



Highway Tree Inspection and Routine Maintenance Policy

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1.0 Background and Introduction

- 1.1 Trees in Gloucestershire are an important conservation and amenity resource and should be preserved but they can present risks to highway users and adjoining property. Between 1999 and 2004 at least 30 people have died from tree related incidents in England and Wales, with many hundreds more seriously injured. In April 2008 a bus struck a tree in London causing a branch to break free and kill a pedestrian.
- 1.2 In Gloucestershire between 1998 and 2010 117 claims regarding trees were made costing the authority £75,558.77. In addition, another £139,673.96 of potential claims have been logged by the County Council.
- 1.3 With an increasing public expectation of a safe environment in which to live, along with an increasingly active compensation culture, it is appropriate that the county council have a tree inspection policy to mitigate liability.
- 1.4 Under general liability the Council has a “duty of care” with regard to the regular inspection and hazard abatement of its tree stock. This duty is laid down in the Occupiers Liability Acts of 1957 and 1984, the Highways Act 1980, the Miscellaneous Provisions Act of 1976 and the Health and Safety at Work Act 1974. Fines can be unlimited if pursued in the Crown Court. In extreme cases this may lead to officers facing manslaughter charges or civil action by relatives of the injured party.
- 1.5 In addition, government circular 90/73, Inspection, Maintenance and Planting of Roadside Trees, specifically advises that

‘The Secretaries of State are advised that an authority or any person responsible for the safety of a tree is under a duty to have it inspected by a competent person at reasonably frequent intervals so that any indication of disease or possible disease present at the time of inspection can be noted and acted upon’

‘There have been serious accidents over the last few years caused by trees falling on to cars; some of these accidents might have been avoided by regular inspection, proper maintenance and felling where necessary.’

- 1.6 In line with the principals of “Well-maintained Highways – Code of Practice for Highway Maintenance”, guidance for tree inspections has been modified in light of particular local circumstances, and the relative risks and consequences associated with these. The characteristics of the regime, including the frequency of inspection, items to be recorded, and the nature of response are defined by this Policy, which is set in context of Gloucestershire County Council’s overall policy and maintenance strategy.
- 1.7 In addition, this guidance has taken into account the draft British Standards proposals (BS 8516:2008 Recommendations for Tree Safety Inspections).

2.0 Overall Aims

- 2.1 This document seeks to find a balance between managing the risks associated with highway trees where the County Council has responsibility whilst preserving arboricultural resources. This is achieved by maximising the utilisation of the resources that are needed to manage the trees through efficient systems and processes.



2.2 The primary objectives are to:

- Increase public safety.
- Establish objectives and policy for county council members and officers for trees owned or managed by the county as part of its highway maintenance obligations.
- Establish an inspection regime using a risk-based approach to minimise the risk of personal injury or damage to property arising from the presence of any tree on highway land.
- Conserve, protect and maintain the county's tree resources.

3.0 Purpose of Tree Inspections

3.1 Tree inspections are designed to identify trees that have the potential to cause danger or serious inconvenience to users of the highway network or wider community.

3.2 For the purpose of this policy, a highway tree is any tree planted within public highway with the potential to fall or cause damage to the highway or adjacent property.

3.3 As a general rule, hedges, trees growing in the hedgerow, and the ditches in front of them, are owned by the adjoining landowner. They are seldom the County Council's responsibility. However, trees growing in the highway verge as well as undergrowth on the verge are matters for the county.

4.0 Public safety and risk management

4.1 The county council places a high priority on public safety and this extends to the management of its tree stock and trees under its regulatory control. All landowners, public or private, have a duty of care to ensure that they have taken reasonable steps to prevent or minimise the risk of personal injury or damage to property arising from the presence of any tree on the land, or from its breakage (falling limbs) or uprooting (falling tree).

4.2 A hazard tree has a structural defect that may cause the tree, or portion of the tree, to fail. Alternatively, a hazard tree may be damaging property through the action of its roots or branches. Other hazards could include trip hazards through exposed raised roots, slip hazards from falling leaves, pedestrian injury from low branches, vehicular damage from branches overhanging carriageways or from ingestion of poisonous fruits for children/animals who may not be aware of the danger. However, a defective tree in the middle of the woods or in an open field, away from paths or public use areas does not necessarily have to be considered a hazard.

4.3 In order for a tree to become a hazard, there has to be a target that can be affected by the hazard. The target could be an object, structure, person or anything else in the area.

4.4 Tree risk management involves the process of inspecting and assessing trees for their potential to cause injury or damage to property. In this respect the assessors need to be able to determine what constitutes an acceptable level of risk. There have been significant advances in decay detection equipment and formulas and guidelines for assessing hazardous trees. Modern techniques and procedures can be used to minimise the risk of damage to property and personal injury associated with tree failure. Trees that surpass the level of acceptable risk are hazards from a programmatic viewpoint. An understanding of trees and their biology is an integral component of any tree risk management programme.

- 4.5 The perception of safety of acceptable levels of risk is equally, or sometimes more powerful, than the reality of the condition of a tree and the situation it is growing in. In order to make objective, science-based decisions on the safety of trees, individual trees and site conditions need to be evaluated for the level of risk that they do, or do not, present.
- 4.6 As a target must be present for risk of injury or property damage to occur, the first step is to assess the sites where the Council has tree responsibilities into tree risk zones by target assessment.
- 4.7 Whilst the criteria to define tree risk zones is primarily based on public use and occupancy patterns, it is also important to take account of tree resource characteristics, for instance areas in a moderate hazard category may need a higher inspection rate if it has a high density of problem tree species as the likelihood of incidents increases.
- 4.8 The tree risk zones are defined as:

Risk Zone Categories	Definition
High	Public and pedestrian areas of town/city centres with individual trees with high risk characteristics such as standing dead trees or those with poor condition ratings, severely storm damaged trees, trees that visually obstruct traffic signs or signals, tree roots causing severe pavement buckling. Stretches of road network where there is a high density of large diameter, mature or problem tree species.
Moderate	Strategic high volume traffic routes or pedestrian areas where the potential for falling branches could cause injury/harm or major network disruption; including bus routes where height clearance is an issue.
Low	Low use roads and public footpaths where the potential for injury/harm or disruption is minimal Areas without larger diameter, mature or problem trees

5.0 Tree Inspections

- 5.1 A programme of inspections will be undertaken based on an assessment of risk, hazard and a prescription of remedial action.
- 5.2 Trees in high risk zones will be inspected using professionally trained arboriculturalist staff. These inspections will assess the condition of the trees and identify any potential faults, diseases or other problems. Where these are discovered, their effect on the trees health and stability are evaluated, and if deemed necessary, remedial work will be undertaken. All inspections are carried out in accordance with Visual Tree Assessment techniques as described in Mattheck & Boeroler 1994.
- 5.3 Trees in moderate and low risk zones will be routinely inspected by Highway Safety Inspectors as part of the County’s Highway Safety Inspection regime. These inspections will constitute a ‘basic’ or layman inspection scanning the trees for obvious hazards.

The Highway Safety Inspectors are trained to recognise basic tree hazards by a qualified arboriculturalist.

- 5.4 As the two largest urban conurbations in Gloucestershire both Gloucester City and Cheltenham Town have a significant stock of street trees. Cheltenham in particular has a heritage of mature tree lined avenues. Gloucester City has approximately 2,500 trees and Cheltenham approximately 7,500 trees. Prior to 2007 the county had delegated its highway responsibilities to Gloucester and Cheltenham under agency agreements. This included all responsibilities for highway trees. Following demobilisation of those agency agreements in 2007, the county has continued to provide arboricultural officers to inspect trees and organise tree maintenance when required, as well as respond to public enquiries. In Cheltenham this is particularly important in that a large proportion of the tree inventory is very mature (older than 100 years) and at a higher risk of breakage and danger to property and members of the public.
- 5.5 For this reason, the county has decided to treat all roads in Gloucester and Cheltenham as High Risk Zone areas and inspect them on a 3 year frequency. The number, size and maturity of trees in The Promenade, Cheltenham, as well as the volume of pedestrians, vehicles and bus routes and stops, creates an increased potential risk and in recognition of this the inspection frequency for this road will be set at 12 months.
- 5.6 The inspection regime is set out below:

Risk Zone		Inspection Type & Frequency	Inspected by	Method
High	Promenade, Cheltenham	Expert 12 months	Qualified arboriculturalist Inspected and individual tree assets recorded	Rapid but thorough searches for clear defects, especially in crown and around base of tree. Binoculars, micro-drill or Picus Sonci tomography used where necessary to assess tree health.
	All other roads in Gloucester City and Cheltenham Borough	Expert 3 years		
Moderate	Strategic high volume traffic routes or pedestrian areas including bus routes	Trained Inspector 5 years	Arboriculturalist or trained inspector to inspect	Slow driven or walked inspections searching for overhead height clearances, overhanging or leaning trees and clear crown or branch defects.
Low	Whole network	Basic Annual minimum	Trained Highway Safety Inspector as part of normal highway safety inspection	Rapid driven inspections looking for highway safety defects; searching for overhead height clearances, overhanging or leaning trees that may fall on the highway.



- 5.7 The areas to be inspected will be reviewed periodically to take into account changes in population and feedback from inspections, as well as recorded data from public and member enquiries. Areas may be added or deleted based on the recommendations of the arboriculturalist staff. Decisions on what areas are to be reviewed and inspected will be made by the Risk Team Leader, who has responsibility for the arboriculturalist and highway safety inspection teams.
- 5.8 It is not possible to complete all inspections exactly to program, therefore the maximum period between inspections that is permitted will be:
- High risk – 3 years – 1200 calendar days
 - Moderate risk – 5 years – 2000 calendar days
 - Low risk – 12 months – 400 calendar days
- 5.9 All trees in the High Risk Zone will be recorded as assets in the county's Exor Maintenance system. At a minimum the following information will be recorded:
- Inspection area or route
 - Inspectors name
 - Date and time of inspection
 - Tree location
 - Species
 - Age class
 - Assessment of the general health of the tree including identification of disease or defects
 - Assessment of the risks the tree poses to highway users, pedestrians and adjoining properties
 - Comments or recommendations for maintenance or treatment
- 5.10 Trees in Moderate to Very Low Risk zones will only be recorded as assets when they are judged to represent a potential hazard. Any omission from the record therefore implies that the tree has been judged at its last inspection to represent a negligible hazard. Records of the inspections will be kept so that there is a record of when each area or inspection route was completed.
- 5.11 All information obtained from tree inspections, together with any responding tree maintenance, will be recorded consistently on the county's Exor Maintenance Manager system. This provides an auditable trail from inspection, to work request, to completion of works. The data obtained can be interrogated independently and in conjunction with other survey information. It is stored electronically on a server which is backed-up on a daily basis. Service requests, complaints, reports or information from users and other third parties area also recorded, along with the nature of response.

6.0 Routine Maintenance

- 6.1 Ultimately risk rating a tree allows the county to make effective decisions and to plan tree maintenance in order to reduce hazards. Eliminating the actual hazards is perhaps the most crucial part of tree risk management. Under normal circumstances established trees require little in the way of routine maintenance, however, there may be situations where minor pruning, pollarding or even removal are necessary to prevent encroachment of branches onto buildings or to provide adequate clearance over a road or footpath, or to reduce the risk of falling branches.
- 6.2 People may feel apprehensive about the size or position of a tree and consider it dangerous, however, these factors do not make a tree dangerous and the county would



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- not sanction or support the unnecessary removal of trees. Such action would only be allowed if it were clearly demonstrated that a tree poses an unacceptable risk to property or persons.
- 6.3 The county will also inform owners of trees or hedges that are a danger to the public or affect visibility, to ensure that their vegetation is properly managed. Buses need 5.2m (17 feet) clearance and owners of trees are legally obliged to ensure this is provided. Owners may encounter some liability in the event of an accident if they fail to fulfil their obligations.
- 6.4 The county has certain powers to act in the interest of safety, where trees situated on private property are in a dangerous condition and constitute a risk. Section 154 of the Highways Act 1980 empowers the county to deal with hedges, trees and shrubs growing on adjacent land which overhang the highway, and to recover costs. The county would normally only take action where it was clear that the risk of harm was significant and immediate. The county would expect individual property owners to attempt to resolve issues of dangerous trees as private matters.
- 6.5 The county do not automatically clear undergrowth on verges. It provides cover for wildlife and a varied and natural landscape. But where visibility is seriously affected, or where pedestrians need the verge to escape from the traffic the county will endeavour to remove vegetation.
- 6.6 Where the county has to carry out tree maintenance it will endeavour to do so using sound arboricultural maintenance practices. Where possible a qualified arboricultural tree surgeon will be sourced and instructed to undertake the necessary works.
- 6.7 Where a highway tree(s) is alleged to be causing damage to a property, the property owner should contact their buildings insurance company. The county would normally only remove a highway tree or trees in cases where it is clearly demonstrated that damage was attributed to the tree or trees.
- 6.8 The county will endeavour to work with bus operators to ensure that bus routes have sufficient clearance. This may include the development of a system for the bus companies to submit reports on problems with trees on bus routes. However, it is important to note that the county does not have the resources to cut back every tree that could potentially brush against a bus. There will be many situations where light branches/twigs may brush a bus or high-sided vehicle without causing damage, particularly after heavy rainfall. Whilst this maybe noisy it is not a safety risk and the county would not normally carry out pruning work.
- 7.0 Landscape issues**
- 7.1 When it is necessary to remove a tree, the county's arboriculturalist officers will replace only those which are subject to a Tree Preservation Order. They will select an appropriate tree species to be replanted, taking into account the long-term maintenance concerns, location and surrounding properties/amenities. Officers will make every effort to take into account both consultation with residents as well as consideration for the heritage and conservation of the local area.
- 7.2 Carrying out regular inspections, maintenance and proper management of street trees cost the county a significant amount of annual revenue funding. Where possible the
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county will work to recover costs from landowners and developers. This also includes seeking commuted sums from developers for street trees prior to adoption.

7.3 Commuted sums can be obtained from developers for new trees to be adopted and added to the asset schedule. The commuted sum calculation takes into account the proposed inspection and maintenance regime based on risk zone the newly adopted area is likely to fall in both at the time of adoption and over the longer term. Additional sums may be charged for areas around traffic signals and street lighting where more regular maintenance may be required to maintain visibilities. The formula for the calculating the commuted sum can be found in the Highway Requirements for Developers documents*.

7.4 The standard reinstatement around the base of trees will be made in a flexible surfacing material in order to provide durability over time.

* A formula for calculating commuted sums is not currently in the Highway Requirements for Developers document. The document is currently being reviewed and a formula for calculating commuted will be included in the revised document which is due to be published later this year (2008).



8.0 Reference Documents

British Standards: BS 8516:2008; Recommendations for tree safety inspection (draft for public comment) 13th May 2008.

Well-maintained Highways, Code of Practice for Highway Maintenance Management, Roads Liaison Group, July 2005.

Safety Inspection Policy, Gloucestershire County Council, Sep 2009.

Updated field guide for Visual Tree Assessment, Mattheck & Boeroler 1994.

Highway Requirements for Development: Local Guidance and Standards for Gloucestershire, Gloucestershire County Council, January 2000.

Tree Health and Safety Project Report, Gloucestershire County Council Corporate Property Services, James Benham (Rural Manager), August 2006.