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Street Tree Inventory Report
Overlook Neighborhood

November 2011

Street Tree Inventory Report: Overlook Neighborhood

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Table of Contents

Project Overview 1

Neighborhood Characteristics 2

Tree Distribution 3
- Tree type distribution 3
- Species diversity 4
- Functional tree type and mature tree size distribution 5

Tree Size Distribution 5
- Tree size (relative tree age) 5

Tree Condition 7

Stocking Level 7
- Right tree in the right place 8

Replacement Values 8

Environmental and Aesthetic Benefits 9

Recommendations 11

References 13

Appendices 15
- A: Methods 15
- B: Street trees of Overlook by tree type 17
- C: Street trees of Overlook by size (map) 20
- D: Small street trees (trees <3” DBH) (map) 21
- E: Large street trees (trees > 24” DBH) (map) 22
- F: Poor and dead street trees (map) 23
- G: Available street tree planting spaces (map) 24
- H: Priority street tree planting spaces (map) 25

Volunteers guided by Portland Parks & Recreation Urban Forestry staff collected data on all 3,575 street trees within Overlook neighborhood to compile the neighborhood's first complete street tree inventory. Data is being used to inform the creation of a Neighborhood Stewardship Plan to guide volunteers in caring for their community's trees.

Project Overview

This report provides results of a street tree inventory conducted in Overlook neighborhood in 2011, along with Portland Parks & Recreation (PP&R) Urban Forestry staff recommendations to improve the condition of the urban forest.

Street trees were inventoried in Overlook in summer 2011 by trained volunteers and PP&R Urban Forestry staff. Over the course of three monthly workshops, 31 volunteers contributed 175 hours collecting data on 3,575 trees. Street trees at every tax lot in the neighborhood were inventoried; data collected included tree type (species or genus), condition, size (diameter at breast height), planting strip width, and presence of overhead high voltage lines. Data was supplemented with available planting space data collected by the Bureau of Environmental Services. Data analysis and recommendations were completed by PP&R Urban Forestry staff.

Volunteers experienced and trained in tree identification acted as team leaders, and data were collected in pairs on paper forms. Questions regarding species or site identification were answered by certified arborists or PP&R staff during data collection. Staff conducted spot checks on data to verify accuracy. Data were later digitized and entered into an ArcGIS geodatabase.

Residents of the Overlook neighborhood were essential to organizing workshops, recruiting volunteers, and promoting the project within the community. A special note of thanks is due to inventory organizer Vinny Parisi for his tireless dedication to the project.

Funding for this project was provided by PP&R Urban Forestry and an East Multnomah Soil and Water Conservation District Partners in Conservation grant.

If you would like to get involved with Overlook's urban forest, contact the Overlook Neighborhood Association by visiting www.overlookneighborhood.org or contact PP&R Urban Forestry.

Data from the inventory is available to the public in spreadsheet or ArcGIS format by contacting PP&R Urban Forestry.

Neighborhood Characteristics

Overlook neighborhood is located in north Portland (Figure 1). The Overlook neighborhood boundaries are N. Ainsworth Street to the north, Interstate 5 to the east, N. Russell Street to the south and the Willamette River to the west. The MAX Yellow Line runs along N. Interstate Avenue, through the heart of Overlook. The Swan Island Industrial Area is divided from the residential portion of the Overlook neighborhood by a series of steep, oak-woodland bluffs.

Figure 1: Location of Overlook neighborhood in Portland

Neighborhood landmarks include the Swan Island Industrial Area, Overlook House Community Center, and the Interstate Firehouse Cultural Center. Key neighborhood tree assets include the Overlook bluffs, Patton Park, Overlook Park, Madrona Park, and the Mocks Crest Property. Overlook is located in the Willamette River watershed.

According to 2000 Census data (Table 1), 67% of homes in Overlook are owner-occupied. The median income is near $39,000/year, with 11% percent of residents living below the poverty level. Compared to city-wide averages, Overlook has a lower median income, a higher perentage of homeowners occupying properties, and a comparable percentage of residents living below poverty level.

Table 1: Neighborhood and citywide demographics

Demographics (2000 Census)	Overlook	Portland
Area	2,121 acres	89,651 acres
Population	6,093	527,750
Density	3 persons/acre	6 persons/acre
Demographics	70% white; 30% non-white	72% white; 28% non-white
% of properties occupied by homeowners	67%	56%
Median income	$39,322	$43,958
% below poverty level	11%	11%

Tree Distribution

TREE TYPE DISTRIBUTION

Overlook's public rights-of-way host a diverse array of tree types (trees identified to the species or genus level). The street tree population consists of 3,575 trees of 96 types. Fifteen tree types comprise nearly 66% of the resource, leaving the remaining types to represent 2% or less of the resource each (Table 2). Norway maples are the most common tree type, representing 8.4% of all street trees. Plum, cherry, and dogwood are common species, representing 7.3%, 6.8%, and 6.4% of trees, respectively.

Table 2: Distribution of the 15 most abundant street tree types in Overlook

Common Name	Species	Number of Trees	% of Total Trees	Mean DBH
maple, Norway	*Acer platanoides*	300	8.4%	14.0
plum	*Prunus* spp.	262	7.3%	10.1
cherry	*Prunus* spp.	244	6.8%	10.3
dogwood	*Cornus* spp.	228	6.4%	7.3
maple	*Acer* spp.	201	5.6%	6.3
birch	*Betula* spp.	188	5.3%	13.3
maple, red	*Acer rubrum*	170	4.8%	9.0
pear	*Pyrus* spp.	141	3.9%	8.2
ash	*Fraxinus* spp.	123	3.4%	7.1
snowbell	*Styrax* spp.	90	2.5%	3.6
katsura	*Cercidiphyllum japonicom*	88	2.5%	6.3
crabapple	*Malus* spp.	84	2.3%	5.0
maple, paperbark	*Acer griseum*	77	2.2%	3.3
oak	*Quercus* spp.	74	2.1%	7.1
walnut	*Juglans* spp.	73	2.0%	21.0

Forty families are represented in the neighborhood, and the fifteen most abundant families comprise 90.2% of the resource. Rosaceae (rose) and Aceraceae (maple) are the most commonly found and represent 31.4% and 24.1% of trees, respectively (Table 3). Other important families include Betulaceae (birch) with 6.3%, Oleaceae (olive) with 4.1%, Fabaceae (legume) with 3.2%, and Fagaceae (beech) with 2.9%.

SPECIES DIVERSITY

A general rule of thumb for urban forest species diversity is the 10-20-30 rule (Santamour 1990). No species should represent more than 10% of the total, no genus should represent more than 20% of the total, and no family should represent more than 30% of the total. Overlook meets the species diveristy guideline for individual species, but not for genus or family. The maple genus (*Acer*) is overrepresented at 24.1% of the resource and the rose family (Rosaceae) is slightly overrepresented at 31.4% of all trees.

Table 3: Distribution of the 15 most abundant tree families in Overlook

Family Scientific Name	Family Common Name	Tree Types Included in the Family	Number of Trees	% of Total Trees
Rosaceae	rose	apple, cherry, crabapple, dogwood, hawthorn, mountain ash, peach, pear, plum	1,123	31.4%
Aceraceae	maple	boxelder, maple	863	24.1%
Betulaceae	birch	alder, birch, hazelnut, hophornbeam, hornbeam	227	6.3%
Oleaceae	olive	ash, Chinese fringe tree, lilac tree, olive	145	4.1%
Fabaceae	legume	amur maackia, black locust, golden chain tree, honey locust, mimosa tree, pagoda tree, redbud, yellow wood	116	3.2%
Fagaceae	beech	beech, chestnut, oak	104	2.9%
Ulmaceae	elm	elm, zelkova	103	2.9%
Styracaceae	styrax	snowbell	90	2.5%
Cercidiphyllaceae	katsura	katsura	88	2.5%
Pinaceae	pine	cedar, douglas-fir, fir, larch, pine, spruce	81	2.3%
Juglandaceae	walnut	pecan, walnut	75	2.1%
Magnoliaceae	magnolia	magnolia, tulip poplar	59	1.7%
Malvaceae	mallow	linden	53	1.5%
Cupressaceae	cypress	cypress, dawn redwood, incense cedar, juniper, western redcedar	53	1.5%
Sapindaceae	soapberry	golden rain tree, horsechestnut	43	1.2%

FUNCTIONAL TREE TYPE AND MATURE TREE SIZE DISTRIBUTION

Broadleaf deciduous trees dominate the landscape, accounting for 95.3% of all street trees (Table 4). Broadleaf evergreen trees comprise 0.9% and coniferous evergreen trees comprise 3.7% of the total. Tree size designation (small, medium, and large) is determined by the mature size of the tree. Medium-sized trees account for 46% of the resource and small-sized trees account for 36.1%, while large trees account for 17.9%.

Table 4: Distribution of trees by functional tree type and mature tree size

Functional Tree Type	Small	Medium	Large	Total
Broadleaf deciduous	35.3%	45.0%	15.0%	*95.3%*
Broadleaf evergreen	0.2%	0.6%	0.1%	*0.9%*
Coniferous evergreen	0.4%	0.4%	2.8%	*3.7%*
Palm evergreen	0.1%	0%	0%	*0.1%*
Total	***36.1%***	***46.0%***	***17.9%***	***100.0%***

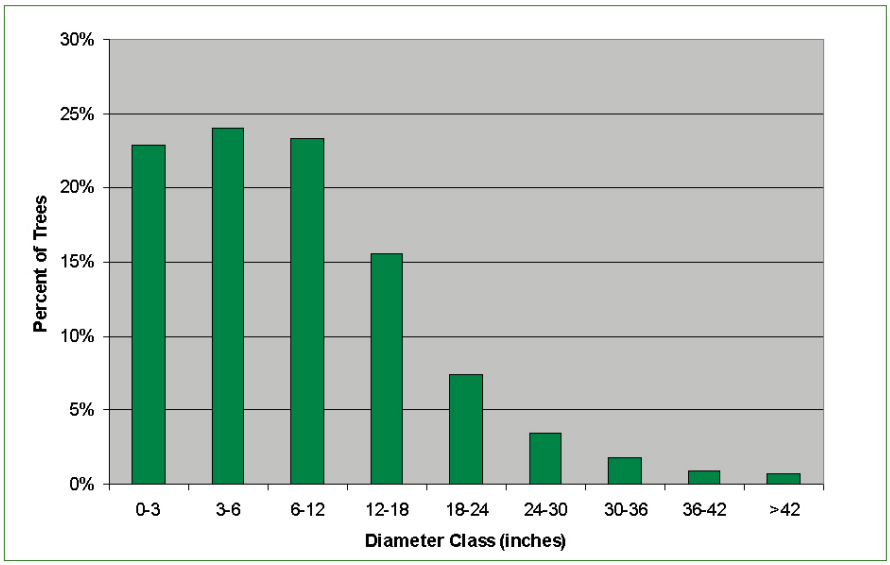
Tree Size Distribution

TREE SIZE (RELATIVE TREE AGE)

The relative ages of trees may be approximated using size measured by diameter at breast height (DBH). Generally, trees increase in size with age, along with the value of the tree and the magnitude of the benefits that the tree provides. Trees were categorized into diameter classes to show the proportion of trees at various stages of maturity (Figure 2). Note that an uneven-aged population is desirable for managing tree maintenance costs over time. Age diversity ensures that canopy coverage and community complexity are not reduced with mortality.

Overlook's streets host a wide range of tree sizes from the youngest half-inch sapling to the largest, a 60" DBH horsechestnut (*Aesculus* spp.). Nearly half (47%) of all trees are less than 6" DBH, and 6.8% are larger than 24" DBH (Figure 2). Overall, tree size distribution is skewed towards smaller (younger) trees.

Figure 2: Relative tree age (tree size by diameter class)



Tree size distributions are similar regardless of whether or not planting strips are located under high voltage power lines (Figure 3). Divided into functional size classes, Overlook's small and medium form trees dominate most diameter classes under 18" DBH (Figure 4).

Figure 3: Relative tree age (tree size by diameter class) of trees in planting strips under high voltage wires and without high voltage wires

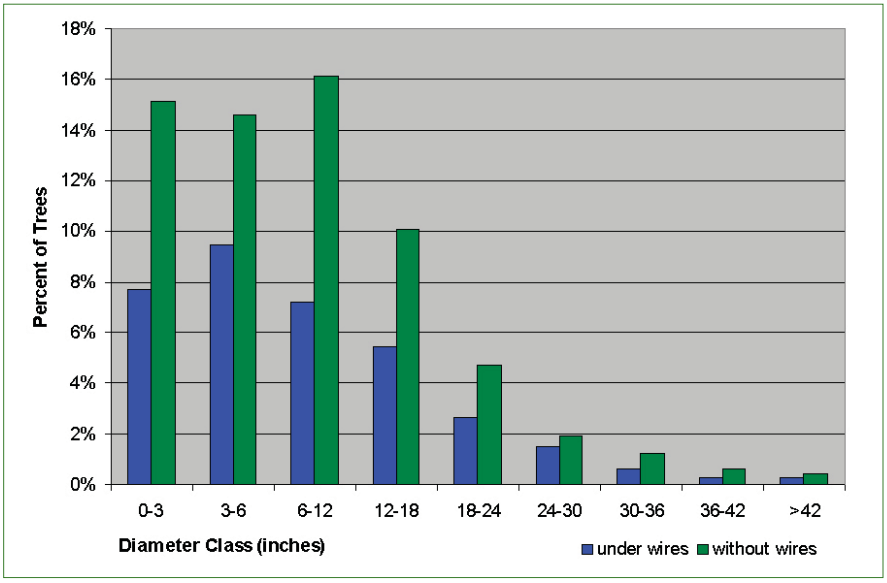
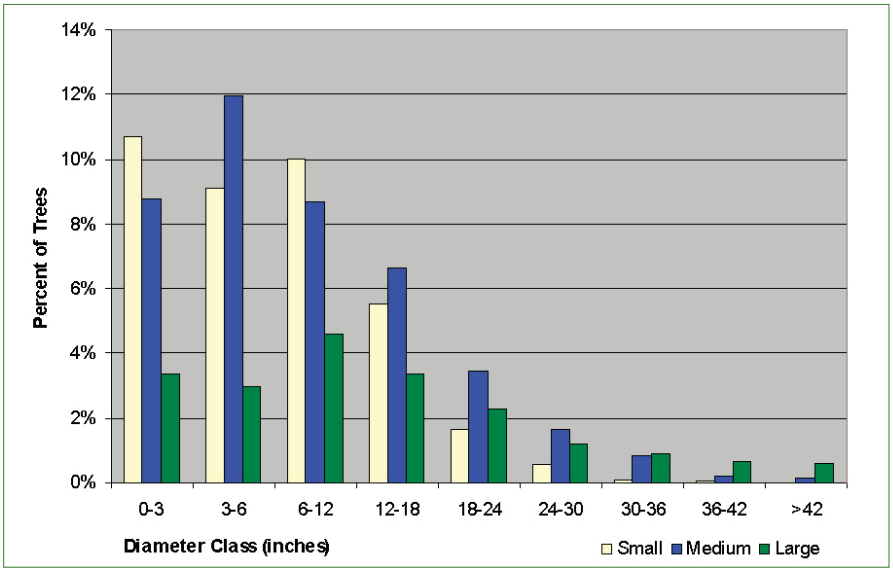


Figure 4: Relative tree age (tree size by diameter class) of trees by functional size class



Tree Condition

Tree condition was assessed by assigning trees to one of four categories: good, fair, poor, and dead. These general ratings reflect whether or not a tree is likely to continue contributing to the urban forest (good and fair trees) or whether the tree is at or near the end of its life (poor and dead trees). 59.4% of trees rated good, 33.9% rated fair, 6.0% poor, and 0.6% are dead (Table 5).

Table 5: Trees by condition class

Condition	% of Total Trees
Good	59.5%
Fair	33.9%
Poor	6.0%
Dead	0.6%

Of the most commonly found tree types, the healthiest trees were crabapple, paperbark maple, and ash, of which over 98% were rated good or fair (Table 6). In poorest condition were katsura, cherry, and plum, of which at least 10% rated poor.

Table 6: Condition class percentages and numbers of trees for the 15 most abundant tree types

Common Name	Species	% of Total Trees (Number of Trees)		
		Good	Fair	Poor
maple, Norway	*Acer platanoides*	65.3% (196)	28.3% (85)	6.3% (19)
plum	*Prunus* spp.	40.8% (107)	48.9% (128)	10.3% (27)
cherry	*Prunus* spp.	49.6% (121)	38.9% (95)	11.5% (28)
dogwood	*Cornus* spp.	62.7% (143)	33.8% (77)	3.5% (8)
maple, other	*Acer* spp.	63.7% (128)	30.8% (62)	5.5% (11)
birch	*Betula* spp.	51.6% (97)	43.6% (82)	4.8% (9)
maple, red	*Acer rubrum*	69.4% (118)	28.2% (48)	2.4% (4)
pear	*Pyrus* spp.	51.8% (73)	45.4% (64)	2.8% (4)
ash	*Fraxinus* spp.	61.8% (76)	36.6% (45)	1.6% (2)
snowbell	*Styrax* spp.	83.3% (75)	14.4% (13)	2.2% (2)
katsura	*Cercidiphyllum japonicom*	51.1% (45)	26.1% (23)	22.7% (20)
crabapple	*Malus* spp.	42.9% (36)	56.0% (47)	1.2% (1)
maple, paperbark	*Acer griseum*	79.2% (61)	19.5% (15)	1.3% (1)
oak	*Quercus* spp.	79.7% (59)	12.2% (9)	8.1% (6)
walnut	*Juglans* spp.	45.2% (33)	50.7% (37)	4.1% (3)

Stocking Level

STOCKING LEVEL

Street tree stocking level reflects the percentage of planting spaces that are currently occupied by trees. Overlook's stocking level for residential areas is 64% (Table 7). Stocking level data was provided by the Bureau of Environmental Services and excludes commercial, industrial, and multi-family residential sites.

Table 7: Street tree stocking level data for single-family residential lots

Planting Strip Code and Description	Available Planting Spaces	Existing Trees	Total Spaces	Stocking Level
A 2.5-3' with or without wires	96	124	220	56%
B 3-4' with or without wires	683	751	1,434	52%
C 4-6' without wires	127	167	294	57%
D 4-6' with wires	76	112	188	60%
E 6-8.5' without wires	222	448	670	67%
F >6' with wires	292	724	1,016	71%
G >8.5' without wires	185	711	896	79%
Totals	*1,681*	*3,037*	*4,718*	*64%*

Planting space availability is subject to a number of guidelines, including width of the planting strip, presence/absence of high voltage power lines, and distance from conflicts (property lines, stop signs, etc). In single-family residential lots, 1,681 empty spaces have been identified for tree planting in Overlook. Planting spaces are categorized into planting strip categories based upon width and overhead wire presence. Higher stocking levels are generally observed in larger planting strips, and planting strips larger than six feet in width are at least 67% stocked.

RIGHT TREE IN THE RIGHT PLACE

Tree placement is vital for maximizing the benefits trees provide and minimizing avoidable costs. The right tree in the right place will experience fewer obstacles to reaching maturity and is easier to maintain.

Large planting strips without high voltage power lines provide the best opportunity for expanding canopy and maximizing benefits from trees. A small-growing tree in a large planting strip represents a missed opportunity, as it will not live as long or grow as large as a larger-growing tree. In 6-8.5' wide planting strips without wires, 42% of trees are undersized for the strip (Table 8). In planting strips 8.5' or great without wires, 63% of trees are undersized for the strip.

Table 8: Percentage and number of adequately sized trees growing in large planting strips without wires

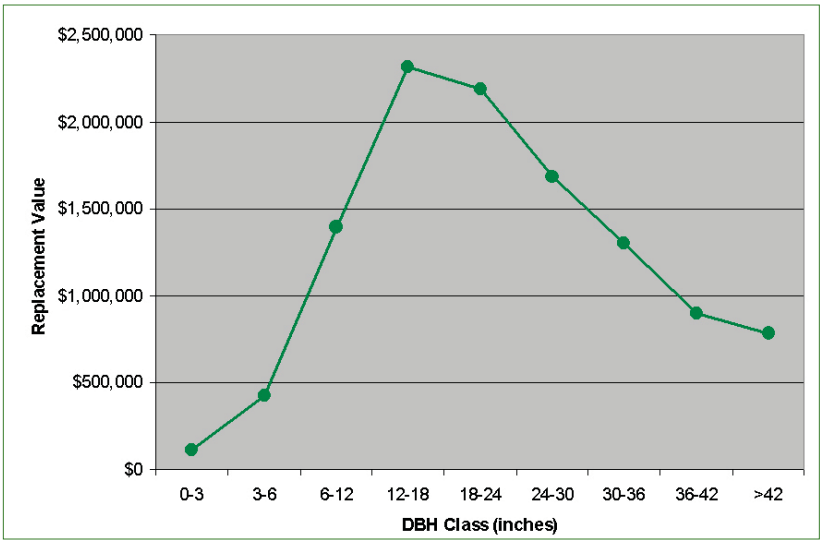
Planting Strip Code and Description	Tree species planted are large enough for strip	Tree species planted are too small for strip
E 6-8.5' without wires	58% (158)	42% (114)
G >8.5' without wires	37% (405)	63% (676)

Replacement Values

Replacement values for street trees in Overlook were calculated using iTree Streets, an urban forest analysis software suite developed by the USDA Forest Service. A replacement value is an estimate of the full cost of replacing a tree in its current condition, should it be removed for some reason. Species ratings, replacement costs, and basic prices were obtained for each species from regional appraisal guides.

The replacement cost of Overlook's tree population is valued at $11,104,640. The most valuable size classes of trees are those between 12" DBH and 18" DBH (Figure 5). Replacement values are the highest for Norway maple ($1,721,235), birch ($732,527), and walnut ($665,173).

Figure 5: Replacement values of trees by diameter class (inches)



Environmental and Aesthetic Benefits

Using iTree Streets, Overlook's street tree population was assessed to quantify the dollar value of annual environmental services and aesthetic benefits provided by trees: energy conservation, air quality improvement, carbon dioxide reduction, stormwater control, and property value increase. The model relies on tree size and species, as well as current pricing for electricity rates, median home resale value, regional stormwater interception costs, and costs of tree maintenance.

Overlook's street trees provide nearly $295,000 annually in environmental services and aesthetic benefits, as calculated by iTree Streets (Table 9). Annual benefits are valued by category at approximately $15,000 in energy savings, $2,800 in carbon sequestration, $4,700 in air quality improvement, $61,000 in storm water management, and $212,000 in aesthetic and other benefits. Each tree provides an average of $82 worth of benefits annually.

Table 9: Valuation of the environmental and aesthetic benefits provided annually by Overlook's trees

Benefits	Total ($)	$ / Tree
Energy savings	$14,592	$4.08
Carbon sequestration	$2,806	$0.78
Air quality improvement	$4,720	$1.32
Stormwater processing	$60,622	$16.96
Aesthetics	$211,822	$59.25
Total benefits	***$294,562***	***$82.39***

Of the most common tree types, Norway maple, oak, walnut, and red maple provided the highest annual per tree benefits, at least $110/tree (Table 10). Snowbell, crabapple, and dogwood provided the least amount of benefits at half or less of the average per tree.

Table 10: Average annual environmental and aesthetic benefits provided by Overlook's most abundant street tree types

Tree Type	Energy	CO2	Air Quality	Storm water	Aesthetic/ Other	Total ($) per tree
ash	$2.37	$0.50	$0.92	$10.76	$64.31	*$78.85*
birch	$5.18	$0.40	$1.71	$21.98	$53.09	*$82.36*
cherry	$3.02	$1.46	$1.06	$8.57	$42.70	*$56.80*
crabapple	$1.11	$0.41	$0.38	$2.77	$17.31	*$21.98*
dogwood	$1.93	$0.82	$0.67	$5.13	$28.28	*$36.84*
Japanese snowbell	$0.67	$0.28	$0.23	$1.76	$11.64	*$14.59*
katsura tree	$2.19	$0.28	$0.50	$8.10	$53.05	*$64.12*
maple, Norway	$8.27	$1.29	$2.79	$37.01	$101.23	*$150.59*
maple, other	$3.37	$0.40	$1.08	$12.00	$61.72	*$78.56*
maple, paperbark	$1.06	$0.20	$0.31	$4.23	$63.77	*$69.58*
maple, red	$5.23	$0.59	$1.65	$17.87	$85.50	*$110.83*
oak	$4.30	$0.70	$1.38	$17.73	$105.42	*$129.52*
pear	$3.72	$0.47	$0.85	$14.21	$67.99	*$87.24*
plum	$2.79	$1.20	$0.97	$7.46	$40.05	*$52.46*
walnut	$10.53	$1.84	$3.43	$46.56	$116.50	*$178.88*

Recommendations

Based on street tree inventory data presented in this report, PP&R Urban Forestry staff make the following recommendations for Overlook neighborhood.

PLANTING

- Overlook's street tree stocking level is 64% and 1,681 spaces have been identified for planting street trees.
- Planting opportunities should be prioritized to plant large-form trees in large planting strips (>6') without overhead wires. In these planting strips, 407 spaces have been identified for planting.
- Planting in the smallest planting strips is not a priority, as they are more difficult to manage and provide very little return on investment. However, all plantings help contribute to a neighborhood "tree ethic" and encourage others to plant.
- Plantings should continue to include a diverse array of species, genera, and families, particularly those other than maple (*Acer*) and in the rose (Rosaceae) family.
- Take advantage of existing planting programs, such as low cost trees through Friends of Trees. These plantings are currently subsidized by the City for the next few years; afterwards cost and availability may change.

YOUNG TREE ESTABLISHMENT AND MAINTENANCE

- With 47% of trees being 6" DBH or less, special attention should be paid to properly water and establish young trees. Small trees represent the future generation of street trees, and early care and training will pay off in future benefits.
- Young trees should be structurally pruned to promote proper form as street trees. This includes removing low limbs for pedestrian and traffic clearance and removing codominate leaders. This is critical in the first ten years after planting.
- Educate property owners on how to properly care for trees (pruning, watering, and root barriers) in order to reduce and delay future problems and conflicts with infrastructure.

MATURE TREE MAINTENANCE

- With 6.8% of trees being larger than 24" DBH, special care should be taken to maintain and care for larger trees. Trees provide the most benefits as they reach maturity, and without early maintenance, tree care is the most expensive for large trees. Increasing the level of maintenance of large, old trees will maximize the ecosystem services provided by these high value members of the urban forest.
- Seek funding or assistance for low-income property owners to care for mature trees.

- Retain existing large trees in fair and good condition. Benefits and time are lost when older trees are removed and replaced with smaller tree species.
- Promote the importance and benefits of large-form species and mature trees within the community.

REMOVALS

- Encourage removal and replacement of dead trees and trees in poor condition.
- Encourage replacement of underperforming species, including undersized trees in large rights-of-way, with higher functioning, appropriately sized trees.

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Appendices

Appendix A: Methods

Street trees were inventoried in summer 2011 by trained volunteers and PP&R Urban Forestry staff. Street trees at every tax lot in the neighborhood were inventoried, except in industrial areas, which were excluded. Street trees are located in the public right-of-way, typically between the sidewalk and curb.

Data collected included tree type (species or genus), condition, size (diameter at breast height), planting strip width, and presence of overhead high voltage lines.

Tree type: trees were identified to the genus or species. Six maple species were identified to the species level, and these are bigleaf (*Acer macrophyllum*) Japanese (*A. palmatum*), Norway (*A. platanoides*), paperbark (*A. griseum*), red (*A. rubrum*) and silver (*A. saccharinum*) maple. All other maple species were identified as "maple, other." Tree types of dead trees are listed as "unknown" as identification was difficult.

Tree condition: trees were rated as either good, fair, poor, or dead. These general ratings reflect whether or not a tree is likely to continue contributing to the urban forest (good and fair trees) or whether the tree is at or near the end of its life (poor and dead trees). The following guidelines were used.

Good: tree is healthy and vigorous with no apparent problems. Bark is undamaged, trunk is sound and solid, and crown is full.

Fair: Tree is in average condition. Tree many need some pruning and have some dead branches. Damage to bark is minimal and there is no decay on trunk. Other problems are minimal.

Poor: tree is in a general state of decline as indicated by the presence of cavities, conks, decay, and many dead branches.

Dead: Tree is dead or close to dying.

Tree size: Diameter at breast height (4.5' above ground) was measured with a diameter tape. Measurements of trees with branches, forks, or swelling at 4.5' were taken lower on the tree. Trees with multiple stems close to ground level were measured individually, and PP&R staff made final diameter calculations in the office.

Planting strip width: Planting strip width was measured from the inside of the curb to the sidewalk.

High voltage wires: Only high voltage wires were recorded.

Inventory data was supplemented with available planting space data collected by the Bureau of Environmental Services in 2010 and 2011. BES canvassing staff recorded the number of trees present and available spaces for trees by taxlot in single-family residential areas. This data was used to calculate stocking level.

Volunteer neighborhood coordinators recruited volunteers to conduct street tree inventories during three Saturday work days. Volunteers interested in being inventory "team leaders" attended a 3.5 hour training to learn to identify tree species and site conditions, and how to collect and record data.

During work days, team leaders were paired with novice volunteers to collect data in a three to four block area. Groups were given a clipboard containing a map, data entry sheets, tree type abbreviations, and a list of trees planted by Friends of Trees in the neighborhood. Volunteers wore safety vests and carried a diameter tape, tree identification book, and bags for collecting samples.

In addition to PP&R staff, one or more volunteer "arborists-on-call" was available on inventory work days to assist volunteers with questions. Accuracy was stressed as highly important, and volunteers utilized the arborist-on-call to verify species identification as questions arose. Data was collected on paper maps and forms, and later digitized in ArcGIS by PP&R staff.

Accuracy of volunteer-collected data was checked by PP&R staff and corrections made as necessary. Remaining areas not completed during inventory work days were inventoried by volunteer team leaders and PP&R staff. In Overlook, 64% of the inventory was collected by volunteers and 36% by PP&R staff. Spot-checks of the final data set found species identifications to be 95% accurate.

Appendix B: Trees of Overlook by tree type

Common Name	Scientific Name	Number of Trees	% of Total Trees	Mean DBH
alder	*Alnus* spp.	9	0.3%	6.3
American sycamore	*Platanus occidentalis*	2	0.1%	21.4
amur maackia	*Maackia amurensis*	9	0.3%	4.6
apple	*Malus domestica*	59	1.7%	4.6
arborvitae	*Thuja arborvitae*	10	0.3%	5.1
ash	*Fraxinus* spp.	123	3.4%	7.1
beech	*Fagus* spp.	23	0.6%	7.4
birch	*Betula* spp.	188	5.3%	13.3
black locust	*Robinia pseudoacacia*	12	0.3%	23.2
boxelder	*Acer negundo*	9	0.3%	15.2
camellia	*Camellia* spp.	2	0.1%	6.0
cascara	*Rhamnus purshiana*	26	0.7%	2.5
catalpa	*Catalpa* spp.	6	0.2%	13.1
cedar	*Cedrus* spp.	13	0.4%	19.7
cherry	*Prunus* spp.	244	6.8%	10.3
chestnut	*Castanea* spp.	7	0.2%	15.0
Chinese fringe tree	*Chionanthus retusus*	1	0.0%	2.3
citrus	*Citrus* spp.	1	0.0%	4.0
crabapple	*Malus* spp.	84	2.3%	5.0
crape myrtle	*Lagerstroemia indica*	19	0.5%	4.4
cypress	*Chamaecyparis* spp.	15	0.4%	8.0
dawn redwood	*Metasequoia glyptostroboides*	2	0.1%	3.7
dogwood	*Cornus* spp.	228	6.4%	7.3
douglas-fir	*Pseudotsuga menziesii*	8	0.2%	24.2
elm	*Ulmus* spp.	55	1.5%	21.1
empress tree	*Paulownia tomentosa*	8	0.2%	5.1
eucalyptus	*Eucalyptus* spp.	7	0.2%	5.6
fig	*Ficus* spp.	8	0.2%	2.1
fir	*Abies* spp.	7	0.2%	13.4
ginkgo	*Ginkgo biloba*	35	1.0%	3.7
glorybower	*Clerodendron* spp.	33	0.9%	5.9
golden chain tree	*Laburnum anagyroides*	14	0.4%	7.2
golden rain tree	*Koelreuteria paniculata*	34	1.0%	6.0
hackberry	*Celtis occidentalis*	3	0.1%	7.8
hawthorn	*Crataegus* spp.	65	1.8%	11.9
hazelnut	*Corylus* spp.	3	0.1%	5.4
holly	*Ilex* spp.	7	0.2%	7.4
honey locust	*Gleditsia triacanthos*	21	0.6%	9.9
hophornbeam	*Ostrya* spp.	3	0.1%	1.6
hornbeam	*Carpinus* spp.	24	0.7%	9.8

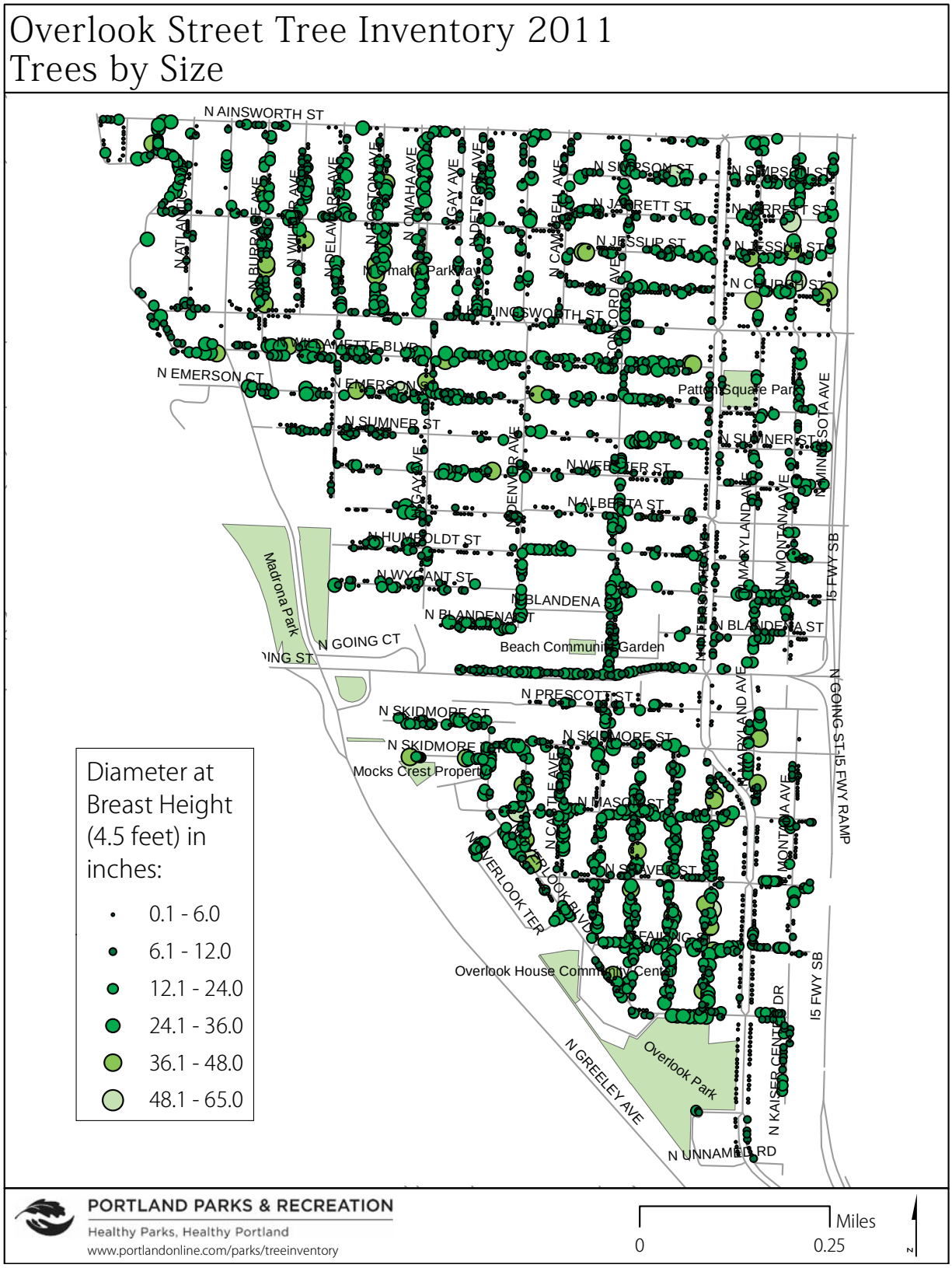
Appendix B continued

Common Name	Scientific Name	Number of Trees	% of Total Trees	Mean DBH
horsechestnut	*Aesculus* spp.	9	0.3%	38.3
incense cedar	*Calocedrus decurrens*	1	0.0%	33.6
juniper	*Juniperus* spp.	6	0.2%	24.7
katsura	*Cercidiphyllum japonicom*	88	2.5%	6.3
larch	*Larix* spp.	3	0.1%	12.0
lilac tree	*Syringa reticulata*	19	0.5%	4.7
linden	*Tilia* spp.	53	1.5%	13.7
London plane	*Platanus acerifolia*	9	0.3%	28.1
madrone	*Arbutus menziesii*	2	0.1%	6.2
magnolia	*Magnolia* spp.	11	0.3%	15.8
magnolia, southern	*Magnolia grandiflora*	36	1.0%	3.2
maple, other	*Acer* spp.	201	5.6%	6.3
maple, bigleaf	*Acer macrophyllum*	9	0.3%	26.6
maple, japanese	*Acer palmatum*	69	1.9%	4.9
maple, Norway	*Acer platanoides*	300	8.4%	14.0
maple, paperbark	*Acer griseum*	77	2.2%	3.3
maple, red	*Acer rubrum*	170	4.8%	9.0
maple, silver	*Acer saccharinum*	28	0.8%	20.8
mimosa tree	*Albizia julibrissin*	10	0.3%	13.5
monkey puzzle	*Araucaria araucana*	1	0.0%	5.2
mountain ash	*Sorbus* spp.	27	0.8%	11.9
myrtlewood	*Umbellularia californica*	4	0.1%	8.6
oak	*Quercus* spp.	74	2.1%	7.1
olive	*Olea* spp.	2	0.1%	1.0
osage orange	*Maclura pomifera*	1	0.0%	1.5
pagoda tree	*Sophora japonica*	4	0.1%	4.1
palm	*Trachycarpus* spp.	5	0.1%	3.5
peach	*Prunus persica*	2	0.1%	1.8
pear	*Pyrus* spp.	141	3.9%	8.2
pecan	*Carya* spp.	2	0.1%	15.1
Persian ironwood	*Parrotia persica*	35	1.0%	3.6
persimmon	*Diospyros* spp.	4	0.1%	1.8
pine	*Pinus* spp.	33	0.9%	16.6
plum	*Prunus* spp.	262	7.3%	10.1
poplar	*Populus* spp.	1	0.0%	8.5
Prunus, other	*Prunus* spp.	11	0.3%	9.6
redbud	*Cercis canadensis*	42	1.2%	3.1
smoketree	*Cotinus* spp.	4	0.1%	3.2
snowbell	*Styrax spp.*	90	2.5%	3.6
sourwood	*Oxydendrum arboreum*	5	0.1%	1.3

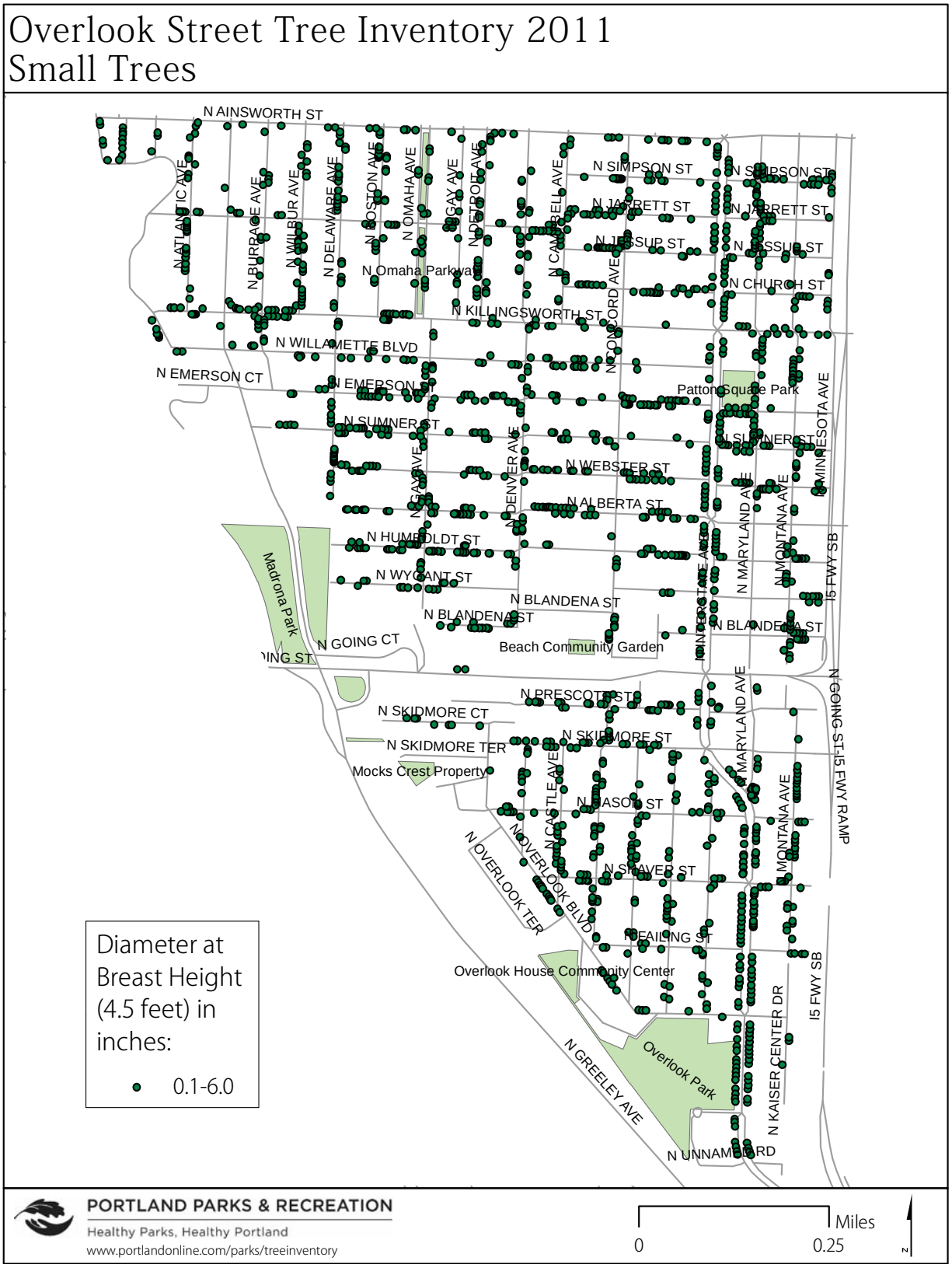
Appendix B continued

Common Name	Scientific Name	Number of Trees	% of Total Trees	Mean DBH
spindle tree	*Euonymus* spp.	1	0.0%	2.7
spruce	*Picea* spp.	17	0.5%	12.1
stewartia	*Stewartia pseudocamellia*	13	0.4%	2.0
strawberry tree	*Arbutus* spp.	2	0.1%	1.0
sumac	*Rhus* spp.	2	0.1%	7.2
sweetgum	*Liquidambar styraciflua*	38	1.1%	16.2
sycoparrotia	*Sycoparrotia* X *sycoparrotia*	1	0.0%	1.5
tree of heaven	*Ailanthus altissima*	15	0.4%	17.2
tulip poplar	*Liriodendron tulipifera*	12	0.3%	14.4
tupelo	*Nyssa sylvatica*	2	0.1%	1.2
unknown	unknown	29	0.8%	5.1
walnut	*Juglans* spp.	73	2.0%	21.0
western redcedar	*Thuja plicata*	19	0.5%	24.3
willow	*Salix* spp.	21	0.6%	14.2
yellow wood	*Cladrastis lutea*	4	0.1%	3.3
zelkova	*Zelkova serrata*	48	1.3%	4.9
Grand Total		*3,575*	*100%*	*9.6*

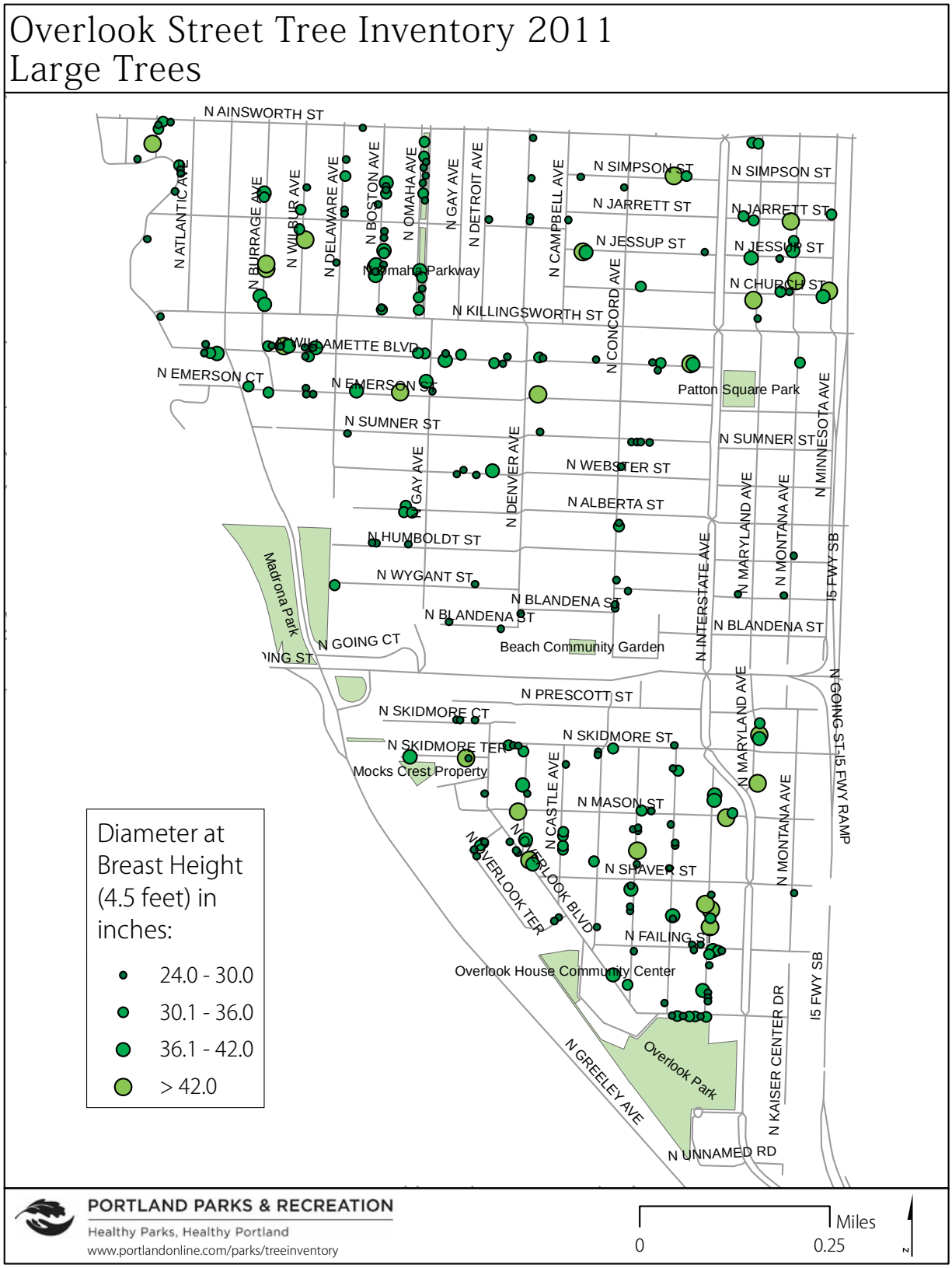
Appendix C: Street trees of Overlook by size



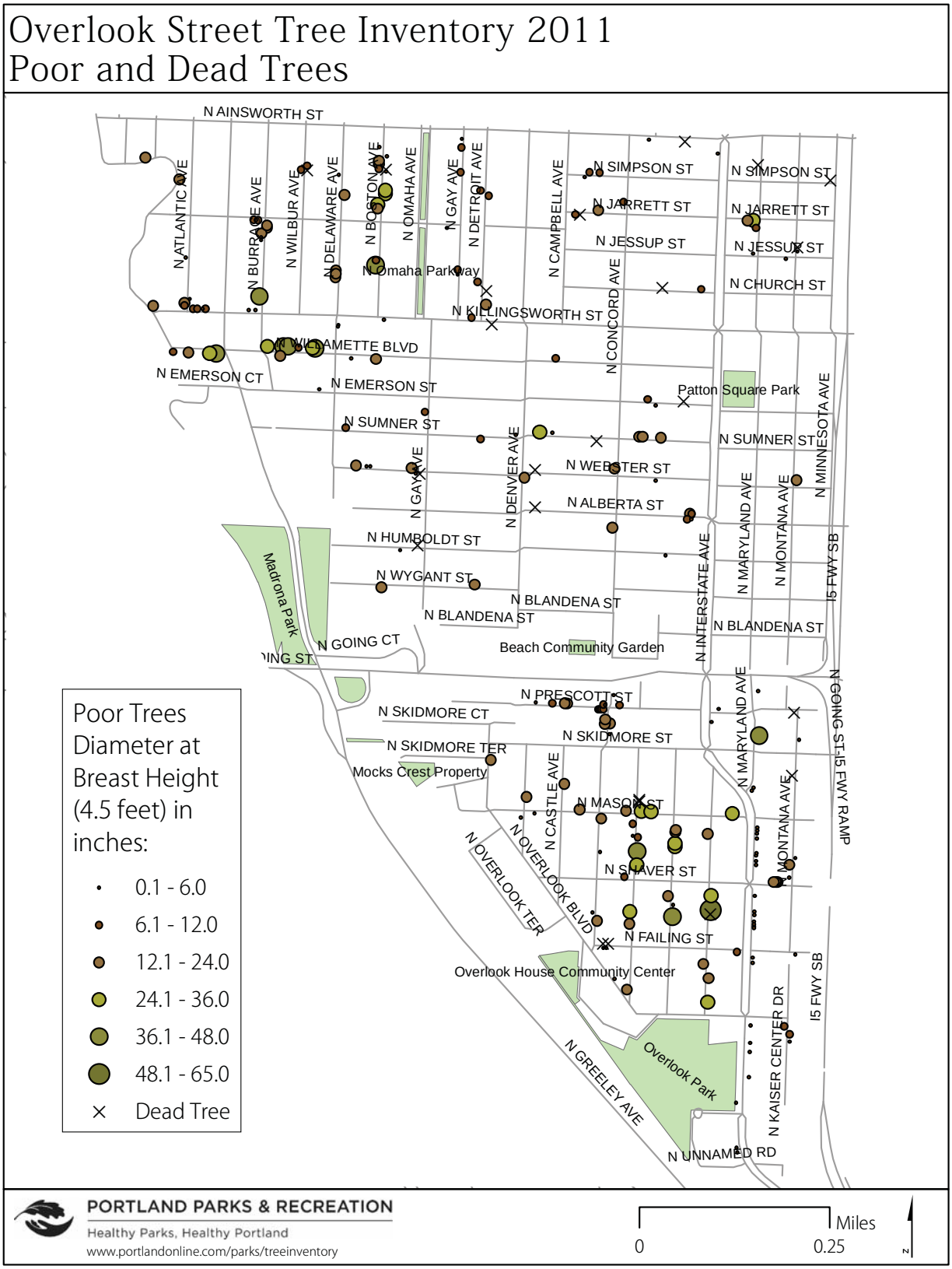
Appendix D: Small street trees (trees < 6” DBH)



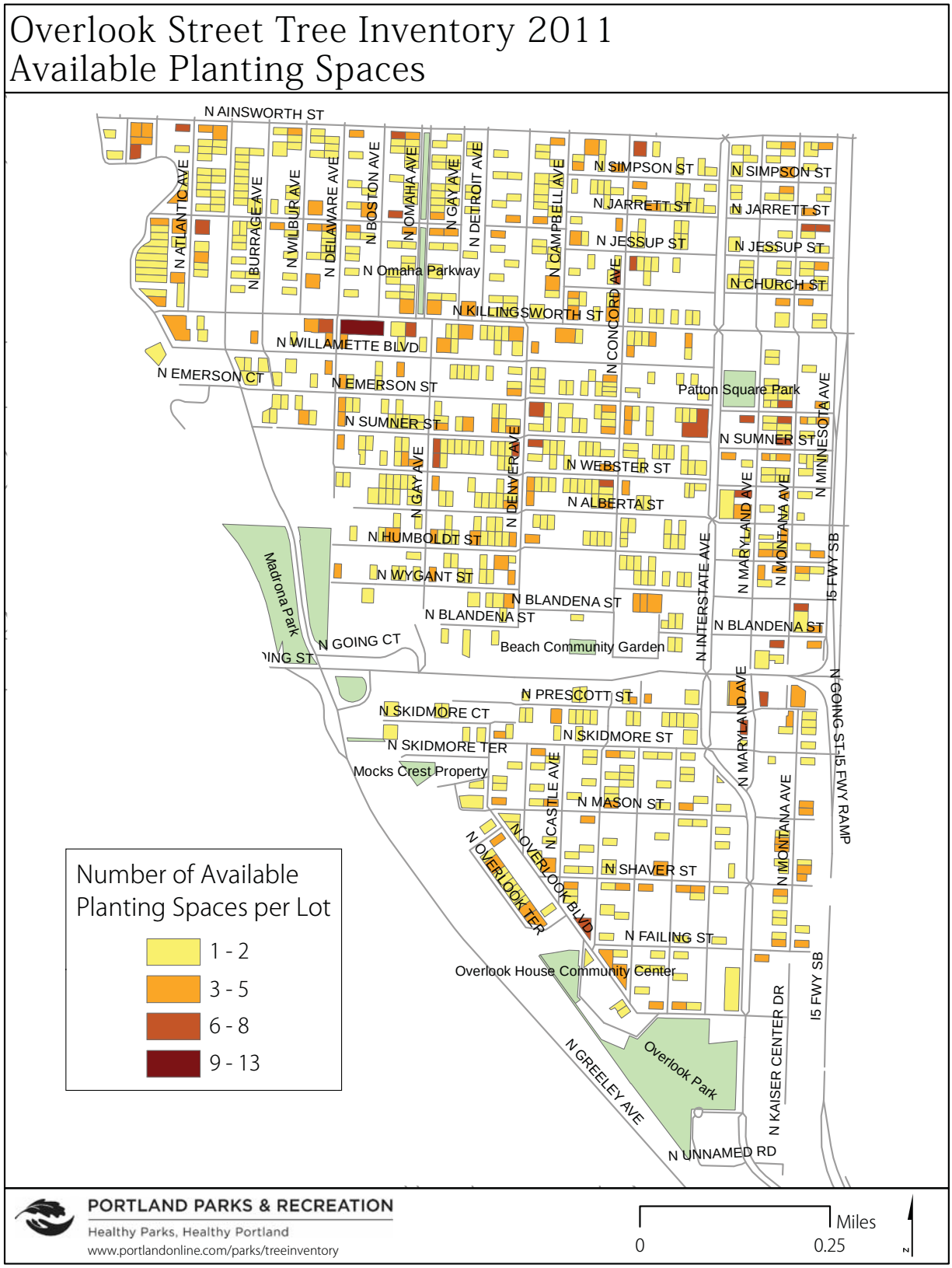
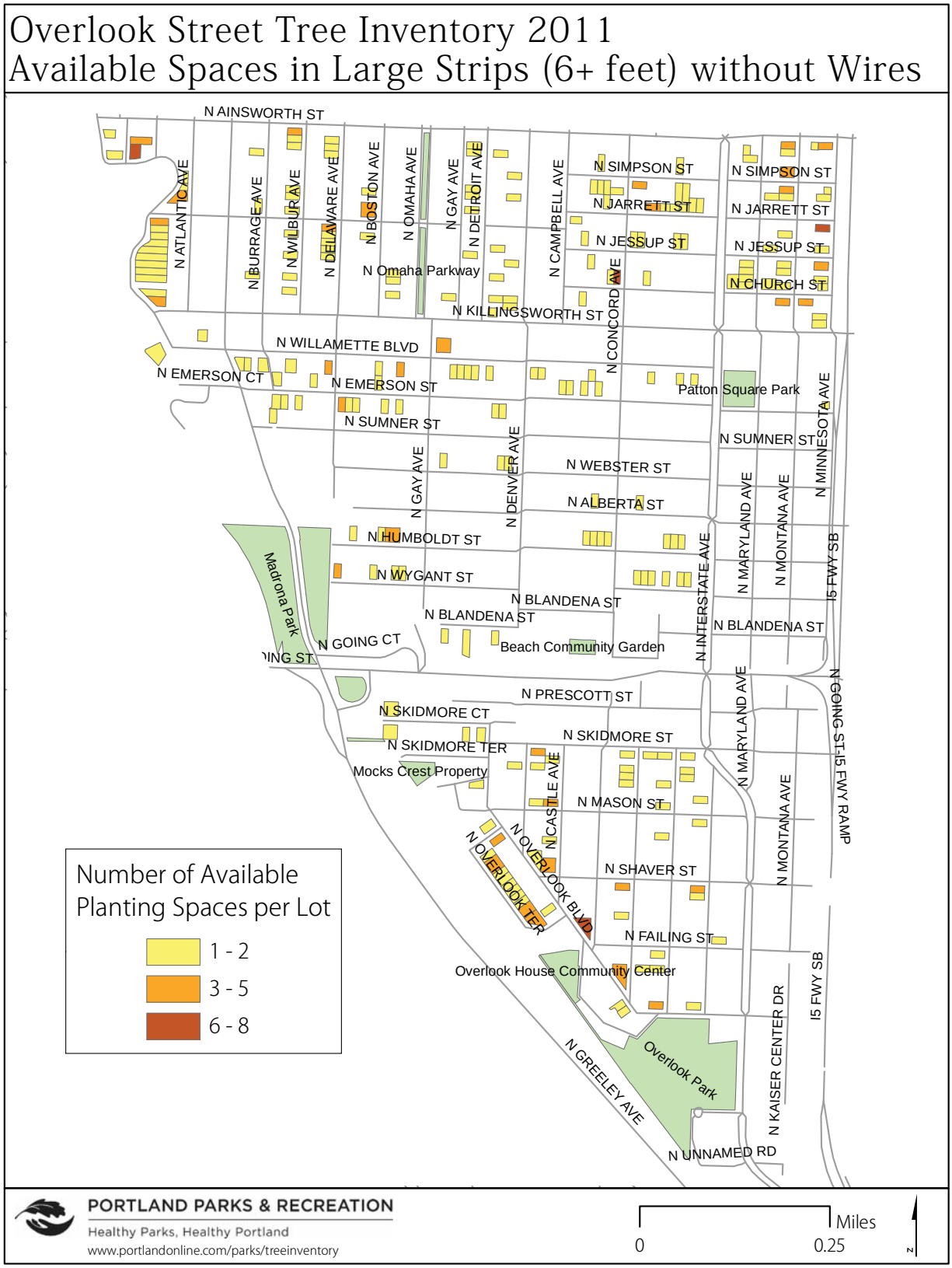
Appendix E: Large street trees (trees > 24" DBH)



Appendix F: Poor and dead street trees



Appendix G: Available street tree planting spaces



Appendix H: Priority street tree planting spaces