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Metro | *Audio transcript*

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1. Gateway Plaza, in the parking /restroom/picnic shelter area

Welcome to Graham Oaks Nature Park!

Graham Oaks is one of many natural areas acquired by Metro and its partners, thanks to residents of Washington, Clackamas and Multnomah counties who voted in 1995 for an Open Spaces, Parks, and Streams bond measure. The money was used to acquire landscapes and ecosystems that are vital to our region. A second bond measure passed by voters in 2006 directed Metro to safeguard water quality, protect fish and wildlife habitat and ensure access to nature for future generations.

Some areas protected by voters and Metro are restored to their natural state; other sites, like Graham Oaks here in Wilsonville or Cooper Mountain in Beaverton, are developed into parklands or trails that get people out of their cars, on to their bikes or into their walking shoes.

Walking and biking are great for your health, your wallet and the planet. Find resources, routes and safety tips at www.oregonmetro.gov. There, you can download any of the 50 treks from Metro's popular Walk There! guidebook and learn more about Metro's Bike There! map.

Metro thanks the City of Wilsonville, Oregon State Parks and Recreation, Clackamas County, and the West Linn-Wilsonville School District in planning and developing Graham Oaks. You can learn more about Graham Oaks and Metro's other natural areas by visiting www.oregonmetro.gov/grahamoaks.

First, some vital trip information: entrance to Graham Oaks is free; and the park is open from 6:30 a.m. to legal sunset. This walk begins at Gateway Plaza, which consists of a parking area, a restroom and water fountain, a picnic shelter, and a trellis-lined plaza. The Gateway Trailhead is one of five trailheads into Graham Oaks. The walk, a loop, is approximately 3 miles on relatively flat ground. Parts of it are on the asphalt-paved Tonquin Trail, which runs north-south through Graham Oaks. The Tonquin Trail is accessible; other trails are gravel. Benches along the trails invite you to sit and enjoy the views---both big and little—of Mount Hood glowing white in the east, or of an oak gall growing on a twig.

Because of efforts to restore native habitats and conditions for native species such as the Western gray squirrel, dogs are allowed in Graham Oaks only on leash and only on the paved trails.

Now, let's begin exploring Graham Oaks!

Ahead of you is a visual feast: 250 acres of rolling Willamette Valley lowland, home to oak savanna, oak woodlands, wetlands, and a mature fir forest. For hundreds of years, Graham Oaks was a landscape managed with fire by Native Americans, who harvested acorns, camas and berries here. Later, it was farmed for potatoes, corn and hops.

In the late 20th century, the land became a blank canvas for planners, who envisioned such uses as a women's prison, an 18-hole golf course, and a National Guard vehicle maintenance facility. Since then, however, the land's future became assured when Metro purchased it.
In 2007, after park development plans were completed, the land was planted with one hundred million grass and flower seeds and in 2008, with 150,000 oaks, pines, firs and other tree and shrub species. In 2010, Graham Oaks Nature Park opened and the land began a new life as a natural area to be treasured by the grandchildren of today's children, and beyond.

During this walk through Graham Oaks, you'll hear the stories of the land's lineage and legacies—of the humans, animals and plants for which it has been a home.

Features of Sustainable Development
On display here at Gateway Plaza are many of the park's low-impact, sustainable development features.

First, look at the parking lot: rain and snowmelt that falls on streets and parking lots pick up contaminants from cars such as oil and gas. ***Swales*** in Graham Oaks's parking lot are the low, open channels planted with native species such as spirea, sedges, and grasses. The lot is graded so that water flows into the swales. Both the soil and plant roots in the swales absorb and filter out contaminants, and keep them out of storm drains and out of the Willamette River. Look closely at the parking stalls. Porous pavement in them also lessens runoff by allowing precipitation to soak directly into the ground.

Plantings throughout Graham Oaks are native species well adapted to this Willamette Valley habitat; once established, they don't require watering. Around Gateway Plaza are sword fern, salal, and Oregon grape, the Oregon state flower. The latter two have edible berries, an important Native American food source, one that is still enjoyed by home canners. These plantings came from Metro's Native Plant Center in Tualatin. Staff and volunteers harvest native plant seed from natural areas around the region; then they propagate these seeds at the Native Plant Center and transplant seedlings to areas like Graham Oaks, or harvest new crops of seeds which are sown, in this case, by the millions.
Stonework throughout the park is locally quarried Columbia River Basalt, a flood basalt that covers much of Oregon. Flood basalts are enormous eruptions that coat large areas of land with lava.

The restroom's ***solar panels*** feed into Wilsonville's electrical grid. Restroom ***paint*** is MetroPaint, a recycled and reblended interior and exterior latex paint. It's available at the MetroPaint store on Swan Island and at many retailers. In the restroom, vaulted windows "harvest" natural light, decreasing the need for artificial lighting.

North of the restroom is a picnic shelter. Its tables and benches are fabricated from ***lumber*** made of 100 percent recycled plastics from various sources. The shelter's ***ecoroof*** is planted with low-growing varieties of sedum, a family of plants also known as stonecrop. Sedums are low on maintenance and high on beauty.

Now walk to the circular plaza with the wooden trellis and interpretive panels.

2. Gateway Plaza at the interpretive sign in the circular plaza

This land was desirable to early settlers because of its proximity to the Willamette River. Before rail lines began to run through the Willamette Valley in the 1870s, rivers were a region's highways. In the early days of settlement, good roads hadn't been built yet, and the Native American trails settlers began to follow were narrow, often mud-bound, and at times unusable. That means that land near a river was attractive to settlers, offering not only a way for them to travel, but also to ship produce and timber to markets in Portland and beyond.

Near here, in 1847, Colonel Alphonse Boone arrived in Oregon, claimed 1,000 acres, and began operating Boones Ferry across the Willamette, along the path of a former Indian trail that ran from Salem and French Prairie north to the new city of Portland. He planked the muddiest stretches with timbers, to help farmers get produce to the ferry landing.

Today that ferry site, just east and south of Graham Oaks, is a quiet place. Boones Ferry was partly supplanted in 1908 by a rail line. It ceased operations completely in 1954 when the I-5 bridge across the Willamette opened adjacent to the ferry. That bridge, christened Boone Bridge, carries thousands of travelers each day so far above the river that many of them aren't even aware that they are passing over one of the defining features of our region.

Wilsonville was originally called Boone's Landing; its named changed in 1880 to honor Charles Wilson, the town's first postmaster.

Just to the west of Boone's Ferry, John Graham established Graham's Ferry; his descendant Charlotte Lehan was instrumental in advocating to preserve this site, which had once been farmed by her family. She was Wilsonville's mayor from 1996 to 2008.

In the decades this land was farmed, a variety of crops was grown. In the early 2000s, after Metro had purchased the property, it continued that tradition, leasing the land to a grass seed farmer while restoration plans were developed. A six-acre commercial filbert orchard was also once located in the approximate location of the Gateway parking area, restroom and picnic shelter. It can be seen in the photograph at the plaza.

But even before settlement, this land had been intensively managed, as was much of the hundred-mile-long Willamette Valley. Native peoples burned valley lowlands to enhance the habitat for camas, white oak and tarweed—all vital food sources. Graham Oak's elder oak, seen in the photo as a lone green sentinel in a field of grass, suggests that this land was also historically burned. The oak's broad, spreading growth habit is typically seen when oaks grow in open savanna, rather than in a closed woodland. The map shows places where savanna plantings have been made to recreate this habitat; plantings are Oregon White Oak interspersed with Willamette Valley Ponderosa Pine. This pine, incidentally, is not the same Ponderosa Pine seen in Central Oregon. It's a cousin, one that is better adapted to the wetter conditions west of the Cascade Mountains.

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Now let's leave Gateway Plaza. Walk east on the Gateway Trail to the Tonquin Trail and Acorn Plaza. Watch for snowberries along here. This white-fruited shrub is a member of the honeysuckle family and is widely distributed throughout the United States. It's a source of food and shelter for wildlife.

3. Acorn Plaza

Here, at Acorn Plaza, a 5,000-pound acorn carved from black basalt commemorates the Oregon White Oak's abundant crop, a nut utilized not just by wildlife but by the first inhabitants of this land, the Kalapuyan people. Their descendants continue the tradition of making acorn.

The Kalapuyans lived here long before the area was settled, and relied on hunting for food, clothing and tools. In addition to hunting wildcats with bow and arrow, Kalapuyan tribes used snares to trap small game, pitfalls to catch elk, and spears and lures to fish for salmon, steelhead trout and eels.

Between 1830 and 1833, malaria swept through the Willamette Valley leaving only a fraction of the original Kalapuya population. Today there are only about 2,000 people of Kalapuyan descent. They are part of the Confederated Tribes of Grand Ronde.

The last native speaker of the language was John Hudson, a Santiam Kalapuya, who lived on the Grand Ronde Reservation and was interviewed in 1928. He said,

"Only a man went hunting, he hunted all the time....Women always used to dig camas and they gathered tarweed seeds. They gathered acorns, they picked hazelnuts, they picked berries, they dried blackberries. When they burned the land, they burned the grasshoppers. And the women gathered up the grasshoppers and they ate those grasshoppers...."

As you walk the trails of Graham Oaks, through woodlands and wetlands, it's not hard to imagine small groups of women and children pushing through the cattails or bending to pick up acorns, and stopping occasionally to gaze eastward to the white-capped mountain in the distance.

Trail info

Acorn Plaza is a stop on the Tonquin Trail, a paved, multi-use path that will eventually run from the Willamette River south of Graham Oaks, north to the Tualatin River National Wildlife Refuge in Sherwood. More about the Tonquin Trail a bit later.

The route continues north (left) on the Tonquin Trail, but at Acorn Plaza, other options exist: one of these is the Gateway Trail. It heads further east to connect the park's 250 acres to Boones Ferry Primary School and Inza Wood Middle School. From the two neighborhoods to the north and northwest, children can ride bikes or walk through Graham Oaks to get to these schools.

If you walk south on the Tonquin Trail from Acorn Plaza, you'll end up at the beautiful grounds of CREST, the Center for Research in Environmental Services and Technologies, an environmental education center run by the West Linn-Wilsonville School District. Students get their hands dirty here, gardening, practicing recycling, learning about green technologies, and doing community service and field work.

4. Junction with Coyote Way

Stop at the Tonquin Trail's intersection with Coyote Way. At this junction, Graham Oak's mature conifer forest is visible to the southwest. You'll pass through it near the end of the walk. To the north are areas densely planted with oaks, areas that will look much different in one hundred years, as these trees begin to reach maturity and extend the boundaries of the existing oak woodland beyond. Immediately around this intersection, however, are young trees—oak and pine—planted to replicate the more open oak savanna habitat that agriculture replaced in much of the Willamette Valley.

The display here offers more information about how native peoples used fire to manage the land, a practice both ancient and universal. In Oregon, even as the land came into cultivation in the mid 1800s, the Willamette Valley continued to be burned, but not for the same reasons that native peoples burned it. Most recently, grass farmers burned fields annually to kill invasive weeds and pests and to increase seed yields.

Also prominent here, to the west, is a cell phone tower, a land use unimagined by the farmers who cultivated this land a century ago. When the oaks here reach their century mark in 2110, we ourselves can only imagine what new technology might share the skyline with them.

As you continue north on the Tonquin Trail, notice the manhole covers that appear, incongruously, in this bucolic landscape. They're part of the history of this site too! In the 1950s the land to the north was being developed as Dammasch State Hospital, a psychiatric hospital, asylum, and educational center. At that time, a sewer running from Dammasch was installed; the Tonquin Trail follows its alignment. The Dammasch land is now the Villebois neighborhood.

Also along the way, look for plantings of wild rose and spirea, both natives. They're aligned in rows, to facilitate weed control until the plants establish themselves. Natural thinning and spreading of the plants will obliterate the rows. Within a few years, the plantings will appear to have grown spontaneously, in nature's own freeform style. In fall rose hips, which are high in vitamin C, are a source of food for birds, deer, coyotes and rodents; rose thickets also provide good cover for birds and other small wild animals.

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From the Tonquin Trail, your next turn will be to the left, to walk on a gravel path to **Elder Oak Plaza**.

5. Elder Oak Plaza

The magnificent Oregon white oak in this plaza is estimated to be 150 to 200 years old. It could easily thrive another hundred years. Its broad, spreading habit testifies to its years growing in an open savanna, uncrowded by other trees.

The Latin genus and species name for Oregon white oaks is *Quercus garryana*. *Garryana*, the species name, was given to the tree by the Scottish botanist David Douglas, who spent much of the 1820s exploring the flora of the Pacific Northwest for the Royal Horticultural Society.

Douglas, for whom the Douglas fir is named, christened the native oak *Garryana* to honor Nicholas Garry, of the Hudson's Bay Company's fort in what is now Winnipeg, Ontario. In Canada, this tree is called the Garry Oak. The Oregon White Oak's range is from western British Columbia south to northern California.

Early farmers left old solitary oaks in their fields, as shade for grazing animals, and surely for their undeniable beauty. Even today in the Willamette and Tualatin valleys, many of these elder oaks exist in solitary splendor within a cultivated field, part of a long tradition of land management in the valleys that spans the eras of both native peoples and settlers. Crops are planted and harvested around them still, and their strong silhouette brings beauty and biodiversity to rural landscapes.

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After you leave the Elder Oak, continue north, or left, on the Tonquin Trail. As you walk, look for Mount Hood to the east, and notice the many young oaks and pines in their plastic sleeves, which protect them from browsing animals.

At a path to the right and a sign that says "To Wetland Overlook," turn right, or east and walk to an overlook with an interpretive display.

6. Wetland Overlook

All over the United States, wetlands were once considered to be wastelands. At the time of European settlement in the early 1600's, the area that was to become the conterminous United States had approximately 221 million acres of wetlands. Less than half, or about 103 million acres, remained as of the mid-1980s. Wetlands were filled or drained so the land could be built on or farmed.

Graham Oaks was no exception. As the map on the display shows, its wetlands were much larger in the 1800s than they are today. In the 1950s, as Dammasch was being developed to the north, water that historically had flowed from the Dammasch site to feed these wetlands around Arrowhead Creek was cut off. It was diverted to a 3-foot diameter sewer pipe that drained instead to Legacy Creek, in the park's southwest corner.

In 2010, a diversion feature was installed, so that again much of the water flow from the Villebois neighborhood on the old Dammasch site flows back into Arrowhead Creek's wetlands, restoring some of these wetland's historic range.

Also installed at that time were three culverts that run under the Tonquin Trail. They allow water to run from the higher, western areas of the park down into the Arrowhead Creek wetlands. From here, Arrowhead Creek flows into Coffee Creek, and then into the Willamette River.

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From the wetlands overlook, return to the Tonquin Trail and head north (right). At the intersection of the Oak Woodland trail on the left and Arrowhead Creek Trail on the right, turn right or east and walk along Arrowhead Creek, crossing a wooden bridge to an overlook and bench on the trail.

7. Overlook Plaza on Arrowhead Creek Trail

The wooden bridge over Arrowhead Creek is another example of sustainable building practices: it was recycled from another park in Wilsonville! The Arrowhead Creek Trail that you're on heads to the Park at Merryfield neighborhood and one of Graham Oaks' neighborhood trailheads. The Park at Merryfield was built in the 1990s on land once owned by the Marion Young family, the same family that owned what is now Graham Oaks Nature Park. Parts of a machine shed and the foundations of a 1907 barn can still be found among the modern homes.

The ecosystem here is quite different from the upland areas of Graham Oaks. Willow and cattail, two wetland stalwarts, are seen along the creek. The tallest trees are black cottonwoods or *Populus trichocarpa*. A member of the willow family, black cottonwood is the fastest-growing hardwood in the western United States. It's extremely common along streams and rivers. The tree's species name, *trichocarpa,* is Greek for "hairy fruits," and if you've ever seen a black cottonwood's thousands of seeds, trailing fuzzy cotton, you know that the name is spot-on.

In its 250 acres, Graham Oaks contains many transitions: from oak woodland to oak savanna, from savanna to wetland, and from wetland to neighborhood; from near-pristine features such as the Elder Oak itself, to locations much altered by humans, such as the reduced wetlands and sites where placement of fill dirt has buried the original soil profile.

Through all these transitions, or edges, despite the upheaval, life thrives, and learning is rich. Trails that run like seams through the park allow humans to get up close and to observe these places where transitions create opportunities and ideas. What are the lessons from this place, so altered by humans, but so full of life and potential?

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From the Arrowhead Creek Trail, turn right, or north onto the Tonquin Trail and follow it to the northern boundary of Graham Oaks.

8. Tonquin Trailhead at south end of Villebois

Here, you're at the northern border of Graham Oaks, where you'll leave the Tonquin Trail. This regional trail is named for the Tonquin Geological Area. It's an area of approximately 17 square miles roughly encompassing Tualatin, Sherwood and Wilsonville.

The area exhibits topography shaped by the Missoula Floods that scoured the Columbia River Gorge and roared into the Willamette Valley multiple times during the last Ice Age—13,000 to 15,000 years ago. When the floodwaters encountered a narrow bottleneck on the Columbia River at Kalama, downstream of Portland, they backed up into the Willamette Valley as far south as Eugene.

In the valley, the waters repeatedly deposited much of the soil burden they were carrying—accounting for the valley's rich farmland, some of the best on the planet. In other places, however, the waters scoured off soils, and as they drained out of the valley, left behind features such as channels, basalt hummocks, knolls and kolk ponds. All are seen in the Tonquin Geological Area; it's an area that has been called the Tonquin Scablands, a term that refers to the scouring action of the floods. Kolk ponds were created by this scouring…by underground "tornados" that tore huge potholes in the scablands and flung debris outward. Wilsonville's Coffee Lake Wetlands sits in a kolk, or depression, in bedrock scoured by the Missoula Floods.

The Tonquin Trail, when it's complete, will be a regional connector—a route that runners, walkers and bikers can use to commute or explore from the Willamette River in Wilsonville on up to Sherwood or Tualatin, and from there, north into downtown Portland via connections to the Fanno Creek Greenway Trail, which is another regional trail. Some parts of the trail are built; others are in the planning stages; some parts traverse natural areas like Graham Oaks; others are within neighborhoods such as Villebois.

Now, let's leave the park for a bit to explore the Villebois neighborhood. Villebois was built on the site of Dammasch State Hospital, which operated here from 1961 to 1995. At 500 acres, Villebois is the largest, non-resort, planned community in Oregon. When completely built out, it will be home to 2,600 residences and 7,000 people. In 2010 it won the Community of the Year Award from the National Association of Homebuilders. Villebois is an intriguing neighborhood to explore; it's designed for walking, with miles of trails connecting every street to another—no cul de sacs allowed—and connecting homes to playground parks and natural areas such as Graham Oaks and Coffee Lake Natural Area to the east. A village center and a school will give residents even more reasons to walk or bike to shops, school and recreation, and to leave their cars behind.

From the park boundary, turn left on the sidewalk along Costa Circle East. Notice the absence of garages; they're tucked away behind each home, accessed by alleys.

Turn left on St. Tropez Avenue, then right on Palermo Street. Turn left past a bank of mailboxes, just past the home with the 11620 address. Now you're somewhere utterly different: instead of walking along a street in front of homes as in a typical neighborhood, you're walking in a shared greenspace: no street at all, just sidewalks and what amounts to a huge communal front yard. The lack of fences, driveways and curb cuts gives the impression that the homes are settled on the edge of a park.

Cross Grenoble Street, keeping a playground on your left. Continue through the greenspace, staying on the sidewalk in front of homes. It's all grass, sidewalks and front porches, with not a car in sight. The greenspace ends at Lausanne Street. Turn right and walk one block, then left on Milano Lane, which ends at the Villebois Trailhead into Graham Oaks.

9. Villebois Trailhead

Reenter Graham Oaks at the Villebois Trailhead and at the first trail junction, turn right to walk on Coyote Way. This trail follows an "edge" or a "seam" where newly planted oak savanna meets established oak woodlands. With time, this edge will soften and be less obvious.

As you get closer to the oak woodland, watch for a certain native plant that one is well advised to become familiar with: poison oak (*rhus diversiloba*[LOF1]*)*. It's not hard to spot, once you know what to look for; its species name, *diversiloba,* indicates that its leaf margins take diverse shapes: they can be either smooth or lobed. Its growth habit is diverse as well: while its leaves always grow in groups of three, it can climb a host tree to prodigious heights, it can remain a shrub, or it can trail on the ground. In fall its leaves can turn a brilliant, shiny red or yellow. The painful, itchy rash that poison oak produces is caused by urushiol[LOF2], which is present in all parts of the plant. The best remedy: soap and water as soon as possible after contact.

The trail winds its way closer to the oak woodland, and as it does, watch for the very distinctive ways the oaks in the forest grow: tall and narrow with limbs that don't swoop and bend to the ground, as they do on trees on the exterior of the forest or trees growing solo like the Elder Oak. Oak woodlands often have within them a much older tree that once grew alone in full sun. Its growth habit is wide and brawny. But over time, and as the burning of the savannas ended, some of these older trees became surrounded by their own progeny.

The land to the west of the Graham Oaks boundary was developed in the 1970s as the Callahan Center, a state-run facility to provide rehabilitation for injured workers. Later, from the 1990s to 2004, the land, with its cabins and trails, was owned by the Living Enrichment Center, well known at that time as a "megachurch." After the Living Enrichment Center declared bankruptcy, the land was unused. In summer of 2010, it was purchased, with the new owner reporting plans to clean it up and remove decayed and vandalized structures.

After you pass an interpretive sign about the many lives hidden in the oaks, look ahead to a different kind of forest, one where the trees have pointy silhouettes. You'll be heading to Graham Oaks Nature Park's beautiful conifer forest, where old-growth Douglas fir thrive along valleys of creeks that drain the land you've just walked.

Turn right off Coyote Way onto the Legacy Creek Trail. Stop at the interpretive sign in the woods.

10. Stop on Legacy Creek Trail

The deep, dappled light in this forest provides a beautiful green contrast to the bright, open aspect of the rest of the park. The dominant trees here are Douglas fir and bigleaf maple, with some western red cedar and red alder. Vine maple is the characteristic understory tree, twisting and sinuous. Native peoples in the Pacific Northwest used it to make baskets.

Several old growth firs, estimated to be about 700 years old, have been found in this forest. The largest stream in the forest is Mill Creek; three smaller streams flow from the Graham Oaks site into it; and it, in turn, flows into Legacy Creek. Legacy is the creek into which water from the Dammasch site was directed for many years. This unnatural flow, an out-of-basin transfer, caused significant erosion, creating a cut 25 feet deep into the slopes, and the resulting loss of some trees. Restoration work by Metro has redirected much of that flow from the Dammasch/Villebois site back to its natural drainage, Arrowhead Creek, seen earlier in the walk.

Restoration work also included a six-year-long English ivy removal effort, and the result is a forest in which sword fern, Oregon grape, western trillium, wild ginger and other native plants again can thrive.

English ivy was introduced all over the United States as an ornamental plant in the 1700s and 1800s. Cold winters in much of the country keep it in check, but in the Pacific Northwest, our mild winters are no match for its rampant growth. Like kudzu in the American Southeast, English Ivy is an invasive species that suppresses native plants and can blanket an entire tree like a shroud. Eradication efforts focus on its physical removal and cutting, concentrating on places where the ivy has climbed a tree, because once it climbs, English ivy flowers and produces seeds, which are then disseminated into new areas by birds. Cutting away the seeding portion of the plant is therefore vital to checking its spread. In some Oregon parks, the costs to remove ivy are as much as $2,000 per acre.

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When you come out of the woods, turn right and head back to the Tonquin Trail. Turn right on it to return to the start or to visit CREST, which lies at the end of the Tonquin Trail in Graham Oaks.

Graham Oaks is a green gem, one with a multi-storied past, and a legacy of restoration and preservation that will be treasured by coming generations. To learn more about Graham Oaks, visit www.oregonmetro.gov/grahamoaks.

For guided walks that help you explore more of our region's parks, trails and greenspaces, as well as neighborhoods and main streets, visit www.oregonmetro.gov/walkthere. To find information about our region's 235 miles of off-street trails and 600 miles of on-street bike routes, visit www.oregonmetro.gov/bikethere.

Thanks for coming to Graham Oaks! Come back often to watch the growth and renewal in this special place.