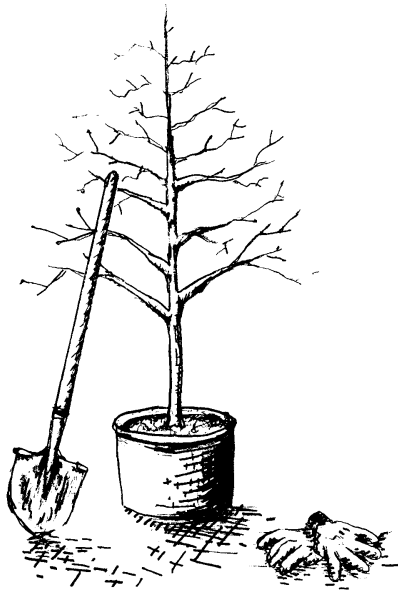


# **Trees For Houston**

## *Tree Planting Guide*



*Planting, Pruning,  
& Maintenance of Trees*

# Trees For Houston

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## Acknowledgments:

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# Trees For Houston

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**Trees For Houston** plants, protects and promotes trees. We achieve our goals through the implementation of seven areas of programming. These include:

- **Education.** The Trees for Schools program plants trees around the perimeter of about 20 schools each year, and an educational program on the value of trees and their role in the environment is given to 3rd & 4th grade students at the planted schools. Adult education is offered through our Urban ForesTree Keeper course. The class teaches the basics of tree identification, proper planting techniques, site suitability, pruning, fertilization and after planting care. It also emphasizes the important environmental role trees play in our city. Urban ForesTree Keepers will receive training in environmental awareness and basic urban forestry through 8 hours of classroom instruction and 3 hours of workshop application.
- **Membership.** Members are the foundation of our organization and they receive our newsletter and invitations to volunteer plantings, our annual Root Ball event and other organizational activities.
- **Neighborhood Projects.** Street tree planting projects initiated from within the community.
- **Parkway Projects.** Major thoroughfare street tree plantings involving the support of individuals, corporations and foundations.
- **Tribute.** A commemorative program for planting trees in honor or memory of an individual or special occasion.
- **Reforestation.** Best exemplified by the *Trees For Houston Challenge*, “Changing Houston Freeways to Treeways”, a corporate challenge to raise funds to plant seedlings and small trees along Houston’s major freeways.
- **Potting.** Partner in the “Lets Grow” Project with Chevron. Thousands of seedlings, containers and soil are provided to help plant new seedlings. The trees are nurtured by Chevron over a nine month growing out period. The trees must be planted on public land and maintained for two years.

# Trees For Houston

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## How to plant a tree so it lives

The level of care makes a difference in how trees will grow and develop. The goal of tree planting is to have a vigorous, healthy tree that lives to the limits of its natural longevity. Achieving this goal begins with careful tree selection. Next, the tree must be handled carefully until it is safely installed in its new home.

## Trees-Handle with care

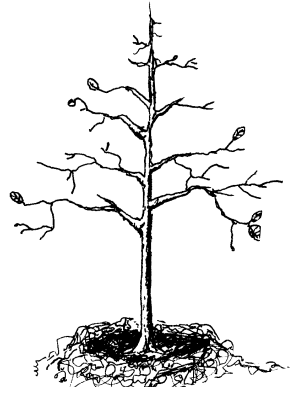
Trees are perishable products and must be treated accordingly. Reputable nursery operators know how to protect trees in shipment or while on display, but after that, it is up to you.

These two cardinal rules will help keep trees alive until they can be planted.

1. Carry trees carefully. When transporting, load and unload gently, being careful not to break branches. Always provide support beneath balled or potted plants.
2. Keep roots moist. Techniques to prevent drying vary, depending on the trees and how long you must store them before planting. Techniques include re-dampening the packing material around small bare root seedlings, which should be stored and refrigerated between 35-40°F. Bare root trees of all sizes may also be stored by placing the roots and their packing material under loose soil in a shallow trench. The garden often is a handy place to do this. While actually planting, continue to protect the roots from wind and sun by wrapping in wet burlap or carrying in a bucket with mud, moss or sawdust solution (not pure water). Balled and bur lapped or potted trees should be checked for dryness by finger-length probing into the soil. Sprinkle or water if necessary. Then store them in a cool garage or shaded area out of the wind.

## The Planting Hole

More than any other change in tree planting procedures is the new focus on the planting hole. It can be summed up by saying, "Don't plant a \$100 tree in a \$10 hole!" Proper preparation will encourage root growth rather than adding to the difficulties already challenging the young tree. Here's the way to give a tree a boost toward rapid growth and recovery from transplant shock. This method recognizes the fact that most roots spread through the top 12" of soil in a wide periphery around the tree. Therefore, slope the sides of the hole and dig or deeply root-till an area around the hole at least twice the diameter of the ball or container. An area up to five times the diameter is recommended if: (1) the soil is particularly compacted; (2) the roots of other trees will not be damaged; and (3) space and aesthetics allow.



*A properly planted tree*

## How Deep Should You Plant?

Under normal conditions, root growth is best encouraged by planting even with the surrounding terrain. When wet conditions or heavy soil are problems, raising several inches of the root ball above ground will aid the spread of the lateral roots. In arid climates, a basin can be used to collect precious water.

## Filling the Hole

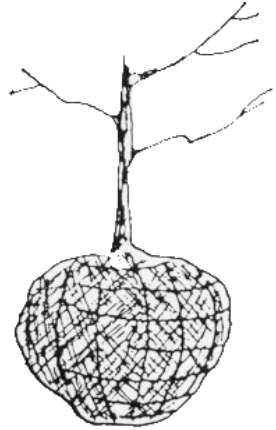
Backfill the native soil unless it is clay or other undesirable fill material. In that case, blend together one part washed sand to four parts sand loam, or bring in as much good topsoil as possible. Tamp gently and add water to fill large air spaces and to give the tree its first good drink in its new home. Do not use excessive tamping around tree base; compacted soil may inhibit the spread of roots. Rake a ridge of soil two to four inches high around the margin of the hole (outside the root area) to serve as a reservoir when watering. As the tree grows, water the surrounding soil area to encourage root spread.

# Trees For Houston

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## Planting Burlapped or Potted Trees

Carefully remove burlap from the root ball. Any kind of burlap and twine, even if biodegradable, should be cut away from the root ball. Never let remaining pieces protrude above the soil, or they can act as wicks, drying the soil. Trees in pots or cans should be gently removed before planting. Cut away the plastic or metal if the root ball does not slide out easily. Paper or plastic trunk wrappers should also be removed. This material was put on the tree to protect it during shipment and will generally do more harm than good if allowed to remain on the tree.

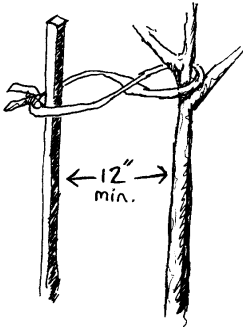
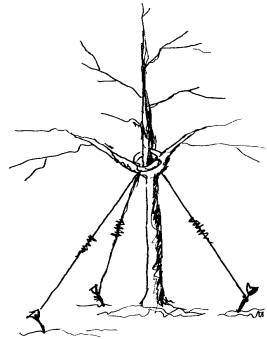


## Fertilizing

Avoid fertilizing shade trees until late spring of the second year following planting. Fertilizers can “burn” roots or stimulate crown growth faster than the roots can supply water.

## Staking

Stakes and guy wires should be used only if support is necessary. When using, avoid common problems by following these guidelines: If the main stem droops, find the best place for support ties by moving your hand up the trunk to locate the point above which the top can stand on its own. Place the support ties about six inches above that point. Ties can be made many



ways, but a loosely-fitted figure eight tie made of polyethylene, cloth or webbed strap is easy to install, provides good support and cushions the tree from rubbing against the stake. Using two ties will also minimize the chance of bark damage from rubbing. Regardless of the tie used, allow slack for sway. Avoid driving stakes through the root ball, or using stakes with flanges that will break roots when removed. Remove support ties after one or two years.

## Mulch

Mulch is a young tree's best friend. It holds down competing weeds or grass, retains soil moisture, prevents soil cracking that can damage new roots, protects the trunk from lawnmower damage and helps prevent soil compaction. Organic mulches such as wood chips or pine needles also contribute to better soil structure and aeration as they decompose. Avoid limestone rock and allow no mulch to touch the tree's trunk or be piled higher than two to three inches.

# Trees For Houston

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## Pruning

The first guide to pruning a young shade tree is to have a clear understanding about what pruning can do for the tree.

Prune modestly - if at all - when transplanting a new tree. An immediate objective must be to strengthen and expand the root system which is usually reduced by 80-90 percent during transplanting. To meet this objective, as much as possible of the leaf surface (the tree's food factory) is left intact. Only damaged or dead limbs should be removed.

After the first year, pruning should begin in earnest. Pruning with strength as the objective is the best way to avoid weak branches later on, and to prevent expensive corrections that will otherwise become necessary. Unless directions specify otherwise, it is better not to prune after planting if the tree will be watered regularly. Leaves manufacture the food needed for root growth, so the young tree needs as much of its crown as possible. Exceptions to this rule include trees that will be exposed to strong winds or drought conditions, in which cases early pruning will reduce the demand for water from the roots. Always prune dead or broken branches.

## Branch Angles and Size

Narrow angles signal a point of future weakness, whether in the trunk or crown. As the two branches grow, neither has sufficient space to add the wood needed for strength. Instead, they grow against each other, creating an effect similar to hammering in a wedge. To prevent this and the expensive problems that are sure to follow, simply remove one of the two branches. For strength, the ideal branching angle approximates ten or two o'clock.



Lateral branches should be no more than 1/2 to 3/4 the diameter of the trunk. As the trunk grows it will strengthen the joint by adding wood around the branch – like a dowel in a chair.



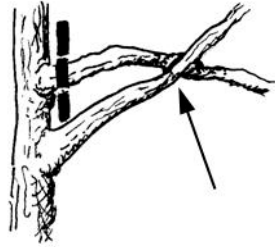
*Good branch attachment*

## Thinning and Spacing

Most trees benefit from thinning - removing a portion of the limbs that compete for space and light. Creating evenly spaced laterals, 8-12 inches apart in the young tree, is a good rule of thumb to help assure an ideal “ladder” at maturity.

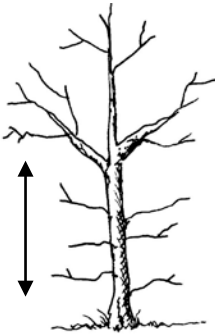
## Rubbing Branches

Branches that rub result in wounds, decay and notches. Remove one of the offending branches.



## Temporary Branches

Branches below the lowest permanent branch can protect young bark from injury from the sun and add taper and strength to the trunk. Particularly in lawn planting where lower limbs do not block passage or tempt vandals, the limbs may be left for three-four years after planting. Then remove over the next two-three years, beginning with the larger temporaries. Don't let the temporary branches become overly large and vigorous. Shorten the larger temporary branches, or remove vigorous temporaries if less vigorous ones can be selected.



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**Never, never top your tree**  
**Always know why you're pruning**  
**Know when to prune**  
**Always use the proper tool**  
**Always make proper pruning cuts**

# Trees For Houston

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## Center of Gravity

Young trees deformed by wind may be corrected by pruning. Move the tree's center of gravity to a point more central over the trunk by cutting back the leader and laterals on the downwind side (or direction of lean) of more upright branches.

## Crown Ratio

When a crown is dense, look for limbs that turn inward and those that extend beyond the "natural" outline of the crown. Prune at the trunk or down to an appropriate lateral branch. Over-pruning can damage or even kill your tree. Always maintain at least 2/3 of the tree as the live crown.

## Function

Try to imagine what the tree will look like when it is larger. If a limb is headed toward trouble (the house, walkway, sign, etc.), remove as early as possible in the life of the tree. Closure of the wound will be more complete when the limb is small, and will cause less trouble and expense. Remember, limbs do not move upward as the tree grows in height.

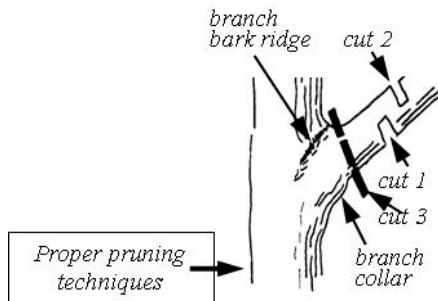
## Double Leaders

Protect the leader from competition. In trees with co-dominant leaders, remove the one with a crook or other defects, or the tree will be lop-sided in appearance.



## Keys to Good Pruning

1. **Prune early in the life of the tree** so pruning wounds are small and so growth goes where most desirable.
2. **Begin a visual inspection at the top** of the tree and work downward.
3. **Identify the best leader and lateral branches** (scaffold limbs) before pruning begins and remove defective parts before pruning them.
4. **Don't worry about protecting pruning cuts.** Pruning paints are not recommended. Research has shown that they don't prevent wood decay behind the pruning cut and may even increase the amount of wood rot by keeping the environment moist and dark. It is better to keep the wound open to air and light.
5. **Keep tools sharp.** One handed pruning shears with curved blades work best on young trees. Do not use an "anvil type" pruner.
6. **Make safety a number one priority.** For high branches, use a pole pruner. Some have both saw and lopper on the same tool. A major job on a big tree should be done by a professional arborist. Do not prune any limbs that cannot be reached from the ground. If climbing is required, hire a professional.
7. **No flush cuts.** When pruning back to the trunk of a larger limb, branches too small to have formed a collar (swollen area at base) should be cut close. Otherwise, follow the rules of good pruning of larger limbs by cutting just outside the branch ridge and collar and at a slight down-and-outward angle (so as not to injure the collar). Do not leave a protruding stub.
8. **Consider the direction of future growth.** When simply shortening a small branch, make the cut at a lateral bud or another lateral branch. Favor a bud that will produce a branch that will grow in a desired direction. The cut should be sharp and clean, and made at a slight angle about 1/4 inch beyond the bud.
9. **Finish all cuts.** Never leave a partial cut. The purpose of the first cut (1) is to ensure that when the second cut (2) is completed, the bark does not "tear" down the remaining branch. The third cut (3) finishes the job.



# Trees For Houston

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## When to Prune

When to prune depends to a large extent on why you prune. Light pruning and the removal of dead wood can be done anytime. Recognizing that individual species may differ, here are some guidelines for pruning jobs.

**Winter.** Pruning during dormancy is the most common practice. It results in a vigorous burst of new growth in the spring and should be used if that is the desired effect. It is usually best to wait until the coldest part of winter has passed. Some species, such as maples and walnuts, may “bleed” when the sap begins to flow. This is not harmful and will cease when the tree leafs out.

**Summer.** To direct the growth by “slowing” the branches you don’t want, or to “dwarf” the development of a tree or branch, pruning should be done soon after seasonal growth is complete. Reducing the total leaf surface, and thereby the amount of food manufactured and sent to the roots for their development and next year’s growth of the crown, causes this slowing effect. Summer pruning is useful for corrective purposes because defective limbs and limbs that hang down too far under the weight of leaves can be seen more easily.

**Fall.** Because decay fungi spread their spores profusely in the fall and healing of wounds seems to be slower on fall cuts, this is a good time to leave your pruning tools in storage.

**Flowering Trees.** If your purpose for pruning is to enhance flowering:



1. For trees or shrubs that bloom in summer or fall on current year’s growth (e.g., Crepe Myrtle), prune in winter.
2. For trees that bloom in spring from buds on one-year old wood (e.g., Dogwood, and flowering fruit trees), prune when their flowers fade.

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