewed in this document have provided detail of the benefits that a Tree Strategy will give. These include health improvements, cooling in summer, reducing water run-off, traffic calming, and improvements to retail trade. These all have a financial value. For example, a recent study in

Bridgend County Borough has shown that the ecosystem services provided by urban trees are collectively valued at £950,000 per year. **See page 11.**

Penarth Civic Society has made a commitment to prepare its own Tree Strategy for Penarth. The overall aim is **“to protect and enhance the urban tree canopy cover of Penarth”** in order to help to restore the town to its former beauty and to reap the social and economic benefits that will accrue.

By working closely with the Vale of Glamorgan Council the Society hopes to be able to ensure that the Tree Strategy for Penarth will fit within the policy context of a future Tree Strategy for the whole of the Vale of Glamorgan.



The Penarth Town Council also has a role to play in support of the strategy, both in the management of trees on its own land holdings, and in terms of community engagement and the promotion of benefits of a tree strategy within the Well-Being agenda.



The Tree Strategy for Penarth will also support the Town Council to deliver against the aims and objectives of its Town Place Plan being taken forward by the Council with assistance from the Future Projects Partnership Group. The Tree Strategy reflects important themes in the Town Place Plan and in the Future Projects

Partnership's current Action Plan including: Better public areas, Tourism, and the Historic Environment – preserving and enhancing Penarth's historic assets.





## 1.2 Background and Strategic Context

Natural Resources Wales has recently published its report **“Tree Cover in Wales’ Towns and Cities”** <https://naturalresources.wales/media/4123/tree-cover-in-wales-towns-and-cities-2014-study.pdf>. This has reviewed trends in tree cover in towns throughout Wales. A detailed sequel to this, entitled **“Town Tree Cover in the Vale of Glamorgan”** has also recently been launched by Natural Resources Wales.

This states:

*“Trees are an essential component of our urban ecosystems, delivering a range of services to help sustain life, promote well-being, and support economic benefits. They make our towns and cities more attractive to live in — encouraging inward investment, improving the energy*

*efficiency of buildings — as well as removing air borne pollutants and connecting people with nature. They can also mitigate the extremes of climate change, helping to reduce storm water run-off and the urban heat island.*

*“Natural Resources Wales is committed to working with colleagues in the Welsh Government and in public, third and private sector organisations throughout Wales, to build on this work and promote a strategic approach to managing our existing urban trees, and to planting more where they will deliver the greatest benefits.”*

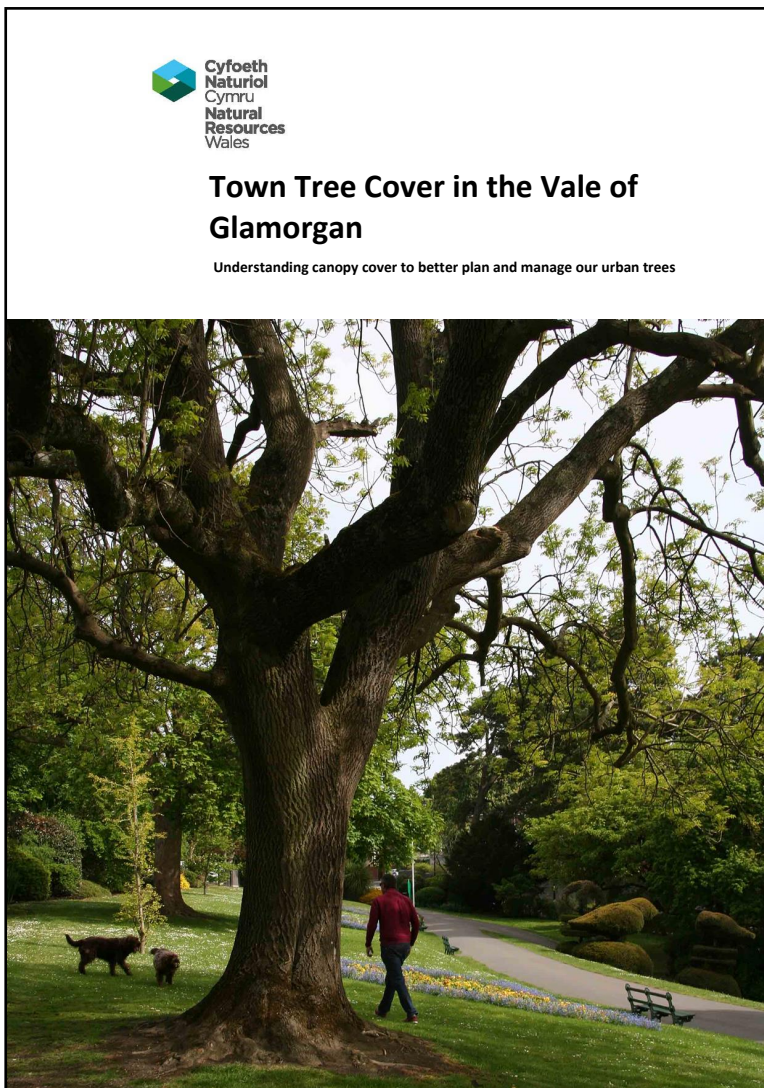
The report's detailed analysis of tree canopy cover, and relevant recommendations, are summarised later in this strategy.

This clear commitment by an agency of the Welsh Government provides the springboard for Penarth and the Vale of Glamorgan Council to push ahead with a new strategic approach to the protection and improvement of the urban tree canopy of Penarth.

The Tree Strategy will also assist the Vale Council to respond to the wider policy context of climate change and sustainable development at all levels, from Wales, UK, EU, and globally.

The following legislation is relevant to an approach by the Vale Council:

- The Environment (Wales) Act 2016. Requires Wales’ natural resources to be managed in a more proactive, sustainable and joined-up manner. Establishes the legislative framework necessary to tackle climate change. Based on the **“Ecosystem Services”** principle, which places a value on the services that the environment provides.
- The Well-Being of Future Generations Act 2015. This is based on the principles of Sustainable Development - improving the economic, social, environmental and cultural well-being of Wales for the benefit of future generations.



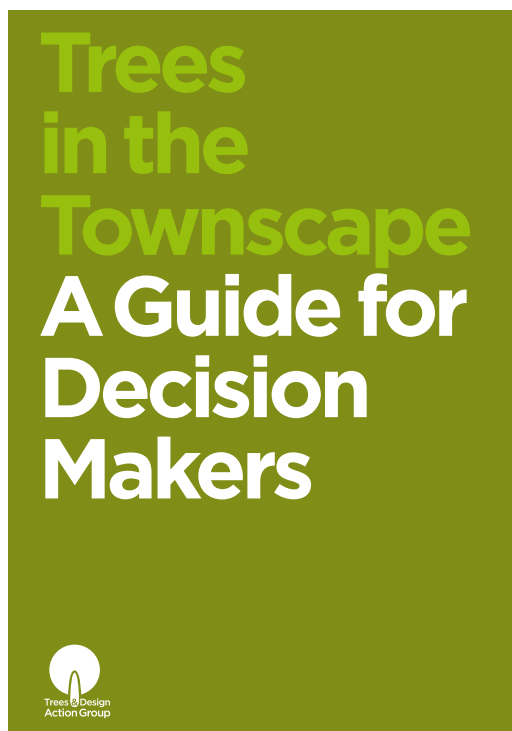
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### 1.3 Other Sources Used in this Report

There are a plethora of reports and strategies on the subject of urban trees, and we have referred to some of the most relevant of these in this strategy. There are two we have drawn on more heavily due to their particular relevance to the preparation of a Tree Strategy for Penarth. Rather than drafting a lot of the detail ourselves, we will “Stand on the Shoulder of Giants” and include some selective extracts. Other sources are referred to in the relevant sections of this strategy. *The reader is encouraged to read these reports in order to gain a better understanding of the points being made here.*

i. **Trees in the Townscape** – *Trees and Design Action Group*. This contains 12 action-oriented principles that can be adapted for any town or city. They provide very useful guidance on the preparation of a Tree Strategy, and will be referred to in detail later in this strategy. **Trees in Hard Landscapes, A Guide for Delivery**, is also very useful. See <http://www.tdag.org.uk>



ii. **Preparing Borough Tree and Woodland Strategies, a Supplementary Planning Guidance to the London Plan**. Although specifically targeted at London Boroughs, this contains very useful generic guidance on how to prepare a tree strategy. <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/tree-and-woodland>

This includes:

- The audit, protection and management of trees and woodland
- The asset value of trees and woodland, both in financial terms and the broad range of economic and environmental benefits they provide
- ‘Urban forests’, in which all the trees in a borough are considered as a single unified resource
- A step-by-step approach to the management of trees and woodland.

The Civic Society proposes a single overall target for the Tree Strategy, which would need to apply to both the Civic Society and the VoGC actions:

- ➔ **Within 10 years to achieve “Woodland Town” status for Penarth.** By reversing the decline in tree canopy cover, and increasing it from currently 17.4% up to a target 20% Penarth could achieve “Woodland Town” status under the UK Forest Standard. (See page 24)
- ➔ Set objectives by which this target could be met include by encouraging residents to plant trees in private gardens and development sites, and by Local Authority action to protect and enhance tree canopy cover on public land.

#### **Proposition 1:**

**By preparing a Tree Strategy for Penarth, the Civic Society will aim to assist the Vale of Glamorgan Council in preparing a strategic approach to managing urban trees across the Vale.**



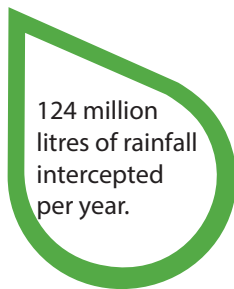
## Bridgend's Urban Trees - an amazing resource benefiting us all



Trees are essential to life. In urban areas they also provide important services: they help to alleviate flooding, they provide health benefits by absorbing pollutants, and they support wildlife. We want to see more trees in urban areas. During 2014-15 Bridgend County Borough carried out an i-Tree Eco study to value their worth.

Not only do trees make Bridgend's towns more attractive, they also:

### Reduce flood risk

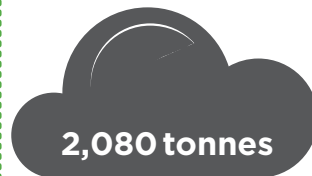


**Equivalent to:**  
Pencoed or Pyle's public swimming pools being filled



This stops the rain from entering the drainage system, saving **£164,000** in sewerage charges.

### Help challenge climate change

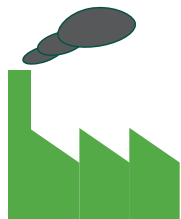


of carbon removed from the atmosphere per year - worth **£461,400**



of carbon stored over the life of Bridgend's trees - worth **£12 million**

### Clean the air we breathe



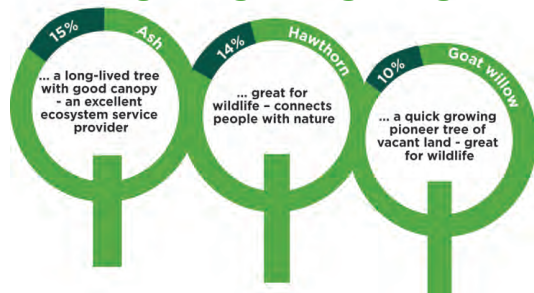
**61 tonnes** of air pollution removed per year

saving the NHS **£326,000** (by reducing asthma and heart disease)

The ecosystem services provided by Bridgend's trees are collectively valued at

**£950,000** per year

### Sustaining and growing Bridgend's urban tree population



Large and leafy trees such as **OAK, SYCAMORE** and **ASH** offer higher levels of ecosystem benefits to society



We need greater diversity of trees to counter the threat of pests and diseases as only 10 species make up 76% of Bridgend's trees. Ash is one of those large long-lived species that benefit society most, but Chalara dieback is currently endangering 15% of the urban tree population.

It would cost **£686 million** to replace all Bridgend's trees should they be lost

The i-Tree Eco study highlights the real value of Bridgend's trees to society. As with any asset, urban tree populations require suitable resourcing to enable sustainable management, protection and enhancement.



Visit Natural Resources Wales' Urban Trees page to download Forest Research's *Valuing Bridgend's Urban Forest* [www.naturalresources.wales](http://www.naturalresources.wales)

## The Real Value of Trees to Society - Bridgend County Borough Council

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## Section 2 Strategy Principles

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### 2.1 Strategy Principle 1 - Valuing the Tree Resource

There are a number of recognised methods of placing a financial value on trees:

- i) Annex 1 on page 126 of the Tree Cover in Wales' Town and Cities report lists the economic, social and environmental benefits of trees in towns and cities.
- ii) The TDAG report on page 3 points to the "i-tree Eco" method of putting a value onto the ecosystem services that trees provide. Using the "i-tree Eco" method, the recent report "Valuing Bridgend's Urban Forest" has concluded that the Ecosystem Services provided by Bridgend's trees are collectively valued at £950,000 per year (see page 11). "i-tree Eco" studies have also been carried out in Wrexham and the Tawe Catchment with similar results. See <https://naturalresources.wales/guidance-and-advice/environmental-topics/your-neighbourhood/green-spaces/urban-trees/?lang=en> and <https://www.forestry.gov.uk/fr/bee-h-a4b-ggx>
- iii) The London report on preparing Tree Strategies, (see above) points out that traditionally the management of trees and woodlands in urban areas has been viewed solely as a financial burden to the local authority, with no perceived financial value. It describes an approach of valuing the tree stock using recognised asset management processes. The CAVAT process (Capital Asset Valuation for Amenity Trees) calculates the replacement value of street trees. Using this method,

the value of street trees in an average London borough is £120m. This is a capital value over the lifetime of a tree, not an annual value as with the i-tree Eco method. CAVAT may be used alongside i-tree Eco – see <http://nato.org.uk/cavat>

- iv) The various tree valuation methods have been compared in the Forestry Commission research paper "Street Tree Valuation Systems". The recommendations of this research are: *"Both CAVAT and i-Tree amenity tree valuation systems meet the needs of small communities and large city metropolitan areas. However, if limitations on data availability can be overcome, i-Tree offers significant advantages of flexibility, detailed output and allowing a wide range of benefits to be assessed. CAVAT is simpler to implement if data are limited. The Helliwell system seems best suited to single tree and small-scale community evaluations, but can also handle urban woodlands."* ([http://www.forestry.gov.uk/pdf/SERG\\_street\\_tree\\_valuation\\_systems.pdf/\\$FILE/SERG\\_street\\_tree\\_valuation\\_systems.pdf](http://www.forestry.gov.uk/pdf/SERG_street_tree_valuation_systems.pdf/$FILE/SERG_street_tree_valuation_systems.pdf))
- v) The "Treezilla" method, which is open to all, can also compile ecosystem benefits. <http://www.treezilla.org>. See page 24.

**Proposition 2:**

That the Vale of Glamorgan Council be encouraged to undertake a survey to establish the true financial value of the urban tree resource in the Vale of Glamorgan.

Examples of good practice include the i-Tree eco surveys under taken by Forest Research in Wrexham and Bridgend working in partnership with the respective local authority and Natural Resources Wales. For more information go to: <https://www.forestry.gov.uk/fr/itree>

## 2.2 Strategy Principle 2 - The Benefits of a Tree Strategy

Annex 1 on page 126-128 of the Tree Cover in Wales' Town and Cities report lists the economic, social and environmental benefits of trees in towns and cities. These are summarised as follows:

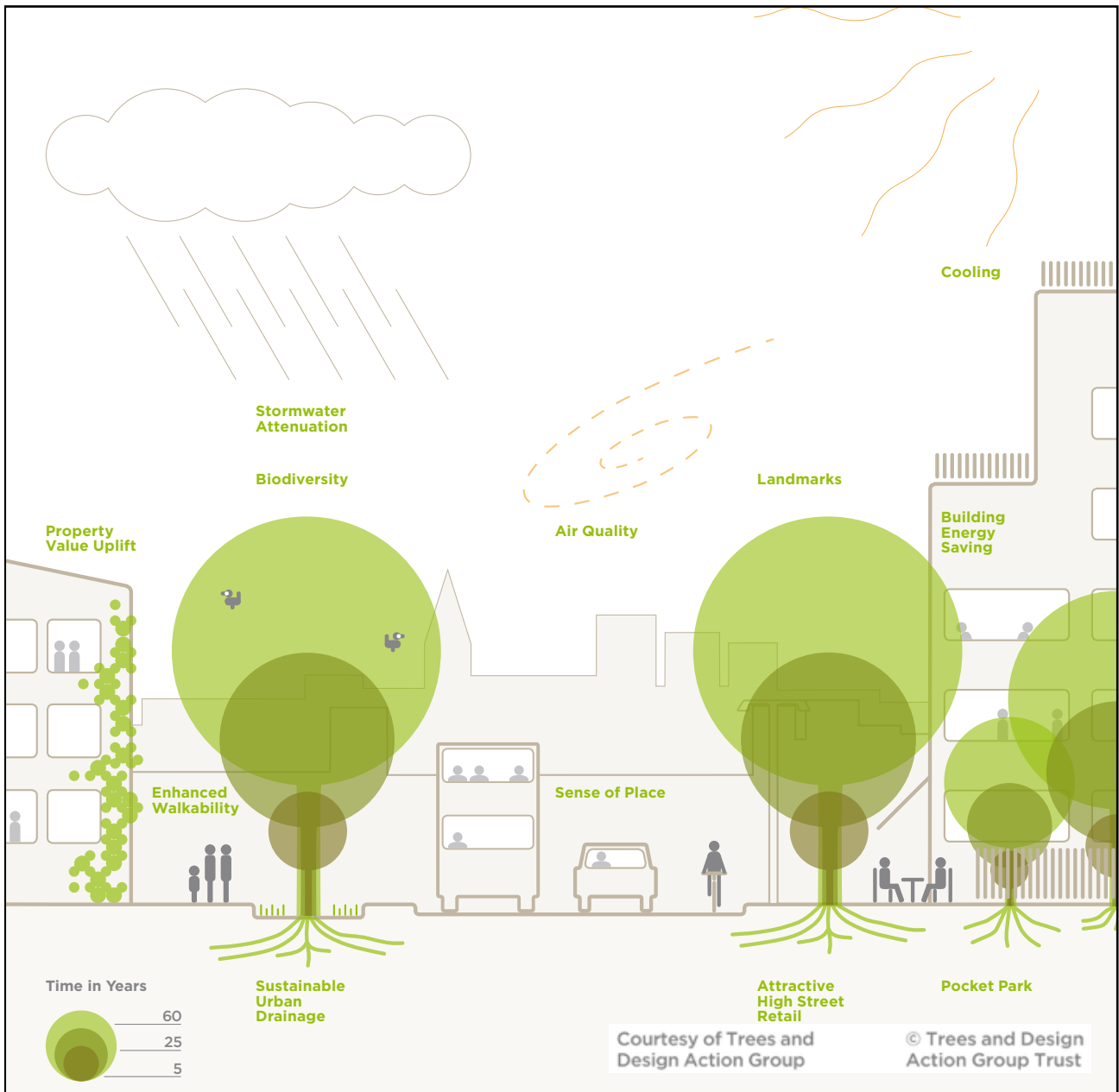
*"Trees are an essential component of our urban ecosystems, delivering a range of services to help sustain life, promote well-being, and support economic benefits. They make our towns and cities more attractive to live in - encouraging inward investment, improving the energy efficiency of buildings - as well as removing air borne pollutants and connecting people with nature. They can also mitigate the extremes of climate change, helping to reduce storm water run-off and the urban heat island."*

The TDAG report **Trees in the Townscape** states: *"Trees matter for 21st century neighbourhoods, towns and cities. While over 80% of the UK's population live in urban settings, trees in and around built-up areas - which many call the "urban forest" - have become a key component of the infrastructure that makes places work, look and feel better.*

*Trees are part of the solution to some of the key challenges of our age, from climate change to declining health and well-being. Trees work to restore the environmental and social balance in our neighbourhoods and town centres, contributing to the conditions for economic success. What is more, they can often do so in more cost-effective ways than some traditional forms of infrastructure.*

*Consider for example stormwater management, urban cooling, air quality improvement and the visual amenity of seasonal colourful displays: no single man-made asset will match what a mature tree can deliver.*

*The idea of urban forestry might seem like an oxymoron. Yet the term is internationally used to emphasise how important it is for urban trees to be managed as a whole to bring maximum social, economic and environmental benefits to the local community."*



**The Benefits of trees to Towns. From TDAG “Trees in the Townscape.**

**Proposition 3:**  
 That the Vale of Glamorgan Council be encouraged to focus on the benefits of trees to people, the economy and the environment in preparing a tree strategy for the Vale of Glamorgan.



### 2.3 Strategy Principle 3 - Attitudes to Trees / Publicity and Promotion

For this strategy to succeed it must receive the backing and support of the residents of the town. Over the past years a common perception seems to have evolved in some parts that trees are a nuisance, and a significant cause of damage to buildings and pavements. This strategy aims to change these perceptions, and show/demonstrate to residents the role they can play in the planting and protection of trees, and demonstrate to them benefits that will result to them and to the town.

There are indeed very real problems in parts of Penarth where trees are damaging pavements, but there are engineering solutions to this that do not necessarily involve loss of the trees. Some members of the public also complain about trees that drop sap on cars. This is usually species of Lime, but there are alternative species that do not have this problem.

By placing a capital value on trees as a component of the capital infrastructure we will move to a position where the



Engineering solutions are needed for the conflict between tree roots and pavements. See page 113 of TDAG Trees in Hard Landscapes. The TDAG is currently producing a short guidance document about remediating tree roots when they cause heave in footways or carriageways. **See also** <https://www.ltoa.org.uk/resources/surface-materials-around-trees>.

true value of trees can be shared by all. By working with the community of Penarth, and by working with Penarth Town Council and the Vale Council, the Civic Trust hopes to alter these attitudes.

Resolving the conflict between Tree Roots and pavements in Bristol



Experience reported elsewhere has shown the benefits of involving the local community in tree planting initiatives, for example in Hackney where local residents were actively encouraged to plant trees in domestic gardens and to play a role in the planting and maintenance of street trees.

Experience in Bristol showed the benefits of engaging with young people in tree planting schemes, with a significant reduction in vandalism. A tree planting scheme in New York did not involve the community, and failed.

Reports also show that businesses are generally favourable towards tree retention and planting, as they are aware of the economic benefits that result. Some big businesses offer generous grant schemes for tree planting.



Arcot Triangle is owned and managed by Penarth Town Council, and provides a valuable contribution to the urban tree canopy in this part of town. It also provides a well used community facility.

**Proposition 4:**  
That the Penarth Civic Society includes in its Tree Strategy for Penarth a clear role for the Society in promoting to the community the value and benefits of urban trees.

**Proposition 5:**  
As a community organisation the Civic Society will work actively within the community to raise awareness of the importance of a healthy tree cover to the quality of life and commercial viability of the town. In doing this, we will also be working in support of the Vale Council’s own Tree Strategy.

**Proposition 6:**  
That the Penarth Civic Society will offer to support the Vale Council in the preparation of its own Tree Strategy by arranging and facilitating the workshops that will be needed to engage with the community of Penarth.

**Proposition 7:**  
That the Penarth Civic Society will encourage the Penarth Town Council to be an active partner in promoting the strategy and in influencing the Community’s attitudes to trees in the town.

## 2.4 Strategy Principle 4 - The Case for Large and Veteran Trees.

The report "Town Tree Cover in the Vale of Glamorgan" states:

*The loss of large long-lived trees is concerning. This maturing Victorian and Edwardian legacy, whilst at some point in need of replacement, does offer urban society the greatest benefits. The danger is that these trees are not being replaced and where they are, small, short-lived trees offering fewer overall benefits take their place. A consistent, resourced and planned approach is needed to:*

- ★ *Protect and care for the Victorian and Edwardian legacy of large trees*
- ★ *Promote planting of large canopy specimens.*

Research has shown that the greater the amount of leaf area a tree has, the greater the benefits that a tree provides, whether its ecosystem service or amenity benefits. Thus larger stature trees provide exponentially greater benefits compared to smaller stature trees as is shown in figure 5. An American cost benefit study shows that large trees in the public realm provide \$2.67 in measurable ecosystem services for every \$1 invested in them. Large trees in residential areas provide even more benefits compared to their costs when located to optimise energy conservation for dwellings, with these providing \$6.75 in services for every \$1 dollar invested (McPherson, G. et al, 2006).

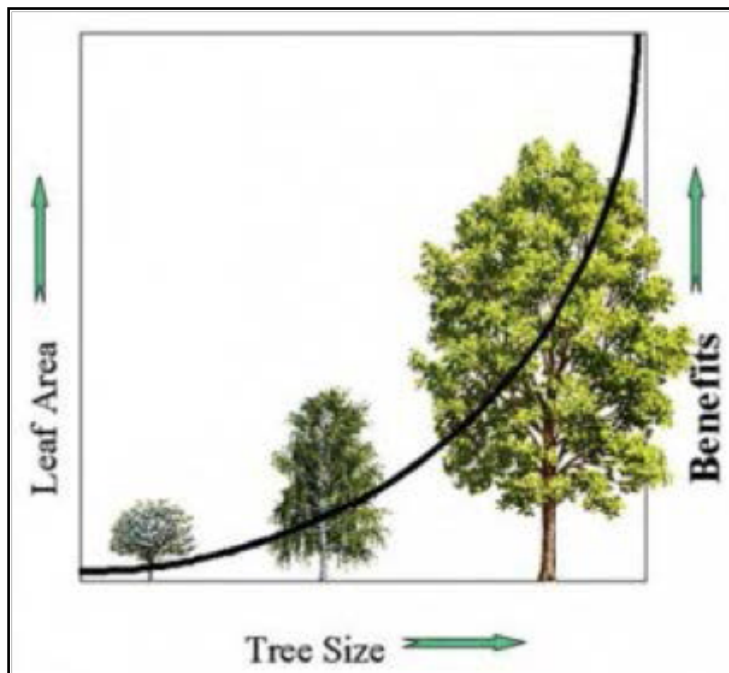
Large, mature trees offer ecological roles not offered by small younger trees (Rumble et al, 2014)

Wrexham County Borough Council in its Tree Strategy (see <http://modern.gov.wrexham.gov.uk/ieDecisionDetails.aspx?id=287&LLL=0>) proposes to include the following policy:

*3.1.3.3 In accordance with the aims and objectives of this tree strategy, the County Borough Council will aim to plant large stature trees where space and other constraints such as rooting volume availability, dictate. Additionally, the County Borough Council aims to retain large stature trees, unless unsafe to do so, to ensure that the multiple benefits that large stature trees provide us with are not lost. Even when a large tree on Council land poses a high risk, pruning will be considered before felling, to ensure that the trees ecosystem*

*services and habitat and amenity benefits are retained where possible.*

*3.1.3.4 Through the planning system, the Local Planning Authority will insist that large stature*



**The larger the tree the greater the benefits**

© Wrexham County Borough Council

*trees are retained and planted on development sites and through the review of "Local Planning Guidance Note 17: Trees & Development" will ensure that policies are in place to ensure compliance and to give clear guidance to developers.*

The Penarth Civic Society recognises that in confined spaces it may be inappropriate to plant new large-canopy species, and that the same increase in canopy cover may be achieved by planting several smaller-growing species.

### **Veteran Trees**

There may also be a good case for "Veteran Trees":

The London guidance on preparing tree and woodland strategies states:

*The UK is fortunate that compared with the rest of Europe it has more veteran and ancient trees than any other European country, however this should not be a reason for complacency. Trees of special*



*interest such as those already designated as veteran or ancient should be recorded on local and regional registers.*

*It (the strategy) should also consider preparing a local register of pre-veteran trees, the veteran trees of tomorrow so that planning, development and management issues are factored into such trees' futures and any potentially adverse impacts are removed altogether or minimised. The future management of such trees should be detailed in any strategy to maximise the benefits these trees bring to local communities and for biodiversity. (London SPG)*

For Penarth though, the Civic Society recognises that there may not be many candidates for 'Veteran' status, and suggests that this register could include significant trees that pre-date the development of the town, or parts of the town. For example, the Paddocks development has clearly been designed around significant pre-existing trees.



Modern housing designed around pre-existing trees.  
The Paddocks.

**Proposition 8:**

That the Civic Society should promote the benefits of larger trees, and the Vale Council should be encouraged to include in its Tree Strategy provisions to protect larger trees, particularly the town's Victorian and Edwardian trees. Also to require a high degree of protection for mature trees in any development proposal.

**Proposition 9:**

That the Civic Society encourage residents to identify individual trees in Penarth that have the potential to be included on a register of "Veteran Trees".

**Proposition 10:**

That all tree planting and management works under this strategy should aim for the greatest benefits they provide to the community and the economy of Penarth, and with a particular focus on protecting the Victorian and Edwardian legacy of trees.

## 2.5 Strategy Principle 5 - A New Approach to Tree Management

Wrexham County Borough Council states in its Tree Strategy:

*Wrexham County Borough Council has a duty to protect trees on private land and to ensure trees are protected and planted on development sites through the planning system. It must also ensure that its own trees are sustainably managed, ensuring that people are not exposed to unreasonable risks from trees on Council owned land and that our tree population meets the needs of the County Borough.*

*Trees provide us with multiple benefits. Our health, for example, is inexorably linked to*

*trees and in particular the health and structure of our urban tree populations. In view of these benefits and the risks to our trees it is fitting that the Council sets out a strategic and focused long term framework for the pro-active protection, management and enhancement of the County Borough's tree population.*

*The following table (Figure 1) highlights the differences between traditional tree management and modern tree population management, the preferred approach advocated by this strategy:*

| Where we have been –<br>Traditional Tree Management | Where we need to be –<br>Modern Tree Population Management                         |
|---|--|
| • Trees as ornaments (Visual Amenity)               | • Trees viewed as critical infrastructure (Ecosystem Services)                     |
| • Focus on individual trees                         | • Focus on overall canopy cover and population structure and diversity             |
| • Trees treated with low priority                   | • Trees have equal priority to other infrastructure such as roads and services.    |
| • Trees have no monetary or economic value          | • Economic value of trees recognised and valued                                    |
| • Focus on smaller ornamental species               | • Focus on larger longer lived canopy trees  |
| • Individual tree maintenance                       | • Overall tree population management   |
| • Aesthetic based design only                       | • Multi-purpose based design   |
| • Ownership boundaries determine tree management    | • Tree population seen as a continuous resource regardless of ownership boundaries |

Figure 1: Traditional and Modern Tree Management Approaches

© Wrexham County Borough Council

### **Proposition 11:**

That the Vale of Glamorgan Council be encouraged to base its Tree Strategy on a modern approach to Tree Management.

## **Section 3 Preparing the Strategy**

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### **3.1 The Role of the Civic Society**

The Penarth Civic Society, as a charity, recognises its limited power in terms of a Tree Strategy for Penarth. Only the Local Authority has the powers needed to prepare and implement a comprehensive area-wide tree strategy. In the context of the Natural Resources Wales report “Tree Cover in Wales’ Towns & Cities”, a tree strategy would need to cover the whole of the local authority area.

The officers of the Vale Council have stated their commitment to preparing a tree strategy. Indeed, the policy context outlined above places pressure on them to do so. However they also recognise that the Council has limited time and resources for this.

According to the information we have received, the only authority in Wales with a recently prepared tree strategy is Wrexham County

Borough Council. The Vale Council can learn much from Wrexham Council, and can also reinforce its own status as a leading local authority in Wales by making an early start on a tree strategy.

The Penarth Civic Society wishes to contribute to the success of the Vale Council’s Tree strategy by:

- Providing the route into community engagement that the Vale Council would need in preparing its own tree Strategy
- Engaging with the community of Penarth by means of a “Tree Forum” that would be convened from time to time
- Explore and access funding opportunities for tree planting schemes
- Working alongside the Future Projects Partnership Group and the Town Council on proposed urban improvement projects.

#### **Proposition 12:**

That the Civic Society should seek to support the Vale Council in the preparation of its Tree Strategy.

#### **Proposition 13:**

That the Civic Society should explore all funding opportunities for the implementation of tree planting schemes.



### 3.2 The Role of the Local Authority

The TDAG report **Trees in the Townscape** and the London SPG report **Preparing Borough Tree and Woodland Strategies** both provide very useful guidance on the processes involved. Typically a strategy will start by the assembling of a team, setting objectives, and gathering baseline information.

The Civic Society has already assembled its own Tree Strategy team, comprising individuals nominated by the Society, and has started compiling baseline information on Street Trees.

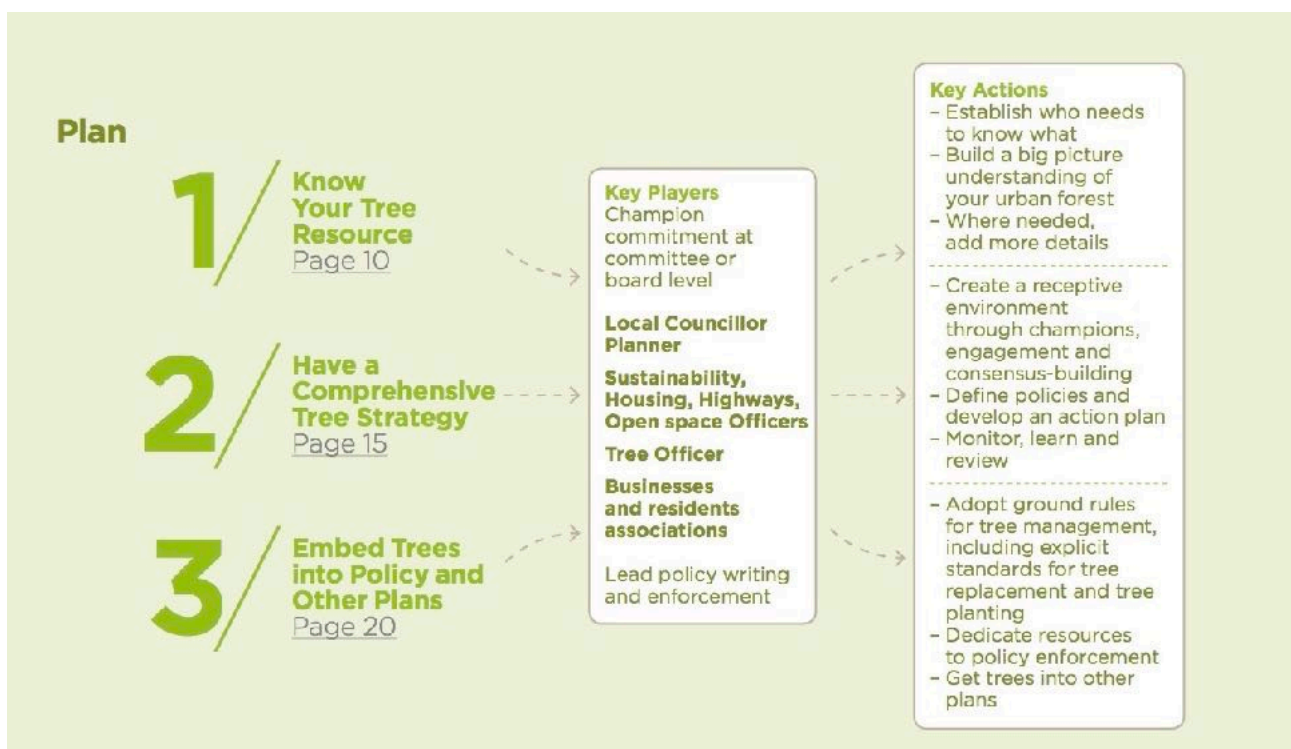
The report *“Preparing Borough Tree and Woodland Strategies, a Supplementary Planning Guidance to the London Plan”* mentioned in Section 3 above contains detailed guidance which is well worth referring to. It sees Stage 1 as: *“Creating a receptive environment for the production of a tree and woodland strategy”*. It goes on to say: *“In creating a receptive environment for the production of a tree and woodland strategy, a key issue will be the amount of political support. It is, however, an opportunity to obtain high level backing for an area of work that will become increasingly important in terms of local environmental quality and climate change adaptation”*. Stage 1 is detailed as shown in the table below.

The TDAG report **Trees in the Townscape** says: *“The starting point for success is understanding where you are and where you want to go. The Plan principles will help you work with others, including councillors, planners and key officers leading on sustainability, housing, highways, green space and trees, together with community volunteers, businesses and residents, to establish these solid foundations for your tree strategy.”*

The TDAG report then sets out 12 Principles for a 21st century approach to trees – *“one that keeps pace with and responds to the challenges of our times.”* The first 3 principles, under the theme of “Plan”, are shown in the diagram below.

The TDAG Report goes on with 9 more principles under the themes of “Design”, “Plant/Protect”, and “Manage/Monitor”. These will be referred to again later.

The Civic Society Tree Group has received a presentation from the former Tree Officer for Bristol City Council, who stressed the importance of a single officer taking the lead for the implementation of a Tree Strategy, and for the corporate adoption of the strategy by all parts of the Authority, and by members.



**Stage 1 - Creating a receptive environment for the production of a tree strategy**

| <b>TASK</b>   | <b>Actions</b><br>Priority:(VH – Very High), (H – High),<br>(M – Medium)  | <b>Milestones</b>  |
|---|---|--|
| Seek political support for the tree strategy  | Present brief seminar on importance of strategy to manage trees and woodlands to senior councillors/officers - H<br>If required enlist assistance of LTWF Manager – M | Launching start of drive for tree strategy at briefing seminar for Councillor leader, Senior Councillors and Chief Officers. |
| Appoint a tree champion   | Nominate one person from the seminar to be the Council's tree champion - H  | Tree Champion appointed and Press release of appointment issued.   |
| Obtain formal Cabinet level backing for producing a Tree Strategy                       | Prepare report for submission to Cabinet/ Committee - H.<br>Submit formal request for backing to produce a tree strategy – H.   | Formal support for production of tree strategy achieved.   |
| Set up a tree strategy working group  | Hold internal meeting of all Service Areas that own or are responsible for trees – M.   | Agree Service Area membership of Tree Strategy Working Group.  |
| Identify key service area for management, delivery and monitoring of the tree strategy. | Tree strategy working group nominates one service area to manage the process of production, delivery, monitoring and review - H.                                      | Key Service appointed to manage process on behalf of the whole Council.  |
| Draft an Action Plan for the production process with targets and designated milestones  | Key service area drafts an Action Plan for production of tree strategy - H  | Tree Strategy Action Plan produced.  |

From “Preparing Borough Tree and Woodland Strategies” © Greater London Authority

**Proposition 14:**

**That the Vale of Glamorgan Council be encouraged to commit to the preparation and subsequent adoption and implementation of a Tree Strategy for the Vale of Glamorgan, and to nominate a single officer to take a corporate lead on behalf of all relevant areas of the authority.**



### 3.3 Baseline Study

A sequel to the Natural Resources Wales report “Tree Cover in Wales’s Towns and Cities” has now been published, “Town Tree Cover in the Vale of Glamorgan” (TTCVoG), giving a very detailed baseline for the whole Vale of Glamorgan. It states: *“The evidence base set out in this supplementary county specific study for the Vale of Glamorgan will help all of us - from community tree interest groups to urban planners and decision-makers in local authorities and our national government - to understand what we need to do to safeguard this powerful and versatile natural asset.”*

It goes on to say: *“Natural Resources Wales is committed to working with colleagues in the Welsh Government and in public, third and private sector organisations throughout Wales, to build on this work and promote a strategic approach to managing our existing urban trees, and to planting more where they will deliver the greatest benefits.”*

This provides a clear context for the Civic Society’s strategy for Penarth, and for a borough-wide strategy for the Vale of Glamorgan.

The TTCVoG study draws attention to the lack of accurate data on urban tree cover and states: *“this study was designed to help address this knowledge gap and provide decision-makers around the country, including the Vale of Glamorgan Council, with the baseline information they need to strategically plan and manage Wales’ urban tree resource.”*

The report points out that the urban tree canopy cover for the Vale of Glamorgan as a whole is 12.3% compared with the Welsh average 16.3%, and is the 3rd lowest in Wales. However, Penarth has the highest level of urban tree cover within the Vale, at 17%.

The report gives detailed statistics by town and ward. In summary, as of 2013, Penarth has a total urban area of 712.2 ha, of which urban woodland is 42.8 ha (6%) and amenity trees occupy 81.2 ha (11.4%), giving a total urban tree cover of 124 ha (17.4%). This is down from 18.6% in 2009. Detailed tables show the land use and tree canopy cover by ward. The linkage between tree cover and levels of deprivation is also explored.

The report sees the way ahead as follows:

**What we can all do:**

- **Share and build the evidence**  
*What gets measured gets managed. The study has addressed a significant information gap. It’s crucial that we continue to share findings and continue the research.*
- **Adopting a strategic approach to managing our urban trees**  
*The study has identified significant discrepancies in canopy cover levels between and within individual towns. International best practice shows that the best way to ensure all urban communities achieve adequate canopy cover is to adopt local tree strategies and set canopy cover targets.*
- **Supporting sustainable urban tree management**  
*Significant rates of tree loss have been identified. It’s crucial that we all review the effectiveness and use of existing tools and legislation for tree care and preservation and ensure that the potential of grant programmes is maximised to support Wales’ urban treescape.*

The report recommends setting targets and optimising funding targets:

**Setting canopy cover targets**

*The review of experiences on the international stage demonstrates that adopting canopy cover targets helps to drive urban tree management. The national findings on mean canopy cover provide a useful benchmark for local planning authorities across the country to use in support of their local planning efforts.*

**Under the UK Forest Standard 20% tree cover constitutes woodland. This could be applied to urban areas as to whether they attain ‘woodland town’ status. (note - Wrexham Borough Council has set this same target in its Tree Strategy).**

The report describes a method to assess the potential of different types of land use for new tree planting, and suggests three categories of land use:

- *Existing cover (based on 2009 canopy cover survey & NFI woodland data);*
- *Grey, impervious and blue areas – i.e. buildings, roads, rail and water – which might provide opportunities for tree planting,*

particularly along streets or within civic spaces and parking lots;

- Green areas that theoretically could be recruited for additional tree planting, and could help increase the overall local canopy cover – i.e. areas of bare soil, grass and beds of shrubs / young trees.

And it points out that:

- Potential ‘grey/impervious’ land ..... are often the locations in tough challenging urban environs where canopy cover is most needed.
- Tree planting is typically less expensive in soft landscape environs than in hard landscapes. Trees are also likely to have better chance of survival and better fulfil their genetic potential (i.e. grow as big as they can) if they have access to large soil volumes.
- In some of the densely populated and more challenging areas, focusing exclusively on green areas for spotting opportunity to increase tree cover was not enough.



danger is that these trees are not being replaced and where they are, small, short-lived trees offering fewer overall benefits take their place. A consistent, resourced and planned approach is needed to:

- \* Protect and care for the Victorian and Edwardian legacy of large trees
- \* Promote planting of large canopy specimens.

**Actionable Findings:**

**The report identifies the following:**

- Identifying landowners to promote better care and planting of trees
- Identifying quantity and quality of tree cover to improve the provision and management of trees.
  - \* Quantity; where woodland cover increases the canopy but, in terms of benefits to neighbourhoods, they are often not realising their potential due to lack of management or accessibility.
  - \* Quality; where regular tree management in parks, gardens and streets provide a cared-for appearance. These are the trees that, whilst not extensive in terms of canopy, tend to be ‘on the doorstep’ of where people live and work.
  - \* The open-space land-use categories host the majority of woodland cover, with private gardens being the major provider of amenity trees.
- Highlighting specific town concerns for further investigation — the loss of large long-lived trees is concerning. This maturing Victorian and Edwardian legacy, whilst at some point in need of replacement, does offer urban society the greatest benefits. The

“Potential ‘grey/impervious land .....where canopy cover is most needed’”. There are a number of such opportunities for tree planting around the town centre.

**Involving the community**

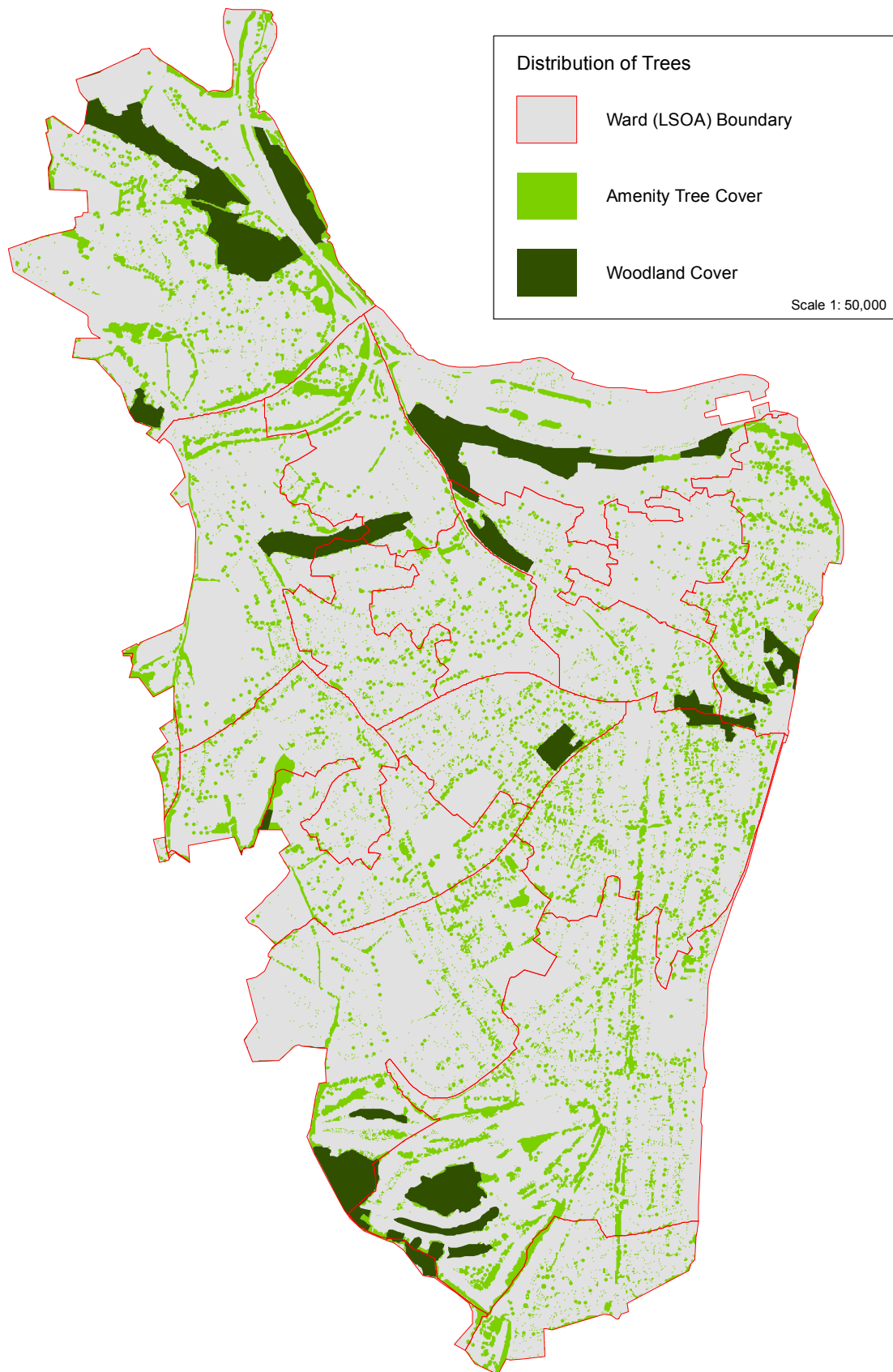
The Civic Society has already done a detailed survey of street trees in most of Penarth. As a means to gain the commitment of the community to the aims of this Tree Strategy, we have looked at the possibility of using survey tools such as “Treezilla”. <http://www.treezilla.org> . This would enable individuals to identify and measure trees that they consider to be important because of the size, age, or any other cultural significance. The software enables such data to be entered on a map base and shared with others. More detail needed here

The civic Society is well advanced with its own baseline study of planting potential within the highways of Penarth, which recognises the differing potential of “grey” impervious highways, and areas where grass verges and gardens would make planting easier.

### Spatial distribution of woodland and amenity trees

© Natural Resources Wales

# Penarth





## Section 4 Strategy Themes for Delivery

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### 4.1 Strategy Theme 1. Trees in Gardens and Other Private Land

#### Gardens

Penarth has many large domestic gardens, which offer a major opportunity to enhance the tree cover of the town. Many residents are keen gardeners, but others may lack knowledge of gardening practices including suitable species to plant.



Front Garden tree planting matches the character of the area. The Paddocks.

As a community organisation, the Civic Society has the ability to work within the community of Penarth to raise expectations. As a component of this strategy, the Civic Society is in the

process of drafting an informative leaflet and web resource for residents, to promote the advantages of tree planting and to provide basic guidance on design and management of trees in an urban garden environment.

Many roads in Penarth have splendid trees in their front gardens, which actually function as “proxy” street trees, contributing to an impression of avenues. The efforts of the Civic Society could well be focused into encouraging more such planting.

This work will include:

- investigate funding sources
- prepare advice on design, species choice, layout, maintenance etc
- raise awareness of the general decline in front gardens, with more gardens being put down to tarmac or pavers, and the impact this has on water management and the visual quality of the townscape
- raise awareness of new planning regulations relating to the paving over of gardens
- Raise awareness of the role of TPOs and regulations regarding trees in conservation areas.



These front garden trees play a major role in the street scene of central Penarth

Planning permission is now required for creating hard surfaces in gardens if the surfacing material proposed is not permeable or porous. It is generally preferable to have a permeable or porous surface material so that rainwater will drain naturally into the ground. Surfaces that are not permeable or porous are likely to result in considerable amounts of surface water - this is undesirable and can lead to overloading of public sewers and flooding. This is general advice - individual situations can vary and should be checked with the Local Authority.

### **The “Greening Grey Britain” Campaign**

The Royal Horticultural Society has launched a campaign to encourage householders to “green” their front gardens. See <https://www.rhs.org.uk/advice/how-to-green-your-grey-front-garden>. Their web site includes a guide showing how to create low-maintenance planting with room to park two cars.

### **Tree Preservation Orders**

The Vale of Glamorgan Council has powers to make Tree Preservation Orders ( TPO ) on trees in the interests of amenity - many trees in Penarth are already protected by Orders.

Owners of TPO trees are required to obtain consent from the Council for work they intend to carry out.

There are procedures for making applications to carry out work, for the Council to make decisions and for appeals against decisions. In urgent circumstances, when there is an immediate risk of serious harm, owners may carry out work without seeking consent - such as if the tree is dead, dying or dangerous.

### **Conservation Areas**

Much of Penarth is within a Conservation Area. If an owner intends to fell or carry out work to a tree in the Conservation Area ( which is not subject to a specific TPO ), they must give the Council 6 weeks notice in writing of their intention. The work can proceed within the 6 weeks if the Council gives consent. However, this notice period gives the Council an opportunity to consider whether to make a TPO on the tree. Similar exemptions to those relating to TPOs apply to Trees in a Conservation Area if they are causing a risk of serious harm.

### **Maintenance of Private Trees**

As shown in the photos, there are a good number of important mature trees in private gardens, which can be expensive to maintain. We will examine possible ways to provide support for householders to look after significant mature trees on private land.

### **Replacement of Trees**

The Council has powers in relation to TPO trees and trees in Conservation Orders to require replacement of trees that are felled. There are also requirements for owners to notify the Council if trees have been felled urgently, and again they can be required to plant replacements.

### **Proposition 15:**

The Civic Society will produce a leaflet encouraging residents to plant trees, and giving some basic guidance on appropriate species. The Civic Society will encourage the Vale Council to publicise the availability of these leaflets to households in Penarth , for example when the council sends out tax demands.



## 4.2 Strategy Theme 2. Trees on Development Sites

There is a risk that some property developers see existing and new trees as an impediment to development and a risk to new buildings; this need not be the case.

### Planning Applications

When a planning application is submitted, developers must consider the effect of their proposals on any existing trees on the site and indicate which trees are to be retained, including measures for how this will be achieved. The effect on trees will be considered by the Vale of Glamorgan Council when assessing the application. The Council has powers to refuse the proposal if they consider the loss of an important tree/s is likely. They can impose conditions for protection of trees that are required to be retained and can also impose conditions requiring new trees to be planted on the site.

If trees on a site are already protected by a TPO or are in a Conservation Area, the planning authority is likely to give greater consideration to the effect of the development on the trees. If trees are not protected but are considered particularly important, the Council is able to make a TPO to protect them.

Conditions on planning permissions usually include new landscaping around the proposed buildings, but if a development includes new roads, car parks or public spaces, requirements can also be made for new tree planting in these locations, including street trees. Developments that include new roads are a good opportunity for planting street trees as the new services and infrastructure can be designed to accommodate them.

When a planning application is being considered for a site, the Council, as Local Planning Authority, has powers to secure financial contributions for certain facilities in the local area, including infrastructure improvements. Firstly, Section 106 Agreements ( of the Town and Country Planning Act 1990 ) are used to obtain financial contributions from developers to make acceptable development which would otherwise be unacceptable in

planning terms. This could include tree planting and associated maintenance.

Secondly, the Community Infrastructure Levy ( CIL ) is being introduced as a source of funding, and is applicable to certain new developments to help deliver infrastructure. It



This planting was carried out by the developer of the site

will increasingly replace Section 106 Agreements. CIL is more structured and requires the Council to produce a charging schedule, which should be consistent with the Local Development Plan. The Council could include landscape works, including trees, within this. Once adopted, developments subject to CIL would be required to contribute according to locally fixed tariffs. There is also a provision for receipts to be passed on to the Town Council for works.

Finally, the Council as Highway Authority, may be required to enter a Section 278 Agreement ( of the Highways Act 1980 ) with a developer to agree the new highway works or amendments to the existing highway, including associated funding.

The above measures are good examples of where it is essential that the Planning and Highway Departments of the Council work collaboratively.



### Supplementary Planning Guidance

Local Planning Authorities are able to issue Supplementary Planning Guidance (SPG), which provides further detail of the requirements in the Local Development Plan. The guidance can set standards which they expect in new developments - they are produced as specific topic documents, one of which is landscaping. The Vale Council's SPG "Trees and Development" dates from 2006. It refers to the 1991 version of British Standard 5837 "Trees in Relation to Design, Demolition and Construction".



New trees along Miranda Road in Bootle paid for by Section 106 funding collected thanks to Sefton Borough Council's tree planting standard. © Sefton Borough Council.

The British Standard 5837 was revised in April 2012 and provides guidance in respect of development sites, for a balanced approach on deciding which trees are appropriate for retention, the effect of existing trees on design considerations, and the means of protecting trees during development. This applies to applications for most developments where construction work is involved, but is not generally applied to householder applications. The British Standard follows a logical sequence of events that has tree care at the heart of the process.

Since 2005, Sefton Borough Council has planted nearly 2,400 trees, mostly alongside streets, as in the example of Miranda Road in Bootle (above). Approximately 80% of the budget for this work comes from Section 106 agreements signed between the local authority and developers as a result of Policy DQ3.

It is hoped that in due course, the Council will update its guidance regarding trees and development, particularly now that the new Local Development Plan has been adopted.

#### **Proposition 16:**

That the Vale of Glamorgan Council be urged to include requirements that appropriate developments should contribute toward tree planting in the local area when planning approval is subject to Section 106 Agreements and the Community Infrastructure Levy.

#### **Proposition 17:**

That the Vale of Glamorgan Council be encouraged to review its guidance on requirements in relation to trees on development sites.

### 4.3 Strategy Theme 3. Street Trees

Out of all the issues regarding trees, the continued loss of street trees in Penarth is probably the largest single area of concern to residents, and has been the prime stimulus for preparing this strategy. A detailed literature review is in the Annex, see page 41. The key issues are summarised in this chapter.

The loss of street trees has severely damaged the visual coherence that the urban avenues once presented. However the Civic Society acknowledges that it would be exorbitantly expensive to replace all the trees that have been lost over the years.

#### Street Tree Replacement

The Civic Society is unsure of the Vale Council’s policy relating to the replacement of street trees that are lost for whatever reason, but currently it seems that no street trees lost are to be replaced with new street trees. Rather, we understand that the Council’s policy includes for the loss of a street tree, regardless of its size or location, to be compensated for by planting a new tree within a park “somewhere in the vicinity”.

Compensatory tree planting in a park will fail to recognise the social and economic benefits of street trees. The issue is complex though, and there exists very detailed guidance on the factors to take into account in decisions concerning the planting of trees in streets.

#### The value of Street Trees

Earlier parts of this report have considered the values of trees generally, but one report also states *“People interact with street trees (gaining value from them and being*



Windsor Terrace (above) has only one tree left out of its original avenues. This silver birch (arrowed and below) is a poor replacement and contributes little to the street scene. It is also showing signs of failure. The trees in the background (below) are “front garden” trees.





*impacted by them) in ways that can be different from how people interact with trees located elsewhere. All this means that street trees in urban areas are thus worthy of considerable specific attention”.*

**THE CIVIC SOCIETY BELIEVES THAT THE ISSUES OF STREET TREES SHOULD BE CONSIDERED AS A DISTINCT AND SPECIAL ISSUE WITHIN THE OVERALL CASE FOR THE URBAN TREE CANOPY COVER.**

**Minimising the Loss of Trees due to Insurance Claims**

As well as losses of street trees due to damage or disease, many are felled as a result of insurance claims relating to subsidence damage to buildings. This is a complex area. Most of the literature we have reviewed is from London, where the ground conditions, with buildings predominantly built on shrinkable clays, are very similar to Penarth.

The London Tree Officers Association have produced a **“Risk Limitation Strategy for Tree Root Claims”**, which deals with this topic in great detail. The document provides two major approaches for dealing with alleged subsidence and trees.

- Initially it outlines an approach to tree management to minimise the risk of a tree causing building subsidence in the first place.
- Subsequently, it gives guidance to the local authority on how to proceed once a claim has been received.

This also includes a strategy for reducing existing claims, and recommends that Local authorities challenge “unwarranted claims based on poorly investigated or inaccurate evidence.”

The Risk Limitation Strategy also recommends that the value of the tree should be calculated and taken into account when considering

whether the tree should be removed or not. These value categories are:

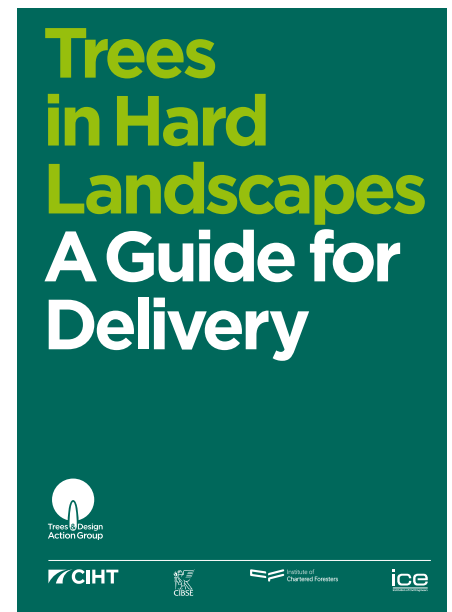
1. *No Value: A tree with no intrinsic value that is dead or with serious structural defects and pathogenic infections that should be removed and replaced.*
2. *Low Value: A low value tree that could be removed and replaced.*
3. *Medium Value: A medium value tree that makes an important contribution to the area.*
4. *High Value: A high value tree that makes an extremely important contribution to the area.*

For each category, the level of detail of investigation and testing is specified.

The London Tree Officers Association have also developed a “Joint Mitigation Protocol” to use in managing claims. The TDAG “Trees in Hard Landscapes” also recommends adherence to this protocol.

**The design of planting schemes for street trees**

We suggest that the guidance in the TDAG report “Trees in Hard Landscapes, A Guide for Delivery” <http://www.tdag.org.uk>, (or similar expert guidance), should be followed closely. This gives very detailed guidance on the design and implementation of tree planting schemes in hard landscapes. In particular it gives guidance on the different methods available that would resist



**Basic tree knowledge for success**

| In brief: what needs to be done   | Who does it   |
|---|---|
| Establish a shared understanding in the project team of what trees need to grow and mature successfully in hard landscapes.   | - Tree officer/specialist   |
| Establish a shared understanding in the project team of the requirements of the above and below-ground infrastructure surrounding trees, especially footways and utilities. | - Design specialist(s)<br>- Highways maintenance<br>- Utility representatives |

© Trees and Design Action Group Trust



the spread and impact of new root growth, and the associated comparative costs. It also shows many case studies of successful schemes where new trees have been planted in tight urban environments.

**Species Choice for Street Trees**

There are many factors that have to be taken into account in the choice of species for Street Trees, particularly the ultimate size of tree in relation to the width of street. The character of the area should also be considered. Much can be gained from reviewing earlier planting to see what has survived and thrived best.

**Soil Preparation for Street Trees**

Preparation of the planting pit is very important to success. The pit must be big enough to enable the roots to survive, and the use of a “Root Deflector” will encourage the roots to go deeper, thus reducing the risk of damage to paving and buildings. A good source of guidance is TDAG “Trees in Hard Landscapes, A Guide for Delivery”. See pages 111/2 of this for more about root deflectors.

**Please refer to section 5, page 41, for a more detailed consideration of the issues around Street Trees.**



This crab apple is a poor replacement, and is too small for such a wide street. It is also a poor competitor for impact with the adjacent front garden tree. The soil preparation for this and the birch were probably inadequate.

**Proposition 18:**  
That the Vale of Glamorgan Council be encouraged to review its policy regarding the replacement of street trees in the light of evidence of best practice elsewhere. Also to then adopt a policy that meets the objectives of this strategy, meets local social and economic needs, and contributes to the target for increasing the urban tree canopy cover of Penarth.

**Proposition 19:**  
That the Vale Council be encouraged to adopt a robust and evidence-based approach to the assessment of claims for the removal of trees due to subsidence claims. Also to adopt a value-assessment policy to the replacement or retention of trees subject to insurance claims.



## 4.4 Strategy Theme 4. Trees in Parks, Amenity Areas and Other Public Areas

As well as the proven social benefits of trees in parkland and amenity areas, there are parts of Penarth where amenity trees provide strong economic benefits by acting as “proxy” street trees. An example of this is the economically important gateway to Penarth from Cogan to the top of Dingle Park in Windsor Road (See front cover). This superb tree lined corridor contributes to a very positive first impression of the town, provides a pleasant and cool environment for walkers, and contributes to traffic calming.



Amenity trees at Dingle Park function as street trees at the “gateway” to Penarth.

However, all the trees on this stretch are on Dingle Park, the embankments to Hill Terrace, or the Church Yard. This demonstrates the importance of different departments of the Vale Council, and private landowners, collaborating to meet and enhance the objectives of the Strategy.

There also many locations on public land in Penarth where additional trees could be planted without the constraints associated with planting street trees in pavements. Many streets in the town have grass verges between the pavement and the road where planting could take place. Cherwell Road is an excellent example of where such tree planting has significantly enhanced the appearance and amenity of the street.



Tree planting in grass verges, Cherwell Road.



The photos on this page are examples of the many streets where major improvements could be made.

Similarly, there are many areas of incidental open space and large areas of paving which could be used to enhance the tree canopy and again act as “proxy” street trees.



Opportunities for tree planting in soft verges.

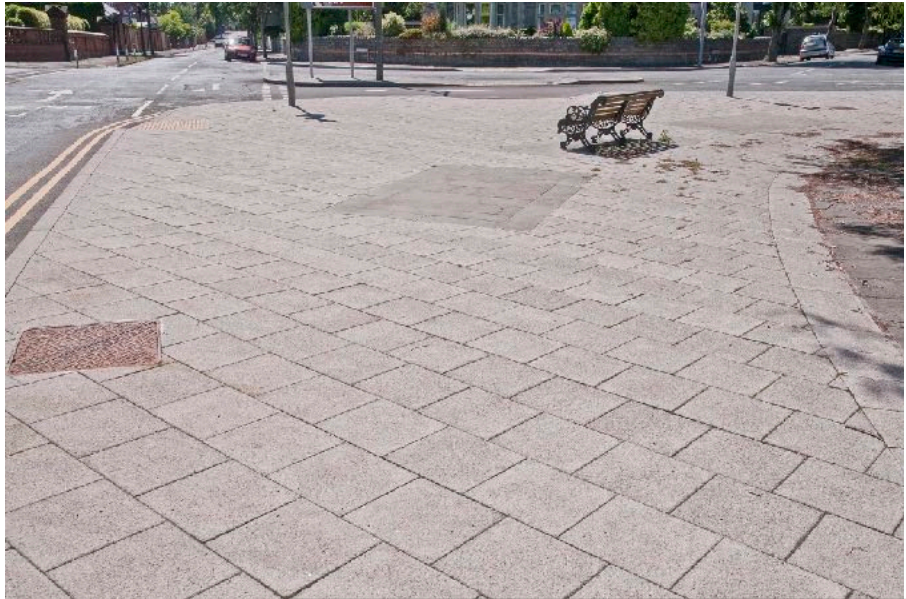


The wide grass strip between the carriageways on Dinas Road has sporadic planting but significant scope for more. Planting in locations such as this throughout the town would be relatively easy.





Environmental improvement schemes are also a good opportunity to plant new trees in the public realm. However, there are cases where the Vale of Glamorgan Council have not planted trees when schemes to highways have been implemented in Penarth. For example, the repaving works in the Town Centre were an opportunity to reinforce the street tree canopy. The recent scheme at the southern end of Marine Parade has created large expanses of paving but no trees were planted.



A missed opportunity to “reinforce the street tree canopy”. Marine Parade/Cliff Hill.

It is possible that finance obtained from Section 106 Agreements and CIL, referred to in Strategy Theme 2, could be used to contribute toward the type of public realm schemes outlined in this section.

There are various sources of funding available to highway authorities for tree planting. In addition to normal Council capital and revenue budgets, there are complimentary centralised transport funds which could contribute to tree planting in the public realm. See Trees in Hard Landscapes - A guide for Delivery Pages 15 to 17.



Tree planting at the junction of Paget Road and High Street has been successful.

**Proposition 20:**

That the Vale of Glamorgan Council, the Civic Society and the community be urged to establish an initiative for planting new trees in areas of public realm which will act as “proxy” street trees. These areas could include grass verges, areas of incidental open space, large areas of paving, and environmental improvement schemes.

**Proposition 21:**

That the Vale of Glamorgan Council be urged to explore all potential sources of funding for tree planting in the public realm.

## 4.5 Strategy Theme 5. Setting the Standards

### Setting the Standards

The Local Authority has the ability to set standards in tree planting that others should be encouraged to follow. See **Trees in the Townscape** – *Trees and Design Action Group* page 21:

#### ***Set tree planting standards for new developments.***

*Setting tree planting standards provides an effective mechanism to ensure that new developments contribute to the green infrastructure that makes towns and cities more pleasant and effective places to live and do business. The table .... offers some examples of how such standards have been defined in*

*different local authorities around the country. Having adopted tree planting standards also enables the collection of commuted sum payments, in lieu of tree planting, when circumstances preclude the requirement to be met on site. This can provide a meaningful complement to a local authority's budget for tree planting. For enhanced effectiveness, such planting standards should be complemented with soil volume requirements, particularly for trees planted in hard landscapes in dense urban environments (see Principle 8).*

See the case studies, page 23 - 26 of TDAG **Trees in the Townscape**

### **Bristol City Council Tree Replacement Standard**

As part of its goal to increase canopy cover from 13 to 30%, Bristol City Council made sure that its recently adopted Core Strategy included a policy on green infrastructure (Policy BCS9) which emphasised that:

- Individual green assets should be retained wherever possible and integrated into new developments.
- Loss of green infrastructure will only be acceptable where it is allowed for as part of an adopted Development Plan Document or is necessary, on balance, to achieve the policy aims of the Core Strategy.
- Appropriate mitigation for the lost green infrastructure assets will be required.



## 4.6 Strategy Theme 6. Tree Replacement and Compensation

### Tree Replacement and Compensation

See particularly page 21 of **Trees in the Townscape – Trees and Design Action Group:**

*Establish tree replacement and compensation measures that make it cheaper for new developments to keep existing large trees rather than fell them.*

*It is only when a tree reaches and lives through a mature stage that the return on the investment made to plant and care for that tree is realised. Depending on species, it takes between 15 and 40 years for a tree to grow a sufficiently large canopy to deliver meaningful aesthetic, air pollution removal, rainwater management, and other benefits. From a nature conservation perspective,*

*the older a tree, the richer its wildlife. As a result, even when the planting of a new tree compensates for the felling of an older one, a significant loss is incurred. It is in recognition of that loss that more and more local authorities, as well as socially and environmentally responsible built environment professionals are adopting tree replacement and compensation measures going far beyond “one for one”, as exemplified in the Bristol case study example. Leadership in this matter can also be found in the private sector, as demonstrated in the Land Securities case study.*

**See also Trees in Hard Landscapes, A Guide for Delivery** <http://www.tdag.org.uk>

**Page 16: “Compensation claims resulting from damage to or loss of council trees.**

*A case study in Trees in the Townscape (p67) provides a good example of how, in the context of planned works by Wessex Water, Bristol City council used the evaluation tool CAVAT to retain mature trees and obtain monetary compensation for replacement planting where tree retention was not possible.*

*Like Bristol City council, the London Borough of Islington has embedded into its tree policy the principle of valuation and compensatory claim when loss or reduction of council tree value occurs: “The council will seek compensation from any external organisation responsible for significant damage to or removal of any council owned tree(s) to the value as calculated by CAVAT”. For 2013-14, the London Borough of Islington estimates income brought from compensation claims to be in excess of £45,000.*

For detail of the CAVAT method of tree valuation go to: <http://www.ltoa.org.uk/resources/cavat>



This mature street tree was so badly damaged by a lorry reversing into it that it had to be felled

### **Proposition 22:**

That the Vale of Glamorgan Council be encouraged to adopt a policy to value and seek compensation for trees removed or lost without due cause or without the necessary authorisation.



## 4.7 Strategy Theme 7. Implementing Tree Planting Schemes

As well as the strategic aspects considered so far, it will be important to demonstrate the commitment of the Civic Society and our partners by implementing tree planting schemes within the town. The Civic Society, as a charity, is in a good position to access grant funding, but will rely on the Vale Council and private land owners to actually implement planting schemes.

### Choice of Priority Sites

It is useful to divide up the urban area into areas of differing potential for planting, as discussed on page 23 & 24.

As a good example of this being done elsewhere, refer to the Westminster Council report "Trees and the Public Realm - <https://www.westminster.gov.uk/topic-based-planning-guidance>, and go to "Trees and the Public Realm - [http://transact.westminster.gov.uk/docstores/publications\\_store/Trees\\_&\\_the\\_Public\\_Realm\\_Adopted\\_Strategy\\_September\\_2011.pdf](http://transact.westminster.gov.uk/docstores/publications_store/Trees_&_the_Public_Realm_Adopted_Strategy_September_2011.pdf)

This has much useful information on the approach to urban design, and particularly the choice of species.

This report also advocates the use of a "Tree Planting Designation Map" showing:

- Areas where caution should be exercised in tree planting;
- Areas where moderation should be exercised in tree planting and management;
- Areas where there is opportunity for tree planting.

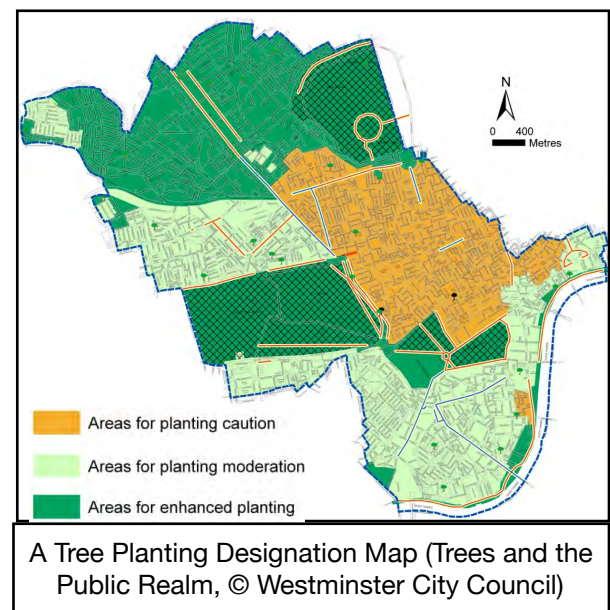
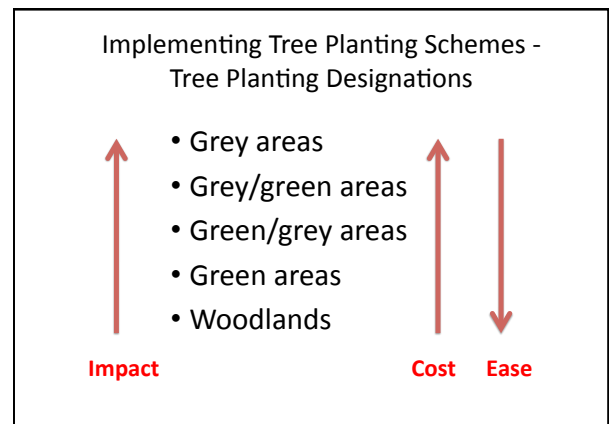
### Mapping Areas of Planing Potential for Penarth

A similar approach could be used for Penarth, mapping areas such as:

- Grey - predominantly hard paved areas, streets, main roads and etc
- Grey/green areas - streets/areas where the houses have front gardens
- Green/grey areas - streets with grass verges, and where houses have front gardens
- Green - predominantly soft landscaped public areas, parks, playing fields, incidental open space
- Woodlands and wildlife areas

### Prioritisation of Schemes

It is important to understand the potential conflict between ease of planting and the potential impact in terms of community and economic considerations.



### The Design Process

The design of planting schemes for street trees must be approached with caution. We suggest that the guidance in the TDAG report "Trees in Hard Landscapes, A Guide for Delivery" <http://www.tdag.org.uk> should be followed closely. This gives very detailed guidance on the design and implementation of tree planting schemes in hard landscapes. In particular it gives guidance on the different methods available that would resist the spread and impact of new root growth, and the associated comparative costs. It also shows many case studies of successful schemes where new trees have been planted in tight urban environments.

It is relevant here to refer to the second 3 Principles of the TDAG report, concerning the design stage:

- See **Trees in the Townscape** – *Trees and Design Action Group* page 21:
- See the case studies, page 23 - 26 of TDAG **Trees in the Townscape**

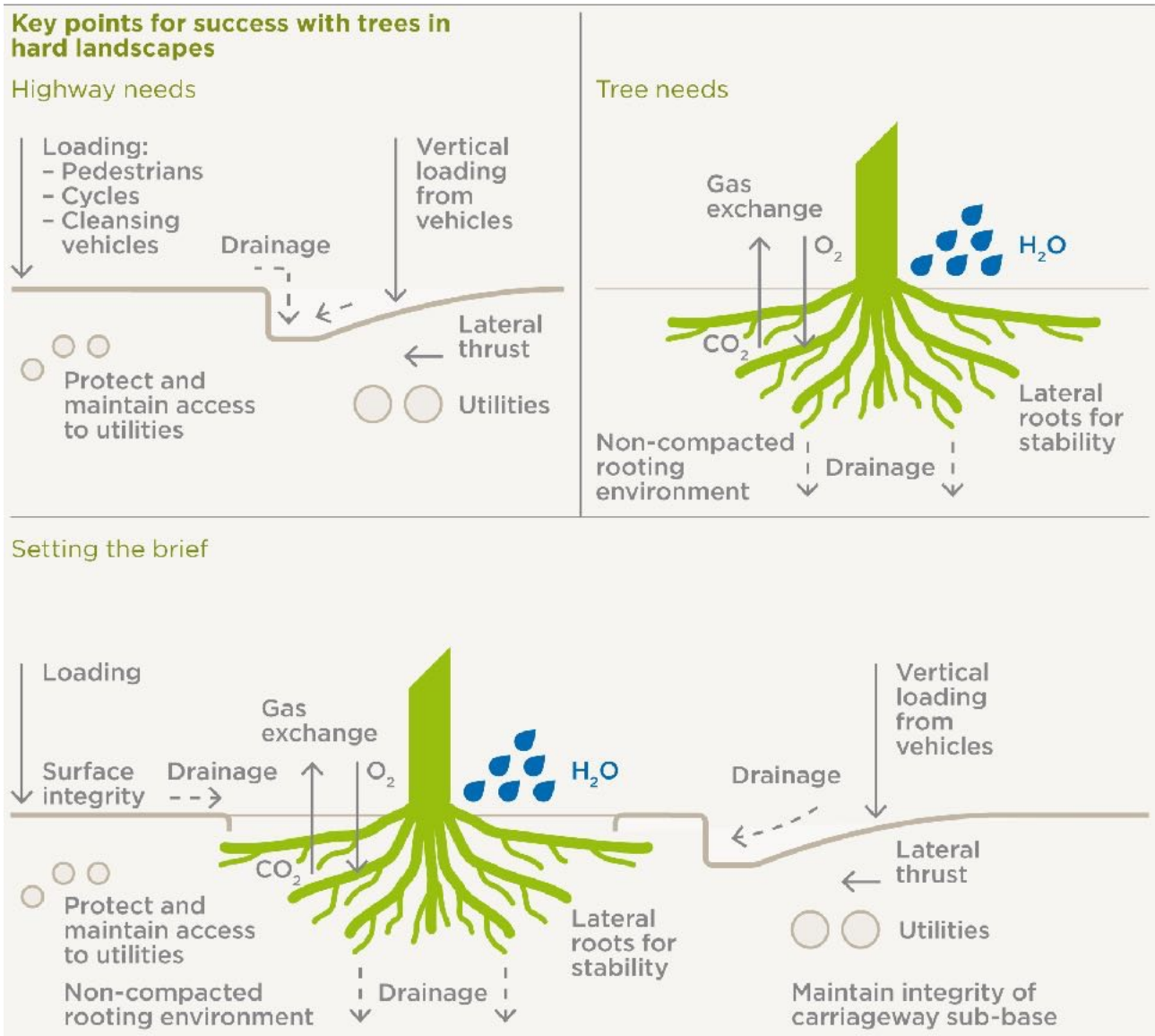
## The Design Process



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### **Proposition 23:**

The Civic Society will analyse the town centre streets and the key approach roads, routes to the beach, etc, where a tree planting programme will bring economic benefit to the town. We will examine all potential funding sources.



Courtesy of Trees and Design Action Group

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## 5. Annex. Street Trees

### 5.1 INTRODUCTION

Out of all the issues regarding trees, the continued loss of street trees in Penarth is probably the largest single area of concern to residents, and has been the prime stimulus for preparing this strategy.

Please see Strategy Theme 3 on page 30 for an outline of the issues. This annex gives information from various references that support the points made.

### 5.2 THE CASE FOR STREET TREES

The following references illustrate the importance that the Civic Society believes should be placed on Street Trees:

The Wrexham Tree and Woodland strategy states:

- *Street trees are perceived as structurally distinct compared to other urban trees such as park trees. People can interact with street trees in these locations, due to their aesthetic value and the human need to experience nature for general mental well-being. Therefore, street trees are considered to have restorative value (Dandy, N, 2010).*
- *Trees assist in improving road safety. They provide a buffer between pedestrians and vehicular traffic. Tree lined streets can assist in reducing traffic speed by giving the impression of road narrowing, thus encouraging slower driving (Burden, D., 2008; Dumbauch, E., 2005, Naderi, J.R., 2003 & Department for Transport, 2007). Trees can improve the lifespan of road surfaces as the shade cast by trees reduces the temperatures in which the surface reaches during hot weather. Where tree canopies overhang roads in winter, ice is less likely to form on the road as a result of the sheltering effects of trees.*

It then goes on to consider street trees in new developments and states:

- *Anecdotal evidence suggests that new developments very rarely include sufficient street tree planting, thus planning guidance and policy should be strengthened to ensure development provides sufficient space for street trees.*

See also the report by Forest Research 2010: **Climate Change and Street Trees Project - The social and cultural values, and governance, of street trees.**

This states:

- *Trees are valuable wherever they are located. However, street trees in the urban environment can have particular and specific values which are being increasingly widely recognised (see for example, Read et al. 2009). For example, their capacity to provide shade and associated cool air temperature (Gill 2009) is especially valuable in urban areas. This is just one example of how trees can help urban communities and workers mitigate and adapt to climate-change. The types of social and cultural value which street trees can possess is explored in Section 2 of this report. Furthermore, street trees constitute a much larger proportion of canopy cover in urban areas relative to rural areas. Having said this, street trees in urban areas are, by and large, proximal to far greater numbers of people and buildings than their rural counterparts. This brings with it increased opportunities for interaction, both positive and negative.*
- *People interact with street trees (gaining value from them and being impacted by them) in ways that can be different from how people interact with trees located elsewhere. All this means that street trees in urban areas are thus worthy of considerable specific attention from policy, practice and research. However, to date very little research has focused upon street trees per se, despite the considerable attention given to urban forestry (urban greenspace; green infrastructure) more broadly. (O'Brien, Williams and Stewart 2010).*

In Penarth, the Civic Society has found that many believe that the grand avenues of street trees, often of Victorian or Edwardian origin, are a key component of the "character" of the town. However recent years have seen a continuing loss of many of these superb trees. Sometimes this is due to disease of the tree, but we understand that many result from insurance claims relating to subsidence or other damage to buildings.

### 5.3 MINIMISING LOSS OF TREES DUE TO INSURANCE CLAIMS

The London SPG guide on Tree Strategy Preparation (referred to earlier in this report) is particularly relevant to Penarth in this respect due to the similarity of soil types. Refer to page 37 of that report, which recommends:

#### ***Building Subsidence***

*The strategy should contain a section on the issue of trees and building subsidence. This section should emphasise the local authority's commitment to the retention of important trees wherever possible and set in place a process of critical analysis of the investigative evidence presented by the insurance sector in these cases. The guidance and advice given in the London Tree Officers Association's document "A Risk Limitation Strategy for Tree root Claims" (2007) and also the Joint Mitigation Protocol (2008) and should be referenced and followed on a case by case basis, treating each case on its own merits. Setting in place effective management procedures such as cyclical pruning regimes will be critical to the success of a tree strategy where shrinkable clay soils are present.*

The London SPG guide also states:

#### **Trees and subsidence**

*This is a fraught area, partly because much remains to be proven in these cases and of course because the concept of damage to property and the costs and stresses involved are worrying to all. Subsidence of low-rise buildings was not seen as high risk until the dry summers of the middle 1970s when an upsurge in insurance claims brought it to prominence. This has been compounded by the very high values attached to property that we have seen in the last twenty years and the insistence of lenders on the house being adequate security for the large loans necessary to buy them.*

*The problem usually occurs because there is an underlying layer of shrinkable clay soil on which the house rests. During excessively dry periods a large tree or trees may cause what is termed a "persistent moisture deficit" in this soil that causes it to shrink. When this happens some settlement of foundations may occur and usually presents itself as a pattern of diagonal cracking around right-angled fixtures such as door and window frames.*

*One should never assume the tree is always to blame: leaking drains can wash away some soils and cause similar effects, for example.*

#### **Roots and Buildings**

*Tree roots do not exert sufficient pressure to dislodge the footings of a house or other heavily-loaded structure. Occasionally they will affect lighter structures such as garden walls, and when this occurs there are sometimes engineering solutions such as bridging the root with a lintel that allow both tree and wall to co-exist, but in general a tree root will not affect your house because the weight bearing down on the footings is too great.*

The report by the London Tree Officers Association "A Risk Limitation Strategy for Tree Root Claims" deals with this topic in greater detail. The document provides two major approaches for dealing with alleged subsidence and trees.

- Initially it outlines an approach to tree management to minimise the risk of a trees causing building subsidence in the first place.
- Subsequently, it gives guidance to the local authority on how to proceed once a claim has been received.

In this way the local authority can take steps to ensure it is minimising its risk to exposure from future claims that might otherwise have arisen. When new claims are made the local authority is in a better position to investigate and challenge these on the basis of having taken prudent, timely action or when the supporting evidence is incomplete, inconclusive or inaccurate.

The Risk Limitation Strategy document includes a **Strategy for Reducing Existing Claims:**

#### **Local Authority Owned Trees - Recommended Actions:**

- *Local authorities challenge unwarranted claims based on poorly investigated or inaccurate evidence.*
- *Local authorities instigate a regime of selective removal and replacement of street tree stock in areas predisposed to building movement where this is appropriate.*

#### **Reduce existing claims by:**

- *Allocating sufficient resources to review the evidence presented in existing claims.*
- *Where inadequacies or discrepancies occur in the reports these should be brought to the attention of the insurers and the claim challenged.*

- *Adopting specific levels of evidence required for particular trees of value and applying these to existing claims where applicable.*
- *Where the evidence clearly indicates another cause for movement the claim should be repudiated and the insurer informed of the local authority's position.*

*Once a claim has been received the local authority must decide whether or not to accept the claim or to challenge it. This Risk Limitation Strategy recommends following a structured approach to the assessment of claims. This should result in the local authority being able to separate real claims where the tree is the proven cause of the problem from unwarranted claims where in essence the tree is conveniently blamed for a problem that has been created by a combination of more complex factors.*

*The normally recognised legal test in civil actions and level of proof for accepting a claim is that the tree is deemed to be "on the balance of probabilities" the causal factor in creating the movement. In seeking to reduce the numbers of existing claims it follows that the local authority should apply resources, including using their own structural engineers and district surveyors and their records for establishing exactly the mechanism at work and whether or not there are other factors that might be causing the movement.*

*It is the LTOA's position that the balance of probabilities argument has for far too long been used to identify trees as being the culprits largely because it has become established in most professionals' and members of the public's minds*

*that trees are almost always the cause of the problem.*

- *The culture of complacency that has characterised the investigation of tree root claims should be challenged and replaced with one of accurate and qualitative assessment of the relevant facts.*
- *In dealing with existing claims in this manner local authorities would not only reduce their existing claims but would also make it much less likely for new claims to be brought that had not been properly investigated and presented.*

**The Risk Limitation Strategy also includes criteria for selective removal and replacement of street trees:**

- *If the evidence presented demonstrates the tree is, on the balance of probability, the actual cause of the damage and regular pruning does not mitigate the trees effect*
- *That the tree should be in such poor condition that cyclical pruning would either kill it or lead to its having a NIL value (See CAVAT).*
- *That the tree is one which requires an uneconomically high level of attention with regard to claims, complaints, structural faults, etc,*
- *That the BRE Category of damage is 3 or above and that the sum of the investigative evidence suggests that pruning will not control the situation even if repeated annually.*
- *Investigation of the specifics of the particular case shows that there would be benefit in starting again with a new specimen.*

*In the long-term, costs would be reduced as the replacements would not constitute a high subsidence risk to property.*



## 5.4 AN EVIDENCE-BASED APPROACH TO SUBSIDENCE CASES

Chapter 6 of the **Risk Limitation Strategy** lists in great detail the levels of evidence that a local authority should require to support a subsidence claim, and points out:

*The driver for the requirement to submit this information is nothing-less than the nature of democratic and accountable local government. Residents and community groups as well as local historical societies and the public themselves all now have the legally enshrined right to see the technical evidence on which decisions to either remove or severely prune trees are taken.*

*It is important to note that legally the onus is always on the complainant to prove the tree is the cause of the damage to a building. Local authorities should not be tempted to commission their own set of tests when challenging a claim as this would result in an increase in the direct cost of the claim to the local authority and result in a clash of experts without reaching clarity. It is enough that they draw on published national guidance standards in considering whether or not reliable and appropriate tests have been carried out and whether such tests can be relied upon to give a reasonable and accurate picture of what is occurring beneath the building's foundations.*

*It is frequently the case that tree officers receive considerable documentation in respect of tree related subsidence cases and that this documentation includes some test results that claim to show the tree is the cause of the problem, while excluding other available test results that would allow a more balanced picture to be considered. In many instances these other test results could exonerate a tree from being the material cause of the movement.*

*Increasingly, due to the Freedom of Information Act, tree officers are required to justify their decisions for tree removals in much more detail and to a greater level of accountability.*

*This essentially means that tree officers require appropriate evidence that corroborates the view that the tree is the material cause of the problem and that other factors have been eliminated as potential influences. In this they are following the guidance give in the ISE document "Subsidence of Low Rise Buildings 2000" and the "BRE Good Repair Guide 2" which recommend that other recognised causes of movement are eliminated before any assumptions are made about a tree's involvement and what course of action to take.*

The report then lists in detail all the tests that are available, and states "*For some time now questions have been raised about the adequacy and reliability of the information and test results that are usually presented with tree related insurance claims.*"

Finally the report identifies a number of "value categories" for trees, as being the most appropriate in establishing how much detail and what level of investigation and testing is required in the assessment of a tree related subsidence claim for a tree of a given value.

These value categories are:

1. *No Value: A tree with no intrinsic value that is dead or with serious structural defects and pathogenic infections that should be removed and replaced.*
2. *Low Value: A low value tree that could be removed and replaced.*
3. *Medium Value: A medium value tree that makes an important contribution to the area.*
4. *High Value: A high value tree that makes an extremely important contribution to the area.*

For each category, the level of detail of investigation and testing is specified.

The London Tree Officers Association has published a "Joint Mitigation Protocol": <http://www.ltoa.org.uk/documents-1/joint-mitigation-protocol/130-joint-mitigation-protocol> This provides an agreed and more detailed method of working between insurers and local authority Tree Officers.

The LTOA recommends the use of CAVAT for valuing trees: <http://www.ltoa.org.uk/resources/cavat>

See also:

- <http://www.tdag.org.uk/the-canopy.html>
- Arboricultural Association [www.trees.org.uk/Help-Advice/.../What-should-I-do-if-tree-roots-cause-cracks-in-my](http://www.trees.org.uk/Help-Advice/.../What-should-I-do-if-tree-roots-cause-cracks-in-my)
- <https://www.tsoshop.co.uk/bookstore.asp?FO=1160465&DI=341508>
- Principles of Tree Hazard Assessment and Management - Research for Amenity Trees 7 The aim of 'Principles of Tree Hazard Assessment and Management' is to provide information for assessing and managing risks to people and property, and also to protect trees from unnecessary felling and disfigurement. <https://www.tsoshop.co.uk/booksstore.asp?FO=1160465&ProductID=9780117533554&Action=Book>

The London Tree Officers Risk Limitation Strategy concludes that *“despite recent works and a number of high profile court cases there is still a lack of commonality on how the principal interested parties (local authorities, private tree owners and building insurers) interact and reach an agreed resolution on the progression of these claims.*

*The LTOA therefore believes the time has come for a 3rd Edition of its Risk Limitation Strategy that reflects the latest information available on this subject and also covers the issues that have arisen as a result of the changes within the sectors briefly mentioned above. This edition is informed by the experience of local authorities already following the principles detailed in this Strategy.*

*The assertion of this document is that the issue of building movement due to the shrinkage of clay*

*soils caused by lack of rainfall is one that continues to incorrectly implicate trees as being the material cause in a great many of these claims. The process by which many claims have been dealt with in the past, claims sometimes presented with only cursory and questionable evidence, has resulted in trees being blamed for movement that should have more properly been attributed to other factors.*

*The LTOA further asserts that the issue is also one of dedicating sufficient resources to maintain and manage London’s trees so that they may continue to be an essential part of Londoner’s lives in the future.*

*The principal aim of this strategy is to reduce the number and cost of tree root claims to local authorities within London. The benefits of these cost reductions will be enjoyed by both local authorities and insurers alike, but crucially not at the expense of losing from London’s skyline one of its most recognisable assets, its trees.”*

**5.5 SPECIES CHOICE FOR STREET TREES.**

There are many factors that have to be taken into account in the choice of species for Street Trees, particularly the ultimate size of tree in relation to the width of street. Also, the purpose the tree is intended to serve, existing soil types and requirements of tree, soil preparation, existing services, etc. There will be a limited palette of species suitable for street trees. Issues such as the width of the street are important, with larger-growing species on wider roads and spaces where small species would be ineffective and out of place.

The growth habit and ease of maintenance are important. Several main roads of Penarth, such as Windsor Road from the former car showroom to the clock have a simple palette comprising Manna Ash (*Fraxinus ornus*) (“a good tree for towns and often planted by main roads”) and Small Leaved Lime (*Tilia cordata*) (this variety does not drop sap). These have survived well and are particularly successful in the narrow pavements of the town centre. This mix is also seen elsewhere in Penarth and in parts of Cardiff.

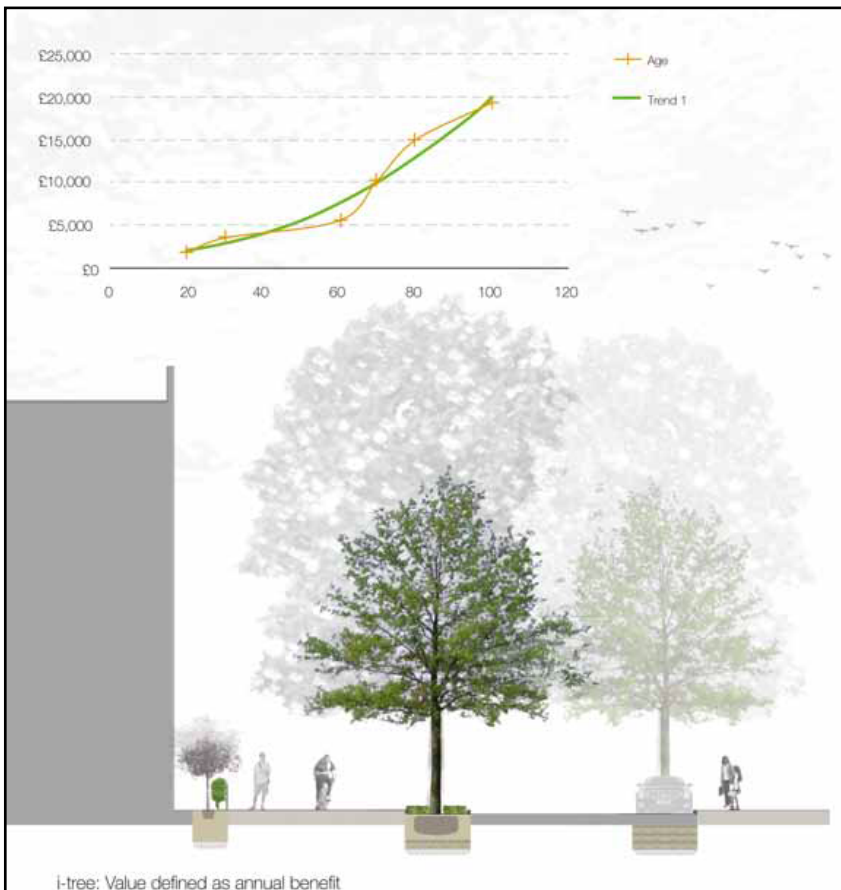
Preparation of the planting pit is very important to success. The pit must be big enough to enable the roots to survive, and the

use of a “Root Deflector” will encourage the roots to go deep, thus reducing the risk damage to paving and buildings.

For more information see particularly “**Trees in Hard Landscapes, A Guide for Delivery**” <http://www.tdag.org.uk/trees-in-hard-landscapes.html>

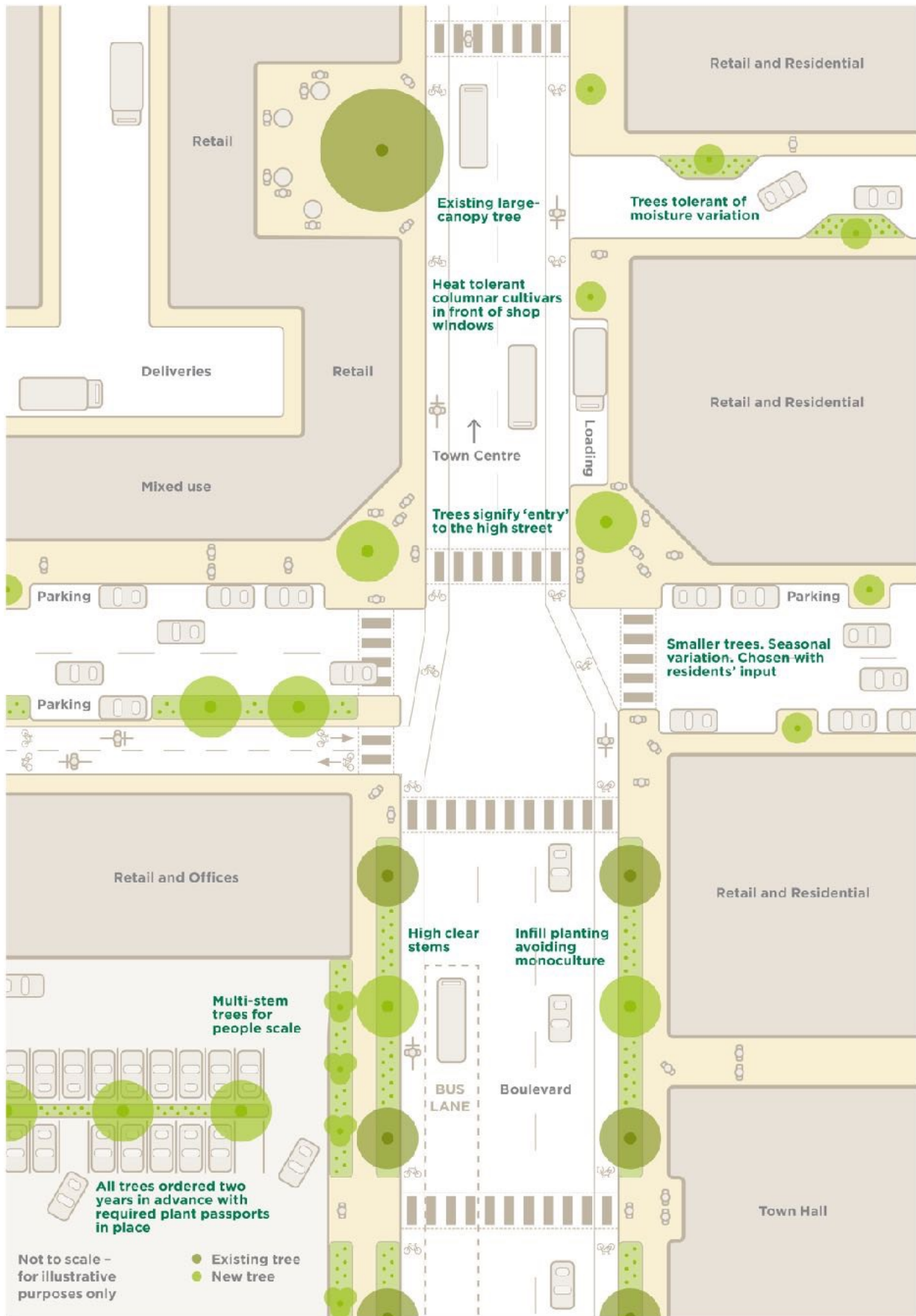
See also:

- “*Tree Roots in the Built Environment*”. This sets out a comprehensive review of tree root biology and covers a broad range of practical issues that need to be considered in order to grow trees successfully in our towns and cities and to realise the significant benefits they provide in built environments <https://www.tsoshop.co.uk/bookstore.asp?FO=1160465&DI=341508>
- *Trees in Hard Landscapes, A Guide for Delivery* <http://www.tdag.org.uk> gives very detailed guidance on the design and implementation of tree planting schemes in hard landscapes. In particular it gives guidance on the different methods available that would resist the spread and impact of new root growth, and the associated comparative costs. It also shows many case studies of successful schemes where new trees have been planted in tight urban environments.



*Design proposal supported by annual tree benefits of Quercus palustris calculated with i-Tree Eco. Image: J&L Gibbons and Treeconomics*





### Species Selection Criteria



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