TREES AS INFRASTRUCTURE ASSETS

1. Street trees are part of the **critical infrastructure** of our towns and cities. Significant evidence arising from academic literature and real life examples demonstrates:
   - Their substantial contribution to people's mental and physical health in built-up areas,
   - Their critical role in climate proofing neighbourhoods and enhancing the performances of buildings,
   - Their unique role in supporting ecology and biodiversity through the urban-rural gradient,
   - Their effectiveness in facilitating uptake of active travel,
   - Their effectiveness at enhancing quality of place and neighbourhood satisfaction given the value that the public places on trees as evidenced by the reaction in Sheffield etc.
   - ….while also delivering value to developers through generating reduced opposition to development, increasing speed of sale, managing traffic speeds, prolonging life of road surfacing and generating positive reputation.

2. The incorporation of existing and new street trees in street improvements/realignments or as part of new development **requires early consideration.**

3. To ensure adequate early inclusion of trees in highways decision making, it is important that there are **clear and congruent planning and highway policies** requiring their inclusion, and that such policies are **effectively communicated <u>and</u> enforced** and have buy in from all highway departments including lighting and drainage.
   - This provides the level playing field developers have consistently asked for;
   - For good results, it is preferable that policy includes quantified targets on what needs to be achieved (eg canopy cover target, as in High Wycombe; number of tree per dwelling; number of tree per linear foot of highway…etc) so that it can be easily factored at land purchase stage and/or early concept stage when key quantum (number of houses, infrastructure costs, etc.) are set. The adoption of a Tree Strategy provides the best conduit for the development of such target.
   - Alignment is needed between the Local Planning Authority (LPA) and the Highway Authority (HA). Joint working on the development of a Tree Strategy can provide the opportunity to hold discussion and find a consensual policy position.
   - Policy needs to be relayed by good communication within the LPA/HA with clear internal process regarding when/how to involve in-house tree or landscape expertise. It also requires good communication with developers (ie. Tree section within LPA planning webpages, trees discussed at LPA developers/agent forum, trees a 'key' topic at pre-app, what constitute adequate tree information clearly understood by validation technicians).
   - Tree-related breaches need to be addressed and given priority in the LPA's Enforcement Plan, and supported with willingness to use and effective set-up for using Temporary Stop Notices, adequate knowledge and in-house set-up to use planning conditions putting the onus of monitoring tree protection and planting

compliance onto the developer (ie monitoring conditions), as well as good internal collaborative set-up for site visits (excellent examples exist where building inspectors give their tree officer colleague a hand by taking relevant pictures when onsite).

- Case studies to show how it can be done and exemplary policy needs to be set out to guide local authorities.

4. **Decisions to plant trees need to be based:**
   - On the **purpose of having trees** in the first place (ie what is the benefit/performance the scheme is aiming to achieve?)
   - The **particularities of the place** (space available above and below ground, microclimate, ground conditions, potential incorporation of SuDS, nature of the planting -ie isolated tree or continuous avenue
   - Understanding the nature of the existing tree resource and so taking the opportunity to increase diversity and resilience and address risks and weaknesses.
   - **The selection of species follows on from the above** – key objective is to maximise benefits and minimise future conflict. Excellent, evidence-based resources are now available to facilitate species choice (see references at the end).

5. **Street trees and SuDS ought the be considered in tandem.** Given the requirement for surface water management using SuDS (which should be mandatory everywhere) the integration of trees in SuDS benefits both drainage and tree health – making a significant and positive contribution towards the cost effectiveness / value of both systems.

6. **Adherence to NJUG Guidance 4** (on design and integration of utilities – with use of shared ducts) is highly desirable, as it extend the life expectation of highway surfacing, reduces costs of utility access/repair while also creating the space needed for adequate tree planting. Wherever possible, it should be mandatory for new developments and followed for substantial highway upgrades.

7. **Trees are often regarded as liabilities**, but they **need to be understood (and managed) as assets** – which unlike other highway assets increase in value overtime until they reach end-of-life (but we are talking decades, and possibly centuries for some long-lived species like London planes or limes). Negative perceptions of street trees, and resistance to their inclusion primarily stem from three issues:
   - One of the biggest barriers is **perception of cost of both planting and ongoing maintenance**. If the capital costs includes planting and establishment (ie getting the tree to independence in the landscape) and assuming the right tree has been planted in the right place and in the right way, then ongoing costs are minimal (ie safety inspection – circa £15/tree based on Cambridge City Council figure, which ought to be covered by increase receipts from council tax);
   - If the **trees are planted in the right way for the location, then issues that have arisen with highways (eg upheave, cracks, footpath obstruction) do not occur**. Of course, it is understood that some structural pruning to clear footway or street lights could be required at particular stages of tree growth but this would reduce a trees mature and grow over these features. This could be factored into management costs/planning without being overly onerous. The intention, agreed by all parties, should be to maximise canopy cover for the many benefits this will bring especially in response to urban climate issues and therefore planting trees that will make a significant

contribution to this is vital, any additional work required over time would be worth it.

- **Another source of concern is the impact of trees on shrinkage/clay soils**. With on-going climate change, subsidence is increasingly occurring in larger parts of the country (i.e. further north). Future proofing foundations for low rise buildings (usually housing) will need to become the norm. On-going work TDAG is conducting with NHBC, the Subsidence Forum, ASUC and others is showing that pile foundations have now become cost effective while offering greater resilience and enabling tree planting close to low rise building at any point in the future.
- As a general point, lack of poor planting and/or inadequate post planting care and maintenance means that trees will not get established and grow to maturity to deliver the anticipated benefits – so a poor return on investment. Success depends on upfront investment today to ensure that everything is in place: correct species for the site, good nursery stock selected, correct planting for the site and appropriate aftercare.

References from TDAG
Trees in Hard Landscapes: A Guide for Delivery[1]
Trees Species for Green Infrastructure: A Guide for Specifiers
First Steps in Urban Air Quality: A Guide for Built Environment Practitioners

This briefing paper was prepared by Trees and Design Action Group members Anne Jaluzot, Sue James and Andy Wakefield.

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[1] This addresses much of the technical issues associated with street trees – incl. the use of trees and road safety, traffic calming, active travel; issues associated with unobstructed splays and light; integration with SuDS; below-ground planting solutions for the successful inclusion of trees within load-bearing areas, etc.