

City of Chesterfield Residential Street Tree Program Tree Guide



- The purpose of this guide is to assist the homeowner in finding the right tree for their right of way space—the space between the sidewalk and the street.
- An acceptable space must meet the following requirements:
 1. The planting area, typically the grass area between the street and the sidewalk, must be a minimum of five (5) feet wide.
 2. Trees shall not be planted closer than three (3) feet to any curb.
 3. Trees shall not be planted within twenty-five (25) feet of street lights.
 4. Trees shall not be planted within ten (10) feet of street inlets or manholes.
 5. Trees shall not be planted within thirty (30) feet of an existing tree.
 6. No trees shall be planted directly underneath overhead utility lines.
 7. No trees shall be planted within the sight triangle at an intersection that at maturity, have bottom branches lower than seven (7) feet above the elevation of the adjacent pavement.
- If the homeowner has a lawn sprinkler system, an underground electronic dog fence, or any other system located within the area where a tree is to be planted, the homeowner is responsible for marking these systems, and relocating the systems at their sole expense, as necessary.
- When choosing a tree, make note of the tree species growing in your area. Many plant problems are a result of overpopulation of one species. Try to choose a tree that has not been overplanted in your area. The city will review species choices to determine that they are not overplanted in that particular area, and may ask the homeowner to change their choices if necessary.
- The city's contractor will install all trees. When installing the tree, the contractor will stake the tree, water it, and put down a layer of mulch. The tree will have a one-year warranty starting the month it was planted.
- Think in terms of prevention when caring for your tree. A healthy tree has everything it needs to defend itself from natural predators and urban stressors. Watering the tree weekly is the single most important task.
- In order to participate in the City of Chesterfield Street Tree Planting Program, a homeowner must agree to properly care for their tree as outlined in the following section. Please read the following "Caring For Your Tree" section thoroughly before you sign the tree care agreement on the Street Tree Program Application. Any trees that die due to lack of care or improper care will not be replaced under the one year warranty.

Caring For Your Tree

Please read this section in its entirety before signing the Street Tree Application. Homeowners must provide proper care for their street trees in order to qualify for the program.

Watering: The single most important thing a newly transplanted tree needs is water. Generally, new trees should get at least four inches of water per week. **An irrigation system does not supply enough water for a new tree. For the first few years the tree will need supplemental water.** Water should be administered slowly in order to allow it to penetrate the soil deeply. Afterwards, the soil should be allowed to dry somewhat before the next watering. This encourages a deep root system. A good way to water is to use a back and forth sprinkler or with a hose set to trickle under the tree's canopy. Leave the water on for 2-4 hours.

Mulching: The tree will be mulched by the city's contractor when it is installed. If you choose to re-mulch later, spread an even layer of mulch underneath the tree's canopy. This layer should be no deeper than 4 inches, and if you like to add fresh mulch every year try not to exceed a 2" layer each year. Piling mulch up against the trunk of the tree, creating a "volcano" effect, is a very common mistake and is actually detrimental to tree health. Mulch should never touch the trunk of the tree because it can hold moisture against the trunk and cause decay and rot.

Staking: The tree will be staked by the city's contractor when it is installed. The homeowner is responsible for removing the stakes. The stakes should be taken off after one year, or sooner if possible.

Pruning: City crews are trained in proper pruning methods, however they prune trees for clearance only. This means they will trim branches that are hanging into the road or over a sidewalk. Pruning a tree when it is young is called "structural pruning," and homeowners should feel free to do whatever extra trimming they feel is appropriate on their right of way trees. The goal of structural pruning is to establish a strong trunk that has evenly spaced branches. This ensures that your tree will be stronger in future years, and less susceptible to damage during storms. See the "resources" section below for a great document about structural pruning available through the Missouri Dept. of Conservation..
Avoid pruning in the first year that the tree has been planted unless you see broken or diseased branches. These should always be removed right away.

Fertilizing: For the most part, fertilizer is not necessary. If you choose to use it there are many types available at your local garden center, or call a tree care professional. When using fertilizer, always follow the directions on the package. Too much fertilizer can cause much more damage than not using any at all.

Resources For More Information

The information in this booklet was obtained from the Missouri Department of Conservation Urban Trees booklet, which is available on the website at mdc.mo.gov

Other Useful Sites:

Missouri Department of Conservation-urban forestry site
www.mdc.mo.gov/landwater-care/homeowners/backyard-tree-care

National Arbor Day Foundation www.arborday.org

Heartland Tree Alliance www.righttreerightplace.com

Missouri Botanic Garden www.missouribotanicalgarden.org

KEY:**Soil Moisture:****Growth Rate:****Flower/Spring Color:****Fall Color:****Sugar Maple***Acer saccharum*

Sugar maple becomes a very large shade tree that is well-known for fall colors ranging from yellow to orange to shades of red. It is less pollution tolerant than red maple, especially to de-icing salts along roadways. Sugar maple thrives in deep, rich soils. It tolerates poor sites with good drainage, but grows slowly. In shallow soils and other poor sites, leaf scorch may develop during dry periods. Its dense shade and shallow roots prevent a good lawn from growing beneath it. Sugar maple is tolerant of shade and can be used near taller trees or buildings. Many cultivars exist to provide a variety of shapes, fall color and drought tolerance. These should be selected when available. Some are 'Green Mountain,' 'Legacy,' 'Bonfire,' and 'Caddo.'

**Columnar European Hornbeam** *Carpinus betulus 'fastigiata'*

Columnar European hornbeam is a medium-sized, narrow growing tree that often is overlooked for use in stressful climates and urban sites. Besides being very adaptable to different soils and environmental conditions, it is essentially pest free. Leaves are dark green and develop a good yellow fall color. Single trees make excellent specimens with low maintenance. It has attractive smooth gray bark and leaves that turn yellow or orange in fall.

**American Hornbeam** *Carpinus caroliniana*

American hornbeam is a slow-growing, deciduous, small to medium-sized understory tree with an attractive globular form. This tree has low branches when it is young. It is native to Missouri where it is typically found in rich moist woods, valleys, ravine bottoms and rocky slopes along streams throughout the eastern and Ozark regions of the State (Steyermark). Typically grows 20-35' tall. The smooth, gray trunk and larger branches of a mature tree exhibit a distinctive muscle-like fluting that has given rise to another common name of musclewood for this tree. Flowers appear in spring in separate male and female catkins, with the female catkins giving way to distinctive clusters of winged nutlets. Serrated, elliptic-oval, dark green leaves often produce respectable shades of yellow, orange and red in fall.

**Sugarberry, Sugar Hackberry** *Celtis laevigata*

Sugarberry is basically a southern version of common or northern hackberry (see *C. occidentalis*). Sugarberry differs from common hackberry by (1) fruits are juicier and sweeter, (2) bark is less corky, (3) leaves are narrower with mostly smooth margins, (4) better resistance to witches' broom and (5) less winter hardiness. Sugarberry is a medium to large sized deciduous tree that typically grows 60-80' tall with upright-arching branching and a rounded spreading crown. Mature gray bark develops a warty texture. Insignificant greenish flowers appear in spring (April –May), with male flowers in clusters and female flowers solitary. Female flowers give way to an often abundant fruit crop of round fleshy berries maturing to deep purple. Fruits are attractive to a variety of wildlife. Birds consume the fruits and disperse the seeds.



Hackberry

Celtis occidentalis



Common hackberry is extremely tolerant of adverse conditions. The bark is grayish and corky. Red-orange fruits are produced in fall, but are not long-lasting since birds eat them quickly. Its durability makes it a worthy selection for difficult sites. It is easily transplanted and tolerates clay, rocky or sandy soils. Unlike many trees, it also tolerates persistent winds. A cultivar with more compact growth and glossy green foliage is called 'Prairie Pride.'



Yellowwood

Cladrastis kentuckea



Yellowwood is a medium-sized shade tree native to southwest Missouri. The white, pealike flowers hang in long panicles similar to a wisteria bloom. It does produce pods similar in size to a redbud tree's pods. It does not have serious pest or disease problems. It should be planted in full sun where there is adequate moisture. Leaves will scorch or drop under drought conditions. Yellowwood grows well in many soil types and appears able to tolerate low fertility soils. The bark is an unusual, smooth light gray that is distinctive in all seasons.



Ginkgo

Ginkgo biloba



Ginkgo is an outstanding city tree because of its pollution and salt tolerance. It has open branching which allows enough sunlight to penetrate to maintain a lawn. Young trees usually have a pyramidal shape, but old trees can be very wide-spreading. It is tolerant of many soil conditions, although best growth occurs in well-drained soils with adequate moisture. Only Male Cultivars are available for the Right of Way.

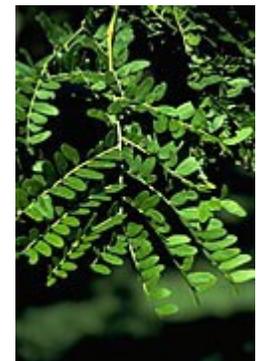


Honeylocust seedless varieties

Gleditsia triacanthos var. inermis



Honeylocust has long been a commonly used tree for urban planting. The open, spreading crown with very small leaflets creates filtered sunlight. The light shade it produces allows a lawn to be grown beneath it. It is very tolerant of many soil conditions, and has salt tolerance for use near highways. Only cultivars that are thornless are commercially available and acceptable in the right of way. 'Moraine' has been one of the most popular cultivars, and has no thorns or seed pods. Other cultivars include 'Imperial,' 'Shademaster' and 'Skyline'.



Goldenraintree

Koelreuteria paniculata



Goldenrain tree is an excellent choice for summer flowers. It grows fast to form a round-headed, wide-spreading medium sized tree. The showy large clusters of small yellow flowers are produced when few other landscape trees or shrubs are flowering. Falling flowers inspired its common name. This tree adapts to many climatic conditions, is tolerant of many soil types and endures air pollutants in urban sites. For fall and winter interest, the seed structures are large and showy. These are inflated capsules that turn from green to chartreuse, and finally to brown. Goldenrain tree is pest free and requires little care. This tree develops best in a sunny location although it tolerates light shade. Fall leaf color is not outstanding; usually it's dull yellow. Seeds of goldenrain tree germinate readily. It can invade surrounding areas and has the potential to become a pest.



Hophornbeam

Ostrya virginiana



The hophornbeam, also known as ironwood, is well-suited to urban conditions. It grows as a medium-sized tree tolerant of dry, rocky soils. The fruit is papery, white and resembles hops, which is the reason for its name. These are showy against the dark green leaves in summer. It is free of any major pests and tolerates some shade. Hophornbeam is a slow growing tree, suited to almost any area.



London Planetree

Platanus x. acerifolia



London planetree is a hybrid cross between American sycamore (*P. occidentalis*) and Oriental planetree (*P. orientalis*). Like its American parent, it typically grows as a single-trunk tree to 75-100' tall with horizontal branching and a rounded habit. The signature ornamental feature of this tree is its brown bark which exfoliates in irregular pieces to reveal creamy white inner bark. The large 3-5 lobed medium to dark green leaves (4-9" wide) have coarse marginal teeth. In fall, foliage typically turns an undistinguished yellow-brown. Small, non-showy flowers appear in small rounded clusters in April. Male flowers are yellowish and female flowers are reddish. Female flowers give way to fuzzy, long-stalked, spherical fruiting balls (to 1 3/8" diameter) that ripen to brown in October and persist into early winter. Fruiting balls appear in pairs.



Sawtooth Oak

Quercus acutissima



Sawtooth Oak is a medium sized oak that typically grows between 40-60' tall. Bark develops corky ridging with age and the leaves are glossy and dark green. This tree is tolerant of heat and humidity, but young trees might need extra care during especially cold winters. Fall color is variable, and can be a very attractive golden brown. Acorn production can be abundant, making this a good tree for attracting wildlife.



Swamp White Oak

Quercus bicolor



The swamp white oak is a native tree that becomes quite large and spreading. Most oaks within the white oak group are difficult to transplant, but swamp white oak is one of the least difficult. As the name implies, it is well adapted to low, moist conditions and bottomlands. In spite of this quality, this tree is able to endure drought conditions once it's well established. Leaves are dark green above and soft gray on the underside. It grows best in deep soils, but is adapted to many soil types and conditions including dense urban clay soils. Fall color is a weak yellow and not outstanding.



Shingle Oak

Quercus imbricaria



Shingle oak is a native tree once used to make shingles, and is common in many parts of Missouri. It is less used in home landscapes and, like pin oak, it has a tendency to droop its lower branches. Foliage is dark, glossy green, but without dramatic fall color. Leaves usually turn brown late in fall and many hang on the tree through the winter. With this quality, it is a tree that can provide winter screening and windbreak. Many people object to the brown winter look for a shade tree. Winter leaf retention requires leaf clean up in spring as new growth is about to start. Shingle oak is a durable and adaptable tree that could be used more frequently for large landscapes.



Chestnut Oak and Swamp Chestnut Oak

Quercus prinus
Quercus michauxii



These two oaks are very similar, but chestnut oak does better as an ornamental tree because it adapts well to many soil types and upland conditions. Swamp chestnut oak grows larger and should be selected for landscapes in low, wet areas. Leaf color is light green. Trees develop oval to rounded canopies. Fall color is usually yellow to yellow-brown. These oaks are very useful for attracting wildlife that are fond of acorns.

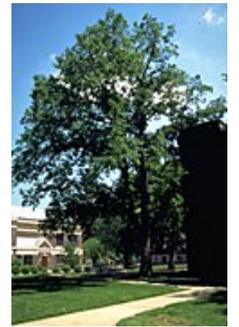


Chinkapin Oak

Quercus muhlenbergii



Chinkapin oak is most suitable for planting in central and southern Missouri. Like many oaks in the white oak group, transplanting it is difficult. It is more tolerant of alkaline soil conditions than most oaks, but also grows well in acid soils. It is seldom available for sale, but should be preserved on developed sites. Fall color is generally yellow.



English Oak

Quercus robur



English oak has gained popularity primarily because of the more upright and columnar cultivars that are available. For a tall, narrow screen, these upright selections are more durable choices than upright poplars. The crown of the more typical English oak is pyramidal when young, but becomes rounded with age. Leaves are dark green with rounded lobes somewhat like our native white oak. English oak is easy to transplant, and adapts to many soil conditions, but must have good drainage. Fall foliage is not colorful. Brown leaves are often held through the winter.



Shumard Oak

Quercus shumardii



Shumard oak is one of the least common of the oaks used in landscape plantings. It becomes a large tree with similarities to pin, scarlet and red oak, and like them is most useful in large open areas. Growth when young is like pin oak, but mature structure is more like scarlet oak. The leaves are variable and might be confused with pin, red or scarlet oak. Fall color is shades of red and scarlet. It is tolerant of many soils and environmental conditions. Because of good drought tolerance, it is well-suited to the low maintenance landscape where irrigation of any type is not possible during drought periods. It has no serious pest problems, but is subject to general pests of the other oaks.



Basswood, American Linden

Tilia americana



American basswood, or linden, is a native tree that has a dense, pyramidal crown. It adapts to many soil types and conditions, but without adequate moisture leaves may scorch in summer. Several insects and diseases may attack it if it is in a stressed condition, causing leaves to drop or be eaten. A hybrid cultivar of American basswood called 'Redmond' linden is a better selection, which has a pronounced pyramidal form. Summer flowers are attractive and very fragrant, honey made from these flowers is highly prized.



Littleleaf Linden

Tilia cordata



Littleleaf linden's dark green leaves and dense pyramidal growth make it a suitable choice when a formal-looking tree is desired. Lindens may be damaged during a summer of extreme heat and drought. However, they recover well and are suitable for street trees as well as mall parking lots and other difficult sites. Growth is slow when they are planted in such areas, and watering during stress periods is important. Summer flowers are attractive and fragrant. Many good cultivars exist. 'Greenspire' is one of the most popular and best.



American Elm

Ulmus americana

Dutch Elm Disease Resistant Varieties



Dutch Elm Disease is a fatal fungal disease that attacks American Elm trees. A number of hybrid varieties have been developed that are resistant to the disease, and this tree is once again becoming a viable option for planting. American Elm is tolerant of urban conditions, it prefers moist soils but can adapt to a wide range of soil conditions. It is a large deciduous tree, with a vase shaped crown that grows quickly.



Chinese or Lacebark Elm

Ulmus parvifolia



Chinese or lacebark elm is often confused with the undesirable Siberian elm. Chinese elm forms a graceful round crown with mottled gray, green, orange and brown bark. It tolerates a wide range of soil conditions and is suited for urban situations. Chinese elm is resistant (but not immune) to Dutch elm disease and is not as seriously affected by elm leaf beetles and similar problems as the other elms. It's another fast growing tree.



Zelkova

Zelkova serrata



Since the American elm first succumbed to Dutch elm disease, there has been a search for a replacement. Zelkova is not a perfect replacement, but is a relative with a vase-shaped form resembling American elm. Leaves are dark green and held late into the fall, essentially without fall color. Zelkova's angular branching allows its use along walks, streets or other areas where low branching is undesirable. It has good pollution, wind and drought tolerance. Although it is closely related to elms, it appears to be fairly resistant to Dutch elm disease. Because many gardeners are unfamiliar with zelkova, it has been used very little, but it is gaining popularity and becoming more available. Several cultivars have been developed, but are not widely distributed. One outstanding cultivar is 'Green Vase', which features vigorous growth and bronzy-red fall foliage.

