



## Fastigate trees: fools gold or a winning strategy?

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Under the ever-increasing pressure for economic growth and better living conditions in the UK, the new battleground for trees has shifted from the countryside into urban commercial and residential development sites. Tomorrow's urban treescapes are being moulded by today's planning decisions and arboriculturists have a vital role to play as advisors in that process. Space is at a premium and trees are just one of many competitors for this scarce resource. Sustainability as a guiding principle dictates that if trees are to survive in this competitive environment, they must not cause excessive inconvenience or require expensive maintenance. The challenge for modern arboriculturists is how to maintain existing levels of tree cover within this demanding framework for planning progress.

Continuing his series on arboricultural best practice, UK tree guru Jeremy Barrell teams up with Nik Gruber from the UK's top semi-mature tree supplier, Civic Trees Ltd, to explore the pros and cons of fastigate trees, and how you can use them to your advantage in the modern day development scenario.

In forestry, one of the most awkward concepts to get across to the public is that trees start off as saplings and progressively grow bigger to a point where they are either cut down or die and new trees start the cycle again. Standing in front of an impressive mature oak or Douglas fir, it is particularly challenging to appreciate that there is some logic in cutting it down and replacing it with a thicket of seemingly insignificant saplings. And yet, the reality is that in the fullness of time, one of those saplings will indeed replace the magnificent tree; the cycle is the same whether the tree dies and falls in its own time in a natural forest or is felled in a formalised management operation. It is the structure of the forest unit as a whole that is the main issue; individual trees are much less important. In a

sustainable forest unit, a high emphasis is placed on establishing a succession of age classes from sapling to maturity, often over a timescale of hundreds of years. Eeking out a few more years from individuals that have reached their prime is much less of a priority. Where the pace of life is hectic with an obvious focus on the present, shifting the short term human mindset to a timescale of 50 plus years is a perpetual challenge for foresters.

Similar difficulties apply to arboriculturists when managing trees in towns. Even if it is well beyond its best and in decline, it is difficult to convince most laymen that a big 150 year old oak in front of you should not be the focus of attention. It is so tangible; it is there, it is big and it obviously matters



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despite its declining condition. The strength of that reasoning is hard to counter; it certainly is important in the immediate vicinity and at that point in time. However, in the wider scheme of things, it will soon die and be gone. In this context, it is the tree cover of the management unit that is much more important. Keeping big declining trees is tempting because it delivers an obvious short term local gain but at what price? Delaying removal runs an increasing risk of damage of injury from failure and delaying new planting is contrary to the ideal of sustaining the wider tree resource. Of course, there are many scenarios and always exceptions to the rule but the concept that new planting should have a priority over retaining declining existing trees is an undeniable and essential element of sustainable tree management.

This concept of succession and the importance of new planting is hard to understand so perhaps laymen can be forgiven if they do not grasp the subtleties first time. However, there can be no excuse for professional managers not to get it right. Their whole job focuses around the long term nature of tree management and their responsibility is sustaining the wider tree resource. Blindly retaining trees with limited potential at the expense of new planting is contrary to the principle of sustaining amenity and best practice. A major challenge for modern arboriculturists is to successfully explain the benefit of replacement planting and secure space for it against the many other competing land use pressures.

There is intense government pressure on councils to oversee the efficient use of land through higher building densities from the guidance set out in PPG 3. Whilst this is tempered to some extent by green caveats saying that trees must be given proper consideration, this still results in pressure, especially on the potentially large species that need lots of space. The obvious temptation and often the reality is that replacement planting is small species that have little potential to make a significant contribution to amenity. Equally as ineffective are large species that are not sustainable because their natural growth has to be controlled to reduce inconvenience through lack of space before reaching their full size potential. Traditional tree planting strategies make it inevitable that these significant pressures will erode the sustainability of trees in towns and compromise the future enjoyment of amenity. The old adage "the tree was there when you moved in Sir so I am afraid you will have to live with it" is not an effective safeguard for such an important community amenity. Humans do have rights so retention of existing trees and new planting has to be sustainable in that context. That means they must

have space to mature without causing inconvenience and they must have the size potential to significantly contribute to amenity.



**This fastigate oak next to the normal form in a Southampton street clearly shows how a significant contribution to amenity in the wider setting can be achieved without the same scale of impact on adjacent properties**

Fastigate forms offer a practical means of sustainable amenity where conventional tall and spreading trees would face the chop very soon after planting. At their tallest, mature heights as much as 30m with radius spreads as little as 4m are possible down to 10m height and 1m spread at the other end of the scale. Such a range allows the potential for some green component in even the tightest urban situation. Of course, purists often argue that the form is not 'natural' or 'out of character', and we should not be compromising the traditional treescapes we grew up with. All fine in principle but the reality is not quite that simple; arboriculturists work in a world of competition and compromises, not unachievable ideals embedded in the past! Planting that lacks practical sustainability often ends up with no tree; a fine ideal in the short term with a rather sad long term result!





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**These recently planted oaks in Romsey illustrate the multiple benefits of fastigate semi-mature trees; a dramatic instant effect, minimal use of space, complimentary to adjacent architecture and a very low potential for future inconvenience**

Instant impact is often a sweetener for unpopular losses and semi-mature trees are an effective means of mitigation. Of course, big trees are not cheap, may be slow to establish and can have a higher failure rate but their impact can be dramatic, especially if located around boundaries to offer maximum amenity to the wider setting. Big trees are also easier to protect with TPOs and more difficult to subtly remove or kill! These are all significant benefits, often tipping the balance in their favour in a development site scenario.

In recognition of this emerging market, Civic Trees as the main UK supplier of semi-mature trees has been building up stocks of fastigate trees over the last 10 years and expanding the availability of the more unusual species. In the context of their extensive experience of a whole range of species and their performance in typical UK development scenarios, Nik Gruber has compiled a list of some of the most useful in Table 1. This is intended as a brief one-stop guide for identifying suitable planting options where instant impact is required and space for future growth may be limited. Along with useful observations about each cultivar, the second part of the table lists Nik's relative ranking of how each meets a series of commonly requested characteristics. It is subjective and based on his experience so only intended as a rough guide rather than a definitive ranking.



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### Nik's experience

From working in Local Government as an arboriculturist, Nik wished to change direction in his career and decided planting big trees with Civics was the way forward. "As with many LAs there was little opportunity or finance available to get involved with exciting planting schemes and most of my time was spent dealing with applications to fell or prune protected trees. I find adding to the tree cover throughout the UK is a very positive and rewarding job. We have a wide client base who benefit from our Supply, Planting and Relocating services. We have just set up our London Tree Centre where clients can select from a wide range of container grown trees."

Here are just four of our favourite fastigate trees that we believe are the best all-round performers:

***Fagus sylvatica* 'Dawyck':** This is a much under-used tree, which is a shame as it has great form, both in leaf and over the winter. It is one of the most slender of the fastigate trees and shares all the great attributes of the species – smooth silver bark and great leaf colour, either green, purple or the stunning Dawyck Gold. Liking a well-drained soil, rich in humus content, it prefers to be away from fully paved areas where there is scope for other planting at the base. No grass up to the stem, please!

***Quercus robur* 'Fastigate Koster':** This is a clone of *Q. robur* 'Fastigiata' and has ascending branches that do not droop. An impressive medium sized tree that is ideal in nearly all situations. One of the best features is its tolerance of most soils with paving, making it perfect for tight paved spaces, narrow avenues and streets.

***Liriodendron tulipifera* 'Fastigiatum':** Another impressive, conical medium sized tree with stiffly upright branches. This is moderately fast growing and will tolerate all soil types. Although it does not produce as many flowers as the species, it does provide good autumn colour.

***Pyrus calleryana* 'Chanticleer':** Perhaps the most successful cultivar of *P. calleryana* it produces a narrow, conical to ovoid crown. As well as profuse blossom in spring, this tree retains its leaves late into the year and then provides a good show of autumn colour. It will grow well in most situations and on most soils. It has become a popular street tree although beware of potential weak branch unions.

More specifically, Nik has pulled out 10 useful bullet points for tree selection based on his experience as follows:

1. **Inconvenience/nuisance:** Consider the people who will have to live close to the tree. They are the ones who will decide its long term fate so trying to anticipate and minimise potential problems is good planning.
2. **Size:** Consider the maximum height required and eventual width of the crown in the context of the space available and the scale of the surroundings.
3. **Aesthetic value:** What will be the function of the new tree? Architectural value, screening, urban re-development, street tree or solitary individual, etc.
4. **Local character:** Make sure your selection enhances local character rather than detract from it!
5. **Select the right clone:** Many fastigate forms become wider in maturity and some have inherent structural weakness.
6. **Access:** Vehicular and large machinery access to the planting site is an important consideration when planting large semi-mature trees.
7. **Local site conditions:** Soil conditions, exposure to wind, pollution, salt, hard surfacing, etc will all affect the tree so try to select with those in mind.
8. **Services:** Planting large trees obviously requires large planting pits and they will require some form of support. Check for underground and overhead services.
9. **Remember the maintenance!** Watering and support in the early years is essential for successful establishment and formative pruning should not be forgotten in longer term maintenance.
10. **Enjoy!** Sit back and relax in the knowledge that you have made an informed choice towards a sustainable environment where others frequently fail!



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### Thinking outside the *Buxus*!

Where confined space is an issue, but maintenance isn't, why not consider pleaching, topiary or pollarding? There are numerous species available and they come in all shapes and sizes. The only problem with these is they all require high maintenance. Pruning every year to maintain the shape and structure may not be appropriate in many situations. However, they can make a fantastic formal statement and are very worthwhile in the right setting. Genus best suited to this form of management include *Carpinus*, *Tilia*, *Platanus*, *Taxus*, *Ilex*, *Fagus*, *Laurus*, *Photinia* and *Buxus*. They can be purchase ready pleached or pollarded in box shape, flat screen, cones, balls and cylinders.



When space is tight, a fastigate form provides an alternative to no tree at all!



Manufactured magic: the versatility of trees is endless!!

We would like to thank Peter Thurman for helpful comments on the species table



Relatively narrow trees suitable for residential amenity planting available from Civic Trees

Deciduous/broadleaved

Species	Cultivar	Maximum size potential		Soils	Notes	Rankings			
		Height	Radius spread			Tough sites	Interest	Availability	Price
<i>Acer platanoides</i>	'Columnare'	15–20m	6m	Tolerates all soils apart from very wet sites	Does well in an urban situations, yellow autumn colour	●●●	●●○	●●●	●○○
<i>Acer campestre</i>	'Elsrijk'	12m	4–5m	Tolerates most soils	Hardy, dense closed crown ideal in streets and urban sites	●●●	●●○	●●●	●○○
<i>Acer saccharinum</i>	‘Pyramidale’	20m	8	Tolerates most soils	Attractive foliage with some autumn colour but can have weak forks prone to failure	●●○	●●●	●●○	●●○
<i>Acer rubrum</i>	'Scanlon'	10–12m	4m	Tolerates clay soil	Excellent autumn colour turning shades of purple and orange	●●○	●●●	●●○	●●○
<i>Betula pendula</i>	‘Fastigiata’	10–15m	5m	Tolerates most soils	Interesting habit, open crown with autumn colour	●○○	●●○	●○○	●●○
<i>Carpinus betulus</i>	'Frans Fontaine'	10m	3m	Tolerates most soils	Tolerates exposed sites, autumn colour, can become wide in maturity	●●○	●●○	●●●	●●○
<i>Corylus colurna</i>		15–20m	4–6m	Prefers calcareous sandy soil	Hardy tree ideal in urban planting situations but loses its fastigiate habit with age	●●○	●●○	●●●	●○○
<i>Crataegus monogyna</i>	'Stricta'	10m	3m	Tolerates most soils	Small flowers appear in May followed by fruit and yellow autumn colour, fairly hardy	●●○	●●●	●●○	●●○
<i>Fagus sylvatica</i>	'Dawyck'	20–25m	3m	Needs well drained rich soil	Green, gold and purple varieties available	●●○	●●○	●●○	●●●
<i>Fraxinus ornus</i>	‘Obelisk’	8–10m	3–5m	Prefers drier calcareous soil	Abundant flowers	●●●	●●●	●●○	●●○
<i>Liriodendron tulipifera</i>	'Fastigiatum'	8–10m	5m	Tolerates most soils	Yellow autumn colour, tolerant of hard surfaces	●○○	●●●	●○○	●●○
<i>Malus tschonoskii</i>		8–10m	3–4m	Prefers nutritious, well drained soil	Excellent autumn colour but prone to mildew	●●●	●●○	●●○	●○○
<i>Platanus x hispanica</i>	‘Pyramidalis’	15–20m	4–8	Tolerates most soils	Tolerant of pollution ideal in urban situations and prunes well although can be brittle and prone to failure	●●●	●●○	●●○	●●○
<i>Populus nigra</i>	'Italica'	30m	8–10	Tolerates most soils	Creates good wind break and will tolerate exposed sites	●●●	●○○	●●●	●○○
<i>Prunus</i>	'Amanogawa'	6m	1–2m	Tolerates most soils	Pale pink then white flowers and ideal for small gardens	●○○	●●●	●○○	●●●
<i>Prunus x schmittii</i>		10m	2–3m	Tolerates most soils	Fast growing tree with attractive bark and reasonably hardy	●●○	●●○	●●○	●●○
<i>Pyrus calleryana</i>	'Chanticleer'	8–12m	4m	Tolerates most soils	Profuse flowers in spring with yellow autumn colour and leaves held late into the year	●●○	●●●	●●○	●●○
<i>Quercus robur</i>	'Fastigiate Koster'	10–15m	3–4m	Tolerates clay soil	Stands up well to hard surfaces making it ideal for urban situations	●●●	●●○	●●●	●●○
<i>Sorbus aucuparia</i>	'Joseph Rock'	9m	4m	Tolerates most soils	Good autumn colour with yellow berries but prone to Fireblight	●●○	●●●	●●○	●○○
<i>Tilia cordata</i>	'Greenspire'	20m	8–10m	Tolerates most soils	Uniform growing variety with straight stem but can have weak forks prone to failure	●●●	●○○	●●●	●○○

Conifers/evergreen

Species	Cultivar	Maximum size potential		Soils	Notes	Rankings			
		Height	Radius spread			Tough sites	Interest	Availability	Price
<i>Calocedrus decurrens</i>		20–25m	23m	Does well on all soil types	Good wind resistance with impressive columnar habit	●○○	●●●	●○○	●●●
<i>Cryptomeria japonica</i>	'Cristata'	10m	2–3m	Tolerates most soils	Attractive feathery foliage	●○○	●●●	●○○	●●●
<i>Cupressus sempervirens</i>	‘Pyramidalis’	20m	1–2m	Prefers loamy soil	Narrow columnar habit with dark green foliage but needs regular clipping to keep it upright (C. s. ‘Stricta’ is a better form)	●○○	●●○	●●●	●●○
<i>Ginkgo biloba</i>		30m	8–10m	Tolerates most soils	Deciduous with striking golden autumn colour, tolerant of air pollution	●●●	●●●	●●○	●●●
<i>Juniperus scopulorum</i>	‘Skyrocket’	5–7m	0.5–1m	Tolerates most well drained soil	Dense, closed columnar habit, fairly hardy on exposed sites	●●○	●●○	●●○	●●○
<i>Metasequoia glyptostroboides</i>		30m	6m	Prefers moist loam	Robust deciduous conifer tolerant of most sites, autumn colour	●●○	●●●	●●○	●●○
<i>Picea omorika</i>		25m	4m	Prefers light moist loam	Slender, straight stem with decorative narrow crown	●●○	●●●	●●○	●●●
<i>Pinus peuce</i>		10–20m	5–6m	Tolerates all soils	Makes a good individual specimen suitable for small gardens	●●○	●●○	●○○	●●●
<i>Pinus sylvestris</i>	‘Fastigiata’	10	1–1.5m	Tolerates most well drained soil	Maintains its columnar habit	●●○	●○○	●○○	●●○
<i>Taxus baccata</i>	'Fastigiata'	5–10m	2–5m	Tolerates most soil	Golden variety available	●○○	●●○	●○○	●●●

Key to rankings

Tough Sites	Interest	Availability	Price
●●● Hardy	●●● High	●●● Readily available	●●● Most expensive
●●○ Intermediate	●●○ Medium	●●○ Average	●●○ Average
●○○ Sensitive	●○○ Low	●○○ Difficult to obtain	●○○ Cheapest

Other trees to consider include *Acer campestre* ‘Queen Elizabeth’ (it is narrower than ‘Elsrijk’, *Acer x lobelia*, *Acer x freemanii* ‘Celzam’, *Amelanchier x grandiflora* ‘Robin Hill’, *Ginkgo biloba* ‘Tremonia’ and *Prunus x hilleri* ‘Spire’