

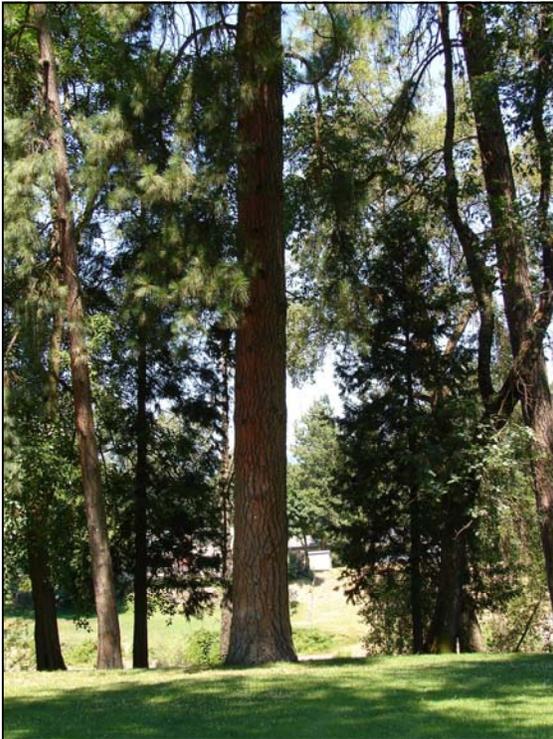
Urban Forestry Advisory Committee Photo Inventory Summary

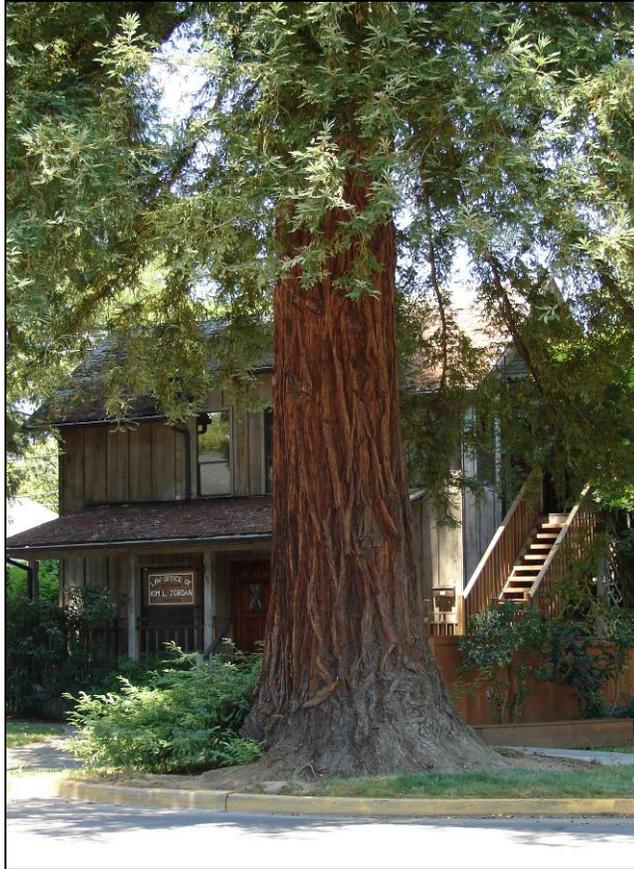
August 17, 2006

1) Old trees

Most of the old trees, trees in stands, trees that have thrived, and trees in good soils, are located in Grants Pass's city parks. The majority of these examples are conifers.

The majority of the pictures below are located within Riverside Park, which is noted by the community and visitors, as one of, if not the highlight park area for the city.





There are quite a few old trees throughout the city, such as this redwood on B St., and each year the City seeks to recognize such trees during the Arbor Day celebrations through its Significant Tree Program. The Significant Tree Program selects for tree size, vigor, suitability to the site, and other similar criteria. Since 1993, over 100 such trees have been recognized by the City in an effort to increase awareness of these valuable assets to the community. Almost half of the trees which have been recognized are native species and another quarter of the total is made up of western US trees whose native range is either very close to Grants Pass or has similar growing conditions. Here is a brief gallery of this year's winners:



102 Ft. tall Cedar of Lebanon owned by Rev. & Mrs. Boston, 518 Dean St.



100 Ft. Coast Redwoods (Group of 3 Trees), Maureen Smith & Evelyn Davis, 1249 Plummer



60 Ft. Blue Atlas Cedar, Thelma Wolff of 414 Dean St.

The above tree was planted almost 50 years ago. It is very unusual for a tree to have continual ownership over such a span of time. One of the major reasons yard trees are cut down is that new owners want low maintenance trees, are concerned about hazard trees such as limbs falling on their house, or may prefer more open space. Frequent turnover of ownership substantially contributes to private tree loss each year.

So for the purposes of this study, the term “old trees” is referring to mature, healthy, and well adapted trees. Most of the benefits outlined in Technical Memo #1 are not realized until a tree reaches maturity. The Urban Forestry Advisory Committee recommends considering the factors which prevent trees from developing to the point where functional benefits result.



2) Large canopy trees



These old trees and good shade providers are on 4th near A:

4th St. is attractive and, most importantly at this time of year, cool and inviting due to the mature trees which line it. However, some of these areas have damage to the older, larger canopied trees where a “tunnel” was cut through the canopy to accommodate power lines. The tree in the left photo is a native black oak.

There are more mature trees in the older sections of town, which is important to consider in the time lags involved to establish these conditions from new tree plantings and the need for consistent, long range policies.



The photo at left, illustrates a new development with a substantial shade tree. This example supplies evidence that attainment of notably higher percent canopy closures may not take several decades for some species.



Along Ashley Place, there is a significant difference between the two sides of the street. The right side has mature attractive trees shading houses and yards. The left side has power lines and little else. There are no sidewalks or planter strips, so in front of each house only the small front yard offers space to plant trees. This is sufficient space on the right side of the street, but the power lines on the left leave little room in front yards for trees, the space is more suited for large shrubs and a few small decorative trees. Room for larger trees is on the left in the side and back yards.



Fifteen year old street trees in downtown neighborhood. Notice the shade that these trees provide to the adjacent street and structure.



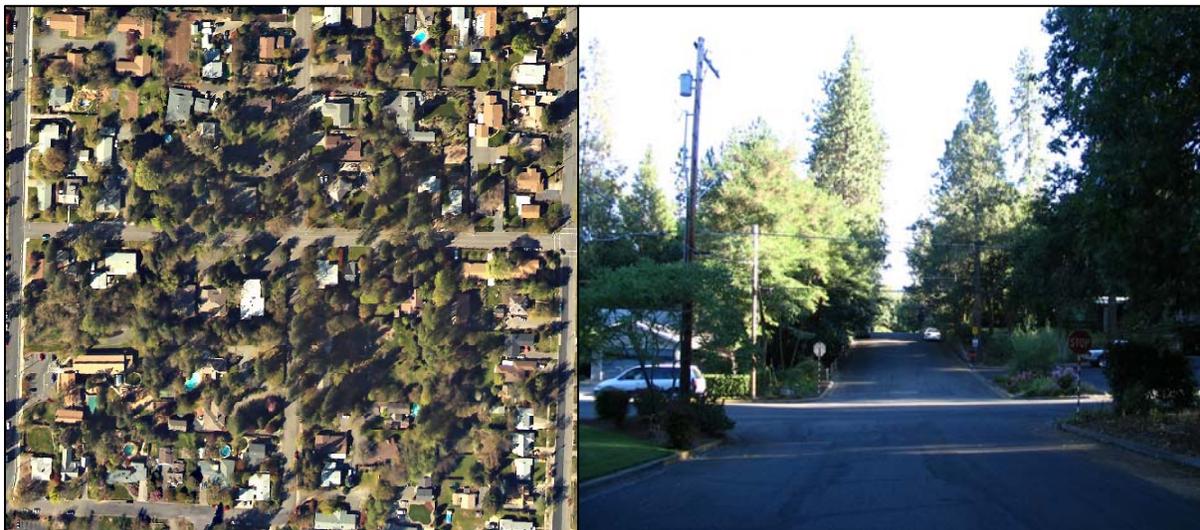
No trees or vegetation planted on boundary of properties throughout this particular neighborhood west of Redwood Avenue.

Contrasts : Adequate and inadequate shade



The aerial photo (at left) illustrates the lack of sizable canopy trees in this neighborhood. View within the neighborhood (at right) is the same area as seen from aerial (above). Many front yards have no trees. Though the neighborhood interior photos demonstrate there is insufficient to no canopy providing trees, the aerial is a more dramatic visual representation of this fact.

The aerial photo (lower left) and photo (lower right) provides a contrast to the area above. The condition below has substantially higher canopy closure. The sample photo within this neighborhood was selected within one of the highest areas for canopy closure to illustrate the potential difference in shade conditions that could be present within particular neighborhoods.



3) Trees well utilized for energy conservation (shading house)



The well placed trees in the photo, upper and lower left, cools the house with their foliage during warmer months.

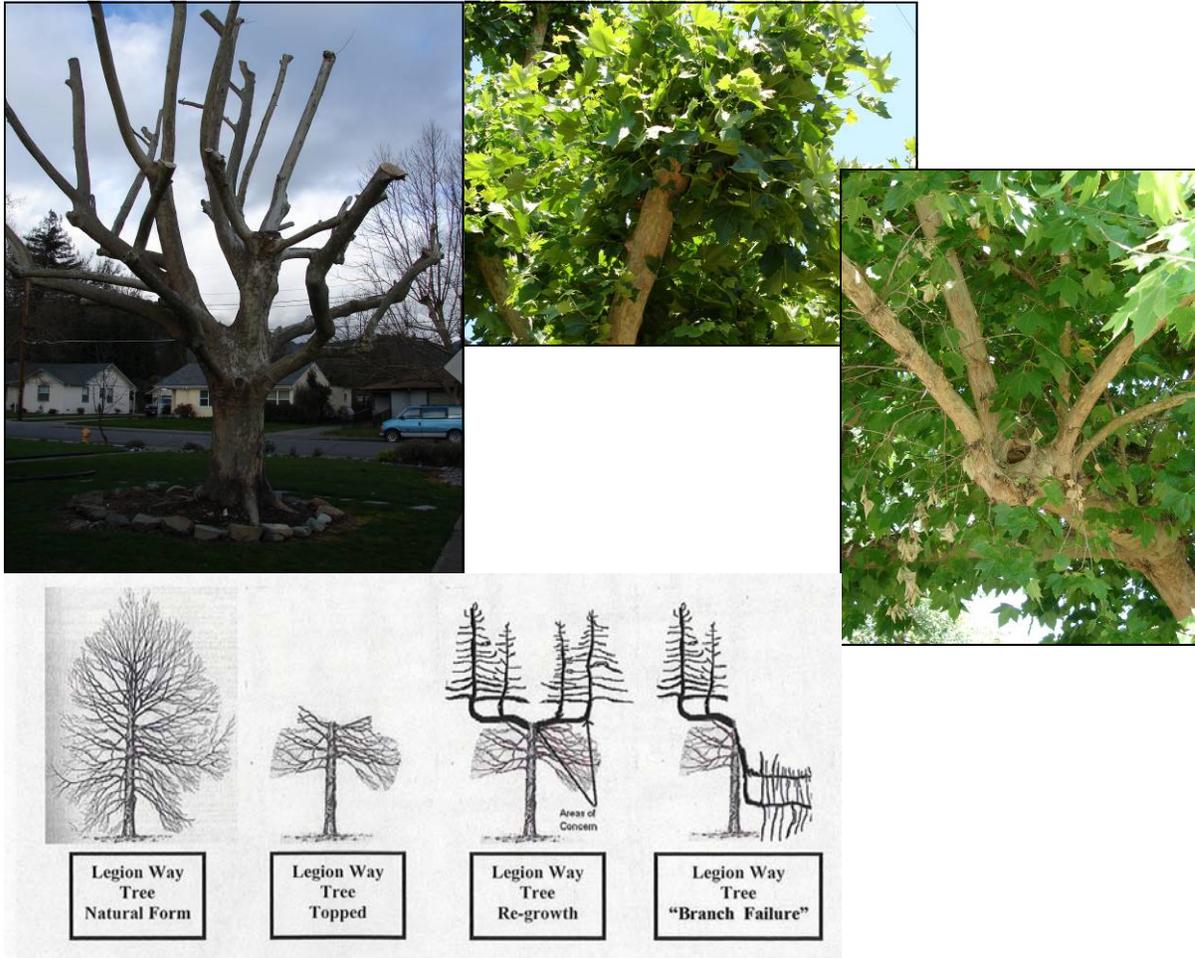


Future sources of shade

The photo at right, is a good example of street tree plantings. The smaller flowering pear at close spacing and large growing pin oaks planted on the property side of the sidewalk. In time this sidewalk will be fully shaded and the street will be adequately shaded.

4) Well pruned/poorly pruned

Topping is the severe cutting back of limbs to stubs larger than three inches in diameter within the tree's crown. This results in a large number of small shoots growing up around each stub. The sequence of these photos was taken this year on Dean Street.



Each shoot's connection to the stub is weak and as the shoots grow into limbs they become large weights which can easily break off and cause damage. See sample depiction above. Topping is done to limit the size of the tree. It used to be called "pollarding" and was a common cure for the sycamore's tendency to outgrow its space. It's now disapproved by the National Arbor Day Association and the International Society of Arboriculture.

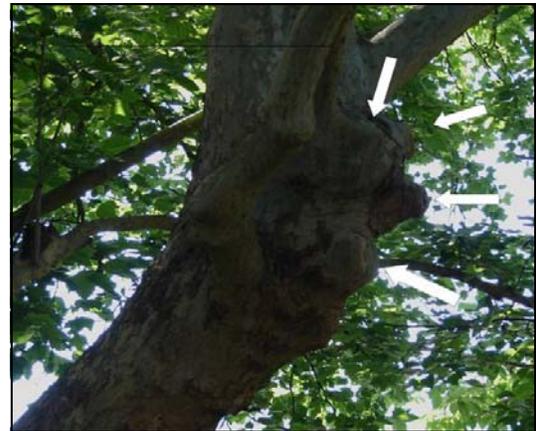
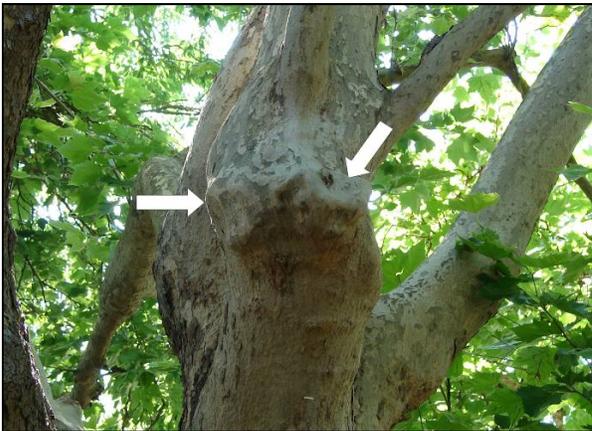
Example of corrected pruning



Sycamore on Ashley Place south of N St.

The ranch houses in this area were likely built in the 1950s or 1960s and have reached mature status. Notice the shade, the tree is likely keeping this house several degrees cooler than the neighbor's house with no shade.

When taking a closer look at the sycamore, there is evidence that it was “topped” when it was younger. Fortunately for the Ashley Place homeowner, someone reversed the effects of the pollarding by cutting several of the weak shoots and allowing just a few strong branches to develop. The scars of those branches are evident in these photos.



5) Trees thriving in difficult conditions



The city discourages planting some species of maples as street and parking trees because their roots tear up sidewalks and foundations as can be seen in this photo taken in a downtown parking lot.



The above two photos illustrate substantial shade trees surviving well within relatively narrow planting strips. Sidewalk strip at left is less than 5 ft width and sidewalk planters at right range from 4 ft by 4 ft to 4 ft by 6 ft. Some plans recommend larger size planters to accomplish the above conditions. There is evidence throughout the city where large trees are doing well in such sized planters. Further investigation is needed to determine when larger planters are necessary.

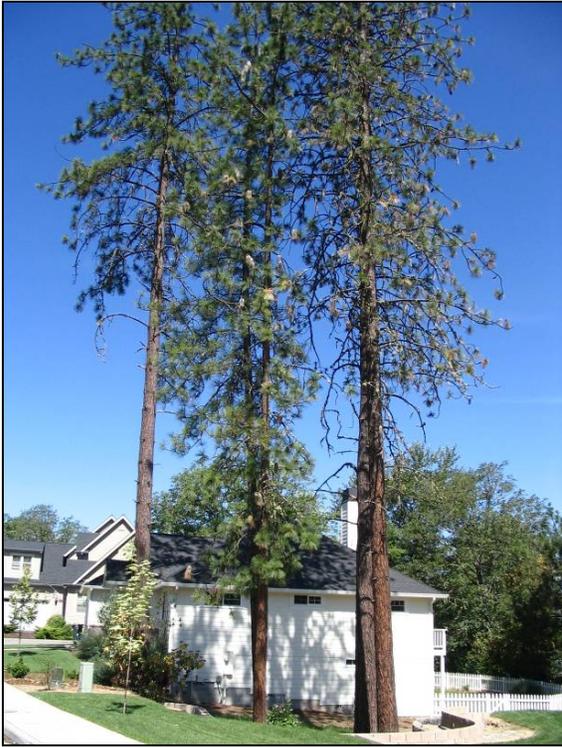
6) Stands of trees vs. individual trees

Most of the stands of trees within the city are within the parks, public land, or hillslides not yet developed.



Scattered around town, however, are a few remnants of the city's early years when land was much cheaper and people often bought enough land for a garden, a small orchard, or a screen of trees for privacy. A case in point is on the corner of Ramsey and Meridian, across from the entrance to the hospital:





Above is an example of tall conifer trees (in this case, pines) in a residential area. In retention scenarios, leaving of a few more tall trees in groups is a safer bet to protect against trees falling, though rare, as a result of high winds within valley conditions. Trees that were formerly part of larger groupings of stands may have smaller diameter trees in relation to tree height that could be more susceptible to windthrow. However, *new conifer plantings* may not need the same requirement for grouping, as trees beginning in open conditions are likely to have larger diameters in relation to height. Trees that are light limited provide for a more stable structure.



7) Ornamental trees



Ornamental maples planted at the entrance of Reinhart Park.

As used in our parks, however, ornamentals are balanced with other trees – no single species prevails. Also, these maples grow to be full sized trees with many other benefits other than fall beauty.

The same cannot always be said for trees being planted in planter strips or front yards as part of new construction. Ornamentals are being used extensively in these areas.

8) Trees that add interest to area lacking interest

Good examples





This area uses trees, shrubs, and other landscape to soften and disguise the hard edges of a parking lot on Ramsey.



Here trees obscure a non-residential structure (well house) in a Grants Pass subdivision. Since the building is not accessible to the public, it does well to screen it from view with trees.

9) Mitigating Effect of Visual Clutter

Landscape blending the lines of a large warehouse into its surroundings. Although this landscape works beautifully as a whole, only the blue atlas cedars will actually become large enough to effectively break up the outline of the very large wall.



The same idea is at work at this industrial building on M St., although less effective.

The uniform use of trees (placement, size of trees, and same species) attracts more attention to the building's outline. Diversity attracts the eye when trying to camouflage from a large basic structure.

10) Tree issues with good soils vs. poor soils

This may be both a best and a worst example. The construction requirement was to retain six mature black oaks. In addition, the parking lot is to have a minimum number of parking spaces based on the number of businesses as well as creating sufficient slope to the ground for rainwater runoff. Below are a few photos of the area as it appeared during construction.



Here are a few closer views of the trees in which we can see three causes for concern.

Part of the top soil was removed to accommodate drainage requirement. The packed road surface appears to be within the drip line of the tree, close enough to impact the roots. Over a foot of soil was deposited at the base of the trees which could smother the roots of mature trees.

11) Trees that are stunted or dying trees

Sunscalding. This maple has been in the ground several years and should have a healthy canopy. It's planted in good soil and irrigated, but at least three limbs are dead, one of which is the leader, as a result of sun scald.



Sun scald occurs when the bark of a tree is warmed by the winter sun, usually on the southwest side of the trunk. The bark and cambial tissues deacclimate and are not able to reacclimate quickly enough when the sun sets and the temperature drops abruptly. The result is damage or death of tissue, frequently of saplings that are too young to develop an insulating layer of corky bark¹.

This condition is evident in missing bark on the sun exposed side of the tree. The main problem is the missing bark which contains the tree's cambium layer. Without it the tree is not producing those cells which allow transportation of water and nutrients between leaves and roots. As a sapling, the tree lost a considerable amount of its circulatory system. The same is true for these stunted maples which have been standing against the Fred Meyer west wall for over 15 years. Even some street trees, planted and maintained by the city, have this problem. These trees do not recover and will not be able to develop into the mature canopy trees desired. Sunscald may affect as many as $\frac{1}{4}$ of new plantings.



Sunscald on trees can be prevented by wrapping the trunks with a commercially available tree wrap, burlap, or agricultural fleece. Painting the bark of young trees with white interior latex paint mixed with water (1:1 in the fall), is also an effective method. The light color reflects the sun's rays and prevents sudden temperature changes. Dark-colored mulching material will also absorb the sun's heat, rather than reflecting it onto the tree's trunk.

12) Hillside development

Worst case scenarios, development currently without trees



Hillside development without trees

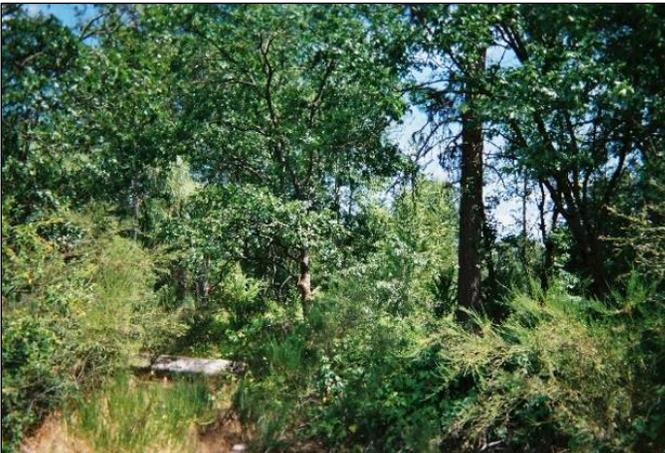


Remaining trees ineffective in providing adequate shade



Although trees may be planted, due to the extensive amount of earth moved, the success of any planted trees is greatly compromised. This is because nutrients trees need are in the first few inches of topsoil and once removed, it takes years for it to return.

13) Wildland Interface Areas



Brush field adjacent to new development, is a potential fire hazard.

Photo above captures an area that is a potential fire hazard. Dense ladder fuels are present. Should a fire start in this area, the ladder fuels could quickly carry the fire through the tree crowns and to the upper canopy resulting in stand loss.

14) Trees and powerlines

Some trees appear to coexist with powerlines fairly well while others do not.



The incense cedar, above, has lost the majority of its branches on the side adjacent to the powerline. Further research is needed to determine whether the powerline is the cause or if there is some other factor.

More information is needed to determine if there are certain species more suitable to grow around or through powerlines, rather than exclusive selection of trees that would not reach powerline height.



The trees, directly above, appear to be coexisting adjacent to, around, and/or through powerlines without creating damage to the powerline and vice versa.

15) Street trees in planter strips



Trees too small for planting devices and surrounding conditions

New subdivision street tree planting. Trees are upright flowing pears (no overhead powerlines) to limit selection of a taller and denser canopy tree. Trees are irrigated and are on east side of street.



Newer street tree in traffic calming device. Tree is not located under power lines although the tree that is planted is a low growing flowering cherry.



West Harbeck Road. Street planter strip not planted with trees as adjacent property is vacant.



Gateway location into the city along Redwood Highway. No trees planted along median.

16) Poorly chosen tree species for non-irrigated conditions



Western Redbud with no irrigation. A larger tree could have been planted in this size planter strip. Along this street over two thirds of this variety of tree have perished. Though not certain, lack of water may be the reason. The other tree variety planted in this area is the flowering pear. They have had a better survival rate.

17) Irrigated trees



Street Trees – newer subdivision with 5 ft planting strip. All trees in this subdivision are upright flowering pear. Planters are irrigated. There is a noticeable difference between the canopy conditions between this photo and the one at left.

18) Parking Lot Trees



Furthest tree at left has no lower branches and is missing half its canopy. Further investigation is needed to determine cause, such as whether poor soil conditions, or other inadequate conditions, are present.

A poor tree choice for an approximately 15 acre parking lot that has little canopy and provide essentially no shade.



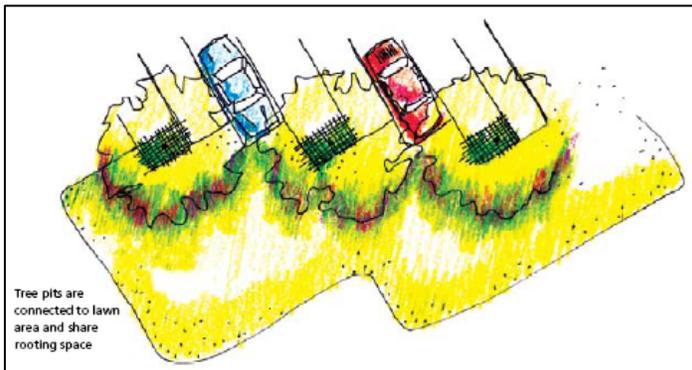
The aerial above demonstrates the lack of canopy cover in general over approximately 35 acres.

Large trees present in parking strips



Above three photos, show fairly new parking lots with medium sized tree species. Offers good shade presently and will give more in coming years.

This single tree is providing considerable shade. The health of this tree may be a result of the contiguous planter strip to other portions of vegetated land. See diagram below.



Many planter strips only contain portion 1, while the situation within the photo at left contains portions 1 and 2. Such a situation allows for wider reach of the tree's root system.

Best/worst use of space parking/street lights in planter strips



Had light been placed in a stall, this planter could support a tree.



Better use of space and planters for trees.



Another good example of a young parking lot tree planting. The species of trees selected will provide ample shade once trees reach maturity.



This example shows a large expanse of asphalt, with a large expanse of turf. There are two flowering dogwoods in the very narrow parking islands. The 20 x 20 ft lawn area presents an excellent opportunity to provide one or more large shade trees. Given that this lawn area also serves stormwater runoff a large canopy tree would be well suited here.

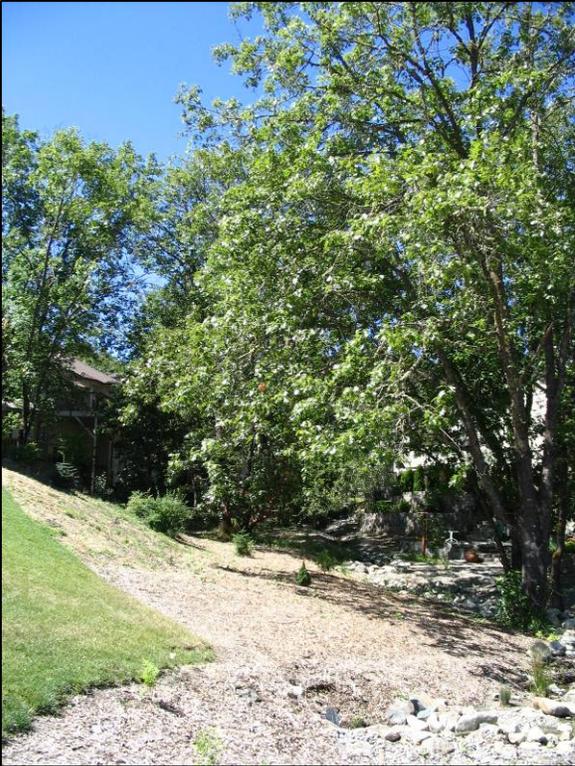


This planter is more suited for a light standard than a tree that would spread to at least 15 ft in well suited conditions. This space is 18 inches x 36 inches and the tree has been backed into by a vehicle.



The theme of the larger trees is appropriate for this parking lot, however the smaller laceleaf japanese maple is not appropriate for this location since its full potential size will remain relatively small and its dislike of radiant heat.

19) Preservation of pre-development trees



These trees are likely to remain intact as long as damage has not occurred to the roots and top soil nutrients remain after construction.



These photographs (this and the previous page) are all from the Meadow Wood Subdivision in Grants Pass. This subdivision represents excellent retention of pre-development trees with post-development homes. 84% of significant sized trees were retained. Significant trees are defined as having a diameter, of a tree measured 4.5 ft from the base of the tree, greater than 12 inches or 24 inches for a Madrone.

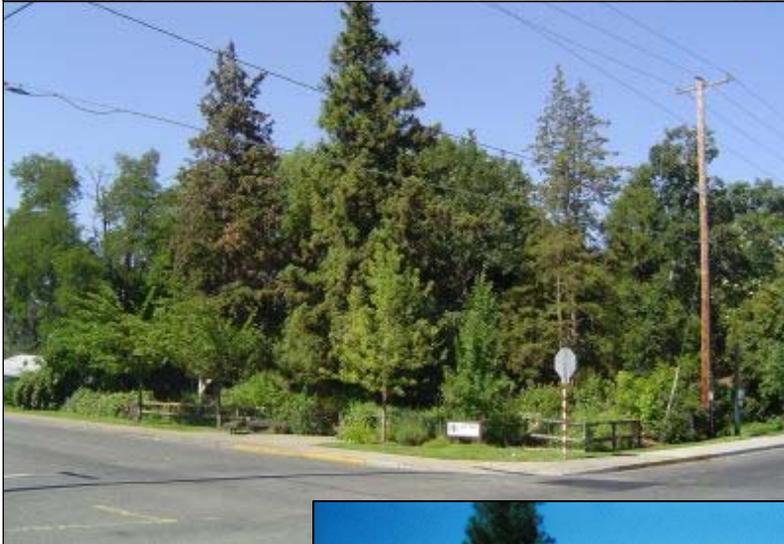
This is well in excess of the 60% retention rate required by the *City of Grants Pass Development Code*.



20) Diversity of tree species within a given location



These photos represent areas in the community with diverse tree species retained after development. Diverse stands of trees are more resilient to disease, drought, and other forms of environmental stress as well as contribute a wide variety of environmental benefits for storm water retention, nutrient cycling, processing air pollution, and wildlife habitat.



21) Trees in wetlands and wet areas



While these (oak and pine) may not be the optimum trees for wet areas, they seem to be surviving well, and, in the bottom picture, working to mitigate some stormwater run-off.



It appears that many of the wetlands within the Urban Growth Boundary have been mitigated outside of the interior. Further investigation could be completed to inventory the state of wetland retention within this boundary and its effect on storm water. Retention selection of hydrophilic tree species would assist in using trees for storm water infiltration.

22) Favorite spots

Trees along an irrigation ditch



The access easements along the Grants Pass Irrigation ditches and canals are often impromptu and unofficial neighborhood trails. In the summer months, the shaded canals are pleasant places to walk and offer a chance for area residents to recreate and have some access to nature.

View of trees along the Rogue River



Riverside Park. Provides view of old native trees to the area. Diversity of composition (height, shape, and species).



Rogue from pedestrian bridge

The community values the view along the Rogue River for a variety of reasons, one of which is several predevelopment trees are retained along its banks.

References

¹<http://cru.cahe.wsu.edu/CEPublications/eb1645/eb1645.html> (Winter Injury of Landscape Plants in the Pacific Northwest).