Tree Management and Social Housing in England

Abstract

Private registered providers (PRPs) of social housing are increasingly large landowners, particularly due to the acquisition of housing land from local authorities since the 1980s. Urban forestry research has mainly focussed on tree management by local government, and little is known about the extent of tree management in the social housing sector. In order to address this knowledge gap a survey was undertaken to evaluate tree management practices by PRPs in England. A web-based questionnaire was sent to approximately 50% of PRPs in England. The response accounted for 29% of all properties in the sector. The survey findings indicated that most organisations employed at least one person to manage trees but that very few were adequately qualified for this role. Forty-one per cent of organisations had no record of the trees in their ownership, but those that had an inventory were much more likely to manage trees pro-actively within a programme. The main barriers to good tree management were a lack of financial resources, information and arboricultural expertise.

Introduction

The presence of trees in urban areas can provide a multitude of environmental, economic and social benefits to the local population (Forest Research, 2010). Trees are the most aesthetically significant and noticeable element of what has in recent years been referred to as 'green infrastructure': the combined structure, position, connectivity and types of greenspaces that are part of our towns and cities.

Urban forestry considers large numbers of trees holistically in their social context, with a strong focus on maximising benefits. The aim is to improve the welfare of urban residents, and therefore the practise of caring for trees "is a means to that end and not an end in itself" (Johnston, 1985). Poor management of greenspaces and the trees therein may exacerbate socio-economic problems, as well as fail to realise their full potential in environmental terms.

The quality of greenspace around social housing in England is extremely variable (Neighbourhoods Green, 2005). Although some good examples exist (as shown in Figure 1), outdoor spaces around social housing are often poor, suffering the perennial problems of litter, neglected gardens, vandalism, graffiti and a lack of parking (Frith, 2008; DCLG, 2010). It has been suggested that this situation is a result of low levels of investment and a skills gap in land-based professions among social landlords (Neighbourhoods Green, 2005).

Private registered providers (PRPs) are large landowners; the Homes and Communities Agency estimate that in 2011-12 PRPs owned 2.36 million properties, accounting for just over 10% of the total housing stock in England (HCA, 2012a). Where once local authorities (LAs) provided the majority of social housing, PRPs are increasing their share year on year, while LA-provided housing is on the decline. In 2011, PRPs overtook LAs in terms of the total amount of housing stock (DCLG, 2013). Large-scale voluntary transfers (LSVTs) of housing stock from LAs to PRPs are commonplace and have been encouraged, as private organisations are able to access capital to spend on new buildings and improvements.

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Figure 1: Well designed and maintained greenspaces with trees provide multiple benefits in urban social housing areas. Photo credit: National Housing Federation (NHF).

The role of social housing providers as landscape managers appears to be subject to considerable tensions. Political and financial pressure is applied to PRPs to ensure that buildings are of 'decent' standards, while surrounding landscapes that are also under the management of the provider often remain 'under the radar'. At the same time, central government claims to be the 'greenest' government ever (Cameron, 2010), and the benefits of well managed landscapes and tree are increasingly known.

This research aimed to identify the driving forces that encourage or discourage PRPs to invest in tree management and to evaluate the current extent of ongoing management across England. A thorough review of the literature identified what previous relevant research had been carried out and where gaps existed in current knowledge. Policy and guidance were examined in order to highlight what PRPs *should* be doing to manage their trees effectively and responsibly. As no previous research specific to tree management in the social housing sector had been undertaken, new empirical data was collected from PRPs across England. It is hoped that this research will identify areas in which tree management could be improved and make a positive contribution towards improving practice in the future.

Historical Context of Trees and Social Housing

The provision of social housing in England can be traced as far back as 1235, when the first almshouse, in Cirencester, was opened to house two female lepers (Malpass, 2000). As Britain entered the industrial age in the mid-18th century, almshouses could not provide for the needs of a rapidly increasing population that included a burgeoning poor working class. The 19th century saw unfettered growth in the British economy and a growing correlation between poverty and poor housing. It is this period that really prepared the ground for the provision of housing for the poor.

One of the most influential characters in social housing's history was Octavia Hill, a passionate social reformer and one of the first social landlords in England. She began her work in 1865 and over a period of 40 years built up a substantial lettings and management agency focussed on helping the poorest of London (Malpass, 2000). Hill combined her work with social housing with her passion for the natural environment, beginning with the formation of the Kyrle Society, the purpose of which was 'for the diffusion of beauty' and a prototype for the National Trust, and later campaigning to prevent urban development in the then rural areas of London (Clayton, 2012). In practical terms, this embodied itself in a preference for social housing that included a garden, but if gardens were absent she arranged outings to the countryside for her residents. Her beliefs and methods were influential and, together with the model villages developed by Lever, Cadbury and Rowntree, contributed to the Garden Cities movement of the early 20th century led by Ebenezer Howard (Inwood, 2011; Clayton, 2012).

Since the two world wars, the state and voluntary sector have struggled over the control of social housing provision. Malpass (2000) writes that for a long time central government doubted the capabilities of housing associations to make a significant contribution. LAs were the dominant force for house building and management in the post-war years and were relatively hostile to involvement from housing associations, except where they met a specific need such as care for the elderly and other special needs groups. However, today's PRPs exist because they have stepped in to fill the gaps that LAs were unable to fill.

The decline of LA housing is evinced by statistics showing a reduction over the last decade; between 2000 and 2010 LA housing stock decreased from 3 million to 1.8 million properties (DCLG, 2010). Data released by the Homes and Communities Agency (HCA, 2012b) shows that between 1988 and 2012,

almost 1.3 million properties were transferred from local authorities to PRPs through the LSVT process.

Recent Research and Guidance

In 2004, the UK government commissioned the *Trees in Towns II* report (Britt and Johnston, 2008) to investigate the management of urban trees in England, including those under LA ownership. LAs were asked what provision had been made for tree management on housing land transferred to PRPs. Some 70.2% of respondents indicated this was not applicable to their LA, as there had not been a transfer of housing stock. This is somewhat surprising given the statistics above, which indicate that LSVTs are extremely common. It may be possible that many of the tree officers that answered 'not applicable' arrived in post at the LA some years after housing land was transferred and were therefore not aware of stock transfers. However, 48% of those that were aware of housing land transfers indicated that no provision had been made for tree management (Britt and Johnston, 2008: 267). Some respondents provided additional notes expressing concern over this issue; in particular regarding the lack of consultation with tree officers about LA owned trees transferred to the new landlord and a subsequent lack of communication between the PRP and LA tree officers about specific aspects of tree management.

Recent research by Winson (2011) of social housing residents' mental wellbeing and attitudes towards trees has shown that residents generally respond positively to nearby trees and that those in poorer urban areas with few trees have a desire to see more trees around their neighbourhoods. Some residents had more negative attitudes towards trees, but this group was in the minority. Although not specifically about social housing tenants, research by Flannigan (2010) about urban residents and nearby street trees found that a complex but generally positive relationship exists, and he concludes that there is a need for the arboricultural industry to have a greater understanding of this relationship in order to maximise the benefits of trees for residents. Both of these pieces of research frame the social benefits of trees near residential housing but do not go on to investigate whether trees are being managed with a planned, systematic and integrated approach that includes community consultation to ensure that maximum benefits are achieved (Britt and Johnston, 2008).

In the financial year 2006/7, the National Housing Federation conducted the first full audit of services and facilities provided by PRPs, recognising that they provide more than bricks and mortar for their residents (NHF, 2008). The audit found that in 2006/7, PRPs invested £78.5 million in 'environmental services'. This category includes a vast array of services, from removing abandoned vehicles and bulky items to improving energy efficiency and recycling schemes. Some £41.5 million was used to deliver services used to improve the 'shared spaces' in neighbourhoods, and 13% (£10.2 million) of the total spend on environmental services was attributed to 'gardening and landscaping'. Based on the DCLG's figure of 2 million homes managed by PRPs in 2009 (DCLG, 2011), this equates to a budget of £5.10 per household per year spent on gardening and landscaping.

While summaries of spending on broad categories of services provide some useful information about how resources are being allocated, there is a lack of published data about specific spending on the management of greenspaces. Of the £5.10 spent per household on gardening and landscaping, what percentage of this is spent on mowing grass, planting flowers or pruning trees? It is also not clear whether the sums quoted include the management functions required to deliver schemes. It is clear that data regarding trees and their management by PRPs is scarce and that further research is required.

Perhaps the most significant policy that has affected the social housing sector in recent years has been the Decent Homes policy; a Labour government initiative launched in 2000 following the Housing Green Paper *Quality and Choice – A Decent Home for All*. The focus of the decent homes standard is on the fabric of the homes themselves; landscape and open spaces are scarcely mentioned except to advise that work outside of the scope of the standard, such as improving the local environment, should not be neglected as a result of the targets set (DCLG, 2006). However, the Neighbourhoods Green partnership has identified that the financial pressure placed on landlords in order to meet home improvement targets has inevitably led to fewer resources being focussed on greenspace management (Neighbourhoods Green, 2005). The challenge for PRPs has been to work strategically to both meet the decent homes targets and ensure that investment is made in the local environment.

Writing from a nature conservation viewpoint, Frith (2008) comments that despite numerous governmental initiatives to reverse a general decline in parks and greenspaces, little policy or guidance specifically addresses social housing land. Government policy and programmes written for LAs are inadequate for PRPs that have a particular set of issues. These include high levels of fragmentation, ambiguous land ownership, complex tenures, high competition for land use and the effect of the 'Respect' agenda, which he says "leads to lowest-common-denominator design". Frith goes on to identify a key barrier to the sector's ability to improve landscape management: an acute lack of information.

The publication *Greener Neighbourhoods: A Good Practice Guide to Managing Green Space* (Neighbourhoods Green, 2011) builds on a previous action plan produced by the Commission for Architecture and the Built Environment (CABE Space) and the National Housing Federation aptly titled *Decent Homes Need Decent Spaces* (CABE and NHF, 2010). Both guides set out ten high-level principles for improving housing greenspace. The documents are very much strategic guides rather than detailed how-to manuals. Principles such as "make the best use of funding" are rather vague and aspirational, but in the Neighbourhoods Green document each of the ten principles is accompanied by a case study demonstrating how a particular landlord is excelling in this area, which adds useful detail.

Published guidance specifically about tree management within the housing sector is relatively scarce. An exception, although not in print, is the web-based *Tree Management Toolkit* produced by Neighbourhoods Green in 2012. While it succeeds in addressing the social housing sector specifically, it misses some key issues. For example, no advice is given about how to manage trees within residents' gardens: are these trees covered by tenancy agreements for garden maintenance or the ultimate responsibility of the landlord as tree owner?

The publication *Trees in the Townscape* by the Trees and Design Action Group (TDAG, 2012) sets out 12 principles divided across four overarching themes: plan, design, plant/protect and manage/monitor. Numerous case studies are presented and each section goes into a greater level of detail than that presented in the Neighbourhoods Green web-based toolkit, but the document refrains from being overly prescriptive. It has many resonances with the *Trees in Town II* report (Britt and Johnston, 2008), particularly its strong focus on the need for a tree-specific strategy and an integrated management approach

Figure 2: Disconnected trees in a poorly planned open space dominated by tarmac

whereby trees are considered by many departments and many stakeholders.

It is unknown how many PRPs have tree management strategies or policies in place. However, a search reveals several tree-specific policies in existence. Generally, these policies are brief and centre on lists of what PRPs will or will not do in relation to requests from residents. Of the five policies reviewed for this research, three had identical bulleted lists of tree 'problems' that give rise to pruning requests. The policies were also vague about responsibilities on different areas of land. One policy stated that "tenants are responsible for trees in their gardens", but then went on to say that "ultimate responsibility for safety related to risk from trees on [the provider's] land rests with [the provider]", an unclear distinction of who is responsible for what. There were also ambiguities about which trees would be inspected by the PRP; some operated a reactive inspection service in response to resident comments.

None of the documents approached the level of detail recommended by *Trees in Towns II*. In particular, this stated that local authorities should have comprehensive tree management strategies that include SMART targets (Specific, Measurable, Achievable, Relevant and Timed) focussing on planned, systematic and integrated management (Britt and Johnston, 2008: 533).

As a significant owner of land that is both occupied and accessed by a vast number of people, PRPs have a duty of care under common law to take reasonable care to avoid acts or omissions that cause a reasonably foreseeable risk of injury to persons or property (NTSG, 2011). In England, the Occupiers Liability Acts of 1957 and 1984 also set a duty of care for both visitors and non-visitors. The National Tree Safety Group asserts that the dutyholder "is the person who has control of the tree's management, whether as owner, lessee, licensee or occupier".

The judge of Selwyn Smith vs Gompels in 2009 discussed how the standard of duty can vary, depending on the resources available to the landowner. This case involved a homeowner whose tree had fallen on a neighbouring building, causing injury to the neighbour. The judge suggested that it was not reasonable for a householder to be attributed with the same knowledge and resources as a larger landowner. He concluded that the standard of duty accords with the fact that a householder is a 'mere' householder, and the obligation is to act in a manner commensurate with the size of the property (Selwyn Smith vs Gompels, 2009). This therefore suggests that a large landowner such as a PRP may be reasonably expected to engage experts to undertake inspections in order to fulfil its duty of care.

Methodology

Following a pilot study in March 2012, an online self-administered questionnaire was distributed in October 2012 to PRPs across England by direct email and links via sector-specific newsletters and social media. The questionnaire had five themes:

1. *About your organisation* – general information about the size and nature of the organisation.
2. *Personnel involved with trees* – the numbers of directly employed arboricultural staff and their level of relevant qualifications.
3. *Tree budgets* – how spending on trees is allocated, how much is spent and whether spending is changing over time.
4. *Tree management* – whether a survey has been undertaken, how tree data is managed and whether tree works are planned or responsive.
5. *Trees and residents* – the number and nature of resident comments about trees and whether a policy/strategy is in place.

Regression analysis of the relationships between the variables was carried out and the results graphically displayed using scatterplots. Where appropriate, tests for associations between two frequency distributions were undertaken using chi-square tests (Wheater and Cook, 2000). Significance was tested at a 95% confidence interval, as the samples were large enough (>30).

Results and Discussion

Fifty complete responses and 100 partial responses were received. Following sorting and cleaning of the data, 44 complete responses and 3 partial responses were regarded as useful to the study. Although this response rate is low given the estimated target audience of 650 organisations, when the response is analysed in relation to the total number of properties managed by PRPs in England, the study shows a high

degree of coverage. The survey captured data from organisations that owned a total of 680,125 properties, equating to 29% of the national total. The relatively low response rate of the overall sample (7%) compared with the high percentage of total properties owned in England (29%) is a result of some large organisations participating, and conforms to the findings of the HCA (2012b) that 91% of the total stock is owned by less than 20% of PRPs. The mean number of properties owned by participating organisations was 14,470.

Some 87% of the respondents had acquired housing stock from local authorities, and of those that had, 60% had received more than three quarters of their local stock this way. This suggests that PRPs are now likely to be managing vast numbers of trees previously under the ownership of LAs.

The most common type of outdoor space near resident properties was private gardens, with a modal average of 70% (mean = 49%). Properties with shared gardens or no gardens but nearby grounds both had a modal average of 10%, while the occurrence of properties with no gardens or nearby grounds was very uncommon. These results indicate that the highest proportion of land that could conceivably host trees occurred within the gardens of residents' properties. Therefore, to overlook the management of trees in gardens could be a serious omission. Trees in residential gardens can present a significant risk due to the constant presence of 'targets' within falling distance. The presence of trees close to buildings and their associated infrastructure such as underground utilities can also lead to conflict, as trees are commonly implicated in structural damage caused either directly or indirectly by roots. Furthermore, trees within gardens can cause concern for residents due to leaf litter, shading of windows and apprehension about falling branches or whole trees. Given that many social housing residents are on low incomes and cannot afford to commission tree maintenance works themselves, this situation can lead to conflict with the landlord if residents feel burdened by trees that they are not able to manage.

Social Housing Personnel Involved in Managing Trees

Almost two thirds of the respondents had no specific reference to trees or landscapes in their job title, 28% had a landscape-specific job title and just 6% had a job title specifically related to trees.

Some 57% of the respondents stated that none of the staff employed to manage trees had a relevant formal qualification, and 32% had only one person. The mean number of staff with a formal qualification was 0.78 (n=47). Of those staff listed as having a relevant qualification, 34% had an arboricultural qualification but only 6% held above a National Qualifications Framework (NQF) level 3 qualification, which is commonly regarded as the baseline for tree managers (Arboricultural Association, 2013).

It is disappointing to see a high proportion of staff engaged in tree management with minimal or no relevant formal qualifications. As the amount of land owned and managed by PRPs is increasing over time some larger organisations may be responsible for as many trees as some LAs. In order to manage large populations of trees some formal qualification is highly desirable for tree managers, both in terms of increasing their capability and also raising their professional standing in relation to that of their colleagues and contemporaries. The Arboricultural Association's guide to qualifications and career prospects shows clearly that a NQF level 3-4 qualification is required for supervisory roles such as tree-gang leaders, surveyors or assistant tree officers and a level 5 or above qualification is recommended for management roles (Arboricultural Association, 2013). A number of universities across Britain offer degree-level courses, so it would seem unlikely that the lack of qualifications in this sector is attributable to poor access to education.

Tree officers working for LAs were found to have an average level of qualification of between NQF levels 4 and 5, with 44% holding a specific arboricultural qualification, as identified in the *Trees in Towns II* research (Britt and Johnston, 2008: 322). Therefore, it appears that the concerns expressed by tree officers about trees on ex-LA housing land being managed by under-qualified staff are largely true. If PRPs continue to grow in size due to further land acquisition and the strategic amalgamations of smaller housing associations into larger housing groups that employ fewer, more centralised staff, it is imperative that the professionalism of tree managers is raised.

A total of 87% of the respondents had employed the services of external consultants for tree advice within the previous two years. This is not surprising given the low level of qualified arboricultural staff within the organisations. The most common requirement for external consultants was for a survey of all trees

(36.6%), followed by an inspection of a smaller selection of trees (25.4%). Only 7% of the respondents had used external consultants for advice on writing a tree strategy. It is encouraging to see that there is a high requirement for external consultants to provide a survey of all trees, as this indicates an intention to develop tree inventories, which are regarded as the basis for any tree management programme (Britt and Johnston, 2008; Neighbourhoods Green, 2013). However, at the same time it is somewhat disappointing that external consultants are engaged in relatively simple work for PRPs. Undertaking a tree survey is an important but not particularly complex activity, especially considering the rise in mapping and data collection technologies. If PRPs were to provide training for in-house staff it is quite feasible for such staff to carry out a basic asset tree survey to quickly quantify and map their tree stock. Conversely, providing advice about trees in relation to structural damage or writing a tree strategy document are much more complex activities and may be a better use of external consultants.

Financial Resources

A high proportion of PRPs (72%) had a dedicated budget for tree management, which is a positive sign that trees are a significant consideration for most landlords. Organisations that did not budget specifically for tree management allocated finances to trees from within grounds maintenance budgets or from estate specific budgets. The nature of resource allocation may largely depend on the structure of the organisation and does not necessarily reflect on the importance placed on trees.

Larger organisations spent less per property on tree management than smaller landlords. This may be due to economies of scale, as larger landlords can procure tree maintenance contracts at better rates. The results could therefore not indicate whether the quality of tree management necessarily improves or stays at a similar level as the number of properties increases.

The mean budget per household for tree management was £7.95 per year, but there was a very large variation in this figure. The NHF Neighbourhood audit of 2008 found that the sector invested £78.5 million in 'environmental services' and 13% (£10.2 million) specifically in gardening and landscaping (NHF, 2008). In 2009, the number of dwellings owned by PRPs was 2.0 million (DCLG, 2011), so the average spend per dwelling on gardening and landscaping can be calculated as £5.10 per dwelling. The results of this research five years on suggest that spending on tree management alone is more than this figure.

In 2011, the average number of persons per household in PRP-owned properties was 2.2 (DCLG, 2012). Therefore, this research suggests that the average budget per resident per year for tree management is £3.61. This is significantly more per head than is spent by local authorities according to *Trees in Towns II*, which found an average spend of £1.38 per head (Britt and Johnston, 2008: 142). Once again, this may be due to economies of scale or it could be due to inefficient management by PRPs that are inexperienced in tree management.

More than two thirds (68%) of the respondents stated that the tree management budget had changed within the last five years, generally by an average of 32%. The general increase in financial resources is an extremely positive indication that PRPs are investing in tree management. One of the main reasons central government has been encouraging LSVTs of LA housing to privately owned organisations is their ability to find and attract private finance (Malpass, 2000). Although the mandate for PRPs is clearly still to provide affordable housing, their access to a wider source of funding opportunities may mean that they are better equipped to resource landscape management than LAs have been.

Unsurprisingly, the most expensive aspect of tree management was tree surgery activities. On average, the PRPs spent 75% (mean) of their total expenditure on trees on tree surgery, and the most common response for this activity was 90% (mode). Surveys and inspections made up a fifth of the mean expenditure, but the most common response was 10% (mode). Planting and the maintenance of young trees averaged 6% and the unspecified category of 'other' activities was 2%.

Strategic Tree Management

An inventory is regarded as the starting point for urban forestry, and the basis for any resource management. Of the PRPs, 59% stated they had a tree inventory (excluding private gardens). Three quarters of these were created by external consultants. Of the respondents that did not have a tree inventory, 79%

stated that they were aware of plans to create one. By comparison, *Trees in Towns II* found that only 11% of LAs had carried out a full tree survey on housing land and 53% of housing land had not been surveyed at all for a five-year period (Britt and Johnston, 2008: 158-161). Therefore, these results suggest that PRPs may be planning their tree management more effectively than LAs did on housing land.

Those PRPs that have an inventory of their trees (excluding trees in private gardens) own, on average, 3731 trees. Respondents that did not have an inventory were asked to estimate the number of trees in their ownership. The estimated average was much higher (7184 trees), but this may reflect the difficulty of analysing responses that only allowed predetermined estimate ranges to be selected in the survey.

The use of Geographic Information Systems (GIS) provides an efficient platform for the management of assets spread across a varied geographical area. Accurate mapping of trees forms an important part of any asset management system, including bespoke computerised tree management systems (Wood, 1999). It is surprising to find that only just over half (54%) of the PRPs have a GIS. Given the larger than average size of the organisations responding to the survey and the vast numbers of properties that they own, mapping of their housing stock and other assets would appear to be an important tool. However, it is encouraging to see that larger PRPs are more likely to have a GIS. Most organisations (72%) that do have a GIS are using it to map trees. Depending on the level of user access to the GIS this should have the effect of increasing knowledge about trees for varied members of staff.

The *Trees in Towns II* survey of LAs found that 56% used a computerised tree management or inventory system (Britt and Johnston, 2008: 193). The findings of this research are not directly comparable, as this survey investigated the existence of a GIS rather than a tree management system. Nonetheless, these findings suggest that similar proportions of PRPs are close to realising the potential for computerised tree inventory systems, as most GIS software is capable of handling tree survey data.

Two thirds of the respondents stated that their organisation had a tree policy or strategy in place. This is a positive response that suggests that trees are already firmly on the agenda of most PRPs. Analysis of the size of the organisation against the presence of a policy or strategy revealed no significant difference. While it is encouraging that 66% of the PRPs have some kind of tree-related guidance document, this research did not investigate the quality or comprehensiveness of the document. In order for the strategy to be effective it should be based on some baseline knowledge of the tree stock, be developed in consultation with a range of stakeholders, which for PRPs would include residents and contain specific targets for performance (Britt and Johnston, 2008: 543).

Some 71% of the PRPs had a planned programme of tree works rather than undertaking work on a purely ad-hoc basis. There was a strong relationship between the existence of a tree inventory and a systematic approach to tree works; 78% of those that had a programme of planned works had a tree inventory. Conversely, 85% of respondents that did not have an inventory also did not have a programme of planned tree works. This is entirely logical and to be expected, as the primary purpose of a tree survey and resulting inventory is to schedule tree works. The relationship between a policy or strategy and a works programme was less clear, but as discussed this may be due to the quality of the policy or strategy document.

Barriers to Good Tree Management

The most commonly cited factor affecting a PRP's ability to manage trees to a high standard was available finances. While it is not remarkable that financial constraints were top of the list, it is somewhat surprising that 50% of the responses did not mention budgets. This may be because some of the respondents were conscious of listing only one factor as implied by the question, but nevertheless the results show that a limited budget is not necessarily the overwhelming factor affecting tree management.

Cross-tabulation of comments about a lack of financial resource being a major factor with the results from earlier questions about tree management budgets revealed that those respondents that regarded a lack of finance as a major factor had on average a lower budget for tree management.

The next most common factor was 'information' (18% of responses). These comments centred on issues of knowledge of the tree stock owned by the organisation in terms of its characteristics and location. There were five comments specifically about tree mapping

and the need for accurate maps and/or GIS. Other common comments were about the need for a survey. These findings reinforce the earlier findings about tree inventories; 41% of the PRPs had no inventory of trees and this was strongly associated with the absence of a programme of scheduled tree works.

Comments about 'expertise' were submitted by 12% of the respondents. These comments included phrases such as "lack of understanding", "lack of awareness" and "knowledge of liabilities". Given that the questionnaire was completed by a member of staff with comprehensive knowledge of estates management, these comments can be closely linked with other comments relating to support for tree management that highlighted the need for understanding and buy-in from PRPs' senior management. It suggests that the respondents completing the questionnaire may feel isolated in their tree management roles or ill-equipped to perform the functions required of them. Given that only 6% of PRP staff involved in tree management have an appropriate qualification or a tree-specific job title, it is perhaps not surprising that expertise was cited as an important factor.

It was particularly interesting that 11% of the respondents stated that residents themselves were a factor affecting tree management. It could be said that as PRPs exist to provide for their residents they should be a very high consideration, as they are primary stakeholders. However, the comments submitted tended to place residents and their interaction with trees in a more negative light, as more of a barrier to good management. There were several comments about residents' complaints regarding shade cast by trees, leaf debris and more generally "managing tenant expectations". One particularly striking comment stated "our main aim is the care and preservation of trees. In my opinion the main factor against us is the residents themselves". However, Winson (2011) found that most residents respond positively to trees, although a minority had negative attitudes. This difference in how PRP officers perceive residents' attitudes to trees may be due to a vocal minority and points to a need for improved liaison with residents about trees.

Recommendations for Good Future Management

The findings of this research support recommendations for good tree management, as proposed by others. However, this research helps to place those recommendations in context for PRPs by building an evidence base within the sector. Following the research, this paper makes four specific recommendations.

The organisation should have at least one member of staff with a relevant qualification. For smaller PRPs this could practicably constitute having one staff member in a multi-disciplinary role but holding a basic tree inspection qualification. For larger PRPs there should be a staff member with at least an NQF level 5 arboricultural qualification in order to undertake pro-active surveys and manage tree work contracts.

A full inventory survey should be carried out. A full inventory of trees should be made and kept up to date as new land is acquired. This provides the fundamental basis from which to plan tree works and manage risk. The survey data does not necessarily need to be highly detailed but should at least provide information on the location, size, maturity and condition of all trees.

Trees should be mapped on a GIS. PRPs are able to utilise GIS for much more than tree management and many already have a GIS to map their properties and landholdings. Adding trees to the GIS will enable more efficient surveys and the provision of accurate work orders for contractors, as well as raise awareness of trees across the organisation.

A tree strategy specific to the organisation should be developed in consultation with residents. The strategy should use the tree inventory information to plan for risk management and the future maintenance of the tree stock, including parameters for managing trees within residents' gardens. It should contain realistic and measurable targets and agreed service standards. The involvement of residents in its development will help to manage resident expectations and promote a sense of communal stewardship about shared greenspace.

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