Greater Cambridge Partnership

MILTON ROAD

Preliminary Streetscape Design

070219 AJC
FEBRUARY 2019

PUBLIC

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INTRODUCTION

This preliminary landscape design for Milton Road has been developed collaboratively with officers from the Cambridge City Council Streets and Open Spaces team, and draws upon:

- Site familiarisation visits and photography undertaken in November and December 2018;
- Relevant precedent studies of streetscape in Cambridge and the Southeast of England; and
- Engagement with the Milton Road Local Liaison Forum (MRLLF) including a workshop on the 22nd January 2019.

The landscape designs respond positively to the transport improvements and will help to bring cohesion and local distinctiveness to the overall scheme using palettes of hard and soft landscape materials that have been carefully selected.

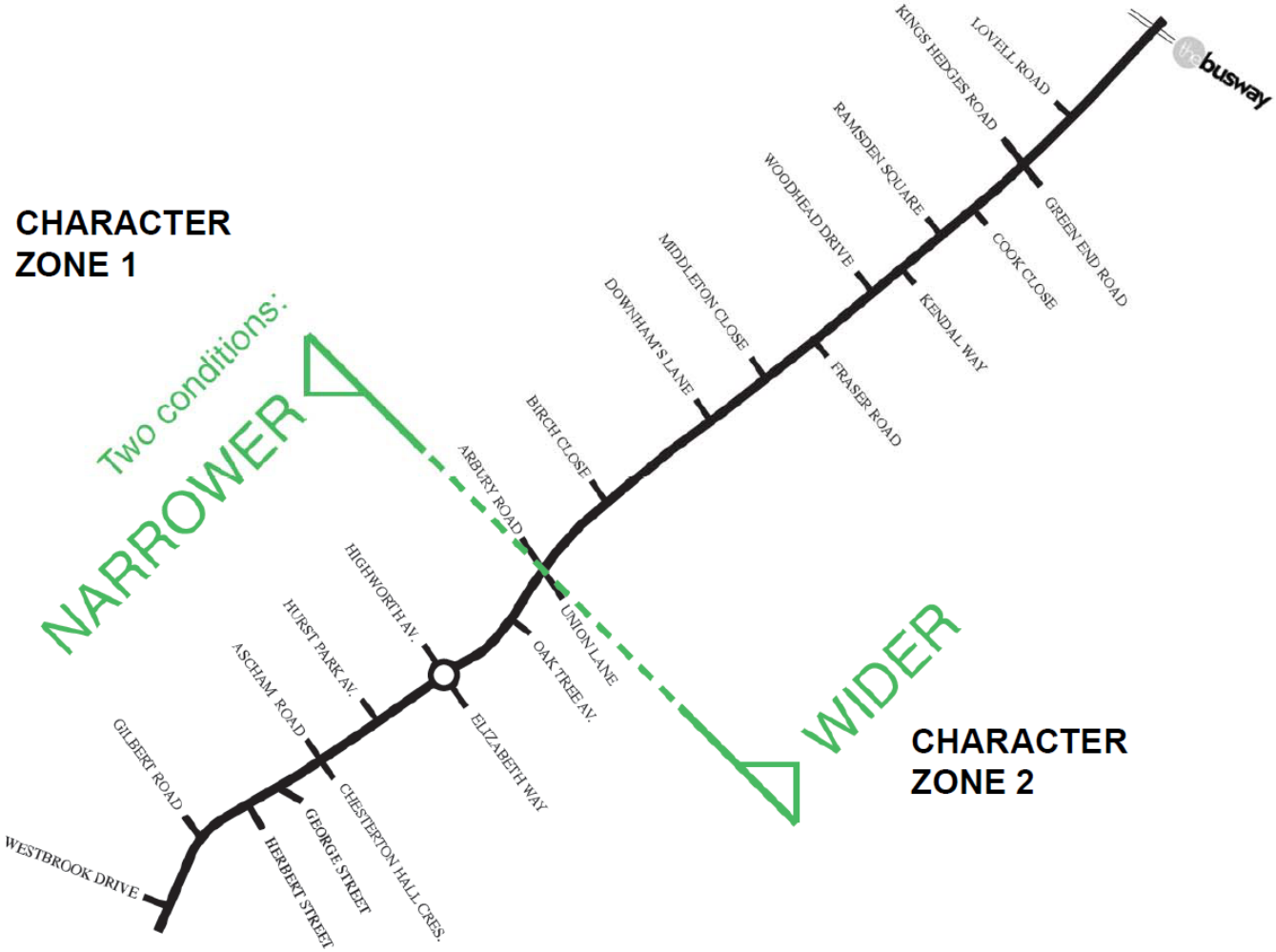
The major interventions identified at larger nodal points are prominent streetscape proposals that will affect a significant number of users. Minor interventions at smaller junctions will noticeably improve the street scene.

STREETSCAPE AND TREE PLANTING GENERALLY

An avenue of trees planted along both sides of Milton Road will become a defining characteristic of this part of Cambridge. Street trees will provide visual and physical separation between the proposed cycle/footway and the carriageway.

Milton Road has been divided into the following character areas based on suitability for different sizes and species of trees:

- Zone 1 = narrow section closer to the city centre
- Zone 2 = wide section towards the suburbs



Near the City Centre, the pallete of street tree species to be included are generally medium sized as follows:

Latin Name	Common Name	Estimated Height, Width (m)	Key Characteristics
Alnus incana	Grey Alder	15, 8	Broadly pyramidal form; catkins provide winter interest. Thrives in challenging sites.
Betula ermanii	Erman's Birch	12, 8	Peeling cream bark on the trunk, papery brown bar k on branches. Yellow autumn colour.
Betula albosinensis 'Fascination'	Chinese Red Birch	12, 8	Pyramidal habit with stiffly ascending branches. Yellow autumn colour. Peeling, deep orange bark turns a pale pink-white and in spring. Catkins up to 10cm long also appear in spring.
Betula utilis var. jacquemontii	West Himalayan Birch	12, 6	Brilliant white bark on the trunk and larger branches. Yellow autumn colour. Yellow-brown catkins to 12cm long open in early spring.
Prunus x Schmittii	Ornamental Hybrid Cherry	10, 4	Chinese hybrid between Prunus avium (wild cherry) and Prunus canescens; dark mahogany brown bark; conical form; pale pink flowers in spring.
Pyrus calleryana 'Chanticleer'	Ornamental non-fruiting pear	12, 6	Columnar pyramidal and oval when mature; useful for screening as leaves persist very early and late; orangey/red autumn colour. White flowers in spring.

The pallete of tree species to be planted within the suburban area are slightly larger, as follows:

Latin Name	Common Name	Height, Width	Key Characteristics
Liriodendron tulipifera	Tulip Tree	12, 8	Deciduous tree with distinctively shaped leaves turning butter-yellow in autumn; Spreading / branched form; flowers 4cm in length, tulip-shaped, yellowish-green, marked with orange within.
Tilia americana 'American Sentry'	Sentry Linden	15, 8	Pyramidal form; large leaves turn to yellow in the autumn before falling in November.
Tilia cordata 'Winter Orange'	Small Leaved Lime	12, 8	Deciduous tree that has red buds and orange winter shoots. Leaf colour in autumn is butter-yellow. Small, fragrant creamy-white flowers are borne in spreading clusters in summer.
Tilia tomentosa	Silver Lime	20, 8	Broad conical to rounded form, half-open crown; Light grey smooth bark, later with shallow furrows; underside of heart-shaped serrated leaf is snow-white.

TREE SPACING

The design will provide approximately 200 new trees, with 127 existing trees to be removed.

Most of the existing trees to be removed are of a small-to-medium size, whereas the new trees are medium-to-large.

The objective for tree planting density is to plant at 20 m intervals on average

There may be a requirement for smaller species and/or wider spacings to maximise visibility and the road safety audit, in combination with the detailed design, may identify certain trees which will be affected in this regard.

TREES IN SOFT AREAS

Verges adjacent to the carriageway that are 1.5 m wide or greater will be seeded and most new trees will be planted in areas of soft landscape. This will promote tree establishment and ease of maintenance. Unlike the impermeable areas which make up most of the engineering design, the soft verges will:

- intercept and slow flows that would otherwise go directly into highway drainage systems;
- improve water quality by filtering;
- irrigate tree planting areas; and
- permit gaseous exchange for tree health.

TREES IN HARD AREAS

In locations where the verge is narrower than 1.5 m there will be a paved surface using warm or neutral tones to tie in with local building materials and the landscape proposals for Ascham Road junction.

Approximately 30 trees will be planted in hard paved verges.

A permeable paving material will be provided within a 1m radius of each tree.

A structural soil system will be incorporated into the highways design.

The design for the tree rooting area will be developed collaboratively with technical specialists and product manufacturers.

Careful consideration will be given to the use of non-standard highways products such as soil cells and permeable paving and the implications on underground services and statutory undertakers' operations.

Streetscape and Tree Planting Generally - Public Engagement Outcome:

- ***Preferred tree species SW section:*** *Alnus incana / Betula ermanii / Betula albosinensis 'Fascination' / Betula utilis var. jacquemontii / Prunus x Schmittii / Pyrus calleryana 'Chanticleer'.*
- ***Preferred tree species NE section:*** *Liriodendron tulipifera / Tilia americana 'American Sentry' / Tilia cordata 'Winter Orange' / Tilia tomentosa.*
- *Preference for warm colour scheme.*

THE LOCAL CENTRE NEAR ARBURY ROAD

The design team are currently engaging with the relevant stakeholders to produce streetscape and transport enhancements in the private domain around the local centre.

It is anticipated that any agreed design changes will be a 'win-win' scenario, as the local centre is currently underperforming in streetscape terms and would benefit from similar interventions to those proposed on Milton Road.

Given that the two areas will read as one, it would be ideal if the private domain and the public realm scheme were designed and implemented together so that the movement strategy works across both areas and there are coordinated materials for the hard and soft landscaping.

Local Centre Public Engagement Outcome:

- *Parade / organise parking / soften landscape / continuity / seating / raised beds / structural planting / cycle racks.*
- ***Preferred tree species:*** *Magnolia / Sweet Gum.*

ASCHAM ROAD

The landscape design reflects the theme of knowledge and learning in the adjacent land uses (school and library), literary/scholarly road names (Milton, Ascham) and the existing “Scholar” tree focal point. High quality natural stone paving is proposed to unify the junction and contribute to civic pride. The public realm improvements will slow down vehicular movement and create an enhanced pedestrian environment. Inclusive design measures include dedicated space for wheelchair users.

The intersection of knowledge and learning will be made explicit using a unique painted pattern at the pedestrian crossing. The design of this is shown indicatively as a collection of book spines but it is hoped that local users (school, library, residents) would be involved in future designs for the crossing so that the space is regularly refreshed and reinvigorated. Bespoke book themed bollards are proposed at the Copenhagen crossing.

The inclusive seating area beneath the scholar tree will offer shade. On the sunny side of the street additional seating includes chairs that can be moved and stored in the library overnight. Street furniture such as the ‘Vestre Share’ invite people to leave things that can be picked up by others and have a new life/use. Users will be encouraged to use the area both actively and passively with the potential for chance encounters as well as planned meet-ups. Reading will be encouraged.

A bespoke monolith (like the one on Parkers Piece marking the Tour de France stage start) will be provided as a prominent visual cue for pedestrians and cyclists. Consideration will be given to combining the upstanding element with wayfinding, Wi-Fi, air quality monitoring and/or an engaging piece of art that is themed appropriately.

The philosophy for the planted areas is to provide a structured mix of easily maintainable groundcover, shrubs, grasses, herbaceous and feature plants such as Cornus kousa (which is included in the proposal for the new library boundary treatment). The mixed planting will be ‘backclothed’ by a strip of tough shrubs including evergreens adjacent to the carriageway. The planting will not obstruct views of the scholar tree.

Two ornamental pears will be planted on Ascham Road to provide symmetry and frame views of the scholar tree. A Betula ermanii protected with a metal tree guard will be planted by the bus stop. Subject to soil testing, the detracting shrub planting beneath the scholar tree will be replaced by a more formal arrangement of shade tolerant species and potentially some bulbs to provide much needed colour. Up-lighting of the tree is also proposed to highlight this feature at night time.

At the next (detailed) stage, the designers will further consider aspects such as precise positions and types of covers, kerbs, edgings and finishes, and the crucial interface with private thresholds – this will ensure the appearance of a coordinated scheme on the ground.

Ascham Road Public Engagement Outcome:

- *‘Book’ theme / seating / speakers corner / book bollards / pop-up events.*
- ***Preferred tree species:*** *Existing Limes / Avenue planting on the opposite side of the Church / Magnolia Galaxy by the library / Flowering species / Tulip trees / Lime trees / Hornbeam.*
- *Preference for segregated cycle lane.*

ELIZABETH WAY ROUNDABOUT

The design for this area requires minimum intervention and retains the existing character and layout including predominantly mown grass with four annual bedding planting beds, as well as an existing shrub mix in the centre. This is because the current landscape has good amenity and perceived biodiversity value.

The planting beds will be relocated and realigned. The group of shrubs and small trees within the centre of the existing roundabout will be restructured (with input from the arborculturist and ecologist). This is to ensure that the outer edges appear less like a hedge whilst maximising ecological and amenity value of the mature vegetation.

There are also four new roadside verges proposed here with an area of 240m² in total. These verges are to be mown grass, with ten new street trees planted in them: 4 no. Ornamental pear on the west side and 6 no. Birch on the east side.

Elizabeth Way Roundabout Public Engagement Outcome:

- *Majority preference for options 1 (do minimum) & 2 (do maximum).*
- *Suggested combination of these two options.*

KINGS HEDGES CROSS ROADS

The existing vegetation in this area is of low amenity value; the fastigiate Beech trees are underperforming, and the shrubs planted within the verges are predominantly covered in ivy.

The new highway design for this area provides increased area for planting which will enhance this gateway location. Ten large trees are proposed within the roadside verges, understorey planting will be provided. A rain garden is proposed outside the Co-op.

Street furniture comprises benches, public art, bicycle parking, and a sign which reads, 'Welcome to Cambridge'. The colour palette for hard landscape materials and street furniture will consist of warm or neutral tones.

Kings Hedges Cross Roads Public Engagement Outcome:

- *Welcoming gateway / community hub / play / rest / food / public art / green space & meadow planting / cycling heritage / traffic calming / crossings / tree(s) in middle of road / contrasting paving / 'Welcome to Cambridge' sign.*
- ***Preferred tree species:** Tulip / Magnolia / Ornamental Pear.*
- *Majority preference for large trees.*
- *Preference for Tulip Tree.*
- Suggested same species on all 4 corners.

WOODHEAD DRIVE

The principal landscape design objective for this area is to enhance its amenity and ecological value. A woodland character is proposed.

The design includes two sustainable drainage features including rain gardens on each corner of the junction and planted swales which extend along either side of the carriageway of Woodhead Drive. There is a raised table Copenhagen Crossing with block paved surfaces.

The existing woodland north east of the junction is to be restructured for increased visual permeability and surveillance, as well as species diversity. Access to this area is discouraged to maintain its function as an ecological area. A dense deterrent native hedgerow will be planted along the boundary of the adjacent property to the north east.

Planting within the rain gardens and the swale closest to the woodland will evoke a naturalistic woodland theme, and will consist of a mix of herbaceous perennials, bulbs, grasses, shrubs and trees. All planting has been designed to consider low maintenance.

The swale nearer the building is to have a more manicured appearance to better correspond with the existing character of the architecture and existing shrub planting in front of the building. Hence it will comprise of mown grass and street trees.

Both swales also feature subtle mounds and depressions for added visual interest and to suggest a more naturalistic riparian atmosphere.

There will be several benches overlooking the planting, and information boards describing the Site and its objectives.

Woodhead Drive Public Engagement Outcome:

- *Equal preference for medium and small trees.*
- *Suggested hedgerow.*
- *Suggested issue of surveillance.*
- *Species suggestions: Sorbus, Hornbeam, Cherry.*
- *Suggested symmetry.*

MINOR INTERVENTION AREAS

BIRCH CLOSE

The landscape proposal for this area is to retain the existing situation where possible and focus on supporting the 2 category B trees that are currently to be retained. The grassed areas are in reasonable condition and major changes to these areas may impact the roots of the existing trees and hedges. Additional street furniture will not be necessary as the space is not a focal area.

There is opportunity to plant more trees along the grass verge adjacent to the road to replace the trees that have been removed.

FRASER ROAD

The existing grass verges are to be re-seeded with general flowering lawn mix grass seed where necessary. Additionally, a mixture of bulbs such as Snowdrops, Crocus, Daffodils, & Tulips will be planted in drifts along them.

HURST PARK AVENUE

The design for this area involves seeding the verge on the Northern side with a sun-loving wildflower meadow mix such as Emorsgate EM3. Also, block paving of a similar colour to the proposed raised table is to be used within the triangular space. A cast-iron and timber bench with back and arm rests for comfort and inclusive purposes is also included. A medium-to-large-sized tree planted within hard surface of the triangular space will be provided.

KENDAL WAY

The main objectives for this space are to retain the existing Cherry tree as it is in good condition, and to replant the area beneath and on the opposite corner of the junction with an ecological, low-maintenance and scented plant community consisting of different layers, textures and warm tones. The types of plants in the groundcover layer will include a semi-evergreen clump/mat-forming species and grasses. The layer above will consist of slightly taller (max. 1m high) seasonal theme combination of herbaceous perennials and bulbs. Additionally, a timber knee rail will be re-incorporated around the perimeter to deter people from walking over the planting.

MITCHAMS CORNER

The landscape proposal for this area provides additional parking and two new street trees.

Mitchams Corner Public Engagement Outcome:

- *Strong preference for trees.*
- *Suggestion for a tree at each end.*

CONCLUSION

The proposed interventions set out above have been developed in conjunction with relevant parties. The primary objective to provide an avenue of street trees and sustainable environmental enhancement via streetscape design has been met. The long-term vision is for the proposed trees to thrive and provide a legacy. This will be achieved through implementation of the latest advances in arboricultural knowledge and techniques when considering ground preparation, planting, maintenance and management of trees.

The streetscape designs will have the following beneficial effects:

- A richer, more visually appealing and distinctive public realm;
- Greater opportunities for passive and active recreation to promote human health and wellbeing;
- Increased biodiversity; and

Wide-ranging environmental and socio-economic impacts associated with increased tree canopy cover including reduced storm water runoff; improved local air, soil and water quality; reduced atmospheric carbon dioxide; and increased property values.

NEXT STEPS

The landscape designs will be reviewed in terms of road safety, in addition to the scheme as a whole. The final design will optimise positions of trees relative to residential and commercial properties, junctions and visibility splays.

The multidisciplinary design team will collaborate on the micro-siting of trees. This will include clash detection for trees, foundations, drainage, services, and lighting columns.

Soil volumes will be calculated for each tree species and a suitable soil specified accordingly. The final tree planting details will be bespoke solutions at individual locations to ensure the proposals are as sustainable and coordinated as possible. Construction method statements for tree planting will be provided in anticipation of the various underground conditions likely to be encountered on site.

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