



Greening along the lines: the multiple values of Perth's roadside vegetation

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Street verges may once have been at the margin of conversations around greenspace, reserved primarily for utilitarian functions like services and footpaths, with street trees included for shade and amenity. However, increasing urban density and declining private greenspace means that the humble street verge is being more clearly considered as an opportunity for urban greening. For example, on major roads, the [Wildflower Capital Initiative](#) is showcasing Western Australian plants in landscaping, while on suburban streets, there is a quiet but steady increase in interest among residents for landscaping the verge as a garden. Suburban greenfield and infill developments are also adopting native plants in roadside landscaping.

Street verges are places where the public and private realm meet. The interests of a wide range of streetscape stakeholders overlap and compete in complex ways, but these have not

been well documented with regard to the transformations underway in many suburban street corridors. Researchers supported by the [Clean Air and Urban Landscape Hub](#) (funded by the Australian Government's National Environmental Science Program) set out to understand some of the values attached to roadside vegetation across community, local government, industry and state government agencies in the Perth metropolitan region.

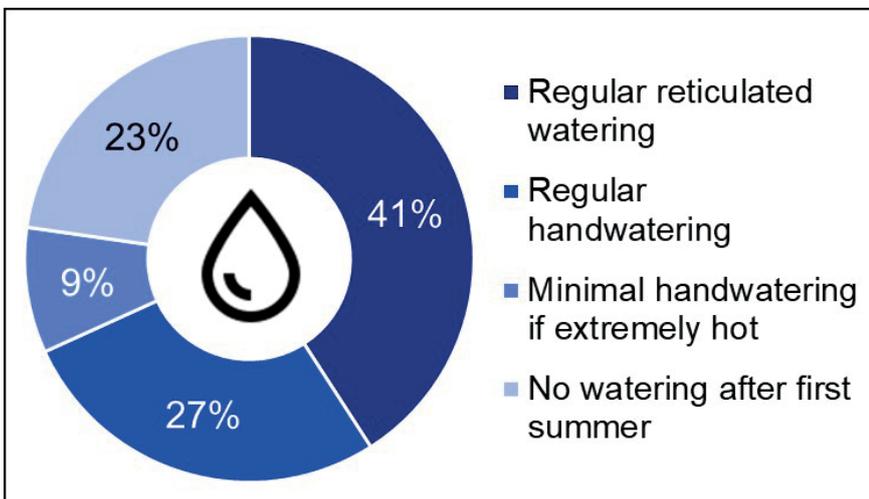
Our research team interviewed 30 stakeholders across state government agencies, LGAs, the horticulture and irrigation industry, environmental consultants, peak bodies, developers, utilities, and community leaders in verge gardening in Perth ([click for full report](#)). The stakeholders were asked about their views on the ecosystem services that were provided by roadside vegetation, the challenges and opportunities associated with verge gardening and

transformation, and changing trends in verge gardening. We also compiled an 'audit' of current (January 2021) Perth metropolitan LGA policies on verge gardening and urban forests.

Residents are generally responsible for the maintenance of low-growing vegetation on the street verge adjacent to their residence. In a [companion report](#), we documented the results of interviews with 22 Perth households on their motivations for verge gardening with native plants, and their gardening practices. The report includes details of the most common plants used, as well as a 'typology' of verge gardeners. Verge gardeners come from all stages of life, may be homeowners or renters, and selected plants for a wide variety of reasons. Notably, around 70% of verge gardeners in the study continued to regularly water their verge gardens following the first year of establishment.



Top: Streetscape landscaping within Fraser's Landing development in Mandurah, featuring native and waterwise plants, and on-site stormwater management. Bottom: Perry Lakes infill development in Floreat, featuring low-growing native and non-native species, particularly in front of multi-dwelling buildings.



The proportion of native verge gardening respondents within different categories of watering habits after the first year of plant establishment. Twenty-two households were interviewed for the research.

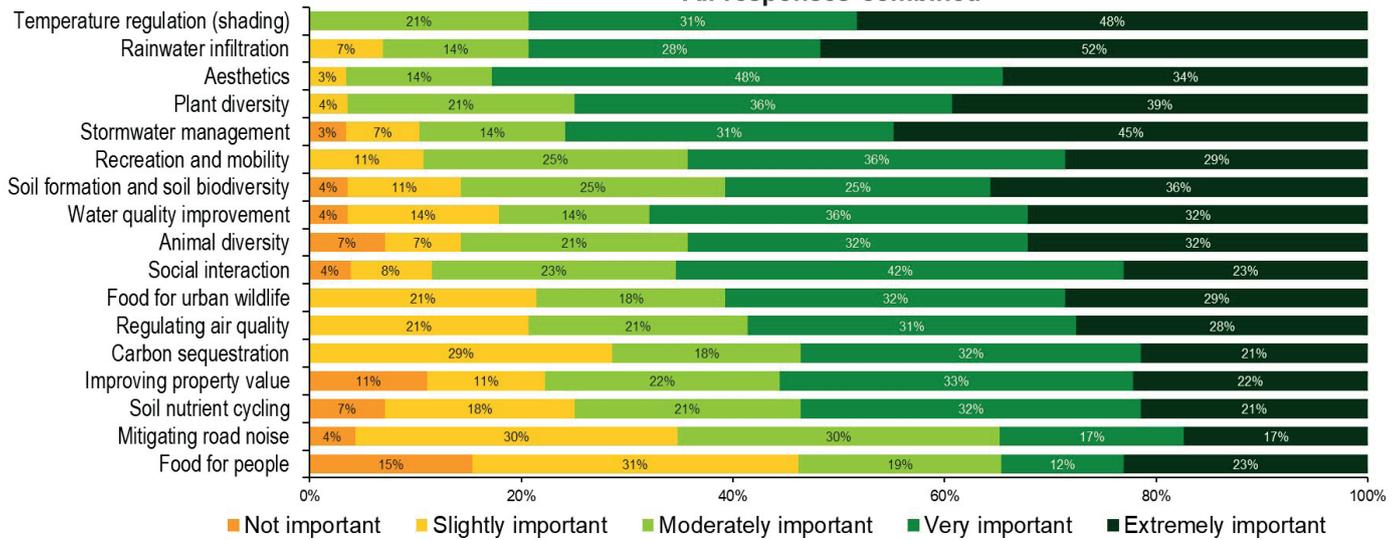


Key findings: stakeholder perspectives on native gardens on street verges

Although the stakeholders interviewed had a diverse range of interests and influences over the management of Perth's suburban verges, in several key areas there was a degree of consensus. All stakeholder groups recognised that vegetated verges, including those with predominantly native plants, had a significant role in providing a range of urban ecosystem services, including social, ecological and economic benefits.

Respondents collectively ranked the most important ecosystem services provided by the vegetated verge as urban temperature regulation, rainwater infiltration and urban storm water management, aesthetics, plant diversity and recreation and mobility. The provision of food for people from verge gardens was rated as the least important ecosystem service, though this was still rated as extremely important for almost one quarter of respondents.

All responses combined



Graphic represents the perceived importance of different ecosystem services provided by street verges against a 5-point Likert scale, from all interviewed stakeholders across local and state government, industry, and community (n=30). Ecosystem services are ranked in order of highest mean score (temperature regulation) to lowest mean score (food for people). X-axis denotes proportion of respondents.

Connectivity was a significant factor influencing the potential of the verge to provide ecosystem services. Social benefits could be generated within a street and were supported within neighbourhoods where green corridors encouraged walkability. Ecological benefits are species-specific and require action at a variety of spatial scales to support a diverse range of species.

There has been a recent and rapid increase in metropolitan Perth LGA policies around verge gardens, verge treatments, and urban forests. Two-

thirds of the 31 metropolitan LGAs included in the study have current Urban Forest Strategies, and 29 LGAs have policies around verge gardens. Of these 29, around two-thirds of LGAs allow residents to install verge gardens without applying for special permission, provided that specific guidelines are followed. There remains considerable variation in verge treatment policies, for example with regard to the area of hardstand that is permitted, whether artificial turf can be installed, and the maximum height of vegetation. A snapshot of the diversity of verge treatment policies is provided below.

The diversity in LGA policy on street verges is also reflected in the wide range of incentives and rebates on offer for residents who engage in verge transformation through gardening (shown below). LGA support on offer may include the provision of information, subsidised native plants, rebates for completed verge gardens, or even complete provision of resources and labour for transforming native gardens for selected residential verges. Verge gardening is still an uncommon practice in Perth. However, interest from residents in verge gardening incentive programs is growing.

Low-growing plants	Street tree planted by resident	Edible plants	Mulch	Lawn	Irrigation	Hard surfaces (e.g. brick paving, permeable paving, bitumen, concrete. Allowable % of verge area)	Artificial turf (%of verge area)	Loose aggregate (gravel, bluestone metal)	Raised materials (boulders, garden beds etc.)
Subject to approval	Subject to approval	Not mentioned	Subject to approval	Permitted	Permitted	Not mentioned	Not mentioned	Subject to approval (fine gravel only)	Not mentioned
Permitted	Subject to approval	Permitted	Permitted	Permitted	Permitted	Up to 33%, must be 20% porous	Not permitted	Not permitted	Raised garden beds, street furniture permitted within guidelines
Permitted	Not permitted, can request tree	Permitted	Permitted	Permitted	Permitted	Up to 30%	Not mentioned	Permitted within guidelines	Raised garden beds permitted
Permitted	Not permitted, can request tree	Permitted	Permitted	Permitted	Permitted	Up to 33%	Not permitted	Not permitted	Not permitted
Permitted	Not permitted, can request tree	Permitted	Permitted	Permitted	Permitted	Up to 10%, subject to approval §	Not permitted	Not permitted	Not permitted
Subject to approval	Not permitted, can request tree	Not mentioned	Subject to approval	Permitted	Permitted	Up to 30%, subject to approval	Not permitted	Not permitted	Not permitted
Subject to approval	Not permitted, can request tree	Not mentioned	Subject to approval	Permitted	Permitted	Up to 33%, subject to approval	Not permitted	Not permitted	Not mentioned
Permitted	Not permitted, can request tree	Permitted	Permitted	Permitted	Permitted	Up to 25%	Up to 25%, subject to approval	Not permitted	Subject to approval

Each row in this table represents a different metropolitan LGA. The columns summarise permissible verge treatments as detailed in material available online on LGA websites in January 2021.

 Rebate for residents installing a native verge garden	 Provision of mulch
 Covering the full cost of installing a native verge garden	 Provision of low-growing native plants (free to resident)
 One-on-one consultation with residents to choose species and design native verge gardens	 Incentives for multiple residents in one street to transform their verges together
 Booklet and/or website with advice on creating and maintaining native verge gardens	 Provision of subsidised low-growing native plants (purchased by resident)
 Workshops on creating and maintaining native verge gardens	 Other incentives or support tools (please list)
 List of recommended native plants suitable for verge gardens	 Awards or prizes for verge gardens
 Herbicide application to remove grass and weeds	 Opportunity for one-on-one contact for ongoing advice after initial installation of native verge garden
 Earthworks to excavate and dispose of unwanted soil (boxing out and levelling)	 Provision of a street tree sapling for planting by resident
 Provision of topsoil	 Provision and planting of a new street tree at request of resident

The diverse incentives, rebates and information available to residents from LGAs for residential native verge gardens in Perth. Individual LGAs offer a selection of the above incentives.

In our online survey of Perth LGAs regarding their verge management programs, three-quarters of the 20 LGA respondents expected residential interest in verge gardening to increase in the future.

Stakeholders identified a broad range of challenges and opportunities related to retaining and planting native vegetation along streets. Some of the major constraining factors included the use of verges for parking vehicles, and shrinking available space for planting street trees. Opportunities included the potential use of streetside vegetation for stormwater management, and normalising the use of Western Australian plant species in landscaping and planting. Respondents also acknowledged the need for diversity in streetscapes, integrating trees, turf, and low-growing vegetation for amenity, health and environmental benefits.

Perth represents an interesting scenario in the governance of vegetation on street verges – while in many jurisdictions around Australia, verge

gardening is not widely permitted, it has become normalised and embedded within local government policies for the majority of Perth metropolitan LGAs. Verge gardening is also permitted by a number of regional local governments elsewhere in Western Australia, and is supported state-wide by programs such as the Water Corporation’s [‘Waterwise Greening Scheme’](#). Through investigating the networks of knowledge transfer, our research highlights that the ‘normalisation’ of verge gardening has been prompted by a combination of ‘top-down’ government-based programs intersecting with and complemented

by ‘bottom-up’ community initiatives, sometimes led by influential individuals. Growing demand from residents has been reflected by the provision of plants and landscaping services specifically targeted at verge gardens by the horticultural and landscaping industries.

The findings of this research are relevant for all urban centres and cities across Australia, and contribute to the growing global interest in greening our cities, as the multiple benefits to humans of living with urban green space become only more apparent.

