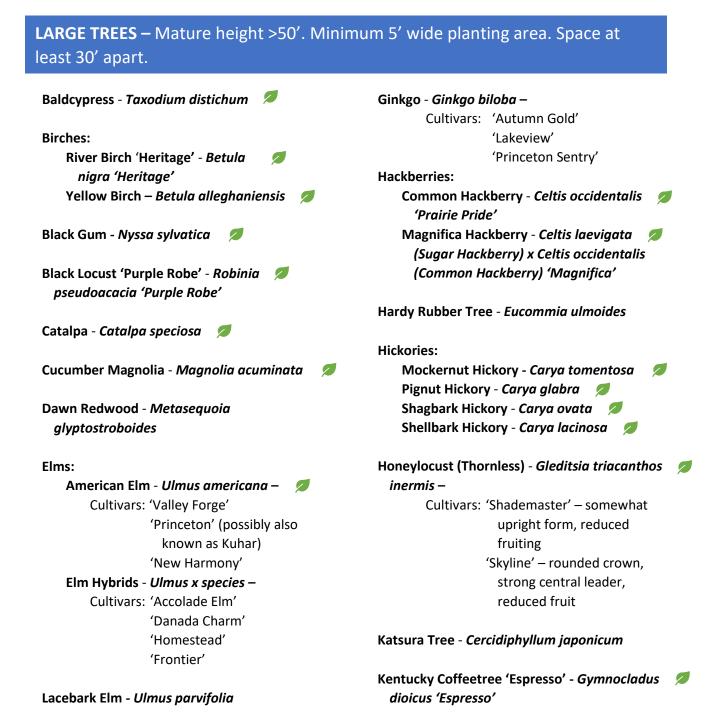
STREET TREES FOR HARRISBURG, PA

ACCEPTABLE TREE SPECIES FOR STREET TREE PLANTING

LISTED BY COMMON NAME 🕈 🕈 🕈





Lindens: American Linden or Basswood - Tilia *americana* Cultivar: 'Redmond' Littleleaf Linden - Tilia cordata Silver Linden - Tilia tomentosa

London Planetree 'Bloodgood' - Platanus x acerifolia 'Bloodgood' [Platanus occidentalis (American sycamore) x Platanus orientalis (oriental sycamore)]

Maples:

Red Maple – Acer rubrum – Cultivars: 'Autumn Flame' 'Bowhall' October Glory' 'Red Sunset' 'Redpoint' Freeman Maple - Acer rubrum (Red Maple) X Acer saccharinum (Silver Maple) – Cultivars: 'Autumn Blaze' 'Celebration' Scarlet Sentinel'

Sugar Maple - Acer saccharum – 💋 Cultivars: 'Bonfire' 'Green Mountain' 'Legacy' Sweetgum - Liquidambar styraciflua – 💋 Cultivars: 'Rotundiloba' 'Cherokee' Sycamore - Platanus occidentalis 1 Tulip Tree - Liriodendron tulipifera Turkish Filbert - Corylus colurna Oaks: White Oak - Quercus alba 🖉 Bur Oak - Quercus macrocarpa 💋 Northern Red Oak - Quercus rubra 💋 Pin Oak - Quercus palustris 💋 Scarlet Oak - Quercus coccinea 💋 Shingle Oak – Quercus imbricaria 💋 Shumard Oak - Quercus shumardii 💋 Swamp White Oak - Quercus bicolor 🦪 Willow Oak - Quercus phellos 🦪 Zelkova - Zelkova serrata -

Cultivars: 'Halka' 'Green Vase' 'Village Green'

MEDIUM TREES – Mature height 30 – 50 ft. Minimum tree lawn 3 ft. Space at least 20' apart. Most may be planted under wires.



Cherries:

Japanese Flowering Cherry 'Kwanzan' - *Prunus serrulata 'Kwanzan'* Sargent Cherry - *Prunus sargentii* – Cultivars: 'Columnaris' 'Pink Flair'

European Hornbeam - Carpinus betulus – Cultivar: 'Fastigiata'



Indicates native species

Honeylocust (Thornless) 'Imperial' - *Solutional Section 2018 Hereight Constants and Solution 2018 Hereight Constants and Solution Solution Hereight Constants and Solution Solution Constants and Constants and*

Osage Orange (Thornless) 'White Shield' - *Maclura pomifera 'White Shield'*

Oaks:

Chinkapin Oak - Quercus muehlenbergii 🛛 💋

Ruby Red Horsechestnut - Aesculus x carnea

SMALL TREES – Mature height <30'. Minimum tree lawn 2 ft. Space at least 10' apart. May be planted under wires.

American Hornbeam (a.k.a. Ironwood or Musclewood) - Carpinus caroliniana

Amur Maackia - Maackia amurensis

Cherries:

Accolade Cherry – Prunus sargentii x Prunus subhirtella 'Accolade'

Common Chokecherry or Canada Red Cherry - Prunus virginiana Okame Cherry - Prunus campanulata x Prunus incisa 'Okame'

Crabapple - Malus spp. – Cultivars: 'Prairiefire' 'Sugartyme' 'Harvest Gold' 'Spring Snow'

Dogwoods:

Corneliancherry Dogwood - Cornus mas Kousa Dogwood - Cornus kousa Rutcan Dogwood - Cornus kousa x Cornus florida 'Rutcan'

Eastern Redbud - Cercis canadensis – Cultivars: 'Appalachian Red' 'Forest Pansy' 'Alba' Hawthorns:

Thornless Cockspur Hawthorn - Crataegus crusgalli inermis Winter King Green Hawthorn - Crataegus viridis 'Winter King'

Japanese Tree Lilac - Syringa reticulata -Cultivars: 'Regent' 'Ivory Silk'

Maples: Paperbark Maple - *Acer griseum* Trident Maple - *Acer buergeranum*

Mountain Ash: Oak-Leaf Mountain Ash - Sorbus x hybrid 'Oak Leaf' Showy Mountain Ash - Sorbus decora

Persian Parrotia - Parrotia persica

Serviceberries: Apple Serviceberry - Amelanchier x grandiflora – Cultivars: 'Autumn Brilliance' 'Princess Diana' 'Robin Hill' Allegheny Serviceberry - Amerlanchier laevis – Cultivars: 'Cumulus' 'Lustre' 'Spring Flurry'

Star Magnolia - Magnolia stellata



LISTED BY LATIN NAME 🕈 🕈 🕈

LARGE TREES – Mature height >50'. Minimum 5' wide planting area. Space at least 30' apart.

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Acer rubrum - Red Maple -Cultivars: 'Autumn Flame' 'Bowhall' 'October Glory' 'Red Sunset' 'Redpoint' Acer rubrum X Acer saccharinum – 2 Freeman Maple Cultivars: 'Autumn Blaze' 'Celebration' 'Scarlet Sentinel' Acer saccharum – Sugar Maple Cultivars: 'Bonfire' 'Green Mountain' 'Legacy' Betula alleghaniensis - Yellow Birch Betula nigra 'Heritage' – Heritage River Birch Carya glabra – Pignut Hickory 💋 Carya lacinosa – Shellbark Hickory 💋 *Carya ovata* – Shagbark Hickory 1 Carya tomentosa – Mockernut Hickory 💋 Catalpa speciosa – Catalpa 🛛 💋 Celtis laevigata (Sugar Hackberry) x Celtis 2 occidentalis (Common Hackberry) 'Magnifica' – Magnifica Hackberry Celtis occidentalis 'Prairie Pride' – Hackberry 💋 Cercidiphyllum japonicum – Katsura Tree Corylus colurna – Turkish Filbert Eucommia ulmoides – Hardy Rubber Tree Ginkao biloba – Ginkgo Cultivars: 'Autumn Gold' 'Lakeview' 'Princeton Sentry' Gleditsia triacanthos inermis – Thornless 💋 Honevlocust

Cultivars: 'Shademaster' - somewhat upright form, reduced fruiting

'Skyline' - rounded crown, strong central leader, reduced fruit Gymnocladus dioicus 'Espresso'- Espresso **Kentucky Coffeetree** Liquidambar styraciflua – Sweetgum 💋 Cultivars: 'Rotundiloba' 'Cherokee' Liriodendron tulipifera – Tulip Tree 💋 Magnolia acuminata – Cucumber Magnolia 1 Metaseguoia glyptostroboides – Dawn Redwood Nyssa sylvatica – Black Gum 💋 Platanus x acerifolia 'Bloodgood' (Platanus occidentalis x Platanus orientalis) -**Bloodgood London Planetree** Platanus occidentalis – Sycamore 💋 *Quercus alba* – White Oak 1 Quercus bicolor – Swamp White Oak 💋 Quercus coccinea – Scarlet Oak 🛛 💋 Quercus imbricaria – Shingle Oak 💋 Quercus macrocarpa – Bur Oak 🛛 💋 Quercus palustris – Pin Oak 🛛 💋 Quercus phellos – Willow Oak 💋 Quercus rubra – Northern Red Oak 🛛 💋 Quercus shumardii – Shumard Oak 💋 Robinia pseudoacacia 'Purple Robe' – Purple **Robe Black Locust** Taxodium distichum – Baldcypress Tilia americana – American Linden or 🛛 💋 Basswood Cultivar: 'Redmond' Tilia cordata – Littleleaf Linden

Tilia tomentosa – Silver Linden



Ulmus americana – American Elm Cultivars: 'Valley Forge' 'Princeton' (possibly also known as Kuhar) 'New Harmony' Ulmus x species – Elm Hybrids Cultivars: 'Accolade Elm' 'Danada Charm' 'Homestead' 'Frontier' Ulmus parvifolia – Lacebark Elm Zelkova serrata – Zelkova Cultivars: 'Halka' 'Green Vase' 'Village Green'

MEDIUM TREES – Mature height 30 – 50 ft. Minimum tree lawn 3 ft. Space at least 20' apart. Most may be planted under wires.

Aesculus x carnea – Ruby Red Horsechestnut Betula lenta – Sweet Birch 💋
<i>Carpinus betulus</i> – European Hornbeam
Cultivar: 'Fastigiata'
Cladrastis kentukea – American Yellowwod 🛛 💋
Gleditsia triacanthos inermis 'Imperial' – 🛛 💋
Imperial Thornless Honeylocust
Halesia carolina – Carolina silverbell 🛛 💋

Maclura pomifera 'White Shield' – White Shield Thornless Osage Orange Ostrya virginiana – American Hophornbeam Prunus sargentii – Sargent Cherry Cultivars: 'Columnaris' 'Pink Flair' Prunus serrulata 'Kwanzan' – Kwanzan Japanese Flowering Cherry Quercus muehlenbergii – Chinkapin Oak

SMALL TREES – Mature height <30'. Minimum tree lawn 2 ft. Space at least 10' apart. May be planted under wires.

Acer buergeranum - Trident Maple Acer griseum – Paperbark Maple Amelanchier spp. – Serviceberry Amelanchier x grandiflora – Apple Serviceberry Cultivars: 'Autumn Brilliance' 'Princess Diana' 'Robin Hill' Amerlanchier laevis – Allegheny Serviceberry Cultivars: 'Cumulus' 'Lustre' 'Spring Flurry' Carpinus caroliniana – American Hornbeam (a.k.a. Ironwood or Musclewood) Cercis canadensis – Eastern Redbud Cultivars: 'Appalachian Red' 'Forest Pansy' 'Alba' Cornus kousa – Kousa Dogwood Cornus kousa x Cornus florida 'Rutcan' – Rutcan Dogwood Cornus mas – Corneliancherry Dogwood Crataegus crusgalli inermis – Thornless Cockspur Hawthorn



Indicates native species

Crataegus viridis 'Winter King' – Winter King Green Hawthorn Maackia amurensis – Amur Maackia Magnolia stellata – Star Magnolia Malus spp. – Crabapples Cultivars: 'Prairiefire' 'Sugartyme' 'Harvest Gold' 'Spring Snow' Parrotia persica – Persian Parrotia Prunus campanulata x Prunus incisa 'Okame' – Okame Cherry Prunus sargentii x Prunus subhirtella 'Accolade' – Accolade Cherry Prunus virginiana – Common Chokecherry or Canada Red Cherry Sorbus decora – Showy Mountain Ash Sorbus x hybrid 'Oak Leaf' – Oak-Leaf Mountain Ash Syringa reticulata - Japanese Tree Lilac Cultivars: 'Regent' 'Ivory Silk'



BY LATIN NAME WITH TREE DESCRIPTION 🕈 🕈

LARGE TREES – Mature height >50'. Minimum 5' wide planting area. Space at least 30' apart.

Acer rubrum – Red Maple – Fast growing. Mature height 50-75' with somewhat smaller spread. Brilliant red and yellow fall color. Shallow root system.

Cultivars: 'Autumn Flame' – rounded, better limb structure than some others; dependable early brilliant fall color

'Bowhall' – upright growth habit, good for narrower spaces

'October Glory' - rounded, one of the best for fall color

'Red Sunset' - glossy thick leaves persist late in fall, with orange red to brilliant red color

'Redpoint' - very nice fall color, broad columnar form, neat appearance

- Acer rubrum X Acer saccharinum Freeman Maple A hybrid cross between red maple and silver maple, with branching structure and red color of red maple, rapid growth of silver maple. Mature height 50-70' with somewhat smaller spread. Tolerant of large variety of soil conditions. Tough urban tree.
 - Cultivars: 'Autumn Blaze' nearly seedless, dense crown and central leader, dependable fall color

'Celebration' – uniform growth, compact upright crown, strong branch angles

'Scarlet Sentinel'- narrow upright form, improved branch structure

Acer saccharum – Sugar Maple – Slow growing. Mature height 60-75' with smaller spread. Somewhat upright growth. Beautiful brilliant yellow, burnt orange, and red fall color. Cannot tolerate heat, drought, soil compaction, or salt. Susceptible to verticillium wilt. Best for parks, or quiet residential streets with tree lawns >6'.

Cultivars: 'Bonfire' -broader crown, good heat tolerance

'Green Mountain' – dark leathery leaves, uniform and more vigorous growth than the species, upright habit

'Legacy' - thick dark leaves, faster growing, less sensitive to heat

<u>Betula alleghaniensis - Yellow Birch</u> – Medium growing. Mature height 70' with slightly smaller spread. Interesting shredding bark changes from brown to yellow to reddish-brown as diameter increases. Yellow fall color. Twigs with wintergreen smell when scratched.

Betula nigra 'Heritage' – Heritage River Birch – Medium to fast growing. Mature height 40-70' with slightly smaller spread. Interesting salmon-white peeling bark. Crown form consistent, unlike somewhat



irregular growth of the species. Most trouble-free and toughest of birches in terms of insect and disease problems.

- Carya glabra Pignut Hickory Mature height 50-80', spread 25-40'. Prefers well-drained soil. Does not produce fruit until about 25 years old. No serious insect or disease problems. Litter from leaves, twigs, and fruit may be problematic. Difficult to transplant.
- Carya lacinosa Shellbark Hickory Mature height 60-80' with smaller spread. Prefers medium to wet soil. Shaggy bark similar in appearance to Shagbark Hickory. Produces largest fruit of all hickories. No serious insect or disease problems. Litter from leaves, twigs, and fruit may be problematic. Difficult to transplant.
- Carya ovata Shagbark Hickory Mature height 70-90' with slightly smaller spread. Prefers well drained soil. Exfoliating bark on mature trees a point of interest. Rich yellow to golden brown in fall. No serious insect or disease problems. Can produce large quantity of litter including leaves, twigs, and fruit. Difficult to transplant.
- Carya tomentosa Mockernut Hickory Mature height 60-80' with spread 40-60'. Prefers moist soil. Does not produce fruit until approximately 25 years of age. Can produce a large quantity of litter including leaves, twigs and fruit. Difficult to transplant.
- Catalpa speciosa Catalpa Medium to fast growing. Mature height 40-60' with smaller spread. Very large 6-12" heart-shaped leaves. Fruit a 10-20" long "cigar-like" capsule. Very tolerant of difficult soils. Needs a large space.
- Celtis laevigata (Sugar Hackberry) x Celtis occidentalis (Common Hackberry) 'Magnifica' Magnifica Hackberry – Fast growing. 50-60' tall with similar spread. Good for difficult sites.
- <u>Celtis occidentalis 'Prairie Pride'</u> Prairie Pride Common Hackberry Medium to fast growing. Mature height 40-60' with equal spread. Transplants and grows well or adverse urban sites. Compact, rugged tree with strong central leader. Bark develops attractive corky warts.

<u>Cercidiphyllum japonicum – Katsura Tree</u> – Medium to fast growing. Mature height 40-60'and equal spread. Leaves 2-4" heart shaped, emerge reddish purple, change to bluish green in summer, and pretty yellow to apricot in fall. Suffers from drought and compacted soils, but seldom from diseases and insects.

<u>Corylus colurna – Turkish Filbert</u> – Medium growth rate. Mature height 45-60' with smaller spread. Symmetrical conical form. Light brown corky to scaly bark. Fruit a ½" nut. Drought and pH tolerant once established.

<u>Eucommia ulmoides – Hardy Rubber Tree</u> – Slow to medium growth rate. Mature height 40-60' with equal or greater spread. Leaves lustrous dark green, but no fall color. Tolerates urban stresses, withstands variety of soils, drought, partial shade, but not compaction or poor drainage. Excellent urban tree with few if any pest problems.

<u>Ginkgo biloba – Ginkgo</u> – Slow growing. Mature height 50-80' with variable crown width depending on cultivar (spreading to upright.) Interesting fan-shaped leaf with excellent yellow fall color. Mature trees



have excellent structure and branch strength. Withstands variety of soils. Extremely pest free. Excellent urban tree. Because of unpleasant odor of fruit, plant only male varieties.

Cultivars: 'Autumn Gold' – Mature height 45-55' with somewhat smaller spread. Excellent fall color. Fruitless.

'Lakeview' – Mature height 45-55' with smaller spread. Narrowly conical upright growth form, good for narrow spaces. Fruitless.

'Princeton Sentry'- Mature height 55-65' with smaller spread. Narrowly conical upright growth form, good for narrow spaces

Gleditsia triacanthos inermis – Thornless Honeylocust – Fast growing. Mature height 40-60' with equal spread. Compound leaves with small leaflets. Yellow fall color. One of most adaptable trees available, withstands wide variety of soil conditions, adaptive to urban conditions, most salt tolerant of all landscape trees.

Cultivars: 'Shademaster' – somewhat upright form, reduced fruiting

'Skyline' - rounded crown, strong central leader, reduced fruit

- Gymnocladus dioicus 'Espresso' Espresso Kentucky Coffeetree Fast growing once established. Mature height 60-75' with somewhat smaller spread. One of last to leaf out in spring. Large compound leaves with small leaflets. Handsome bark with recurved scale-like ridges. Adaptable to wide range of soil and site conditions with no serious insect or disease problems. Excellent urban tree. Large seedpods can be a problem, so plant male variety 'Espresso' only.
- Liquidambar styraciflua Sweetgum Medium to fast growing. Mature height 60-75' with somewhat smaller spread. Decidedly pyramidal form when young. Attractive star shaped leaves. Excellent purple-red fall color. Spikey round fruit may cause litter problem and should not be planted in high pedestrian traffic areas. Spring planting recommended.

Cultivars: 'Rotundiloba'- fruitless, rounded leaf tips

'Cherokee' - produces much less fruit than the species, deep burgundy fall color

- Liriodendron tulipifera Tulip Tree Mature height 70-90' with smaller spread, among tallest of eastern hardwoods. Fall color can be spectacular yellow. Beautiful greenish yellow tulip shaped flowers with orange interior borne singly high in the tree from May to early June. Prefers slightly acidic soil. Slightly weak wooded. Spring planting recommended.
- Magnolia acuminata Cucumber Magnolia Fast growing. Mature height 50-80' with smaller spread. Somewhat upright conical form. Large 4-10" leaves. Good street tree for large spaces. Spring planting recommended.

<u>Metasequoia glyptostroboides – Dawn Redwood</u> – Fast growing. Mature height 70-100'. Deciduous conifer. Easy to transplant. Upright canopy, pyramidal form. Limited insect and disease problems. Requires acid soil. Requires early pruning for use as a street tree.



Nyssa sylvatica – Black Gum – Slow to medium growing. Mature height 30-50' with somewhat smaller spread. Leaves deep green in summer, scarlet-purple in fall. One the best trees for fall foliage. Requires acid soil. Difficult to transplant. Preferable for planting in tree lawn rather than tree pits.

<u>Platanus x acerifolia 'Bloodgood' (Platanus occidentalis x Platanus orientalis) – Bloodgood London</u> <u>Planetree</u> – Medium growing. Mature height 70-100' with somewhat smaller spread, among tallest of eastern hardwoods. Extremely showy bark mottled with tan, olive and brown colors. Handsome bark and excellent branch structure add winter interest. Tolerates urban conditions, and more resistant to anthracnose than native sycamore. Fruit, bark, and leaves may cause litter problem.

- Platanus occidentalis Sycamore Mature height 75-100' with similar spread. Extremely showy bark mottled with white, olive, and brown colors. Handsome bark and excellent branch structure add winter interest. Tolerates urban conditions. Susceptible to anthracnose. Fruit, bark, and leaves may cause litter problem.
- Quercus alba White Oak -Slow growing. Mature height 50-80' with similar spread. Difficult to transplant. Drought tolerant. Leaves turn shades of deep red in fall. Avoid fall planting. Susceptible to oak wilt, anthracnose, oak leaf blister.
- Quercus bicolor Swamp White Oak Medium growing. Mature height 50-60' with equal or greater spread. Strong branching habit. Transplants and grows better than white oak. Tolerates drought and extreme moisture.
- Quercus coccinea Scarlet Oak Mature height 50-70' with 40-50' spread. Prefers dry sandy soils. Appears somewhat similar to Pin Oak, but is less tolerant of adverse conditions. Leaves a showy scarlet in fall.
- Quercus imbricaria Shingle Oak Slow growing. Mature height 50-60' with equal or slightly larger spread. Leaves are entire with a wavy margin, rather than lobed like many oaks. Easier to transplant than many oaks. Somewhat tolerant of urban conditions. Tolerates urban stresses.
- Quercus macrocarpa Bur Oak Slow growing. Mature height 70-80' with equal or slightly larger spread. A very large, majestic and impressive landscape tree, best used for parks and open spaces. Slow to recover from transplant shock. More tolerant of city conditions than many oaks; tolerates drought, extreme moisture, high pH soils.
- Quercus palustris Pin Oak Fast growing. Mature height 60-70' with smaller spread. Strongly pyramidal form becoming more oval with age, distinctly pendant lower limbs. Somewhat tolerant of urban conditions. Bacterial leaf scorch and oak wilt are concerns. Most widely planted oak, definitely over planted in Harrisburg. Transplants readily.
- Quercus phellos Willow Oak Medium growth rate. Mature height 40-60' with similar or somewhat smaller spread. Leaves are lance-shaped with entire margins, rather than lobed like most oaks. Essentially pest and disease free. Can grow on very tough sites. Transplants more readily than most oaks.
- Quercus rubra Northern Red Oak Fast growing. Mature height 60-70' with equal spread. Excellent limb structure and strength. Tolerates salt and urban stresses, and higher pH. Relatively free of insect



and disease problems, but bacterial leaf scorch and oak wilt are concerns. Over planted in Harrisburg. Transplants readily.

- Quercus shumardii Shumard Oak Fast growing. Mature height 60-70' with equal spread. Excellent limb structure and strength. Adaptable to urban pollutants and relatively free of insect and disease problems. Transplants reasonably well.
- **Robinia pseudoacacia 'Purple Robe' Purple Robe Black Locust** Fast growing. Mature height 50' with slightly greater spread. A good ornamental for difficult places. Exceedingly fragrant, pretty, dark rose-pink flowers in May. Compound leaves with small leaflets. Tolerates salt, drought, urban conditions. Locust borer can riddle the whole tree. Limb breakage in storms a concern.
- Taxodium distichum Baldcypress Medium growth rate. Mature height 50-70' with half the spread. Deciduous conifer of slender, pyramidal habit. Somewhat similar in appearance to dawn redwood, but more difficult to transplant. Limited insect and disease problems. A distinctive specimen tree.
- Tilia americana American Linden or Basswood Medium growth rate. Mature height 60-80' with a smaller spread. Somewhat upright form. Fragrant yellow flowers June or July attract bees. Large heart-shaped leaves dark green above and lighter green below. Tolerant of a range of soil conditions. Susceptible to verticillium wilt and Japanese beetles.
 - Cultivars: 'Redmond' Fast growing, more upright form and uniform shape than the species. Tough and disease resistant, but intolerant of salt and somewhat sensitive to air pollutants

<u>Tilia cordata – Littleleaf Linden</u> – Medium growth rate. Mature height 60-70' with smaller spread. Distinctive pyramidal form. Fragrant yellow flowers June or July attract bees. Smaller heart-shaped leaves. Tolerant of urban pollution, soil compaction, but sensitive to drought and salt. Aphids, honeydew, and sooty mold can be problematic.

<u>Tilia tomentosa – Silver Linden</u> – Medium growth rate. Mature height 50-70' with smaller spread. Pyramidal, maybe more oval at maturity. Shimmering leaves green above and silver below. One of the toughest lindens, tolerant of urban pollution, compaction, and more tolerant of drought and heat than other lindens. Beautiful ornamental.

Ulmus americana – American Elm – Medium to fast growing. Mature height 60-80' with somewhat smaller spread. Famous for vase shaped growth form. Transplants easily, drought resistant. Tolerates salt, high pH, and urban stresses.

Cultivars: 'Valley Forge' – Resistant to Dutch Elm Disease (DED) and Elm Yellows. Upright arching, vase-shaped, classic American elm form, broader spread, dense crown

'Princeton' (possibly also known as Kuhar) – Resistant to Dutch Elm Disease (DED) and Elm Yellows. Upright vase-shaped, symmetrical, fast growing, leathery dark green foliage.

'New Harmony' - Resistant to Dutch Elm Disease (DED) and Elm Yellows. Broadly vase-shaped.



<u>Ulmus x species – Elm Hybrids</u> – Medium to fast growing. Mature height 50-70'. All are resistant to Dutch Elm Disease. Varying resistance to Elm Yellows (a fatal disease also known as Phloem Necrosis) and Elm Leaf Beetle (insect that can cause severe damage in some areas.)

Cultivars: 'Accolade Elm' - *Ulmus japonica* x *Ulmus wilsoniana* 'Accolade' – 70' tall, large spread, vase-shaped. Fast growing, arching, American elm-like, glossy foliage. Resistant to DED, Elm Yellows, Elm Leaf Beetle.

> 'Danada Charm'– Ulmus japonica x Ulmus wilsoniana 'Danada Charm' - Resistant to DED, Elm Yellows, likely also to Elm Leaf Beetle. Fast growing, vase-shaped, arching, very American elm-like, a little neater than Accolade, glossy foliage emerges red.

> 'Homestead' – complex involving *Ulmus pumila* x *Ulmus hollandica* x *Ulmus carpinifolia*) 'Homestead' – 60' tall, pyramidal to oval, arching with age, dense branching when young, symmetrical. Salt tolerant. High DED resistance. Resistant to Elm Yellows.

'Frontier' – Ulmus parvifolia x Ulmus carpinifolia 'Frontier' – Resistant to Elm Yellows and Elm Leaf Beetle. Fast growing. May have smaller stature. Conical to round crown, neat and tidy, develops vase-shape with age. The only elm with good and long-lasting fall color: leaves glossy, emerge with reddish tint, red to reddish-purple in fall.

<u>Ulmus parvifolia – Lacebark Elm</u> – Medium to fast growing. Mature height 40-75' with slightly smaller spread. Resistant to DED, Elm Yellows, Elm Leaf Beetle. Conical to round form. Extremely ornamental bark, exfoliates and mottles in combinations of gray, green, orange and brown.

<u>Zelkova serrata – Zelkova</u> – Medium to fast growing. Mature height 50-70' with slightly smaller spread. Vase- shaped tough urban tree planted as a substitute for American elm. Bark becomes mottled and exfoliating with age in oranges, grays, and browns.

Cultivars: 'Halka' – Fastest growing. Mature height 60-70'. Graceful arching branches, often better branch attachment and less branch breakage during storms. Shape more similar to American elm. Summer foliage not as dark green as other zelkovas. Yellowish fall color.

> 'Green Vase' – Fast growing. Mature height 60-70'. High upright vase-shaped. Orangebrown to red-bronze fall color.

'Village Green' – Not quite as fast growing. Mature height 50-60' with similar width. Broadly vase-shaped. Rusty red fall color.

MEDIUM TREES – Mature height 30 – 50 ft. Minimum tree lawn 3 ft. Space at least 20' apart. Most may be planted under wires.

<u>Aesculus x carnea – Ruby Red Horsechestnut</u> – Medium growth rate. Mature height 30-40' with slightly smaller spread. Beautiful 6-10" red flower spikes in May. Nearly fruitless. Not tolerant of heat or drought and leaves will brown in late summer with full exposure, but less sensitive than other horsechestnuts.



Betula lenta – Sweet Birch – Mature height 40-55' tall with slightly smaller spread. Leaves a nice yellow in fall. Bark is not showy or exfoliating. Resistant to bronze birch borer.

<u>Carpinus betulus – European Hornbeam</u> – Slow to medium growing. Mature height 35-40', narrow conical form in youth but becoming broader at maturity. Commonly used for hedges or screening. Tolerant of wide range of soil conditions and urban stresses. No serious insect or disease problems. Sinewy smooth gray bark. Spring planting recommended.

Cultivars: 'Fastigiata' – Formal upright growth habit, conical more compact form more suitable for use as street tree; low branching.

Cladrastis kentukea – American Yellowwod – Medium growth rate. Mature height 30-50' with similar spread. Fragrant white flowers May to early June. Compound leaves with yellow to golden fall color. Smooth gray bark. Excellent tree for flowers and foliage. Poor branching structure, with many branches attached at one point; requires pruning when young to avoid branches splitting off in storms.

Gleditsia triacanthos inermis 'Imperial' – Imperial Thornless Honeylocust – Fast growing. Mature height 30-35' with equal spread (smaller than most other honey locust cultivars.) Compound leaves with small leaflets. Yellow fall color. One of most adaptable trees available, withstands wide variety of soil conditions, adaptive to urban conditions, most salt tolerant of all landscape trees.

Halesia carolina – Carolina silverbell – Medium growth rate. Mature height 30-40' with spread of 20-25'. Prefers moist soil and part shade but can tolerate full sun. White bell-shaped flowers in April. No serious insect or disease problems.

Maclura pomifera 'White Shield' – White Shield Thornless Osage Orange – Fast growing. Mature height 20-40' with equal spread. Dark glossy leaves. Very tough and durable native tree withstands wetness, drought, wind, extreme heat, some salt. Plant thornless male varieties only.

Ostrya virginiana – American Hophornbeam – Slow growing. Mature height 25-40' with similar or slightly smaller spread. Very graceful tree with slender stems. Pyramidal to rounded crown. Tolerates drier, gravelly soils. Does not tolerate severe urban stresses; very sensitive to salt. Spring planting recommended.

Prunus sargentii – Sargent Cherry – Medium growth rate. Mature height 30-40' with equal spread. Showy pink flowers April to May. Leaves shiny green in summer turning bronze or red in fall. Bark polished mahogany color. Tree is hardy and adaptable to different soils and sites, but short lived.

Cultivars: 'Columnaris' – Mature height 35' with 15' spread. A much more upright growth form. Produces flowers and leaves at once.

'Pink Flair' – Mature height 25' with 15' spread. More upright than the species.

<u>Prunus serrulata 'Kwanzan' – Kwanzan Japanese Flowering Cherry –</u> Medium growth rate. Mature height 30-40' with somewhat smaller spread. Flowers first, then leafs out. Showy deep pink double flowers (30 petals) April to May famous in Washington DC. One of hardiest cherries. Often grafted onto rootstock at about 4-6' tall. Salt tolerant. Short lived but provides great beauty.



Quercus muehlenbergii – Chinkapin Oak – Medium growing. Mature height 40-50' with smaller spread. Leaves coarsely toothed, dark glossy green. Open rounded crown, no particular insect or disease problems. Has higher pH tolerance among oaks, tolerates prolonged drought.

SMALL TREES – Mature height <30'. Minimum tree lawn 2 ft. Space at least 10' apart. May be planted under wires.

<u>Acer buergeranum - Trident Maple</u> – (Single trunk tree form only.) Slow growing. Mature height 20-30' with equal spread. Leaves bronze in spring changing to dark green in summer and yellow, orange and red in fall. Tolerates drought and other urban stresses but prefers acid soil. Low branching and requires pruning up for several years after transplanting. Spring planting recommended.

<u>Acer griseum – Paperbark Maple</u> - Slow growing. Mature height 20-30' with equal or smaller spread. Very attractive cinnamon colored bark that exfoliates at a young age. Dark bluish green leaves turn bronze or russet red in fall. Withstands a variety of soils. No serious insect or disease problems. Spring planting recommended.

Amelanchier spp. – Serviceberry – (Single trunk tree form only.) Medium growth rate. Mature height 15-25' with smaller spread. Several closely related species, some of which hybridize in nature. Produces white flowers before leaf out in spring. Edible fruits emerge pink and turn deep blue, attractive to birds. Somewhat sensitive to drought, soil compaction, salt, air pollutants, and has tendency to lean. Root suckers must be removed.

> <u>Amelanchier x grandiflora – Apple Serviceberry</u> – A naturally occurring hybrid between Amelanchier arborea (Downy Serviceberry) and Amelanchier laevis (Allegheny Serviceberry.) Flowers are larger and tinged pink in bud.

Cultivars: 'Autumn Brilliance' – reliable bloom, brilliant orange to red fall color

'Princess Diana' – usually grown in clump form but can be trained to a single stem

'Robin Hill' – a good tree form of serviceberry with more distinctive leader, upright habit, dense foliage.

<u>Amerlanchier laevis – Allegheny Serviceberry</u> – Somewhat narrower crown. The fruit is black and sweet and was preferred by Native Americans.

Cultivars: 'Cumulus' – bright yellowish-orange to scarlet in fall, more distinctive leader, upright open form, good street tree

'Lustre' – orange-red fall color, more distinctive leader, upright open form, good street tree

'Spring Flurry' – somewhat larger to 35' tall, great street tree form with dominant central leader, orange fall color



Carpinus caroliniana – American Hornbeam (a.k.a. Ironwood or Musclewood) – Slow growing. Mature height 20-30' with equal spread. Smooth gray bark, irregularly fluted appearance, trunk often crooked. Variation in color in fall from yellow to orange to red. One of the few landscape trees that can perform well in full shade; plant in partial shade. Sensitive to drought and urban stresses. Select single stem tree form only. Spring planting recommended.

Cercis canadensis – Eastern Redbud – Medium growth rate. Mature height 20-30' with equal or greater spread. Showy pinkish-purple flowers in March to April before leaf out at an early age. Heart shaped leaves emerge reddish, and become dark green. Does well in many soils and light shade, somewhat tolerant to salt and drought. Relatively short-lived.

Cultivars: 'Appalachian Red' – flowers are deep pink

'Forest Pansy' – leaves are reddish purple

'Alba' – flowers are white

<u>Cornus kousa – Kousa Dogwood</u> – (Single stem tree form only) Slow to medium growth rate. Mature height 20-30' with equal spread. Typically low branching and must be trained early for tree form. Creamy white pointed bracts in early summer. Reddish purple or scarlet fall color. Attractive exfoliating bark. Pink raspberry-like drupe favored by birds. Not for tough sites — requires rich, acidic, well drained soils, preferably in partial shade. More drought resistant than native flowering dogwood.

<u>Cornus kousa x Cornus florida 'Rutcan' – Rutcan Dogwood</u> – (Single stem tree form only) Hybrid between kousa and the native flowering dogwood. Flowers after native dogwood but before kousa. Red to purple fall color. Sterile small fruit. Resistant to anthracnose & dogwood borer. Not for tough sites.

<u>Cornus mas – Corneliancherry Dogwood</u> – (Must be limbed up to create single stem.) Medium growth rate. Mature height 20-30'with equal spread. One of first to bloom in spring with tiny yellow flowers. Glossy bright red edible fruit in July, useful for preserves. Reddish purple to scarlet fall color. Prefers rich, acidic, well drained soils, preferably in partial shade, but is more durable than other dogwoods.

Crataegus crusgalli inermis – Thornless Cockspur Hawthorn – Slow to medium growth rate. Mature height 15-20' with equal or greater spread. Tolerates drought & urban stresses. Lustrous dark green leaves turn bronze-red to purple in fall. Clusters of white flowers in May and showy red fruit can drop on sidewalk. Disagreeable flower odor. Spring planting recommended.

Crataegus viridis 'Winter King' – Winter King Green Hawthorn – Slow to medium growth rate. Mature height 25-30' with equal spread. Glossy green leaves turn bronze, red, and gold in fall. Clusters of white flowers and abundant ¼" red-orange fruit persists through winter. Tolerates drought and urban stresses. Occasional thorns can be a problem. Attractive shaggy bark. Spring planting recommended.

<u>Maackia amurensis – Amur Maackia</u> – Slow growing. Mature height 20'-30' with equal spread. Grayish green compound leaves becoming darks green on top, paler below. Creamy white upright flower clusters in June to July. Showy peeling bronze bark.

<u>Magnolia stellata – Star Magnolia</u> – Slow growing. Mature height 15-20' with somewhat smaller spread. Fragrant white flowers 3" in diameter April to May. Dense shrub or small tree. Requires moist, deep, acidic soil. Plant in sheltered locations only, in partial sun.



<u>Malus spp. – Crabapples</u> – Many cultivars. Fast growing. Mature height 15-25' with similar spread. Depending on cultivar they produce red, pink, or white flowers and red, orange or yellow fruit. Cultivars developed for flowers and fruit, not structure, so require pruning. Adaptable to many soil types and conditions. Some are highly susceptible to numerous diseases. A few that are disease resistant follow.

Cultivars: 'Prairiefire' – Mature height 20', spread 18'. Reddish green summer foliage, pink flowers, persistent ½" maroon fruit.

'Sugartyme' – Mature height 18', spread 15'. Upright branching when young, oval with age. White fragrant flowers, green foliage, persistent $\frac{1}{2}$ " red fruit.

'Harvest Gold' – Mature height 20', spread 18'. Upright oval with more of a central leader. White flowers, green foliage, yellow fruit persists.

'Spring Snow' – Pyramid shape. White flowers, green foliage, fruitless.

Parrotia persica – Persian Parrotia – Slow to medium growth rate. Mature height 20-30' with smaller spread. Showy red flower stamens in early spring before leaf out. Foliage emerges reddish-purple and becomes green. Fall color brilliant yellow, orange and red. Ornamental bark mottled gray, green, white and brown. Pest-free.

Prunus campanulata x Prunus incisa 'Okame' – Okame Cherry –Medium growth rate. Mature height 20-30' with similar spread. A more cold-hardy Taiwan or bell-flowered cherry. Small graceful tree. Upright form. Carmine-pink flowers in early May, green foliage, bronze to orange-red fall color. Avoid fall planting. Spring planting recommended.

<u>Prunus sargentii x Prunus subhirtella 'Accolade' – Accolade Cherry</u> – Medium growth rate. Mature height 22' with equal spread. Very graceful form with clusters of pink flowers. It flowers first, then leafs out. Spring planting recommended.

Prunus virginiana – Common Chokecherry or Canada Red Cherry – Fast growing. Mature height 20-30' in height with somewhat smaller spread. Small white flowers April to May in 3-6" long clusters. Small edible red fruit, turning dark purple. Spring planting recommended.

Sorbus decora – Showy Mountain Ash – Mature height 25' with smaller spread. White flowers with showy red fruit. Foliage turns yellow to red in fall.

<u>Sorbus x hybrid 'Oak Leaf' – Oak-Leaf Mountain Ash</u> – Mature height 30' with smaller spread. White flower clusters followed by orange-red berry-like fruit clusters. Tolerates high pH soil. Good street tree.

Syringa reticulata - Japanese Tree Lilac – Medium growth rate. Mature height 20-30' and somewhat smaller spread. Large lilac-like clusters of showy white flowers in early to mid-June. Adaptable to various soils and pH.

Cultivars: 'Regent' – more vigorous

'Ivory Silk' – susceptible to mildew and lilac borers



REFERENCES – PHOTOS AND MORE INFO ON ACCEPTABLE TREE SPECIES + +

WEBSITES

University of Connecticut College of Agriculture Health and Natural Resources Plant Database <u>https://plantdatabase.uconn.edu/</u>

Oregon State University College of Agriculture Science Department of Horticulture Landscape Plants <u>https://landscapeplants.oregonstate.edu/</u>

Cornell University Urban Horticulture Institute Woody Plants Database http://woodyplants.cals.cornell.edu/collection/1

University of Florida Environmental Horticulture 680 Tree Fact Sheets <u>https://hort.ifas.ufl.edu/database/trees/trees_common.shtml</u>

PUBLICATIONS

<u>Manual of Woody Landscape Plants - Their Identification, Ornamental Characteristic, Culture,</u> <u>Propagation and Uses</u> – Michael A. Dirr, Department of Horticulture, University of Georgia, Athens, GA

OTHER MUNICIPAL TREE LISTS

Ferguson Township, PA Street and Park Tree Listing https://www.twp.ferguson.pa.us/sites/g/files/vyhlif576/f/uploads/2020-40_township_tree_species.pdf

State College Borough Master Tree Plan2016, Appendix 11: Tree Species and Varieties Recommended for Use as Street Trees in State College <u>https://content.civicplus.com/api/assets/14c8b157-6281-46b2-b37c-9d2b8b27c602?version=0&q=20ec8791-01cd-9642-c215-130db1cf361b</u>

Casey Trees Urban Tree Selection Guide, A Designer's List of Appropriate Trees for the Urban Mid-Atlantic <u>https://caseytrees.org/wp-content/uploads/2017/04/150715-Urban-Tree-Selection-Guide-reduced-size.pdf</u>



DO NOT PLANT! TREE SPECIES PROHIBITED IN HARRISBURG ??

Acer campestre – Hedge MapleAcer ginnala – Amur MapleAcer palmatum – Norway MapleAcer pseudoplatanus – Sycamore MapleAesculus hippocastanum – Common (European) HorsechestnutAilanthus altissima – Ailanthus or Tree of HeavenAlbizia julibrissin – MimosaBroussonetia papyrifera – Paper MulberryKoelreuteria paniculate – Golden RaintreeMorus alba – White MulberryPaulownia tomentosa – Princess TreePhellodendron amurense – Amur corktreePyrus calleryana – Callery Pear (including all varieties)Quercus acutiissima – Sawtooth OakUlmus pumila – Siberian Elm

SOURCES

PA Department of Agriculture Noxious Weeds List <u>Controlled Plant & Noxious Weed Lists (pa.gov)</u> DCNR Invasive Plant Fact Sheets <u>Invasive Plant Fact Sheets (pa.gov)</u> Invasive Plant Atlas of the US <u>Trees: Invasive Plant Atlas of the United States</u> Mid-Atlantic Exotic Pest Pant Council Plant List <u>https://www.invasive.org/maweeds.cfm</u>



