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Portland, Oregon’s urban growth boundary (UGB) has been an iconic policy for the urban planning profession for the past 40 years. The boundary is an element of an urban containment system to promote farm and forest protection and promote the development of dense, walkable urban spaces. Measured in these physical terms, the policy has been quite successful. Rural areas of the Willamette Valley remain productive farmland, specializing in wine, fruits, hazelnuts, nursery plants, and other agricultural products. And Portland’s downtown is recognized as a well designed urban core, with numerous greenspaces and parks and a revitalized downtown and urban neighborhoods.

At the same time, housing prices and rents in the Portland metropolitan area have been rising at rates significantly above the rate of inflation, with the City of Portland declaring a housing crisis. This paper argues that Oregon’s landmark land use regulations have been side-tracked in recent years by layering of local regulations that have reduced housing production and created a regional housing crisis. In addition, this paper reviews the prospects for an urban growth boundary expansion in 2018.
Under the State of Oregon’s land use planning system, all cities within the state are mandated to have urban growth boundaries to contain its residential and commercial activities. Cities are required to analyze the capacity of their urban growth boundaries on a regular basis to insure 20 years’ worth of land for population and employment growth are maintained within these boundaries.

It’s widely recognized that Portland’s original UGB set in the late 1970’s had a generous land supply and didn’t initially have a significant impact on overall development costs. The boundary was particularly loose on the western edge of the metropolitan area in Washington County, where the county seat of Hillsboro was 20 miles west of downtown Portland. In addition, the boundary was established in the late 1970s prior to a pronounced recession in the early 1980s in the state of Oregon. As a result, the Portland metropolitan was able to grow within its newly established boundary with Washington County being a leader in the production of new housing units.

Starting the early 1990s, development within the Portland region accelerated and housing costs and land costs started to increase. In roughly 1995, the Portland metropolitan region achieved average housing prices that exceeded the national average for urban areas for the first time in history. Spurred by policies promoting economic development, Washington County attracted major investments by Intel and other information technology firms.

At the same time, the region engaged in a process to develop a long term development plan, known as the 2040 Growth Plan. In the language of the debate, citizens were told that the region faced a choice of “growing up or growing out.” That is, the region could continue with previous policies to provide generous amounts of land for low-density fringe development (i.e., “growing out”), or the region could minimize the need to expand into exurban farmland by promoting higher density inside the UGB (i.e., “growing up”).

Ignoring for a moment the pejorative language represented by the “growing out versus growing up” choice (who doesn’t want to be a grown-up), a conscious decision was made to seek to accommodate future growth within the existing urban growth boundary, rather than two available options: (1) promoting the development of satellite cities, or (2) promoting continued low-density development along the fringe of the urban growth boundary. The Portland-area regional government, Metro, implemented a long-standing policy known as the “Metropolitan Housing Rule,” which encouraged all jurisdictions within Metro’s boundary to set aside land for a variety of housing types. As a result, most jurisdictions have residential zoning that can accommodate mid- and high-rise construction, provided the demand for those products exist.

Throughout the 1990s, Metro made small UGB expansions, satisfying the desires of individual property owners, developers, and jurisdictions. State rules mandated that any urban growth boundary expansion focus on the protection of high quality farmland to preserve the agricultural economy. Since 1980, the area inside Portland’s UGB has expanded by 10 percent, while the population of the metropolitan area has grown by 78 percent.

In 2000, Metro determined that a large expansion of the UGB was warranted and they implemented an expansion in the Damascus area of Clackamas County, in the southeastern corner of the metropolitan area. The Damascus area was chosen because of the relatively poor soil quality and rugged terrain that made the land area less suitable for intensive agricultural development. The expansion decision led to a Metro-promoted ballot measure in 2004 to create a new City of Damascus that was approved by a wide
DEVELOPMENT OF PORTLAND’S UGB

margin of local residents. Damascus became the first newly incorporated city in the state in 22 years.

However, soon after the creation of the City of Damascus, local residents became increasingly skeptical of the impact of incorporation and refused to adopt a local plan that would allow significant new housing to developed. The city engaged in prolonged debates about its future and was widely seen as dysfunctional. Ultimately, the local residents voted to dis-incorporate the jurisdiction in 2016. Today, the Damascus area remains a sparsely-populated portion of the metropolitan area, far removed from the highway grid of the region, largely unserved by water and sewer utilities. Portions of the former territory of Damascus have been annexed by the neighboring pro-development town of Happy Valley, so that some housing is being produced. However, the leadership of Metro, Clackamas County and Happy Valley recognizes that most of the Damascus territory won’t be developable in the foreseeable future.

IMPACT OF THE GREAT RECESSION

Like most metropolitan areas, Portland experienced significant economic dislocations resulting from the Great Recession of 2008. Portland was one of the last metropolitan areas to experience a decline in home prices, but the decline that happened was quite severe. The average existing home price in the region declined from $311,700 in July, 2007 to $223,000 in January, 2011. The decline in home prices led to a precipitous decline in housing production, particularly in the suburban counties in the metropolitan area. Housing production in the four county region (including Clark County, Washington) averaged 14,000 units per year from 1990 through 2007. By 2009, housing production fell below 4,000 units. While the total number of housing units produced has risen in recent years, the average for the last four years is 12,000 housing units per unit. When comparing population growth against housing production, there is an absence of about 50,000 housing units arising from the recession.

In addition, the distribution of housing production in the recent years has been quite different than previous decades. Between 1990 and 2007, 67 percent of housing production in the four county region has come in the form of single-family homes, falling
to 62 percent in 2008-12, when housing production was depressed, falling to 47 percent single family in 2012-16, when overall housing production had recovered. And at the same time, there was a boost in construction in Portland and Multnomah County relative to the three suburban counties. In 1990-2007, Multnomah County comprised 23 percent of housing permits, rising to 33 percent in the years of reduced production (2007-12) and 37 percent in the recovery period, 2013-16.

There are a couple of explanations for these trends, with the most convincing being that the Great Recession delayed marriage and child-raising. Singles and childless couples tend to settle in central city neighborhoods where social gathering places are concentrated. In addition, the decline in wealth from the recession has damaged the ability of young couples to buy homes, and apartments tend to be more concentrated in Multnomah County. And market outcomes are the interaction of supply and demand, so the challenges of subdivision developers to find capital for land acquisition may have led to an abundance of apartment construction over single-family home construction.

In any case, the rising demand for apartments has led to significant rent increases, making Portland one of the fastest appreciating rental markets in the United States in recent years. Those market conditions have led to considerable turmoil in city and state housing policy. In October, 2015, the Portland City Council declared a housing emergency, vowed to increase affordable housing production and required that landlords give a 90-day notice for any rent increase exceeding 5 percent. In January, 2016, Portland Mayor Charlie Hales declared a moratorium on removal of homeless encampments on public property (that policy was rescinded in August, 2016). In March, 2016, the Oregon legislature removed a long-established prohibition on city governments implementing inclusionary zoning programs, and that option was quickly adopted by the City of Portland. Finally, in February, 2017, Oregon House Speaker Tina Kotek renewed her call for the legislature to remove its long-standing ban on cities implementing rent control. While the legislature did not follow that recommendation, the Portland City Council declared a housing emergency and passed an ordinance requiring landlords to offer to pay relocation...
expenses of between $2,900 and $4,500 should a landlord implement a no-cause eviction or propose a rent increase of 10 percent or more.

One of the ironies of the shift from a housing market dominated by single family construction in the suburbs to multi-family construction in the central city is the widespread appearance of a housing construction boom, when in fact, the region is experiencing a 15 percent decline in housing production. Every apartment construction site of five stories or more warrants a tall construction crane, often requiring demolition of old structures, temporary vacation of streets for construction staging, and regular deliveries by cement trucks. Downtown and close-in Portland has been awash in construction activity, which is duly noted by journalists and local residents. Yet the dearth of single-family construction on the urban fringe has been largely unnoticed in the local press. Few residents are aware of the 15 percent overall decline in housing production.

Within this context, Metro made an evaluation in 2015 of the capacity of its urban growth boundary and whether it needed to be expanded. Under procedures which have evolved somewhat over the years, Metro produces a population forecast, estimates the demand for employment land and residential land, measures the availability of land inside the UGB, and determines if the UGB should expand to meet the deficiency. The population forecast for the region is probably the least controversial part of the process, but includes a complicated allocation of the expected growth between the Metro jurisdiction, neighboring Clark County, Washington (which is not governed by Metro) and smaller jurisdictions in nearby counties that are not part of Metro.

With that population forecast in hand, Metro computes a Housing Needs Analysis that determines the number of housing units needed over the next 20 years. There is a similar process that determines the amount of employment land that's needed. Metro then surveys the various local jurisdictions regarding the development capacity available for new housing units and new employment activities. In doing this, Metro accounts for both undeveloped greenfield sites as well as opportunities for redevelopment activity, using a computer model known as Metroscope. Lands which are within established flood plains and having steep slopes are removed from this analysis.

Ultimately, Metro's Urban Growth Report in 2014 determined the region had 10,400 surplus acres for single family construction, 10,300 surplus acres for single family construction, and 990 surplus acres for industrial land to meet 20 years of population growth. As a result, Metro determined no additional acreage was required within the UGB for either housing development or employment growth. While a coalition of suburban mayors argued for more land for development and there was a specific expansion proposal from the City of Wilsonville, the Metro Council in 2015 adopted the recommendation by Metro staff that no expansion of the urban growth boundary was warranted. Hence, in a region in which the central city declared a housing emergency, the regional government saw no reason to release additional land for housing development.

Behind the Metro staff recommendation has been a policy to accept city zoning limits as the development capacity of the region, rather than taking a market feasibility perspective. Historically, the City of Portland has generous zoning along the avenues and boulevards in the city, as well as town centers such as Portland's Gateway district. However, building at high or even medium densities requires much higher rents than currently exist in those neighborhoods. And like most metropolitan areas, apartment rents at the core of the metropolitan area are much higher than they are closer to the metropolitan edge. And in particular, the drop off in rents from Portland's downtown to
its eastside neighborhoods along 82nd Street, Cully Street, Gateway, and 122nd Street is particularly steep. As a result, much of the development capacity within Portland is only achievable if rents rise dramatically across the entire region, or if these East Portland neighborhoods gentrify to a significant degree.

To illustrate this, I draw upon some research we did for Holland Residential back in 2014. In that research, we collected development pro formas for a number of apartment projects built in the preceding three years. For each apartment project, we noted the development type and computed an average rent per square foot for each project. We found that in our market, apartment projects neatly segment into three development types. Garden apartments are two-story apartments with wood-frame construction that is usually built in outlying communities. They often have surface parking or tuck-under parking and rent for $1.00 to $1.20 per square foot. Mid-rise apartments are typically five-story construction with four floors of wood-frame construction built over a one-story concrete podium for parking. Mid-rise apartment buildings are usually built in close-in neighborhoods up to three miles from downtown and rent for $1.70 to $2.10 per square foot. Beyond five stories, current building codes in Portland require more costly steel and concrete construction (although some experimentation with cross-laminated timber construction has been done in recent years). High rise projects will only be located in near downtown neighborhoods and require rents in the $2.70 to $2.90 per square foot range.

The result is what I call the “Wooden House Theory,” which ought to have some appeal in a timber-producing state such as Oregon. Generally, homebuilders facing somewhat high land costs can produce cheaper homes on a square foot basis by going from one-story to two-story construction. The roofing costs and land costs are reduced, and the savings overwhelms the extra cost of the staircase. In today’s housing market in Portland with its
Increased land costs, ranch homes are no longer produced in any quantity. Yet two-story construction requires relatively low-cost and easily obtained labor skills and materials. What it does require is significant quantities of available land.

Going beyond two stories requires a significant increase in rents due to the combination of higher cost materials and higher skilled labor. While land costs are reduced from the smaller footprint of these taller structures, those savings are not compensated by the higher materials and labor cost. And finally, true high rise construction results in a luxury product that is only warranted in high amenity areas. And for both the mid-rise and the high-rise product, they face the additional opportunity cost of retiring an existing income-producing property. That is, given the absence of unoccupied sites close to the center of the metropolitan area, developers have to acquire already-developed sites near the center and pay property prices that account for the value of the structure being torn down.

In looking at data on average rents for existing apartments in the Portland market, we can see that the only a select number of close-in neighborhoods have rent levels that justify mid-rise construction. As a result, as the region switches from a suburban-based housing supply to an urban-based housing supply, we are turning to a high-cost product. And as the new housing supply arrives to market at a higher price point, that removes the competitive constraint on the pricing of existing apartments.

This change in the regional expectations can be seen from a 2013 map produced by the City of Portland in its Comprehensive Plan Update. The map shows the change in housing density expected in the year 2035, showing spikes north, south and east of downtown, but also along 82nd street, the Montavilla neighborhood, and the Gateway District several miles east of downtown.

When I saw this map, I was already familiar with the intensive new development happening in Portland’s Pearl District, South Waterfront, Division Street, and the Williams and Vancouver couplet north of downtown. However, I was surprised by the expectation of high density development in Gateway and 82nd Street, which I had remembered as typified by low-density housing, Chinese and Mexican food restaurants, and used car lots, not to mention the data I was familiar with on average apartment rents. Upon visiting
these locations, nothing had dramatically changed in these neighborhoods in terms of their physical development. From what I could tell, the 2013 city report was strictly aspirational and not a true market forecast.

The final element of the UGB decision that is worth examining is the operation of the MetroScope model, at least using the procedures that were in effect in 2015. The MetroScope model is essentially a population assignment model that finds the next best place for a household type to be placed in the metropolitan area. Households are assigned to locations that meet the demand represented by their household profile, as measured by age, income, and household size. As development capacity is used up, the additional households are assigned to the next best location within the UGB, assuming there is some additional housing development capacity.

The problem with the MetroScope model (the 2015 version) is that development capacity, as represented by the permitted zoning, was assumed to be developable. However, as discussed above, development at higher density levels requires high rent levels, which are often much higher than market rents in the location of those apartment buildings. And since zoning entitlements in much of the relatively low-income, low-rent neighborhoods of east Portland are quite generous, there was plenty of development capacity to handle the additional population growth expected over the next 20 years. In that sense, Portland’s generous zoning entitlements acted as a sponge to soak up whatever population and housing demand that Metro’s demographic forecasters threw at them.

To their credit, Metro’s planners estimated the housing prices and apartment rents that would need to be achieved to reach those development targets. They anticipated that average rents in the Portland region would need to rise by 37 percent in inflation-adjusted terms in 20 years to justify the higher costs of development. Factoring in a 2.5 percent annual inflation factor, that would mean that rents would rise by 124 percent—more than doubling their current levels. Home prices would rise even faster in Metro’s estimation—148 percent in 20 years.

To assess what that level of appreciation would mean, I’ve arrayed the median gross rent in the Portland metropolitan area in 2009 against 21 other US metropolitan areas, selected for their size and location.
In that diagram, we find that the rents in the Portland region are somewhere in the lower half of the distribution, competing with large metropolitan areas such as Chicago and Dallas, and west coast competitors like Phoenix, Denver, and Salt Lake City. More importantly, Portland area rents are substantially below those in the major cities in California, such as San Francisco and Los Angeles, which are important sources of employment growth for this region. Economic development agencies in the region routinely recruit Bay Area software firms, arguing that while Portland may not have the same cultural or climate amenities of California, our housing is one-third less expensive and we’re a short airplane flight away. Put differently, the software firm in Bay Area can convince some of their engineers to move to Portland, knowing that the engineer can afford to buy a nice house.

However, with the rent and price increases anticipated by Metro's 20-year plan, that value proposition evaporates. If rents in Portland rise by 37 percent more than the rate of inflation for apartments elsewhere, the large discount relative to the California cities vanishes. The engineer in Silicon Valley won’t readily accept a move to Portland, and our competitors in Denver, Phoenix, Salt Lake City, and Austin will win those firm relocation opportunities.

In practice, the strategy of absolute containment of the region’s population is likely to result in reduced employment opportunities and slower economic growth. Workers will require compensation for accepting jobs in a high cost, modest amenity region. If firms cannot achieve significant cost savings from locating in Portland, expansion will occur in other cities, whether that’s our mountain state competitors, cities in Texas, or cities in the Southeast US, such as Atlanta and Charlotte. Children who grow up in the Portland area will more likely move to those cities to find employment, creating what I call the “Santa Barbara Effect.”
Our city will remain a nice place with amenities, but it won’t be a dynamic place where new employment and technology are developed. Homeowners will feel richer, but the resulting increase in home equity won’t matter until they retire and move to Arizona or Nevada. Additionally, the brunt of the transition to Metro’s policy to appreciate real property assets will be felt most harshly by the poor, who don’t own property. Low-income households have been shown to be losers in regions that constrained spatial expansion in the face of population growth pressure.

A further complication to Metro’s development plan for the next 20 years has been the imposition of inclusionary zoning in the City of Portland. Struggling to meet the political demand for more affordable housing production, city leaders followed a two-track strategy. In the first track, they proposed and the voters accepted a $258.4 million bond measure to produce and preserve affordable housing. In the second track, they lobbied the state legislature to remove the ban on municipalities implementing affordable housing mandates on new apartment construction. The legislature complied and the City of Portland is the only jurisdiction in the state with inclusionary zoning. Under the inclusionary zoning policy, all buildings of 20 or more housing units must set aside 20 percent of those units to be affordable to households with incomes 80 percent of the area median income.

Developers were given an option of paying a fee in lieu of providing units within their buildings, but that fee has been set sufficiently high to make it unattractive. Planners at the city favored projects with mixed levels of income in each building. Developers were also promised by the legislature to be offered incentives to provide housing units under the inclusionary policy, but that appears to have been delivered in the form of bonuses that were removed from the zoning code, and then offered back to developers if they provided affordable housing.

Evaluating these policies requires some analysis of the broader purposes and impacts of housing policy. Housing is a necessity in terms of household consumption, or in the language of economists, housing is income inelastic. The 10 percent of households with the lowest incomes spend approximately half of their income on housing. As incomes rise, housing expenditures increase much more slowly than income, with the highest-income 10 percent of households spending only 10 percent of their income. As a result, any policy that reduces housing costs tends to be progressive.

This can be seen in the cost of providing a housing unit. All housing units need to have at least one bathroom and one kitchen to meet most local zoning codes, and those two rooms are the most expensive rooms in a house. As a result, there are certain fixed costs of housing that must be paid into order to be housed, and those fixed costs are a greater percentage of a poor household’s budget.

Housing assistance can be provided in two broad approaches. Supply-oriented assistance programs offer housing units to low-income individuals at a reduce cost. In public housing units and Section 8 Existing Housing projects, apartments are set at a percentage of tenant income with the federal government paying the difference with market rents. With low-income housing tax credits and other programs, benefits are given to investors, who promise to hold rents to particular levels, usually set at 30 percent of benchmark income levels in a community (as was provided in the City of Portland’s inclusionary zoning regulation). In supply programs, the benefit follows the unit, so when the tenant leaves, the discounted rent applies to the new tenant.
Demand-oriented assistance programs give a voucher or certificate to households that meet the eligibility criteria who can then shop for apartments within their market. If they are accepted by the landlords, the tenant is expected to contribute 30 percent of their income in rent and the federal government will make up the difference between that and the apartment rent, which is set at the 80 percent percentile of rents in that market. In demand programs, the housing benefit follows the tenant, so if they decide to leave their apartment, they can seek an apartment elsewhere in the community under similar terms.

Given this outline, the cost of a household living in subsidized housing (under either supply or demand approach) varies enormously with income. Households with zero income will receive a benefit equaling the cost of their apartment. For two-bedrooms in Multnomah County, that amount is $1,330 per month or $15,960 per year. The true benefit of household is something less than this amount in that they might have spent their money different had they been given cash instead of a rent voucher. At higher incomes, the household is expected to contribute more, so the federal subsidy and the tenant benefit is less.

For tenants in supply-oriented programs, the true benefit is less insofar as they are assigned a particular unit, which almost certainly would not be the unit they would have rented had they been given the cash equivalent. This inefficiency of supply-oriented projects has been estimated by economists as a consumption inefficiency of approximately 20-35 percent compared to demand projects. In some cases this inefficiency corresponds to location of the unit being offered. Given a voucher, the recipient would choose a location closer to their work or their children's school. But in many cases, the inefficiency result from the agency spending dollars on new construction with less space, when the household would prefer old construction with more space. As showed below when looking at average house prices in the Portland region, new homes sell for a considerable premium over older homes.

A second inefficiency of supply-oriented housing assistance is production inefficiency. Over the years, economists have measure the cost of providing housing of equivalent quality by public, private, and non-profit developers and managers. Publicly-built housing tends to be about 30 percent more expensive than privately built housing. Supply-oriented programs are sometimes built by the private sector using tax incentives or zoning
Bonuses, but often the value of those benefits to investors and developers exceed the amount of benefit that tenants receive from the project in terms of reduced rents.

In addition, housing benefit in the United States has always been a rationed benefit, rather than a benefit that all eligible households receive, which creates a horizontal inequity. That is, since the inception of federal housing policy in the 1930s, Congress has never allocated enough funds for every eligible household to receive housing benefits. Unlike other social welfare benefits like Medicaid or Social Security, only a fraction of households receive housing benefit. To illustrate this, if we add all the households below the US poverty line, which roughly translate into eligibility for housing assistance, and compare it to all the public housing, tax credit housing, Section 8 assistance housing, and other programs, we find that only 50 percent of those households could be served. And since some housing assistance goes to families above the poverty line, the 50 percent measure of horizontal inequity is actually a lower bound.

Given this brief outline of the economics of housing assistance, Portland’s inclusionary zoning policy has numerous flaws. First, tenants will receive benefits because they live in particular units. If they are unhappy with their unit or their life circumstance cause them to move, they will lose their benefit and return to paying market prices. Hence, the policy suffers from consumption inefficiency.

Second, developers have strong incentives to reduce construction costs on the inclusionary housing units they build, although they must keep the quality level between the subsidized units and the market rate units the same. Since they are expected to set rents at a level that is the same across the entire city, developers will be most likely to build affordable housing units either in buildings with low overall amenities or in districts where rents and land costs are low. The developers will be incentivized by the zoning bonuses offered as compensation, but that value of the benefit to the developer will exceed the benefit gained by the tenants.

We won’t know the full impact of this legislation for a while, but there was a rush of permit applications submitted to the city prior to the February 1 implementation deadline and hardly any permits requested after the deadline. CoStar forecasts that apartment
PORTLAND’S 2016 INCLUSIONARY ZONING DECISION

construction in 2018 will fall dramatically. We are likely to see a lot of buildings proposed in the 15-19 unit range—because these buildings wouldn’t be subject to the regulation—thereby reducing the overall housing production from a given amount of land. Housing analysts are expecting to see new construction in places like Beaverton, Milwaukie, and Gresham to the west, southeast, and east of the City of Portland, however these are three of the lowest rent areas in the entire metropolitan area. Instead, there is likely to be a lull in construction after the pre-February permits have been utilized. Rents will then rise, followed by new construction in these close in suburbs once they reach the higher price points required for redevelopment and mid-rise construction. In that sense, Portland’s inclusionary policy really takes on an exclusionary character.

Seen in that light, Portland’s inclusionary zoning policy is really a development tax that is being used to create a stream of social benefits. And as a development tax, the benefits will be highly skewed to a few individuals (horizontal inequity) and harm the interests of many of the poor. That is, reduced apartment rents will be a benefit to the small number of residents that receive them. As rents rise in the neighborhood around them, they will likely become long-term tenants. But for the majority of low-income households in the city and the region, rents will continue to increase and they will suffer. There will be multiple sources of their suffering, but the connection between that suffering and inclusionary zoning will be indirect and not obvious.

Portland’s affordable housing bond is a more appropriate source of revenue than a development tax given the problem being addressed. Low household incomes and high housing costs represent a social problem for the region, so using a development tax on the industry that provides housing doesn’t make sense. Funding affordable housing with a tax increase on all property owners is a more appropriate response.

In fact, designing a demand-oriented program at a regional or state level would be even better. The natural geography for housing markets is regional, and the federal government encourages local public housing authorities to make their Section 8 vouchers portable across county lines. Unfortunately, housing policy at the local level is dominated more by housing providers than housing recipients, so city policy tends to be biased in favor of the less efficient strategy of providing units, not portable vouchers.
Due partly to the dissatisfaction with the 2015 Urban Growth Boundary decision, Metro Council has planned for an accelerated review of the urban growth boundary in 2015, three years ahead of the mandatory six-year schedule. Due to wariness resulting from the Damascus case, Metro is asking local jurisdictions to nominate UGB expansion sites by December 31, 2017, that they would be willing to concept plan. One interpretation is that Metro is ceding its growth management responsibilities to local government, but maybe a better interpretation is that Metro is giving preference for expansion with willing and motivated local partners. Finally, Metro staff have also modified its MetroScope model to better estimate the economic feasibility of higher density projects, rather than accepting zoning capacity as given. For parcels inside the UGB, MetroScope will simulate pro forma models of a variety of development types and select the type (and corresponding density) that delivers the highest return to landowners.

The last of these changes suggests that Metro may find a shortage of land for future development, since high density projects in low rent areas will be less likely to meet this test. However, it’s unclear how much of a change in capacity will result from the modified MetroScope model. It’s also unclear whether cities will do the concept planning for urban reserves (or announce the intent to do concept planning) prior to the December 31 deadline. The cities will be reluctant to spend money on concept planning when they don’t know if their proposed expansion sites will be chosen. And frankly, the existing residents will have little incentive to annex new land to their jurisdiction unless they bring in more tax revenue than they cost in expenditures. And from a housing market point of view, no individual jurisdiction is an island. For example, if Wilsonville adds land to its city and housing is developed there, it won’t be that Wilsonville housing prices are reduced or moderated, while prices in neighboring communities rise. In that sense, Wilsonville will be performing a public service for the region, without any specific benefit to existing residents. For communities with unhappiness about the existing level of public services, adding new land and residents will be a challenging ask by local officials.

However, given the need to analyze these Urban Reserves (which Metro has designated as the first places for the UGB to be expanded someday), I organized a class of Portland State students to evaluate their potential. In this effort, the various urban reserves were organized into seven groups, which I listed counter clockwise:

1. Gresham, Boring, and Damascus
2. Hillsboro, Forest Grove
3. Southwest (Beaverton, Tigard, King City)
4. Sherwood
5. Wilsonville
6. Stafford (Tualatin, Lake Oswego, West Linn)
7. Lake Oswego
The two urban reserves bordering Gresham and in the direction of Boring have good potential for industrial development or housing development based upon their topography, but suffer from a lack of access to the existing highway network in the region. One could imagine highway spurs to the north or west to connect these locations to I-84 or I-205 respectively, but until they are built, these sites don’t look ripe for development. The Damascus urban reserve remains very far from appropriate infrastructure or a willing jurisdiction for reasons described previously, and the class decided not analyze it in any detail.

The Hillsboro urban reserves have good development potential, especially given that the Sunset corridor already has more employment than housing units. Many workers at Intel, Nike, and other firms end up reverse commuting given the lack of housing opportunities on the west side. In particular, the South Hillsboro (or South Witch Hazel) urban reserve seems like a prime candidate for housing development, given the progress made in developing the other South Hillsboro UGB addition next door. The urban reserves north of US-26 seem promising for housing development, too, building off the development success of the Bethany neighborhood to the north. However, an outstanding challenge for these urban reserves are the lack of adjacent jurisdictions. For each area, Hillsboro and/or Beaverton would be the logical partner, but they would either need to annex other established neighborhoods or pursue a cherry-stem annexation. Finally, the Forest Grove urban reserve is located on a distant edge of the metropolitan area, and doesn’t seem ripe for development.

The Southwest suburban cities of Beaverton, Tigard, and King City border three different urban reserves that all border or straddle the relatively new Roy Rogers Road in Washington County. Each of these reserves are close to Scholls Ferry Road, which is a high income corridor for Washington County, and near the Bull Mountain neighborhood and the River Terrace planned community. The significance is new homes in any of these
expansion areas would likely command high prices and would develop more rapidly than other places. In addition, new subdivisions in these areas would create relatively good commutes for workers at Intel and other tech firms in Washington County. The challenge will be getting the jurisdictions that border these expansion areas to concept plan these areas.

The city of Sherwood has four urban reserves on their border with the most developable ones being Sherwood West and Tonquin Road. Sherwood West would end up as an extension of already developing residential areas. Tonquin Road would be ideal for light industrial. The reserve is distant from the highway network, but served by rail and close to existing industrial users.

There are six urban reserves that border the city of Wilsonville. The Southwest Wilsonville urban reserve is nestled between an existing neighborhood, the Willamette River, and rural reserves, and would likely develop as a high income residential area. Grahams Ferry urban reserve is located north of the Villebois planned community and also has good potential for residential development. On the east side of Interstate 5, the Advance urban reserve would build upon the existing Frog Pond development. Finally, there are three urban reserves north of the Argyle Square shopping district that have great potential for either industrial or residential development (I-5 East, Elligsen Road North, and Elligsen Road South). The industrial market tends to be strongest on flat ground next to freeway interchanges, so for employment land, Metro may want to limit residential development there, to preserve opportunities for industrial and flex space development. Towards the north, these urban reserves won’t have freeway access, so residential development becomes more likely.

The Stafford urban reserve is a large territory sandwiched between Tualatin, Lake Oswego, and West Linn. The leadership of those communities, particularly West Linn, were very reluctant to see this area be classified as an urban reserve, preferring to have a nearby open space amenity. Yet the area is serviced by a major interstate highway and is located next to the highest income communities in the state. As a result, there is existing infrastructure capacity and great development potential. The Stafford dispute has been reconciled and this area offers great development potential for high and low density residential, as well as some employment and retail potential. The Stafford area has a significant downhill slope from Lake Oswego south to the Tualatin River and therefore will need major infrastructure improvements to complement the interstate highway. As a result, the most likely short-term development could come from Tualatin extending its infrastructure east in the Borland area towards the Stafford Road intersection. If such an expansion is proposed, Lake Oswego and West Linn may become motivated to propose expansions of their own.

Finally, Oregon City has five small urban reserves on its southern and eastern borders, Beaver Creek Bluffs, Henrici Road, Maple Lane, Holly Lane/Newell Creek, and Holcomb. These expansion areas will be a challenge to develop for a variety of reasons, including low housing prices in the community and high infrastructure costs. In addition, the city is currently planning for the development of three existing neighborhoods, Park Place, Beaver Creek, and South End. Once those areas develop, expansion into the nearby urban reserves seem more likely.
CONCLUSION

Given this range of options and uncertainty, it’s unclear how the urban growth boundary debate in 2018 will result. If a housing land shortage is recognized, there is a range of good options for expansion should local governments be willing (Hillsboro, Beaverton, Tigard, King City, Sherwood, Wilsonville, and Tualatin). Identifying which community is willing requires a political analysis beyond the scope of this paper. If a shortage of industrial land is identified, then the choices are more narrow. Sherwood has a good site for light industrial, but Wilsonville has the best sites for warehousing and distribution, which requires good highway access. In both the residential and employment case, Metro might find it necessary to recruit a jurisdiction rather than seek a volunteer.

Finally, Metro’s Urban Growth Report may find the no need for expansion of the Urban Growth Boundary, which would seem like an odd result when the City of Portland has declared three years of housing emergency and rents and prices are appreciating rapidly. In that environment, land owners outside the UGB may need to approach the Oregon state legislature to expand the boundary on their own, much as they did in the 2013 “grand bargain.” This outcome would distress local planners, who don’t want to see the legislature act as a regional zoning body. On the other hand, if housing consumers cannot get a satisfactory response from the regional government, they may need to seek a more responsive forum.
The urban reserve areas examined in this paper are Gresham East Urban Reserve (hereafter referred to as GEUR) numbered as Area 1C, Boring Urban Reserve (hereafter referred to as BUR) numbered as Area 1D and Area 1F and Damascus Urban Reserve (hereafter referred to as DUR) numbered as Area 2A. Our analysis demonstrates that these urban reserves contain sites suitable for large-scale housing, retail, and industrial development, yet they lack a vital element—roadway accessibility. Highways and improved roads enable the flow of people and goods to areas on the urban fringe. Without significant roadway improvements, development capacity will remain limited for the East Metro Urban Reserves.
Local Context
Gresham is the fourth largest city in Oregon and has a growing population of more than 100,000 people, making it the largest suburb of Portland. Historically considered the far eastern suburb of Portland (16-mile from downtown Portland), Gresham has made strides to attract employers. GEUR shares a border with Gresham and unincorporated community of Springwater to the west. Springwater area is located just south of Gresham and was brought into UGB in 2002. Due to its strategic location in Multnomah County, it stands likely to be annexed by Gresham near in the future.

Boring and Damascus remain unincorporated areas today. This was not always the case while the City of Damascus existed between 2006 and 2016. The city voted to disincorporate in 2016. In fact, BUR and DUR would not exist today without now-disincorporated City of Damascus.

The 2002 UGB expansion was the largest in Metro’s history: massive 18,867 acres were brought into UGB. Metro decided to bring roughly two-thirds of the expansion from an unincorporated community of Damascus in Clackamas County, which was almost all rural land with buttes and valleys. Peter Walker and Patrick Hurley depict what happened next in their book “Planning Paradise: Politics and Visioning of Land Use in Oregon” as follows:

Local resistance to urban expansion took multiple forms, but one of the most remarkable and important was not protests in the streets or at planning meetings but, instead, a successful local grassroots effort to incorporate Damascus as a full-fledged city, with its own government that could give Damascus residents a degree of institutional voice they had lacked as an unincorporated area. This problem of lack of representation of Damascus in the planning process was widely recognized early on … (this) urbanization without representation was not exactly lost on Damascus residents.
Citizens of Damascus sought to have the political influence over the possibility of large-scale development. The incorporation of Damascus was approved 65% YES to 35% NO, with a turnout of 87% at the November 2004 election. Thus, Damascus was officially incorporated as a city in 2004. Shortly after that, city measures on the ballot severely limited the city government’s spending authority without voter approval. As a result, Damascus became the only city in Oregon that was required to take its comprehensive plan to a public vote to be passed by a resident majority. When Metro designated urban reserves including BUR and DUR in 2008, Damascus existed as a city, trying to enact its state-required a comprehensive plan. For a decade, the citizens voted down various iterations of a comprehensive plan until the dissolution became a more desirable option. On May 17, 2016, the city of Damascus voted by more than a two-to-one margin for dissolution.

Due to this Damascus debacle, neither BUR nor DUR borders an incorporated city any more. Without adjacent cities willing to take on the preparation of concept proposal, BUR and DUR are not relevant to UGB expansion anytime soon. Additionally, the incorporation of these two communities remains a politically loaded topic.

How are urban reserves brought within the UGB? Cities must take the initiative to submit concept proposals that “show evidence that they and the private sector are ready to create new homes and neighborhoods.” Metro evaluates the proposals according to their ability to bring more affordable housing, create jobs, and protect natural areas. An unincorporated area, like Damascus, cannot undertake this process. Instead, a city -such as Gresham - could identify how an urban reserve fits within their economic development plans and make the case for the reserve’s role within development on a 20-year horizon.

MARKET ANALYSIS

Single-Family Housing
The median home sales price in the City of Portland is $405,000 as of June 13, 2017, according to Trulia. As one goes east to the City of Gresham, the median home price drops to $303,000. The decreased Gresham home prices can be explained by lower household income in the area (Portland median income $60,892; Gresham median income $46,457) which might be deriving from the fact that a very few traded-sector employers locate in the area in addition to distance from to downtown employment center in the region. Near GEUR, home designs include affordable options with lots as small as 2,500 SF. Directly to the west of GEUR, row houses and smaller detached houses make up a suburban-style neighborhood. To the south, there are larger lots and homes. The subdivisions near the GEUR were built in the 2002-2007 range.

As reported by Census Reporter, 92% of the housing structures in the BUR are single-family units and almost 90% of structures are owner-occupied. As of June 13, 2017, there are 8 homes for sale in BUR, according to Redfin which derives the data from RMLS. The average asking price of these 8 homes is $863,363, much higher than Portland or Gresham. In the Boring CPO boundary (larger than BUR and smaller than zip code 97009 boundary), 11 homes were sold in the past three months and the average home sales price was $452,309 which is considerably higher than that of Portland. The higher home price in the area can be mostly explained by the large size of dwelling unit as well as land (the average Boring home comes with over an acre of land). In addition, the housing stock in the area includes newly constructed or recently remodeled luxury custom homes that boost the average home sales price.

Industrial
Industrial market statistics from Q1 2017 revealed continuously strong demand with extremely low vacancies, despite of a stream of new construction deliveries. NNN asking shell rates have hit a record high of $0.57/SF/month in Portland MSA. The closest industrial submarket to Gresham East and Boring is NE Columbia Corridor (includes city of Gresham,
Troutdale, Fairview, Wood Village and NE corner of Portland). According to Colliers International, NE Columbia Corridor's average NNN asking shell rate was $0.55/SF/month, slightly lower than the metro average.

Earlier this year, Subaru of America, Inc. opened its 601,141 SF master parts distribution center in Gresham Vista Business Park (GVBP), 221 acres of industrial land prepared by Port of Portland. Subaru was the first GVBP tenant, which jump-started development of remaining sites in the park. GVBP now offer over 1.5 million SF of new industrial spaces planned or under construction. Approximately a half of the space will be delivered in June 2017 by Specht Development, Inc., a Portland-based commercial real estate company. Specht purchased GVBP Lot 9, the 37.42-acre site, for $9.28 million from Port of Portland and has been developing Vista Logistic Pak consisting of 732,824 SF of speculative industrial space in three buildings. Port of Portland sold Lot 1, 2, and 3—combined site of 29 acres, north of Subaru's distribution center—to Trammell Crow Company for $7.8 million and expects to see a little over 503,000 SF of speculative industrial space in three buildings. The Trammell Crow Company completed the build-to-suit distribution center for Subaru. In addition to these 1.23 million SF of new industrial space in Gresham, almost 900,000 SF of industrial space is under construction in the other parts of Portland MSA within UGB. Additionally, 7 million SF of industrial space is in various stages of planning/entitlement processes as of the end of the first quarter of 2017.

Gresham has become increasingly successful in recruiting and retaining manufacturing and specialized technology companies. Existing Gresham manufacturers are expanding. ON Semiconductor moved to Gresham in 2006. Since then, it has expanded operations and grown to 750 people (50% more jobs than 2006). After the election of Donald Trump, major companies have started to highlight their efforts to bring manufacturing jobs back to United States. In February 2017, Boeing of Portland announced expanding production at the site to include parts of three flagship jets. Their Portland facility (on NE Sandy Blvd in Gresham) employs 1,600 people at its 87-acre site.

A few of key factors explain why Gresham has become more attractive to world-class manufacturers. First, the Portland MSA has a relatively high education attainment. According to US Census American Community Survey 2015 Estimate, 45.5% of Portlanders have a Bachelor's degree (27.2% Bachelor's Degree; 18.3% Graduate degree). Gresham has a lower rate of college degrees at 19.4%. However, Mt. Hood Community College in Gresham has over 32,000 students and provides specialized skill training for the future workforce. Another appealing component to Gresham is its varied transit options for manufactured goods. Ports along the Columbia River are nearby. Heavy rail lines run east-west from Gresham and offer connection through Portland. Trucking has access to I-84 to the north and Highway 26 to the south. See Appendix 3 – City of Gresham Existing Transportation Plans & Portland Metro Railways for transportation maps. Employee talent and increasing transit access, coupled with the relatively cheaper price of land have made Gresham an appealing alternative to western industrial sites.

How do these market trends apply to the East Metro Urban Reserves? In 2010, Metro assessed the suitability or appropriateness of various urban reserves for industrial/employment uses. Although BUR was identified as one of two Urban Reserve areas containing “a significant amount of larger, flatter parcels suitable for industrial/employment uses in the eastern part of the region” , development is unlikely to occur in the foreseeable future. BUR’s location is less favorable than the many industrial spaces located much closer to freeways, airport, and marine terminals.

In addition, the supply and demand analysis of employment land in Clackamas County revealed that there is the obvious disparity between where population growth is expected to happen and where available supply is located. Johnson Economics, a consulting firm that conducted employment land demand study for Clackamas County, stated that “73% of total available land supply is located in the Outer Clackamas subarea, an area where less than 1% of demand is expected.” It is worth noting that the referenced available land supply is located within UGB, which again has that advantage over BUR.
SITE ANALYSIS

GEUR is southeast of the Gresham’s Burnside commercial corridor. The reserve is marked by SE Teal Ave (near SE 282nd) Ave to the west and SE 302nd Ave to the east. The northern boundary is SE Lusted Road and extends south to approximately SE Stone Road. Most of the site is developable land, yet there are a number of existing structures—most notably, Sam Barlow High School. Kelly Creek and an extension of Beaver Creek cross through the site from east to west. Metro GIS shows 10-25% grade forest sections through these areas, which would not be conducive to development and should remain protected natural areas. FEMA 10-year flood planes are to the south with none in the reserve. For future analyses, the impacts of future development on natural areas will need to be evaluated in-depth.

East Gresham utilizes Highway 26 (approx. 1.5 miles south of the reserve) for westbound commutes to downtown and eastbound commutes to Sandy and Mt. Hood. HWY 26 is a major cross-state west-east route that runs from Oregon Coast to Idaho state line and it connects Gresham and Boring to the region’s principal city, Portland. Although HWY 26 starts as an expressway near Oregon Coast, it becomes a series of surface streets in Downtown Portland, Ross Island Bridge to cross Willamette River and Powell Boulevard into Gresham. Near the southeast edge of Gresham, Powell Boulevard becomes HWY 26 and Powell Valley Road. At this point, HWY 26 becomes an expressway. GEUR is 1.7 miles and BUR is less than 4 miles away from this expressway entrance.

A string of north-south expanded thoroughfares (SE 257th, SE 282nd, & SE 302nd) connect East Gresham to I-84 (approx. 6.5 miles north of the reserve). However, GEUR is largely disconnected from I-84 for industrial purposes. Appendix 1 & 2 display the transportation disconnect of GEUR & BUR from I-84. Travelling 10 minutes or less to major highways remains a critical factor for these companies.
BUR is the largest block of urban reserve currently designated by Metro and located south of Gresham and east of Damascus. It comprises approximately 4,200 acres. The eastern-most boundary of BUR is located approximately two miles from the City of Sandy’s Urban Reserve. The northern and western boundary lines of BUR border UGB and the eastern boundary line borders HWY26. Future users of BUR would mainly rely upon HWY 26 and Oregon Route 212 (OR 212) for highway transit. Although these transportation facilities have been identified by Oregon Department of Transportation as having additional capacity, the area is far from having a great access to major freeways.

In the 1970s, regional plans gained momentum to construct the Mount Hood Freeway (a HWY 26). The freeway would have run through southeast Portland, from the Marquam Bridge to 122nd Avenue. If the freeway was constructed, the related projects would have continued the route through Powellhurst-Gilbert neighborhood in Portland, Gresham Butte, a component of East Buttes, in Gresham, out to Boring. While this would not have been aesthetically pleasing and the intended route has allowed for retail corridors to develop instead, the proposed Mount Hood Freeway signed the future need for better roadway connections between Portland and its eastern suburbs.

OR212 begins in Boring at the intersection with HWY26, runs westward through Boring and Damascus. It ends at the intersection with Interstate 205 (I-205) in Clackamas. In Boring and Damascus, the highway only has one lane in each direction with numerous intersections with backroads that lead to Springwater area located a few miles north of the highway.

BUR is separated into two areas by Metro’s reserve map: Area 1D and 1F. Area 1D occupies approximately 65% of BUR acreage and contains two large buttes. These buttes are parts of East Buttes, the forested buttes stretching from Gresham south through Boring, Damascus and Happy Valley that have been included in Metro’s February 2007 “Natural Landscape Features Inventory.” The slopes of these extinct lava domes provide opportunities to protect water quality and large area for wildlife habitat and corridors that stretches from inner urban Portland to the edge of the Cascades. The highest elevation of 1D is right around 850 feet at the top of one of the buttes. The eastern portion of Area 1D and Area 1F are relatively flat except the North Fork Deep Creek.

North Fork Deep Creek merges with Deep Creek, a moderately-sized tributary to the Clackamas River, in an unincorporated community of Burton, outside Metro boundary. Metro purchased 18 acres of land encompassing approximately two miles of main stem of North Fork Deep Creek in 2009. Metro then removed several home sites, environmentally damaging structures, and non-native vegetation to restore riparian and upland habitats which in turn reduced turbidity (water cloudiness) of North Fork Deep Creek. In addition, the land purchase assured the protection of a scenic stretch of forest land adjacent to the Cazadero Trail, the 4.4-mile gravel trail from Boring to Barton.

Infrastructure (Schools, Fire, Sewer, Etc.)
The northern portion of GEUR borders the City of Gresham to the west. The southern portion is adjacent to unincorporated land in Multnomah County. The East Gresham reserve is within the Multnomah Fire District #10. Lusted Water District serves the majority of the reserve. Pleasant Home Water District includes the south-eastern portion. The Gresham-Barlow School District (Sam Barlow High School and East Orient Elementary School) manages the educational development in the area. Sam Barlow High School is located on the north-eastern portion of the East Gresham reserve.

Two different school districts --- Gresham-Barlow School District and Oregon Trail School District --- serve the community of Boring. Interestingly, Gresham-Barlow School District covers both Multnomah County and Clackamas County serving approximately the eastern half of Gresham, much of Damascus, and a portion of Troutdale. Approximately a half of the school district is currently outside the UGB which includes the entire GEUR and northern portion of BUR. Southern portion of BUR is served by a massive Oregon Trail School District...
that spans 424 square miles from Boring to the top of Mount Hood.

Unincorporated Clackamas County land is regulated in fifty-one zoning districts and BUR encompasses a limited number of zoning districts. Most commercialized and populated area of BUR is located around the intersection of SE 282nd Ave (Boring Rd) and SE Compton Road (Oregon Route 212). Immediately around this intersection is zoned with Rural Commercial District (RC) and Rural Industrial District (RI). RC and RI are then generally surrounded by Rural Area Residential 1-Acre (RA-1). Beyond the RA-1, much of BUR is zoned with Exclusive Farm Use (EFU) to be preserved and maintained for farm use and Rural Residential Farm Forest 5-Acre (RRFF-5). The rest of BUR is zoned with Rural Area Residential 2-Acre (RA-2) and Timber District (TBR).

Sanitary sewer and surface water services are provided by Water Environment Services of Clackamas County in the most commercialized and populated area of Boring only, around the intersection of SE 282nd Ave and SE Compton Road. The vast majority property owners in BUR depend on the septic system. Drinking water services are provided by Boring Water District which serves approximately 700 customers in the area.

Boring was a part of Boring Fire District #59 which covered Boring, Damascus, Barton and Eagle Creek communities in Clackamas County which added up to 59.1 square miles with a population of approximately 20,000. On November 8, 2016, the dissolution of Boring Fire District #59 and its annexation into Clackamas Fire District #1 were approved by voters in both fire districts and earlier this year, Clackamas Fire District #1 completed the annexation.

GEUR, BUR and DUR are all in Metro Council District 1 represented by Shirley Craddick who also represents Outer East Portland, Gresham, Troutdale, Fairview, Wood Village, and unincorporated community of Damascus within UGB. The district also includes a giant rural reserve area adjacent to the southeastern portion of UGB and some undesignated lands east of Troutdale outside the UGB but within Metro boundary. The only freeway serving this vast district is I-84 that runs east-west in the far northern part of the district.

Institutional Changes

BUR covers northwestern corner of the land overseen by Boring Community Planning Organization (Boring CPO) and comprises approximately 35% of the land within Boring CPO boundary. Boring is an unincorporated community in Clackamas County, the third largest county in Oregon by population after Multnomah County and Washington County with which it borders. The county encompasses 1,879 square miles (1,202,560 acres), of which less than 72 square miles (46,080 acres) is occupied by 14 incorporated cities. The nearest city to BUR in Clackamas County is Happy Valley which is over 4 miles away while Gresham in Multnomah County is only 1 mile away. The distance between BUR and Gresham will be only 500 feet if Gresham were to annex the 1,151-acre Springwater area in Multnomah County.

The 2002 UGB expansion that brought the Springwater area, included the 139-acre strip in Clackamas County. The long, narrow area of land along the county border between SE 252nd Avenue and Hwy 26 was originally being considered as part of the Springwater Community Plan. The plan was lobbied by City of Gresham who was plagued by a small tax base and wanted to cultivate the industrial development that had enriched Washington County. The strip of land was included in the City of Damascus incorporation in 2004. After a nearly decade of no development and the disincorporation of Damascus in 2016, City of Gresham could have an opportunity to annex not just Springwater area, but also beyond along Hwy 26 (through the collaboration with Clackamas County). Such a move would lay the foundation for a large industrial cluster to attract jobs and create wealth in the area.

Although a large span of flat land allowing economies of agglomeration is attractive to many traded-sector employers, the area still lacks a critical component – highway accessibility. According to 2016 annual corporate executives’ survey conducted by Area Development Magazine, highway accessibility was the number-one ranked factor for site selection. Easy
access to highways is crucial to achieve logistical efficiencies and control transportation costs. With the continued sweep of just-in-time supply chain management and the increasing consolidation of distribution and warehousing operations, highway accessibility will become even more important in the future.

RECOMMENDATIONS

A fringe city expanding its jurisdiction into unincorporated area such as Gresham is, in a way, performing regional public service by allowing continuous urbanization and growth to take place. The East Metro region has traditionally been housing rich, job poor. Even with growing employment opportunities, the trend remains that many in Gresham, Boring, and Damascus areas have to commute west for employment. According to CoStar Analytics, “Gresham has the highest concentration of commuters who work downtown, with nearly half of employed residents making the daily trip.” The momentum of employment centers shifting to East Metro areas is off to a good start, but requires continued public investment and incentives if it is to be sustained.

The following recommendations would benefit existing employers in East Metro region and increase the development potential of land currently held within the urban reserves:

1) Increase north-south connectivity to I-84 and Highway 26.

Transportation remains a critical deciding factor for where employers locate. The lack of north-south connectivity severely limits the potential of EGUR, BUR and DUR. Unless roadway investments are made, this will continue to be the case. Transportation infrastructure investments from local, state, and federal sources ought to be utilized to improve roadways in East Metro region. Appendix 4 - Configurations for Improved North-South Transportation shows proposed options for transit improvements in East Metro region. Through the creation of an expressway outside UGB is not allowed under the current state law, it is something to consider for the long-term prosperity of the region. The implementation of an all-electronic tolling system is highly recommended to help fund the construction and maintenance of the structure. The tolls will also entice many people to take public transit. The rates can be set in range depending on the size of the vehicle and time of day.

2) Capitalize on momentum in Gresham for industrial + retail uses.

City of Gresham has made known their desire to attract national manufacturers. With a track record of working with major employers, Gresham is well-positioned to attract additional manufacturers who are drawn to the business-friendly environment and relatively cheaper land prices. At the federal level, the Trump Administration has explicitly prioritized domestic production over international trade. The rhetoric alone has enticed major corporations to demonstrate their commitment to American industry. If President Trump’s tax and trade policies take effect, demand for industrial space could see significant increases. Finally, development opportunities already exist in the area. For instance, 37.34 acre site of the
GEUR is currently for sale (asking $12 million as Oct 2016). The Port of Portland could be brought in as a strategic partner in preparing such sites and attracting major manufactures. With the recent emergence of Subaru, Boeing, ON Semiconductors, and others, companies within the advanced manufacturing and semiconductor clusters would likely be enticed to the area.

3) Prioritize East Metro employment with an eye to future residential expansion.

Residential development in East Metro region is limited as the majority of residents commute west for employment. Heavily trafficked I-84 commutes (west in the AM, east in the PM) reflect this phenomena. Creating jobs in the East Metro region will be vital in increasing healthy residential demand. Gresham and other eastern cities must prioritize creation of jobs first in order to spur demand for future residential options. Additionally, if East Metro urban reserves are zoned for industrial or retail, companies (not only new residents) will share the cost of new and improved infrastructure. Building mostly new residential subdivisions would bundle system development charges into home prices or future property taxes.

Appendix 1 – Highway Accessibility Analysis

Appendix 1.1 Highway Access Citywide - 1 min (White), 3-min (Lighter), 5-min (Gray), 10-min (Dark) Source: Esri + Bureau of Transportation Statistics. GEUR & BUR marked.
Appendix 1.2 Zoomed East Metro - Highway Access Citywide - 1 min (White), 3-min (Lighter), 5-min (Gray), 10-min (Dark)
Source: Esri + Bureau of Transportation Statistics. GEUR & BUR marked.

Appendix 2 – Drive-Time Analysis

Appendix 2.1 Truck Drive Time Analysis - 5 mins from GEUR Source: Esri & Bureau of Transportation Statistics
Appendix 2.2 Truck Drive Time Analysis - 10 mins from GEUR Source: Esri & Bureau of Transportation Statistics
Appendix 3 – City of Gresham Existing Transportation Plans & Portland Metro Railways

Appendix 3.1 East Metro Corridor Projects 20-50 Years Source: City of Gresham
Appendix 3.2 Transportation & Roadway System Plan Source: City of Gresham

Appendix 3.3 Railway System Source: Esri + Bureau of Transportation Statistics
Appendix 4 - Configurations for Improved North-South Transportation

OPTION #1 - Create Expressway on SE 302nd Ave

- Create on/off ramp from I-84 to Ogden Road (major construction needed to create two lane highway going East)
- Expand Ogden Road
- Build bridge to cross Sandy River and connect Ogden Road to 302nd Ave
- Connect 302nd to Orient Drive
- Provide easy access from Orient Road to 312th Ave, feeding to Highway 26 and OR 212
- Drawbacks: Expensive to build on-ramp for I-84 East and bridge crossing Sandy River
- Opportunities: Increase connectivity between Eastside highways and ease the flow of traffic for commercial uses

OPTION #2 - Improve 282nd for commercial use

- Connect 257th Ave & Graham Road to Buxton Road
- Improve Troutdale Road to close off resident inlets, increasing speed and providing more seclusion for residential communities
- Add traffic light at SE Troutdale & NE Division
- Build on-ramp from Boring Road (extension of 282nd) to Highway 26
- Drawbacks: Difficulty expanding transit through neighborhoods
- Opportunities: Cost effective option for connecting
END NOTES

19. The Oregon Encyclopedia “Mount Hood Freeway” https://oregonencyclopedia.org/articles/mthood_freeway/#!WQDy0iyuUm
21. “Natural Landscape Features Inventory” New Look: Shape of the Region. Multnomah
In order to involve citizens in the land use planning process, Clackamas County, which consists of many unincorporated communities, established Community Planning Organizations (CPOs). CPOs are rooted in not only state planning law, but also the larger task of self-governance in Clackamas County. Boring CPO “Boring Zoning” http://images.wolfpk.com/boring/Zoning.jpg


Boring Water District #24 http://www.boringwater.com/home.html


“Approval of Annexation to Calackamas County Rural Fire Protection District #1.” Office of County Council. Clackamas County. February 16, 0217.


Clackamas County “Clackamas County, Oregon” www.clackamasus/pga/about.html


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MARKET ANALYSIS
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MARKET ANALYSIS – BETHANY WEST, WEST UNION, BENDEMEER, WITCH HAZEL SOUTH

This market analysis gives an overview of the urban reserves Bethany West, West Union, and Bendemeer areas currently located in unincorporated Washington County.

The 2016 Hillsboro Housing needs analysis has determined that the City has a deficit of 1,354 new single-family detached houses over the next 20-year planning period, especially for single family detached housing types. Couple this with only 20% of Hillsboro’s workers actually living in Hillsboro (Dick 20017), Hillsboro faces 2 issues: They do not have enough housing, they are losing tax dollars to their neighboring jurisdictions.

Exacerbated by rapid employment and population growth in Washington County, with a population increase of 9.99% between 2010 to 2016, housing quantity is facing rapidly increasing shortages. This is highlighted by the disparity between the population increases compared to the housing stock growth.

Figure 1.1: Washington County Population vs Housing Stock

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<th>2010</th>
<th>2015</th>
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<td>Population</td>
<td>529,849</td>
<td>574,326</td>
<td>8.39%</td>
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Sources: Census.gov

An analysis of household sizes in Washington County allocates ratios to the required number of bedrooms/house.

Figure 1.2: Household Sizes in Washington County Analysis -

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<th>Household Size</th>
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<th>Bed Sizes Required</th>
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<th>2 Beds</th>
<th>3 Beds</th>
<th>4 Beds</th>
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<td>Min 1, Max 2</td>
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<td>7.6%</td>
<td>-</td>
<td>-</td>
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<tr>
<td>3</td>
<td>69.5%</td>
<td>Min 2, Max 3</td>
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<td>34.75%</td>
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<td>-</td>
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<tr>
<td>4 or more</td>
<td>17.3%</td>
<td>Min 4, Max 5</td>
<td>-</td>
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<td>-</td>
<td>8.65%</td>
<td>8.65%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td></td>
<td>7.6%</td>
<td>42.35%</td>
<td>34.75%</td>
<td>8.65%</td>
<td>8.65%</td>
</tr>
</tbody>
</table>

Sources: Center for Neighborhood Technology; Thomas Eldridge

Hillsboro’s population is currently made up of 50% renters, 9% more than Portland, and 10.4% more than Washington County. This higher ratio of renters is likely due to the median age of 34 years old paired with a number of high paying employers with the likes of Intel, Nike and Wells Fargo, the market lends itself to younger professionals seeking to capitalize on a high wage without making the commitment of purchasing a household.

This higher demand for rental housing is reflected when comparing rental rates in a number of Portland market areas. Hillsboro has continued to remain above the rental rates in neighboring jurisdictions, as shown via figure 1.3.
The average rent in Hillsboro in 2017 was nearly $1,400 per month. The Hillsboro Housing Needs Analysis conducted by the City estimates that Hillsboro will add 16,040 new households between 2016-2036 within the city limits and South Hillsboro. Hillsboro has a deficit of land to accommodate 1,354 new single-family detached dwelling units and a surplus of land for multifamily and single-family attached dwelling units. The report estimates that fifty-percent of new housing will be single-family detached housing (8,020 new dwelling units), 17% will be single-family attached (2,727 new dwelling units), and 33% will be multifamily housing (3,293 new units). Land within Hillsboro’s city limits and South Hillsboro has capacity for 6,666 new single-family detached dwelling units and between 11,403 to 14,403 new multifamily and single-family attached dwelling units.

Figure 1.4 – Salary Comparison, Hillsboro vs Portland -

Sources: City of Hillsboro
Even though salaries are comparatively higher than neighboring jurisdictions, there is still a large contingent of the population which requires affordable housing.

Figure 1.5: Rental Rate by Portion of Population

<table>
<thead>
<tr>
<th>Rental Rate per Month</th>
<th>Portion of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $923.00</td>
<td>30%</td>
</tr>
<tr>
<td>$923.00 – $2,217.00</td>
<td>40%</td>
</tr>
<tr>
<td>Over $2,217.00</td>
<td>30%</td>
</tr>
</tbody>
</table>

Sources: City of Hillsboro

The above table gives a good indication as to the type and extent of housing which should be developed to accommodate the growing population.

A comparison of the median housing prices next to each reserve found the highest prices lay next to the Bethany West urban reserve at $209.33/SF, where the average price per square foot over all 4 reserves is $186.00/SF:

An analysis below of the amount of housing units capable of being built on each reserve was carried out. 25% of each reserve was allocated to streets, sidewalks and alleys.

Figure 1.6: Urban Reserve Capacity Analysis

<table>
<thead>
<tr>
<th>Urban Reserve</th>
<th>Developable Area (acres)</th>
<th>Less 25% for Roads/Alleys/Sidewalks</th>
<th>Number of housing units @ 10.6 units/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bethany West</td>
<td>72</td>
<td>18</td>
<td>190</td>
</tr>
<tr>
<td>West Union</td>
<td>440</td>
<td>330</td>
<td>3,498</td>
</tr>
<tr>
<td>Bendemeer</td>
<td>117</td>
<td>87.75</td>
<td>930</td>
</tr>
<tr>
<td>Witch Hazel South</td>
<td>478</td>
<td>359</td>
<td>3,800</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,295</td>
<td>971</td>
<td>10,295</td>
</tr>
</tbody>
</table>

Sources: Andrew Crampton, Davide Wilkes, Nathaniel Dick, Rully Adisuryo, Thomas Eldridge, Thomas Geffner

SITE ANALYSIS

North Hillsboro Urban Reserve Area:
EXISTING ZONING

Bethany West Urban Reserve (1), Bendemeer East Urban Reserve (2), and Bendemeer West Urban reserve (3) has been zoned EFU (Exclusive Farm Use) by Washington County. EFU is intended to preserve and maintain commercial activity land. However, Future Development FD-20 zoning would be applied to the reserve areas while the applicable jurisdiction begins concept planning for the subareas. FD-20 is a holding zone for properties brought into the UGB to forestall development until urban zoning is applied following annexation. Accordingly, except for a few exceptions related to public facilities, no new lots of any size less than 20 acres may be created. However, existing lots can be built upon. FD-20 District recognizes the desirability or encouraging and retaining limited interim uses until the urban comprehensive planning for future urban development of these areas is complete. Uses permitted include in this district include single detached dwelling unit, parks and school, public and private conservation areas and structures for the conservation of water, manufactured home, cemetery, and religious Institutions.

Bethany West

Bethany West has a total developable area of 121 acres. Surrounding schools include Rock Creek Elementary and Westview High School. Along NW West Union Road is a strip mall containing an Albertsons to the East. Bus services are available stretch of road (NW 185th Ave) and goes down NW Springville Road: does not continue down NW 185th Ave towards the Urban Reserve. If we past NW Springville Road we go downhill towards the Urban Reserve. While passing the Urban Reserve on the right, see figures 3.3 & 3.4, the road inclines up NW 185th Ave where you finally meet NW Germantown Road.
Bendemeer East
Bendemeer East has a total area of 430 acres. This site is located between NW Cornelius Pass Rd and NW 185th Ave, to the north of NW West Union Rd. Bendemeer East is located immediately west of Portland Community College Rock Creek and is located 1.5 miles to the northeast of Intel's Ronler Acres campus. There is a large-scale housing development south of NW West Union Rd, which includes a golf course and country club. The site is relatively flat, which could make any potential developments easier to plan. This urban reserve is currently served by the Tualatin Valley Fire & Rescue district, Garbarino Disposal services, and TriMet. There is a main sewage pipe as well as a main water pipe running underneath West Union Road. In terms of school, there are two school districts that run through the reserve. On the east side of the reserve is the Beaverton School District, and on the west side of the reserve is the Hillsboro School District.

Bendemeer West has a total area of less than 130 acres. It is located in the East side of NW Cornelius Pass and in the north of NW West Union Rd. This site has a great accessibility from exit 62 through US-26 West of Portland along NW Cornelius Road. This urban reserve is located immediately west of Portland Community College Rock Creek and just to the northeast of Intel's Hillsboro campus. The topography is mostly flat with a little wetland across the center of the site. This urban reserve is inferior to Helvetia soil, which considered one of the best with mostly class 1 and class 2 soils. Helvetia Soils is considered a "high-value" farmland, which has the ability to produce a high-quality crop, thus makes the site suitable for urbanization compared with neighboring areas.
North Hillsboro Urban Reserve - Natural Features

Study Area
City of Hillsboro
Urban Growth Boundary
Unincorporated Washington County
FEMA 100 Year Floodplain 2016

Upland Wildlife Habitat Quality

Riparian Wildlife Habitat Quality

Figure 2.8 – Looking North along NW Cornelius Pass Road - Source: Google Maps

Figure 2.9 – Looking West Along West Union Road, Urban Reserve to the Left - Source: Google Maps

Figure 2.10 – Urban Reserve - Source: Google Maps

Figure 2.11 – Urban Reserve - Source: Google Maps
Bendemeer West
The two arterial roads are mostly flat with 2-way direction and one lane for each direction. The street has a width of approximately 10 feet, with no sidewalks. This urban reserve is currently under the jurisdiction of Tualatin Valley and Fire Rescue District and Hillsboro School District. Water and sewer line is located on the South of the site along NW West Union Road. Based on the following visit, the retail district is located adjacent to the South side of the urban reserve, where many restaurants and fast-food are located. There is a mall or shopping center, Crossroads at Orenco Station which is located 2.4 miles South of NW Cornelius Road or 8 minutes driving from the site or Tanasbourne Town Center, located 3.4 miles south or 9-minutes driving. The closest high school is Liberty High-School and Lenox Elementary School located less than a mile south of NW Cornelius Road. In addition, Portland Community College (PCC) Rock Creek Campus is also in close proximity. Access to grocery store, Fred Meyer, is located 1.6 miles South of NW Cornelius Road. Based on Costar research, Colliers International proposed two 4-star industrial warehouses located on the West of the site.

Figure 2.12 Location of Helvetia Soil and Intel site
Figure 2.13 Topography Along NW West Union Road
RECOMMENDED INFRASTRUCTURE

Bethany West
There is a 1.8-mile-long sewer trunk line installed in 2011 (Clean Water Services 2017) through the Bethany West Urban Reserve. The capabilities of this trunk line are unknown, it would be prudent to assume that upgrading works at a minimum would be necessary. There is also an open storm water drain, as shown by the green line in figure 6.2. Furthermore, telephone lines exist down NW 185th Ave adjacent to the reserve, their capabilities must be assumed limited; rearrangement works of these lines would be necessary. The site would also require: new electrical mains, new gas mains and new water mains. In addition, other infrastructure works which would need to be address would be the stretch of NW 185th Ave between NW Springville Road and NW Germantown Road. The exact works would need to be determined but they would likely include: the development of new lanes, new sidewalks, a new exit junction into the site, traffic calming measures, street furniture etc.
Bendemeer East
Development will require substantial infrastructure investment to make the area suitable for urbanization. Increasing bus service run to the area will be important for attracting development. The two utility districts that need to be expanded with the urban growth boundary are the water and sewage districts. There is a main sewage pipe as well as a main water pipe running underneath the road. This makes expanding the water and sewage infrastructure relatively easy compared to some other sites.

Bendemeer West
Based on the research and observation for this site, Trimet would need to add bus routes running along West Union Road and Cornelius Pass Road. Arterial road needs to be widen and additional bike lanes are needed to enhance road safety for bikers. In order to increase livability and promote housing environment, parks and recreation needs to be developed. Water and sewer pipeline are accessible along NW West Union Road (South of the Urban Reserve). Additional line of water and sewer might be needed along NW Cornelius Pass Road (North of the Urban Reserve) if development were to happen along the East side of Urban Reserve.

Figure 3.3 Street Along NW West Union Road. Bus Stops and Bike Roads are Unavailable

Source: Google Maps.
Figure 3.4 Street Along NW Cornelius Pass Road. Streets Need to be Widen and Sidewalks Need to be Developed

Source: Google Maps

ISSUES CONCERNING THE SITE

Bethany West
Following an analysis of the site, an assessment has been made listing the most salient issues facing the feasibility of developing upon the Bethany West Urban Reserve with respect to its physical constraints. Firstly, purchasing negotiations could be difficult as it sits on 2 separate tax lots (Figure 8.1 & Figure 8.2); additionally, the FD-20 holding zone would be placed on the area while the most appropriate jurisdiction, the City of Hillsboro, begins concept planning for area. The area also has additional environmental constraints. Located between 2 hills, 50% of the site is covered by the FEMA 100-year Floodplain (see figure 8.0.). Finally, Bethany West is one of the smaller Urban Reserves under consideration for expansion. Concept planning for the area would take a lot of City staff time planning for a relatively few amount of developable acreage.

The largest constraint to development of the reserve is the existence of Holocomb Lake and the associated creek that runs through the area. Figure 9.0 refer to the northern border of the reserve marks Holocomb Creek. Just at the edge of the right third of the reserve, the creek turns due south, where it runs off the property. In addition to this, there is also a small wetland and flood plain that is the darkest blue area on Figure 9.1, where the blue areas on the map designate various degrees of riparian zones.

Bendemeer West
One of the constraints in Bendemeer West Urban Reserve is the floodplain on the center of the site (Figure 10.0). Part of North East of the site is a bit hilly, which might hinder a development on that site but possible for parks and recreation. Additionally, no water and sewer pipeline running along NW Cornelius Pass Road which assumed to be needed for future development. Another issue with this urban reserve is its relative size. This Urban reserve is considered a small site in comparison to other urban reserves. This means it has a relatively small housing capacity and might not produce tax revenue as much as other Urban reserves such as Jackson East or Bendemeer East.
In contrast, the West Union, Bendermeer East and West urban reserves are most appropriate for residential due to them being in close proximity to existing residential uses, the highly parceled nature of the area and environmental constraints that would make industrial development difficult.
With Hazel Village South is the extension of the overall South Hillsboro urban reserve expansion area, which began in 1997 when Metro initially identified the area for future UGB expansion, with the first expansion occurring in 1999 with the 350 acre Witch Hazel Village area. The first development occurred in 2004 with the 392 unit Brookwood Crossing and 184 unit Oakhurst Planned Unit Development, with full-buildout of the area approximately 1,800 dwelling units. The most immediately identified expansion is an area west of the now-developing South Hillsboro community, and immediately south of the Witch Hazel Village community. The 150-acre UGB expansion request area, referred to as Witch Hazel Village...
South, is currently located in unincorporated Washington County and encompasses 12 distinct landowners. This part of an overall 940 acre Urban Reserve that includes 311 acres of The Reserve Golf Course and approximately 8,000 unit South Hillsboro Community Plan expected to begin home construction in 2018.

Development in the area can take advantage of the existing and proposed natural resources and trails. Planned amenities include two neighborhood parks, a trail along Gordon Creek with a connection to the planned Crescent Park Greenway, and an additional system of trails connecting housing development with community gathering places. The area is relatively flat with a small amount floodplain constraints due to two creeks that are tributaries to the Tualatin River; the Butternut Creek on the southern end of the reserve and the Gordon Creek, which is located on the northern part of the reserve. The area also borders the FEMA 100 year flood plain on the south near the Tualatin River, instead of following SW river. The terrain near the creeks have a ten percent slope, with some of the areas reaching as high as 25 percent slope, making it difficult to develop residential or commercial lots. While the creek areas may be difficult to develop for residential use, it could be prime use for green space and trail areas.

The reserve area will require a relatively minimal investment in regional public infrastructure extension costs since it is located adjacent the developed Witch Hazel Village area, and contains regional infrastructure facilities such as SW River Road. The required infrastructure improvement would be primarily internal infrastructure, and would be funded with development credits assessed with building permits. The area is unique compared to other planned urban growth boundary expansion areas in that infrastructure costs to serve the area are relatively minimal compared to recent urban growth boundary expansions that required regional coordination of large-scale infrastructure improvements. Major required infrastructure improvements include the extension of Brookwood Avenue from its current terminus to the north of the area to connect to SW River Road.

Development would be assessed a Washington County Transportation Development Tax (TDT), which is a one-time, countywide tax on development that functions in a similar mechanism to a system development charge for County infrastructure facility improvements. Washington County provides partial TDT credit for construction of arterial and collector roads. For these roads, the County determines what portion of the project costs is related to “local street” elements, and what portion is related to the “oversized” elements. In general, sidewalks, curbs, bike lanes, one travel lane in each direction, and a center turn lane are
considered local street components. Any additional travel lanes (and the associated right of way) are the oversized components. Local street components are not eligible for TDT credits, but the oversized components of streets (and the associated right of way) are eligible for TDT credits.

Clean Water Services would provide sanitary and storm sewer service to WHVS. Sanitary sewer pipes 12 inches in diameter or smaller are not eligible for SDC credits. Pipes greater than 12 inches in diameter are partially eligible, with the creditable portion based on the percentage of the diameter in excess of 12 inches. The Hillsboro Water Department would provide water service to the area, and would implement a similar TDT credit policy for pipes in excess of 12 inches.

Two neighborhood parks are planned for the area, and would be partially funded with SDC Parks Credits from development. The area contains an existing Witch Hazel Elementary School and South Meadows High School. Hillsboro High School is a five minute drive, approximately 1.4 miles away.

The area is most likely to be developed as a mix of low density single family and medium density attached housing. The attached housing could be similar to the Witch Hazel Village area with attached housing of approximately 11-16 dwelling units per net acre, and single family residential adjacent to the Reserves Golf Course at approximately 6 dwelling units per net acre.

CONCLUSION

Witch Hazel Village South is one of the largest Urban Reserves under consideration for expansion. The area has prime developable land that the City of Hillsboro would like to annex. It could generate valuable tax revenue and provide higher end housing units for higher income households. It also could satisfy the high demand for single family housing units within the city. (City of Hillsboro Housing Needs Analysis)

The David Hill Urban Reserve

Forest Grove, Oregon is a city in Washington County at the westernmost expanse of the Portland metropolitan Urban Growth Boundary (UGB). Located about 25 miles northwest of Downtown Portland, Forest Grove is known for its small town charm. The city is growing rapidly, and estimates suggest that by 2040, the population will increase by an astounding 47% (Vista Planning, 2011).

Due to this population growth, Forest Grove is a ripe market for housing development. Current housing supply is 8374 units, and population is 22,838 persons (American Community Survey, 2015). Forecasts suggest that by 2040, Forest Grove will be home to approximately 31,000 people, a 47% increase from the city’s 2010 population. If residential density stays the same (2.7 people per unit), Forest Grove will need an additional 3000 units of housing to meet demand. The actual need for housing will likely be higher due to the retirement of older units. Of the housing in Forest Grove, 21% was built before 1960, and 50% was built prior to 1980 (ibid).

A 2009 report on the Forest Grove housing market prepared by Johnson Reid found that current needs are not entirely met by current supply. Specifically, the city has a surplus of rental units, and a shortage of ownership housing, especially on the higher-end. In the years since the report was issued, Forest Grove has seen historically low housing production; only 206 units were produced from 2010-2014, which represents 2.5% of total stock. (American Community Survey, 2015). RMLS data from Zillow (2017) shows that 158 units of ownership housing were brought to market from 2014-2017, bringing total construction over the decade to 364 units, or 4.3% of stock. As a point of comparison, from 2000-2009, new construction was equal to 14.0% of the stock and from 1990-1999, production was 21.4% of stock.
Given the slow rate of construction and the city’s exploding population, it is clear that Forest Grove has been underbuilding housing. This could be a result of the Urban Growth Boundary, as most of the developable land in the city is already built-up. Regardless of the cause, a lack of supply combined with rapidly rising demand has exerted strong upward pressure on home prices. Average values have gone up 13.0% in the last year, and have now far exceeded the home price peak prior to the bubble in 2008 (Zillow, 2017).

The Forest Grove stock is currently majority ownership (58%), with the remaining 42% rental (American Community Survey, 2015). This proportion is high on the rental side when compared to the rest of Washington County, possibly due to Pacific University student renters. Of the ownership units, the vast majority (~80%) are single family homes. Another 19% of owners live in mobile/manufactured housing, and the remaining <1% own duplexes.
The rental stock is more varied, with 50% of renters residing in 5+ unit complexes; 15% in 3 or 4-plexes; 9% in duplexes and 25% in single-family (Johnson Reid, 2009).

In order to meet immediate development needs, the city is relying on the Westside neighborhood, a section of town that was annexed to the urban growth boundary in the last expansion. Master plans of this region suggest a build-out of 1200 units, which are almost entirely single-family. Due to infrastructure challenges, construction on the hilly northern part of the Westside is limited, and this area is currently zoned “suburban residential” with 1-acre per household. Homes in the suburban residential zones will likely cost in excess of $600k (Riordan, 2017). The remainder of the plan also calls for low density development. A majority of the Westside is zoned for 10,000 ft² and 7000 ft² lots. This density is at odds with the other new subdivisions in Forest Grove, which are on 5000 ft² lots or smaller. Given the large lot sizes, it is reasonable to assume that development on the Westside will be targeted at high price points.

It seems unlikely that the Westside will be able to accommodate the entirety of the growth that is expected to occur in Forest Grove. In order to provide more developable land, the city might consider petitioning Metro to increase the UGB into the David Hill Urban Reserve (DHUR). The DHUR is a 310 acre expanse at the northwestern edge of the Forest Grove. It is the only remaining urban reserve adjacent to Forest Grove. In order to expand the UGB, the DHUR should be investigated in order to assess the feasibility of development on the site.

Figure 5.5 The Town Of Forest Grove, with Rural Reserves in Green and the DHUR in Blue (Metro RLIS 2017)

Currently, the DHUR is not urbanized, and is zoned exclusive farm use. Land use patterns on the DHUR show a multitude of small farms, as well as some areas of unmanaged forest land. Farmland on the reserve is marginal given the constraints of the site (Vista Planning, 2011). Overall, the reserve consists of 22 individual tax lots, and contains 16 dwelling units (Washington County, 2017). The topography of the reserve is hilly: a large portion of the DHUR is significantly sloped. Survey shows that approximately 30% of the reserve is at 25% grade or higher. It is possible that this area could be subject to landslides (Vista Planning, 2011). The hills form a canyon in the center of the site, with a stream running through it. The stream itself is designated by Metro as a riparian habitat, and is essential for drainage on the site. Despite the stream, no areas in the DHUR are identified as wetlands or floodplains by Metro (Metro RLIS, 2017).
The DHUR is located approximately 8 minutes from Forest Grove’s central business and commercial district. Access is provided by two primary arterials: NW Gales Creek Road and NW David Hill Road. NW Gales Creek Road follows the southern boundary of the site, and is well situated to form an ingress point. This road connects to downtown Forest Grove, and currently serves as a feeder for much of the recent subdivision development in the northwest corner of the town. If the DHUR is developed, it is likely that the road, which is currently two lanes heading out of town would have to be widened to include a turn lane at the very least. Judging from the precedent set by other subdivisions located off of NW Gales Creek, it seems as though a traffic signal is unnecessary, although if the number of developed units is significant enough, traffic signals will have to be considered. Currently, there is an unpaved gravel road, NW Creekwood Place, which branches off from NW Gales Creek Rd and penetrates into the site. Creekwood Pl, which provides access to many of the current residents inhabiting the DHUR, will need to be paved, widened and extended to be usable. The northern portions of the site are currently served by NW David Hill Road. Large sections of this road have been upgraded by subdivisions in the area, but the section that accesses the DHUR could use improvement, including the provision of sidewalks and street lights. In addition, road widening and the creation of a turn lane will be necessary to support development on the site.

Figure 5.6 Location of the DHUR (in blue) with Rural Reserves in Green (Metro RLIS, 2017)

In its current rural state, the reserve lacks access to city water and sewer. Sewer services in the urbanized area of Forest Grove are provided by Clean Water Services. As identified by Vista Planning (2011), there are significant barriers to providing sewer service to the DHUR. Both stream habitat and canyon slopes would likely limit the extension of the sewer line.
deep into the site and would require the provision of an expensive pump station. I estimate that the provision of roadways, water and sewer to the DHUR would cost the city in excess of $32MM (see appendix for calculations).

The DHUR is not suited for industrial development due to its remote location and hilly terrain. The primary purpose of this land should be the creation of much needed housing units. Small pockets of retail development could be possible, if residential density is high enough. The provision of retail space can be informed by the zoning map for the Westside. In order to accommodate retail in this development, the city is planning to make use of two neighborhood mixed-used zones (NMU), which will feature “pedestrian-friendly… neighborhood-scale retail sales and service, office, civic or recreational uses” (City of Forest Grove). In the Westside, the NMU zones are located at the entry points to the development, a pattern which could easily be replicated on the DHUR. This would lead to small pockets of mixed-use construction on David Hill Road and on Gales Creek Road.

Given the constraints of the Urban Growth boundary, it is important to economize on the land in the DHUR. At the same time, too much density might not fit with Forest Grove; residents are drawn to the town due to its quiet, rural character, and its strong sense of community (Mackley, 2017). To obtain density without sacrificing single-family charm, I suggest a pattern of medium density cluster developments. This pattern of building will have the added bonus of preserving land on the DHUR for park and forest space. Attached row homes, duplexes and 4-plexes should be provided along NW David Hill Road and on the flat areas on the southeast corner of the sight. The current lack of these types of middle-density projects in Forest Grove represent a strong opportunity to developers in the DHUR. The creation of these missing housing types will both increase the diversity of the Forest Grove stock and fulfil a market need as prices in the region continue to rise. Some of the multi-family properties should be preserved for rental and some should remain as ownership options for lower-income homeowners. The optimal mix between rental and ownership is hard to forecast, but for now, I suggest a 70/30 split favoring homeownership. This ratio draws from numbers suggested by Johnson Reid (2009), but is adjusted to acknowledge that Forest Grove has had a historically high renter-base.

The sloped portions along the northern part of the reserve are ideal for single family detached development. Here, lot sizes of 4000-5000 ft2 would be ideal. Based on sales data, buyers in Forest Grove seem willing to accept homes located on 4000-5000 ft2 lots; lots of this size common in recent subdivisions (Mackley, 2017). The single family homes should be ownership product to balance out the rental units in other parts of the reserve.

To forecast prices anticipated for construction on the DHUR, it is useful to look at comparable development. For ownership housing, comparable units suggest average pricing of $180-200 per ft2 (Mackley, 2017). Currently, there is one new home subdivision, Pacific Crossing, being marketed in Forest Grove. Pacific Crossing features a mix of 3 and 4 bedroom homes that start in the low $400,000s (Stonebridge Homes NW, 2017). Square footage in this community is between 2000-4000. This subdivision is located on the south side of Forest Grove, and is much closer geographically to the center of town than the DHUR. Other comparable single-family developments include recently completed, fully sold subdivisions scattered throughout the Forest Grove urban area (Zillow, 2017). There is a significant cluster of recent development geographically close to the DHUR located where NW David Hill Rd and NW Thatcher Rd meet. Homes in these subdivisions appear to be slightly more modest than those of Pacific Crossing, and have sold for prices starting in the mid $200,000s. The primary difference between these homes, which were completed in 2014, and the Pacific Crossing homes, which are currently for sale, appears to be size; the homes that sold in the mid-$200s have similar levels of finish, but are significantly smaller (averaging about 1600 sqft).

There are no new townhomes being sold in Forest Grove, but in nearby Hillsboro, developers are currently marketing 1300-1600 ft2 townhomes as a part of the “Sequoia Village” community (Zillow, 2017). These projects are currently commanding higher prices
than development in Forest Grove (~$210 per ft²), which is likely a result of their location in desirable Hillsboro. Needs on the high end of the market can be provided with larger, detached housing. This type of project will be located on 5000 ft² lots on the steep portions of the reserve. I anticipate these homes to be between 3000-3500 ft² and to sell for $550-650k. Current subdivisions in Forest Grove suggest that housing in this size and price range are popular. I do not believe that any homes in excess of 3500 ft² need to be provided on the reserve, as development in the Westside will create numerous lots for luxury, detached homes.

Although the DHUR is 310 acres, the buildable inventory of land is far less. If water quality management areas, areas with slopes exceeding 25% and forest/woodland areas are excluded, 149 acres are left (Vista Planning, 2011). If a target density of 10 units per acre is achieved, the DHUR can support approximately 1100 units (assuming a 25% set-aside for roads, parks and other necessities). Given infrastructure costs of $32MM, system development charges (SDCs) for the reserve will be around $29,000 per unit. SDCs this high will greatly increase the cost of housing built on the DHUR, and could render the production of lower-priced product infeasible. To decrease the SDC burden, the number of units could be increased. At a density of 15 units per acre, SDCs would drop to a more-manageable $19,500 per unit. However, this density will be a challenge to obtain in a town with such a strong single family character and on a site that has severe geographical constraints.

Overall, the development of the DHUR represents a unique challenge. The land within the reserve contains sections that appear to be well suited to home construction. Given the marginality of the DHUR’s farmland, and limited scope of farming currently supported on the reserve, the urbanization of David Hill should not be taken as a blow to farmland conservation efforts. Challenges exist with the provision of sewer and water infrastructure which could render the project financial unviable without significant city support, and it is uncertain whether Forest Grove would take a strong affirmative position on the development of the DHUR. Even with the city’s full blessing and support, developers will be hard-pressed to meet some of Metro’s new-urbanist design principals. Specifically, the provision of adequate density and mixed uses will prove difficult on this rural site. The DHUR is located farther from Portland’s city center than any other Urban Reserve, and is spatially isolated from the majority of the urbanized area within Metro. These geographic constraints must be considered as the development of David Hill proceeds.

Given the housing shortage in Forest Grove, I suggest that the city consider petitioning for the flat portion of the site that is located to the east of David Hill Rd. This land could be used immediately for the production of multifamily housing that will complement the city’s development plan for the Westside. Annexing the parts of the DHUR that are harder to develop should wait until the buildout of the Westside has begun. When the Westside is being platted, it is important that the city consider ways to connect to the DHUR. This will minimize the cost of developing the reserve when the city is ready to expand.
APPENDIX:
*Financial calculations based on per mile infrastructure cost estimates provided by Mckenzie.

Road widths: (30 ft) + sidewalks (12 ft) = 42 ft
42 ft * 5280ft/mi = 221,760 sqft per mile

$4,000,000 per mile / 221760 sqft per mile = $18/ sqft

149 (buildable) acres *0.25 (set aside for roads) = 37.25 acres
37.25 acres * 43560 sqft/acre = 1,622,610 sqft of roadway
1,622,610 sqft *$18/sqft = $29,206,980
+ $ 3,000,000 for pump
+ $ 500,000 for traffic signal
=$32,706,980

149*.75 (acreage minus set-aside) = 111.75 acres
*10 units/acre = 1118 units
*15 units/acre = 1676 units
At lower density, SDC = $29,254 per unit
At higher density, SDC = $19,541 per unit

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OREGON CITY
CLACKAMAS COUNTY

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AMES LEE
LISA YOUNG

RESERVES:
HOLCOMB
HOLLY LANE/NEWELL CREEK
MAPLELANE
HENRICI ROAD
BEAVER CREEK BLUFFS

CONTENT:
MARKET ANALYSIS
SITE ANALYSIS
RECOMMENDATION
EXECUTIVE SUMMARY

On the southern bank of the Willamette River, Oregon City retains its small-town charm even though it’s on the edge of the Portland Metropolitan area. Oregon City is a total of 9.29 SQ MI with a population of approximately 36,286 (2016) making it a low-density suburb at six people per acre.

The city’s growing population and rising average incomes are in line with the surrounding areas and are expected to keep growing. This increasing housing demand and subsequent increasing housing values will negatively affect affordability and first-time home buyers, unless new options are added to the market.

DEMOGRAPHICS

According to July 2016 estimates made by Portland State University’s Population Resource Center, the population of Oregon City is close to 36,300. That is a 5.4% increase from 2012, the beginning of the economic recovery. This compares to a statewide increase of 5%, and a U.S. increase of 2.9%. Since Park Place was brought into the urban growth boundary in 2002, Oregon City has grown by 21.4%. As of 2016, there are 11,973 households in Oregon City with an average household size of 2.86. The median Oregon City resident is 37.9 years old, 31% of the population has a college degree, 76% of the population is married, and 36.6% of households consist of at least one member under the age of 18. The ethnic population is predominately White at 84.2% with the next ethnicity identified as Hispanic at 8.7%. The average house value is $283,704 which is a 43% increase since 2000. The median household income is $66,349 per year, and just over 70% of the households live in owner occupied housing. However, 11.6% of the population is living in poverty.

OREGON CITY, OR

<table>
<thead>
<tr>
<th>County:</th>
<th>Clackamas County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Area:</td>
<td>9.29 SQ MI, 5,945 Acres</td>
</tr>
<tr>
<td>Population:</td>
<td>Apx. 36,300</td>
</tr>
<tr>
<td>Density:</td>
<td>Low – 6 people/acre</td>
</tr>
</tbody>
</table>
MARKET OVERVIEW
COMMERCIAL AND RESIDENTIAL SECTORS

Major employers in Oregon City include: Clackamas County Government, Clackamas Community College, Willamette Falls Hospital, Miles Fiberglass & Composition and Home Depot, Inc. Research from Loopnet and Axiometrics show rents for the commercial sectors have increased by 40% for Multi-family, 7.5% for Office, 12.5% for Industrial and 2.5% for Retail.

Unlike the Portland metro area, Oregon City has not seen rapid expansion in the office, industrial or retail sectors. In researching Loopnet, Office and Industrial rents in the Oregon City area are lower than the regional average. Retail rents have also been decreasing over the last year. Building Permits in Oregon City have been down considerably from the early 2000s, but construction costs have been steadily increasing over the same time.

The multi-family sector in Oregon City has not shown significant growth as compared to the Portland metro area. However, the price for multi-family properties has increased 24% year over year. A more disturbing trend has been the decrease in demand for all sectors in the Portland metro area over the last year. This may soon be reflected in the Portland submarkets, which includes Oregon City.

Residential market trends for the Oregon City/Milwaukee area since 2007-2017 show very little apartment supply and demand in the region. Axiometrics data from 2007-2017, indicates there has only been 1089 new rental units. However, effective rents have risen steadily from $771 to $1297 per unit. In the pipeline for Oregon City are two projects, The Cove I & II, which will provide 439 new residential units when completed.

The single-family housing market in Oregon City is very strong and has been for the last two years. The median days on the market has fluctuated between 20 to 80. The higher days on the market numbers come in the winter months when there is less demand for homes. In March of 2017 the median number of days on the market was 34. The median listing price has also seen a steady increase over the past three years. In February 2014, the median listing price was $332,000 and in March 2017 it was $428,000. This trend also correlates with the median listing price per square foot numbers. In February 2014, the median listing price per square foot was $145 and in March 2017 it was $185. This shows that houses are generally getting more expensive in the area, not necessarily driven by developers building bigger homes and driving up prices.
OREGON CITY URBAN RESERVES SITE ANALYSIS

Oregon City has five urban reserve areas: Holcomb, Holly Lane/Newell Creek, Maplelane, Henrici Road, and Beaver Creek Bluffs. These sites represent a total of 2,233 acres with 1,383 acres of land suitable for development. Below is an assessment and analysis of each Oregon City urban reserve.

HOLLY LANE/NEWELL CREEK CANYON

The Holly Lane/ Newell Creek Canyon Urban Reserve is located approximately two miles from downtown Oregon City. The reserve is made up of around 700 acres, however much of the land is unbuildable with topography consisting of steep slopes and dense forest.

Oregon City Topography Map
Additionally, 318 acres are protected land and nature reserves. Metro has recently taken ownership of Newell Creek Canyon nature reserve and has been working to make it a public park, which will open at the beginning of Summer 2017. The site is bisected by Highway 213 running north/south. This creates a barrier to development and connectivity to the Newell Creek Canyon and other Oregon City neighborhoods. The Oregon Loop Trail runs along Highway 213 providing a pedestrian and bike friendly path connecting to Oregon City to the north and Clackamas Community College to the south before looping back to the city. South Holly Lane is located on some of the only flat area within this reserve and it is populated with large lots of single-family residences and small farms. To the east along Division Street, there are pockets of developable land that have direct access to Oregon City amenities and neighborhoods. The current zoning according to the Clackamas County land use planning map is (F) forest or (R) rural. The zoning adjacent to the reserve is (LR) low density residential.

The students in K-12 are served by the Oregon City School District. The closest schools within a few miles are: Redland Elementary, Ogden Middle School, and Oregon City High School. For older students, Clackamas Community College is just a few miles to the south. Fire and police in the area are serviced by Clackamas County Fire District, Oregon City Fire Department and the Clackamas County Sheriff Department. The water service provider is the Portland Water Bureau. According to the Oregon City Systems Distribution Water Master Plan, there will be future water lines and storage provided along the north portion of S Holly Lane. Sewer is managed by Bureau of Environmental Services. The future build-out for the Oregon City Sewer Master Plan includes the area in the north section of S Holly Lane. Garbage is served by Oregon City Garbage Company. The future transportation plan of Oregon City intends to improve the northern section of the S Holly Lane area with the addition of planned collector streets. This area in addition to the natural reserves and Newell Creek Canyon are within two miles of five parks in Oregon City.
Access to major commercial and retail is located south along South Beavercreek Road, including major grocery chains such as Fred Meyers and Albertson’s. This area also has gas stations, fast food and sit-down restaurants, everyday services such as a pharmacy, UPS store, auto repair shops, and specialized medical clinics. To the west on South Beavercreek Road, is the Hilltop Mall with a variety of shops, restaurants and entertainment. At the north end along S Redlands Road, there is limited retail, such as a Plaid Pantry, hair salon and a gas station.

The Holly Lane/Newell Creek Canyon is almost exclusively single-family residential and small farms. In the unincorporated properties along Holly Lane, the land assessments from Clackamas County Assessor’s Office vary between $50,000 - $225,000 per acre with the higher land values located at the northern section of S Holly Lane. In comparison, the neighborhoods of Hillendale and Barclay Hills, within the Oregon City limits, have land costs between $120,000 - $600,000 an acre.

Homes Sold in Holly Land Urban Reserve 2015-2017

According to research from Zillow, home sales along Holly Lane from 2015-2017 had a mean price of $392,360 or $181/SF. In the last five to ten years, there have been large housing developments that are located south of S Maplelane Road and adjacent to the reserve. These newer homes on a tenth of an acre have been selling between $300k - $400k or about $130 -$150/SF.

RECOMMENDATIONS

Infrastructure Needs
The Holly Lane/ Newell Creek Canyon Urban Reserve has significant limitations regarding the infrastructure needs. With the build-out of Park Place to the North, there will be better access for properties adjacent to the future utility and infrastructure plans. Because Holly Lane is anticipated to have greater vehicular traffic, the city needs to plan for future road construction to accommodate the increased traffic. Utilities could be incorporated along Holly Lane and connect with Maplelane to the south. Unfortunately, there is no solution to bridge Newell Creek Canyon and Highway 213 to the west. This remains the biggest obstacle for connecting this area to the City.
Needed Institutional Changes
Oregon City would have to market the potential build-out of Holly Lane as a large housing development that may include some higher density housing; this would need a zoning change. The complicating factor here is the multitude of property owners and lack of infrastructure. The City would need to somehow offset the infrastructure build-out costs, which in some cases can be recaptured through the System Development Charges. The city should consider other financial options, such as creating a Local Improvement District, using public financing such as Revenue Bonds or General Obligation Bonds.

BEAVER CREEK BLUFFS

Site Description

The Beaver Creek Bluffs are made up of three separate benches located just South of Oregon City. All three benches are directly adjacent to Oregon City’s city limits and the city has expressed interest in annexing the bluffs when the necessity arises. The total size of the three sites is 220 acres. The land in the benches contains Important Agricultural Land and it mostly consists of rural houses and small farms. The current zoning for the bluffs is almost exclusively Timber District (TBR), with a small sliver of Ag/Forest District (AGF). From a visual inspection of the sites, some of the farm land is in a deteriorated state, but much of the land looks to be well maintained grass fields.

Condition - Beaver Creek Bluffs Urban Reserve

There are two major power lines that run through parts of the western bench of land. The smaller power line, operated by Portland General Electric, has a 125-foot easement; and the larger power line, operated by Bonneville Power Association, has a 250-foot easement. These easements are an estimated total of 21.7 acres of undevelopable land. Roads, parking lots, parks and trails can be under the power lines; houses and other developments cannot.
Concerns about housing and living near power lines do not seem to be an issue in the city. Currently, the power lines make their way into parts of Oregon City, including newly constructed houses sold without issue, with the lines directly across the street. According to Group Mackenzie, the net buildable land in the Beaver Creek Bluffs is 124 acres with a projected number of possible dwelling units of 1,052.

The western bench also has land classified as Riparian Habitat Class 1 and Class 2 running through its middle. This classification is a result of a stream running through the area. The urban development value of the land determines how strong the Habitat Conservation Area (HCA) is classified. Riparian Habitat Class 1 ranges from Moderate HCA to High HCA and Riparian Habitat Class 2 ranges from Low HCA to Moderate HCA. Even in areas designated as High HCA, development can still occur. If a developer does not want to develop in the Riparian Habitat Class 1 sections, that would remove roughly 17.2 acres from the total developable land. This area could make a great park or natural area. The bluffs also have quite a bit of Upland Habitat Class B land, which does not seem to carry any development restrictions if the land has any development value. The Riparian Habitat Class 1 and 2 designations result in more development restrictions and guidelines.

All three benches in the Beaver Creek Bluffs generally have their boundaries formed by steep slopes. They all sit up on plateaus and the land drops down towards Beaver Creek with slopes ranging from greater than 10% to even greater than 25%. The exception to this is in the westernmost bench. Mostly along the Riparian Habitat and stream there are 10% to 25% slopes. The slopes, along with the Habitat protections, could lead to many development challenges. This area of the Urban Reserve might best be left as a natural area. Drainage would most likely not be an issue because of the significant slopes near all three benches. There are also small streams or tributaries near the benches that continue into Beaver Creek.

MARKET ANALYSIS

The types of housing that Oregon City, Metro and Clackamas County are expecting in the Beaver Creek Bluffs are single-family homes in subdivisions zoned R-8 and R-10, with some R-6 mixed throughout the area. A direct statement from Metro concludes that the Beaver Creek Bluffs Urban Reserve is intended to be a “smaller addition to the existing urban form of the City of Oregon City and will complete existing neighborhoods.” This leads one to believe that there is no possibility for any industrial zoning or development in this reserve and that the chance for any of the land to be zoned commercial is low.

An analysis of ten recent housing sales directly adjacent to the Beaver Creek Bluffs had an average sales price of $460,000 with an average price per square foot of $187.60. Of the ten recent sales, eight of them were new construction and two were built in 2001. Interestingly, the price per square foot for the homes built in 2001 was $230 and $251 respectively. One reason this could be, is people are willing to spend a premium to live in established neighborhoods, rather than brand new ones. Per Darren Gusdorf, of Icon Construction, if they were to develop the Beaver Creek Bluffs, they would be looking to build 2,500 to 3,000 square foot homes and list them between $450,000 and $500,000. These numbers directly correlate with where the market is now, which leads one to believe that developing the Beaver Creek Bluffs with single-family homes would be very feasible. Using a five-year timeline and a 2.5% inflation rate, the target price for new home sales would be between $496,700 and $550,000.
RECOMMENDATIONS

Infrastructure needs
The Beaver Creek Bluffs are conveniently situated in the Clackamas County Fire District #1, the Oregon City School District and the Clackamas County Sheriff’s Office serves the area. The bluffs are also positioned in such a way that they would have direct access to the Tri-City Sewer District, the Clackamas River Water District, and if annexed, would be able to take advantage of Oregon City’s Parks and Recreation department. “This Urban Reserve area is considered to have a ‘high’ suitability rating for sewer and water facilities.” Although, the area is considered suitable for sewer and water facilities a developer would still need to install a pump station(s) because of the slight to moderate downward slope impacting the whole site. Another positive aspect about the location of the bluffs is that they are already within Tri-Met’s service area.

The estimated infrastructure costs for the whole site is as follows:

Beaver Creek Bluffs – Infrastructure Costs

<table>
<thead>
<tr>
<th>Sanitary Sewer Services</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer Pipe Size</td>
<td>8’-12’</td>
</tr>
<tr>
<td>Pipe Classification</td>
<td>Collector</td>
</tr>
<tr>
<td>Estimated Pipe Length</td>
<td>14500</td>
</tr>
<tr>
<td>Estimated Pipe Unit Cost</td>
<td>$120</td>
</tr>
<tr>
<td>Sewer Pipe Cost</td>
<td>$1,740,000</td>
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<tr>
<td>Subtotal Cost</td>
<td>$2,316,000</td>
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<tr>
<td>Pump Station Upgrades</td>
<td>0.2MGD pump station</td>
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<tr>
<td>Treatment Facility Upgrades</td>
<td>Associated increased maintenance</td>
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<tr>
<td>Total Sewer System Cost</td>
<td>$4,116,000</td>
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<table>
<thead>
<tr>
<th>Water Distribution Services</th>
<th>Estimated Water Demand</th>
<th>150000 gpd</th>
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</thead>
<tbody>
<tr>
<td>Water Pipe Size</td>
<td>8’-12’</td>
<td>12’-18’</td>
</tr>
<tr>
<td>Estimated Pipe Length</td>
<td>14500</td>
<td>3600</td>
</tr>
<tr>
<td>Estimated Pipe Unit Cost</td>
<td>$100</td>
<td>$150</td>
</tr>
<tr>
<td>Water Transmission Pipe Cost</td>
<td>$1,450,000</td>
<td>$540,000</td>
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<tr>
<td>Water System Upgrade Costs</td>
<td>Storage and pumping</td>
<td>$300,000</td>
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<tr>
<td>Total Water System Cost</td>
<td>$3,290,000</td>
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<table>
<thead>
<tr>
<th>Storm Sewer Services</th>
<th>12’-18’</th>
<th>18’-24’</th>
<th>24’-48’</th>
<th>48’+</th>
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<tbody>
<tr>
<td>Storm Pipe Size</td>
<td>14500</td>
<td>3600</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Estimated Pipe Length</td>
<td>$135</td>
<td>$175</td>
<td>$200</td>
<td>$220</td>
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<tr>
<td>Estimated Pipe Unit Cost</td>
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<td>$630,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Storm Piping Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Storm System Upgrade Costs</td>
<td>No system upgrades expected</td>
<td>$0</td>
<td></td>
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<tr>
<td>Total Storm System Cost</td>
<td>$2,587,500</td>
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<tr>
<th>Transportation Services*</th>
<th>Lane Miles</th>
<th>Normal Cost</th>
<th>High Cost</th>
<th>Total Cost</th>
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<tr>
<td></td>
<td>(in millions)</td>
<td>(in millions)</td>
<td>(in millions)</td>
<td>(in millions)</td>
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<tr>
<td>Arterials</td>
<td>4.2</td>
<td>$39.48</td>
<td>$18.55</td>
<td>$58.03</td>
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<tr>
<td>Collectors</td>
<td>0.6</td>
<td>$6.12</td>
<td>$0.00</td>
<td>$6.12</td>
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<tr>
<td>Totals</td>
<td>4.8</td>
<td><strong>Total Road System Cost:</strong> $64.14</td>
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</tbody>
</table>

Source: Numbers courtesy of Mackenzie Group

According to Metro and Mackenzie Group, the Beaver Creek Bluffs, if they were to be developed to their fullest potential, would be best served with two parks. One of the parks would be a neighborhood park, roughly 1.3 acres in size. The other park would be a community park that would be 5.7 acres in size. Together the parks would cost around $5,960,000.

If a developer(s) were to build all projected 1,052 dwelling units, they would pay about $70,000 in infrastructure costs per home. That number does not include the $25,000 per home in SDC charges. Because Oregon City and Metro only foresee single-family housing
being built in this Urban Reserve, sales prices are going to have to be above $500,000, for a developer to make a profit.

Institutional Needs
To be developed, this area would need to be annexed by Oregon City, concept planned and rezoned. Its direct adjacency to water and sewer infrastructure and decent arterial roads means the area could probably be developed without the need for a local improvement district or urban renewal area. Many years in the future, this land will be very desirable to a developer and would be right now if the land were already within Oregon City’s limits. The lack of major institutional changes to this land make it a desirable location to develop in the distant future.

MAPLELANE
Site Description
The Maplelane Urban Reserve is located northeast of Oregon City and is an area of approximately 573 acres. Only an estimated 331 acres are developable, the remaining acres will need to be preserved as park land or natural habitat due to steep slopes and landslide risk. The current land uses are rural residential or future urban and exclusive farm or forest use. Much of the site is currently zoned as rural residential with only the upper northern corner as farm/forest area. The below figure shows the site, outlined in red, and its zoning. Nearby are other uses such as, light industrial, industrial campus, college campus, and single-family homes.

The site is located close to Beavercreek Road which leads directly to Hilltop Mall and is a main commercial road for the city. The site is also near Clackamas Community College. The main road is currently a small road that would need to be increased to accommodate greater density once developed. As existing roads are updated, more roads will need to be constructed in the site area. The edge boundary on Maplelane contains recent construction of single-family homes on small lots, but little other development has occurred. Additionally, there are no current sewer systems, nor has Oregon City any plans for expanding into this
area. Lastly, the current tax rate is classified as Oregon City (Rural), which is 3.5%.

The Maplelane Urban Reserve is located within Clackamas Fire District #1 and the closest station is Hilltop Station #16. The sheriff’s district is 512, also known as Oregon City - Waldo Acres and the reserve is in the Oregon City School District. For water services, the site is in Clackamas River Water District. There are no parks in this area, but it is located near many Oregon City Parks.

The topography of the site is mostly mild with gentle slopes but on the western perimeter there are various valleys and rivers draining off the site. In the topographic map of the area below, the blue arrows show the main path where water drains from the site; the steep slopes in these areas mean an increased risk of mud slides and other types of soil erosion making development difficult.

Maplelane Urban Reserve Topography
MARKET ANALYSIS

Oregon City has seen steady growth over the past three years in each of its real estate submarkets. Retail, industrial, multi-family and office sales have been growing alongside their commercial rental rates while multi-family housing rental rates have been reflective of seasonal norms. These numbers are encouraging as Oregon City prepares to expand its boundaries.

Median Apartment Rents

The above graph shows the median apartment rents over the last 12 months and its yearly average of $1,995. There was a seasonal dip through the winter months, but the market re-adjusted as summer neared.

Many units in Oregon City are classified as Garden Style Apartments, especially those that are close to the Maplelane Road Urban Reserve. Rents average $2.51/SF for a studio, $1.86/SF for a 1 bedroom and about $1.40/SF for both 2 and 3 bedrooms.

In multi-family sales the asking price averages $148,100 per unit, which is an increase of approximately 1.2% in the last 3 months, and a total increase of 8.0% in the year-over-year numbers. A chart of apartment rent comparables for the area can be found below:

Apartment Rent Comparables

<table>
<thead>
<tr>
<th>Bed x Bath</th>
<th>Forest Edge</th>
<th>Cinnamon Square</th>
<th>The Landing</th>
<th>The Preserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio</td>
<td>14155 Beavercreek Road</td>
<td>13609 S Gaffney Lane</td>
<td>19901 Coast Redwood Avenue</td>
<td>19839 Highway 213</td>
</tr>
<tr>
<td>1x1</td>
<td>612 SF $1,025</td>
<td>462 SF $925</td>
<td>652 SF $1,275</td>
<td>625 SF $1,125</td>
</tr>
<tr>
<td>2x1</td>
<td>891 SF $1,150</td>
<td>832 SF $1,180</td>
<td>879 SF $1,255</td>
<td>860 SF $1,350</td>
</tr>
<tr>
<td>2x2</td>
<td>978 SF $1,250</td>
<td>977 SF $1,490</td>
<td>977 SF $1,490</td>
<td>872 SF</td>
</tr>
<tr>
<td>2x2</td>
<td>916 SF $1,200</td>
<td>916 SF $1,200</td>
<td>916 SF $1,200</td>
<td></td>
</tr>
<tr>
<td>3x2</td>
<td>1,153 SF $1,500</td>
<td>1,583 SF $2,025</td>
<td>1,583 SF $2,025</td>
<td>1,100 SF $1,505</td>
</tr>
<tr>
<td>3x2.5</td>
<td>1,778 SF $2,825</td>
<td>1,778 SF $2,825</td>
<td>1,778 SF $2,825</td>
<td></td>
</tr>
</tbody>
</table>

Source: Trulia.com
Single Family Homes: The Mapelane Road reserve already has various single-family homes, mobile home parks and small farms throughout the area. Oregon City’s overall growth in its housing stock values and sales is currently in an upward cycle with the average price per square foot at $202, an increase of 10% over the last year.

**Single-family Home Sales Data (2017)**

![Median Sales Price and Price Per Square Ft. Graph](image)

Source: Trulia.com

Office/Industrial/Retail Sales: Office Property Sales are at $184/SF, up 1.6% and up a total of 8.0% for the year to date. Rents for office average $20/SF. Below are four current rental properties in Oregon City near the reserve boundaries, rents average $19/SF. There is no industrial sales data for this period in Oregon City, but rental rates are averaging $8.40/SF. Retail space sales are averaging $171.21/SF, which is down -0.5% over the last 3 months, but the year sales averages are up 3.2%. Retail rents are averaging $19.29/SF; office rent comparables can be found in the chart below.

**Office Rent Comparables**

<table>
<thead>
<tr>
<th></th>
<th>1607 Beavercreek Road</th>
<th>365 Warner Milne Road</th>
<th>1001 Molalla Avenue</th>
<th>517 Main C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rental Rate</strong></td>
<td>$16/SF/Year</td>
<td>$24/SF/Year</td>
<td>$19/SF/Year</td>
<td>$17/SF/Year</td>
</tr>
<tr>
<td><strong>Total Space Available</strong></td>
<td>3,000 SF</td>
<td>1,000 SF</td>
<td>2,546 SF</td>
<td>1,800 SF</td>
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<tr>
<td><strong>Type</strong></td>
<td>Office</td>
<td>Office</td>
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<td>Office</td>
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<tr>
<td><strong>Property Sub-Type</strong></td>
<td>Medical Office</td>
<td>Office Building</td>
<td>Medical Office</td>
<td>Creative</td>
</tr>
<tr>
<td><strong>Building Size</strong></td>
<td>3,000 SF</td>
<td>18,362 SF</td>
<td>42,000 SF</td>
<td>5,100 SF</td>
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<td><strong>Building Class</strong></td>
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<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Year Built</strong></td>
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<td>1981</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lease Type</strong></td>
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<td>Full Service</td>
<td>Full Service</td>
<td>NNN</td>
</tr>
<tr>
<td><strong>Parking</strong></td>
<td>11-15 Spaces</td>
<td>4 Spaces</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Office Rent Comparables  
Source: LoopNet*
RECOMMENDATIONS

Infrastructure Needs
Because of the lack of existing infrastructure, the cost to develop the land in this urban reserve is incredibly high. As discussed above, new arterial roads will need to be added and existing roads will need to be upgraded. In addition, the conversion of the existing sewer infrastructure will need to be substantially improved. The estimated infrastructure costs for the whole site is as follows:

### Sanitary Sewer Services

<table>
<thead>
<tr>
<th>Sewer Pipe Size</th>
<th>6&quot;-12&quot;</th>
<th>12&quot;-18&quot;</th>
<th>18&quot;+</th>
<th>Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe Classification</td>
<td>Collector</td>
<td>Trunk</td>
<td>Interceptor</td>
<td>Main</td>
</tr>
<tr>
<td>Estimated Pipe Length</td>
<td>40,000</td>
<td>50,000</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Estimated Pipe Unit Cost</td>
<td>$120</td>
<td>$160</td>
<td>$180</td>
<td>$250</td>
</tr>
<tr>
<td>Sewer Pipe Cost</td>
<td>$4,800,000</td>
<td>$900,000</td>
<td>$466,000</td>
<td>$90,000</td>
</tr>
<tr>
<td>Subtotal Cost</td>
<td>$6,128,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Station Upgrades</td>
<td>0.5MGD pump station</td>
<td>$1,400,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Facility Upgrades</td>
<td>Associated increased maintenance</td>
<td>$500,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Sewer System Cost</strong></td>
<td>$8,028,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Water Distribution Services

<table>
<thead>
<tr>
<th>Water Pipe Size</th>
<th>8&quot;-12&quot;</th>
<th>12&quot;-18&quot;</th>
<th>18&quot;+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Water Demand</td>
<td>40,000 gpd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Pipe Length</td>
<td>40,000</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Estimated Water Unit Cost</td>
<td>$100</td>
<td>$150</td>
<td>$200</td>
</tr>
<tr>
<td>Water Transmission Pipe Cost</td>
<td>$4,050,000</td>
<td>$750,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Water System Upgrade Costs</td>
<td>Storage and pumping</td>
<td>$800,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total Water System Cost</strong></td>
<td>$6,600,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Storm Sewer Services

<table>
<thead>
<tr>
<th>Storm Pipe Size</th>
<th>12&quot;-18&quot;</th>
<th>18&quot;-24&quot;</th>
<th>24&quot;-48&quot;</th>
<th>48&quot;+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Pipe Length</td>
<td>40,000</td>
<td>50,000</td>
<td>2,000</td>
<td>0</td>
</tr>
<tr>
<td>Estimated Pipe Unit Cost</td>
<td>$110</td>
<td>$175</td>
<td>$200</td>
<td>$330</td>
</tr>
<tr>
<td>Storm Piping Cost</td>
<td>$5,467,500</td>
<td>$875,000</td>
<td>$572,000</td>
<td>$0</td>
</tr>
<tr>
<td>Storm System Upgrade Costs</td>
<td>No system upgrades expected</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Storm System Cost</strong></td>
<td>$6,914,500</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Park Improvements

<table>
<thead>
<tr>
<th>Neighborhood Parks</th>
<th>Community Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Park Area (acres)</td>
<td>7.1</td>
</tr>
<tr>
<td>Park Unit Cost</td>
<td>$200,000</td>
</tr>
<tr>
<td>New Park Cost</td>
<td>$1,420,000</td>
</tr>
</tbody>
</table>

### New School Construction

<table>
<thead>
<tr>
<th>Estimated enrollment:</th>
<th>520 elementary school</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 middle school</td>
<td></td>
</tr>
<tr>
<td>280 high school</td>
<td></td>
</tr>
<tr>
<td>Current capacity estimate:</td>
<td>Expected to exceed capacity</td>
</tr>
<tr>
<td><strong>Estimated school costs:</strong></td>
<td>$20,000,000 (New Elementary School)</td>
</tr>
</tbody>
</table>

### Transportation Services

<table>
<thead>
<tr>
<th>Lane Miles</th>
<th>Normal Cost (in millions)</th>
<th>High Cost (in millions)</th>
<th>Total Cost (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterials</td>
<td>5.3</td>
<td>$54.44</td>
<td>$14.43</td>
</tr>
<tr>
<td>Collectors</td>
<td>6</td>
<td>$56.78</td>
<td>$17.11</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>11.3</strong></td>
<td><strong>$81.22</strong></td>
<td><strong>$31.54</strong></td>
</tr>
</tbody>
</table>

*Data provided by Metro thru the HERS-ST estimating approach

HENRICI ROAD

Site Description
S Henrici Road is a rural reserve site located in an unincorporated portion of Oregon City in Clackamas County in the state of Oregon. It is composed of 360 acres with 126 of those acres being developable. It is zoned for rural commercial and rural residential or future urban uses. Presently, the area has three main uses: residential, farming and commercial manufacturing. Single-family housing is the largest use with small farming coming in second. The residential sites, for the most part, have houses with large footprints, spacious yards and are well maintained. The farms are actively cultivated, with a mix of small animal farms hosting such animals as horses, cows and chickens; and growing crops such as hay. There are a few commercial sites scattered along South Henrici Road such as Trinity Lutheran School (also serves as a church) and Shy Ann Meats and Sausage.

The topography of the area is moderately flat though S Henrici Road and this area contains
Conflicted Agricultural Land. There are a few areas with some minor slopes, but nothing significant enough to prevent development from occurring. The South Henrici Road rural reserve is located within the North Clackamas Parks and Recreation district and the Oregon City School district. It is served by the Clackamas River Water district. Only part of the area is within the Tri-County Metropolitan (TriMet) transit boundary; making this a very car-dependent neighborhood. According to the Metromap website, this area is not served by a city sewage district, but the nearest jurisdiction within the Urban Growth Boundary (UBG) is the Tri-City district. The area is also set in the Clackamas county voter precinct.

S Henrici Road is a paved asphalt road that is well maintained. The reserve area is located about ten minutes (5 miles) from the city center of Oregon City and I-205, but is adjacent to highway 213 at one end. There is not very much new development, residential or otherwise, occurring – though there are some empty lots for sale.

Market Analysis
The S Henrici Road Urban Reserve is zoned for rural commercial and rural residential or future urban uses which allow for a wide range and varied types of development. With that said, this reserve, both in existing development and topography, is best suited for the types of developments that currently exist. Presently the area is mostly rural and is littered with small farms, single-family homes, empty lots and a few rural commercial sites.

Single-family homes would be most suitable for the area, though some multi-family units could possibly work. The area could lend itself to garden style apartment buildings or duplexes. There are very few rental units available in the area, as well as, very few multi-family developments.

According to Zillow.com there are very few single-family homes currently for sale in the area (see below), but the options available are all well above a $400,000 asking price. There were several homes sold in the past two years (see below) and most sales were above $400,000. Many of the current available homes, as well as, the recently sold homes are not new construction, and yet they are still valued at almost half a million dollars or more. This bodes well for single-family home developers – and if Oregon City decides to officially incorporate the area those prices, most likely, would increase even higher.
### Residential Units for Sale

<table>
<thead>
<tr>
<th>Address</th>
<th>Square Feet</th>
<th>Price</th>
<th>Type</th>
<th>Number of Bed/Bath</th>
</tr>
</thead>
<tbody>
<tr>
<td>20441 S. Ferguson Rd</td>
<td>1,992</td>
<td>$439,500</td>
<td>Single Family</td>
<td>3/3</td>
</tr>
<tr>
<td>18375 S. Norman Rd</td>
<td>2,625</td>
<td>$575,000</td>
<td>Single Family</td>
<td>4/3</td>
</tr>
<tr>
<td>18909 S. Grasle Rd</td>
<td>2,266</td>
<td>$499,000</td>
<td>Single Family</td>
<td>4/3</td>
</tr>
</tbody>
</table>

Source: Zillow

### Residential Units Recently Sold

<table>
<thead>
<tr>
<th>Address</th>
<th>Square Feet</th>
<th>Price</th>
<th>Type</th>
<th>Number of Bed/Bath</th>
<th>Date Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>19697 S Henrici Rd</td>
<td>2,570</td>
<td>$549,900</td>
<td>Single Family</td>
<td>3/2.5</td>
<td>8/13/15</td>
</tr>
<tr>
<td>20100 S. Henrici Rd.</td>
<td>2,318</td>
<td>$425,000</td>
<td>Single Family</td>
<td>3/2.5</td>
<td>7/15/16</td>
</tr>
<tr>
<td>17543 S. Henrici Rd.</td>
<td>2,600</td>
<td>$418,250</td>
<td>Single Family</td>
<td>3/3</td>
<td>9/12/14</td>
</tr>
<tr>
<td>19508 S. Henrici Rd.</td>
<td>3,178</td>
<td>$510,000</td>
<td>Single Family</td>
<td>3/2</td>
<td>6/10/16</td>
</tr>
<tr>
<td>20145 S. Henrici Rd.</td>
<td>2,348</td>
<td>$318,000</td>
<td>Single Family</td>
<td>3/2</td>
<td>6/10/16</td>
</tr>
<tr>
<td>20293 S. Henrici Rd.</td>
<td>1,882</td>
<td>$398,500</td>
<td>Single Family</td>
<td>3/2</td>
<td>6/8/15</td>
</tr>
<tr>
<td>20163 S. Athens Dr.</td>
<td>3,300</td>
<td>$474,000</td>
<td>Single Family</td>
<td>4/4</td>
<td>4/29/16</td>
</tr>
<tr>
<td>20154 S. Olympus Rd</td>
<td>4,656</td>
<td>$393,750</td>
<td>Single Family</td>
<td>4/3</td>
<td>6/3/16</td>
</tr>
</tbody>
</table>

Source: Zillow

One factor that may be driving up home prices in this area is the Beaver Lake community. Beaver Lake is not located within the urban reserve. Some homes in this neighborhood are valued at over one million dollars and many of the homes are new construction. S Henrici Road is adjacent to the Oregon City Golf Club and near the Beaver Lake – two major factors in the desirability of the area.

### Beaver Lake Units Recently Sold

<table>
<thead>
<tr>
<th>Address</th>
<th>Square Feet</th>
<th>Price</th>
<th>Type</th>
<th>Number of Bed/Bath</th>
<th>Date Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>20054 S. Driftwood Dr.</td>
<td>6,453</td>
<td>$1,168,888</td>
<td>Single Family</td>
<td>4/3.5</td>
<td>4/29/16</td>
</tr>
<tr>
<td>20251 S. Shore Vista Dr.</td>
<td>6,165</td>
<td>$700,000</td>
<td>Single Family</td>
<td>5/6</td>
<td>8/14/14</td>
</tr>
<tr>
<td>17870 S. Lake Vista Dr.</td>
<td>2,824</td>
<td>$650,000</td>
<td>Single Family</td>
<td>2/2.5</td>
<td>5/23/16</td>
</tr>
</tbody>
</table>

Source: Zillow

### Empty Lots

<table>
<thead>
<tr>
<th>Address</th>
<th>Acres</th>
<th>Price</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>17288 S. Henrici Rd.</td>
<td>2.01</td>
<td>$225,000</td>
<td>For Sale</td>
</tr>
<tr>
<td>19765 S. Upper Rd.</td>
<td>4.55</td>
<td>$225,000</td>
<td>For Sale</td>
</tr>
<tr>
<td>20132 S. Athens Dr.</td>
<td>1.23</td>
<td>$111,000</td>
<td>Sold 7/19/16</td>
</tr>
</tbody>
</table>

Source: Zillow
RECOMMENDATIONS

Infrastructure Needs
The S. Henrici Road Urban Reserve, both in existing development and topography, is best suited for what it is zoned for and should be developed as such. With Oregon City’s development plans in the works (redeveloping the waterfront, etc.) and housing prices rising around the city, a focus on increasing residential housing in this area may be prudent. There are no apartment or condominium buildings in the area and such projects would seem out of place, meaning single-family housing would be most appropriate. The area is adjacent to the Oregon City Golf Club and with the reservoir being nearby, this is a promising location for high-end single-family homes. If more residential properties are built, the city would need to improve and invest in the sewage jurisdiction for the area to be viable for developers. Increasing the number of rural commercial or farming projects is an important consideration if the projects will serve the city, but with residents so closely located near, these types of projects would need to be carefully contemplated.

HOLCOMB ROAD

Site Description
The Holcomb urban land reserve (ULR) is approximately 380 acres of land along Holcomb Road, located adjacent to the City of Oregon City’s east side. The land is currently working farmland, large single-family residences and undeveloped forest. The site’s main access road, Holcomb Road, splits the ULR into a northern and southern half. The southern end of the ULR is accessed from Redland Road. Both Holcomb and Redland roads connect to Highway 213, which connects north to I-205 and south through Oregon City, Molalla and eventually, I-5. There are several tributary roads within the ULR that are paved but not improved, which dead end into residences and farmland.

Holcomb Road Urban Reserve

The northern portion of the ULR is relatively flat with less than a 10% slope anywhere north or directly south of Holcomb Road. This accounts for approximately 147 acres of the ULR. The land between roughly 800 feet to 2800 feet south of Holcomb road, or roughly 65 acres, is sloped between 10% and 25%. Much of the remaining land near the southern end of the ULR is sloped at an angle greater than 25% and is not ideal for development, except for 25.5 acres of flat contiguous farmland north of Redland Road. The southern end of the site is also home to the ULR’s only riparian habitat. There are no designated wetlands or 100-year flood plains within the ULR.
Holcomb Road Urban Reserve Topography

Connections to the road networks would be primarily via Holcomb and Redlands road out to larger arterials. The fact that there is no additional capacity on I-205 is a major constraining factor for the ULR. Improvements to the Interstate and Highway 213 would be costly for Oregon City and a developer. This lack of capacity as well as proximity is a restricting factor affecting the area’s ability to be developed as a large industrial, commercial or retail hub; and seems to encourage primarily low to medium density residential. The development of roadways within the ULR would need to include one primary north-south connection between Holcomb and Redland roads. This, in addition to the two primary north-south connections created for the Park Place development (Swan Avenue and Holly Lane), and the smaller residential roads, would likely accommodate the increased local traffic and parking in the area.

Immediately west of the Holcomb Urban Land Reserve along Holcomb Road is the Park Place neighborhood. This 500-acre parcel of land was brought into the Portland Metro Urban Growth Boundary by Oregon City in 2002 to accommodate future growth. Park Place consists of 1,460 new dwelling units with a mix of housing types and prices; as well as commercial areas, land designated for civic areas, and an extensive system of off-/on-street trails and pedestrian/bicycle connections.

The Park Place area continues to grow today. Recent visits to the site have uncovered several large single-family homes currently under construction; as well as, new land annexation by the City of Oregon City and the Park Place Neighborhood Association from Clackamas County, 35.6 acres of developable land along Holcomb Road – several hundred yards from the Holcomb ULR. The zoning is being changed from County FU-10 to City R-10 Single Family Dwelling to support a new housing development. In many ways, the Holcomb Urban Land Reserve will simply be an extension of the Park Place neighborhood.

The Holcomb Land reserve benefits from much of the infrastructure that has resulted from the Park Place development with many of the services extending through or pulled up to the ULR boundaries. The ULR is currently zoned Future Urban Development or Rural Residential. The URL is located within Clackamas Fire District 1, Tri-Met transportation district, Clackamas River Water District, Portland General Electric’s service district and the Oregon City School District. The ULR is also less than a mile from Holcomb Elementary School, and within ten minutes of Ogden Middle School and Oregon City High School. Other local amenities include the Clackamas Heights Airstrip, a private airstrip adjacent to the ULR.

The Holcomb ULR bumps up against the Tri-City Sewer District. Expanding the sewer system to service the ULR will be a considerable investment for the city and any developer.
According to local reports, it costed an estimated $9.82 million to extend service to the 272 acres of developable land within the Park Place neighborhood, or $36,100/acre. Considering similar terrain and no significant upgrades to existing or future sewer treatment facilities, it would cost an estimated $8.57 million for the Tri-City Sewer District to serve the planned 237.5 developable acres of the Holcomb ULR.

Development on the site will need to consider Park Place’s community goals of good urban design, multi-modal connectivity, opportunities for place-making and cultivating community, diversity, and future growth in a sustainable manner. Major elements included in the community goals are the development of parks and off-/on-street pedestrian and bike trails.

MARKET ANALYSIS

The Holcomb Urban Land Reserve is best suited to be developed as a residential extension of the Park Place neighborhood. This is due to the reasons discussed in the site analysis, including I-205 capacity, area density, the Park Place Concept Plan, and the Port of Portland Report, as well as current and forecasted market conditions. Holcomb Avenue may be able to support some small retail and commercial, however the majority is best suited for single and multi-family residential.

The Holcomb Urban Land Reserve (ULR) housing market can be analyzed by looking at the abutting Park Place neighborhood. Park Place provides recent and accurate comparables to future development that can be expected in the Holcomb ULR for several reasons. First, the ULR is very close in proximity and access to Park Place, with Holcomb Road being the primary connection to both areas. Second, the terrain is similar and can be developed in a similar way. Third, the Holcomb ULR will share many of the same amenities with Park Place, including schools, parks, retail and utilities. And finally, large-scale residential development is currently taking place in Park Place only feet from the Holcomb ULR boundary. The Holcomb ULR is a natural extension of the Park Place neighborhood.

Eighty-two percent of the housing stock in Oregon City is owner-occupied. The average home was built in 1977 and the average person has lived in their home since 2002. According to Zillow, there have been 15 arm-length sale transactions in Park Place this year with an average price of $386,013.33, 3.27 beds, 2.23 baths, and 2146 sq. ft. On average, they were built in 1968, on half-acre lots, and sold for $188.50 per sq. ft. Homes sold outside of the UGB but within the Holcomb ULR within the last year and a half have averaged $180 per sq. ft.

The rental market in Oregon City is limited. According to Zillow, Craigslist, and other similar sites, there are currently no rentals of any kind available in the Park Place neighborhood, and there are only 17 available in all of Oregon City. The average prices for rentals are as follows: $982.50 for a studio, $1,027.50 for a 1-bedroom, $1,228.13 for a 2-bedroom, $1,917.11 for a 3-bedroom. Of the 17 available properties, only 6 were studios or 1-bedrooms.

As home prices climb above what is affordable, based on Oregon City’s median household income, there will likely be more opportunities in the rental and multi-family market. There are several small multi-family developments in Park Place. These developments include smaller duplex and triplexes with semi-private patios clustered around shared open space. These homes appear to be fully occupied.

Oregon City is also home to many married couples and families. As residents look to grow their families, new medium to large family homes will become more attractive. With an increase in home prices, and the average homeowner having owned their home since 2002, there is potential for homeowners to utilize their equity and upgrade to a newer or larger home. As they upgrade, their homes will filter down to the next generation.

The area is currently home to small, medium and large single-family homes on small and large lots. The homes that are currently being developed are large, higher-end homes, which seem to fit this trend.
A mix of housing in the Holcomb ULR is to be anticipated – duplexes and triplexes will increase area density. Much of the land however, will likely be developed as single-family homes. Based on their proximity to Park Place, and the fact that this will be new development, it is expected that homes in the Holcomb ULR to go for a premium of $200 - $220 per sq. ft.

Due to the tight rental market, there may be a market for small garden apartments, for-rent duplexes and townhomes, or ADUs in the Holcomb ULR. The units will be new; however, they will also be on the edges of town and have limited walkability. Rents for these units are expected to be comparable to current quality rentals: $2 per square foot for a studio, $1.70 for a 1-bed, $1.45 for a 2-bed, and $1.20 for a 3-bed unit.

Finally, as an extension of the Park Place development I would expect Holcomb to have a diverse residential unit mix and density of roughly 5.4 units per acre for the northern 212 developable acres. Due to the remote location and natural features of the southern 25.5 acres, a lower density of 1.5 units per acre is more likely. According to these numbers the Holcomb ULR will accommodate roughly 1,183 residential units.

OREGON CITY URBAN RESERVES CONCLUSION AND RECOMMENDATIONS

From the analysis and research provided, the recommendation for Oregon City is to not annex additional land from the urban reserves. Currently, there are 1,383 acres within the city boundary available for development, including Park Place, Beaver Creek and South End. These areas have concept plans in progress and are expected to add an additional 4,929 units of housing to the area.

Additionally, because Oregon City does not force annexation, a vote for expansion is not anticipated to occur in the near future. A reserve is only incorporated if a majority vote of the current residents in Oregon City approves the measure or if one hundred percent of the residents of the area agree to be annexed. An Oregon City employee has stated that none of the current urban reserves are likely to be approved via either method and approval could perhaps take decades.

Overshadowing discussion about urban expansion in Oregon City is the Willamette Falls Legacy Project, which aims to create a mixed-use node and tourist attraction at the Willamette Falls site. If the project proceeds, population and commercial growth are expected to increase which may require the city to reassess the need for adding more land to the city. When looking toward the future, the most likely urban reserve to be annexed and developed would be the Henrici Urban Reserve. This is because the Oregon City Golf Course has requested to be annexed into the city which would include future infrastructure improvements. The golf course is adjacent to the Henrici Urban Reserve and incorporating this reserve before the others would be a natural progression for the City. The next possible site for annexation would be the Holcomb, then Maplelane reserves. However, when the infrastructure costs for these reserves average $70,000 per housing unit and housing prices are below regional averages, development in these areas seems unlikely to happen soon.

Oregon City is experiencing a resurgence in growth and development and is investing in its historical and cultural heritage. However, due to the available land within the city boundaries, infrastructure costs, and the lack of political will to expand into the unincorporated urban reserves, expanding the urban growth boundary is inadvisable at this time. Therefore, when considering expansion, Oregon City should strategize its infrastructure projects to prepare for the decades ahead.
URBAN RESERVES ANALYSIS

SHERWOOD
WASHINGTON COUNTY

AUTHORS:
BROCK ARGYROPOLOUS
ANALISE BAARSTAD

RESERVES:
BROOKMAN ROAD
SHERWOOD NORTH
SHERWOOD WEST
TONQUIN ROAD

CONTENTS:
MARKET ANALYSIS
SITE ANALYSIS
RECOMMENDATIONS
MARKET ANALYSIS

PORTLAND METRO AREA OVERVIEW

Following the Great Recession, Portland has rebounded with strides surpassing much of the country in population growth, unemployment rates, housing prices and rent growth with no signs of serious impact, even as uncertainty presents itself in the market. Though the focus of conversation tends to be on the City of Portland and its close-in neighborhoods, the entire Portland Metro Area is growing at a rapid pace. Cities on Metro’s fringe, like Sherwood and Beaverton, depend on the expansion of the Urban Growth Bounds (UGB) to add housing and employment to their cities, helping to spur the local economy. Economists believe most of the growth outside the City of Portland is expected to take place in Washington County and areas away from current employment centers while Metro predicts 208,848 people will live in these areas by 2040.

With the Portland Metropolitan area growing at a record-breaking pace, Metro is faced with determining whether to bring more land into the UGB or determine if the existing land within the boundary is developable and can support the amount of development needed to accommodate the surge in population growth. Currently, Metro considers expanding the UGB every six years but because of the surge in population, Metro will revisit a possible expansion in 2018, just three years after its last decision to not expand the UGB. In 2015, for the first time in over a decade, Metro determined there was enough developable land existing within in the UGB and that it was not necessary to expand the boundary lines.

According to Pamplin Media in an article published in 2015, “if regional planners are right, Portland is set for a population boom over the next 20 years – but the majority of the growth in the area is actually projected to be in its suburbs.”

Many may argue that the existing land supply within the UGB cannot accommodate the pent-up demand that the Portland Metropolitan area is currently experiencing. In addition
to this, not expanding the boundary can have paralyzing effects on the outer lying cities in the Metropolitan area that rely on UGB expansion to maintain growth. Cities like Hillsboro, Beaverton and Sherwood, whose boundaries all run right up to the Urban Growth Boundary, determined plots of land that lie immediately outside the UGB, labeling them as Urban Reserves. These Urban Reserves were determined based on their potential of accommodating urban development over the next 50 years. Each jurisdiction is encouraged to develop concept plans for Urban Reserves they believe should be brought into the UGB. Metro then reviews these concept plans to determine whether the UGB should be expanded to accommodate the Urban Reserve.

The City of Sherwood currently has four urban reserves identified along its current city limits. The total land area of these reserves is double the size of the existing land within the City of Sherwood, the largest being 5b - Sherwood West which, according to the City of Sherwood’s Preliminary Concept Plan that is being prepared for Metro, could help to support this surge in population with its potential to add 4,400 to 4,600 housing units once brought into the Urban Growth Boundary and fully developed.

Below is an analysis of two of the major Sherwood Urban Reserves, 5b - Sherwood West and 5F - Tonquin Road. For the purpose of this analysis, the 5D - Brookman Road and 5A - Sherwood North Urban Reserves were beyond the scope and are not included in this recommendation.
Sherwood, a city located southwest of downtown Portland, can be considered one of the Metropolitan area’s most rural areas even though it has seen great amounts of development over the last 20 years. The current population is estimated to be over 19,000 people growing from just over 11,000 people in 2000. This represents an annual growth rate between 3% and 8%. Sprawling farmland flanks the cities north, west and east sides offering spectacular views of the Coast Range and the vineyard-covered hills of Newberg and Dundee.
CITY OF SHERWOOD LAND AREA AND POPULATION GROWTH MAP, 1889-2014
The City of Sherwood started to see a surge of development in the 1990s as the population in the Portland Metropolitan Area started to increase at high paces, much like we are seeing today. With cities like Beaverton and Tualatin running low on developable land, the City of Sherwood ramped up development, focusing on single-family housing. Much of the area is still single-family housing with a small downtown area and minimal employment. This, however, is projected to change in the coming years with the recent annexation of the Tonquin Employment Area into the City of Sherwood’s eastern edge bordering Tualatin. The properties within this area will be zoned Employment Industrial (EI), ensuring the development of employment uses. In Sherwood’s remaining Urban Reserves, including Sherwood West, residential development is likely be best supported, though the community is very aware of the amount of growth that has occurred over the past 30 years and the projected growth for the next 25 years. According to Julia Hajduk, Community Development Director for the City of Sherwood, the community is hesitant about its growth and how annexing in Urban Reserves can affect the nature of the city.

Sherwood’s continued growth could be negatively impacted by the community and its common hesitation to expand the city limits to bring in Urban Reserves. As the City of Sherwood has experienced extreme growth beginning in the early 90s, many residents fear that any additional growth would lead to a change in character for the city. This is shown in the community’s unwillingness to approve the annexation of the Brookman Urban Reserve. City planners in Sherwood have been working and advocating for the annexation of an area to the city’s southwestern edge known as the Brookman neighborhood. This area was brought into the Urban Growth Boundary in 2002 but the City of Sherwood has failed to annex this area into the city limits due to opposition from the community who must vote to approve the annexation after land has been brought into the UGB. Though the community is hesitant to grow, city officials are using different efforts to gain support to annex in the Sherwood West Urban Reserve once it is brought into the Urban Growth Boundary. Because of marketing efforts and a community effort to develop the concept plan that will be presented to Metro, the city is expecting the residents of Sherwood will vote to approve the annexation of the 1200 acres in Sherwood West. The initial concept plan is not dense enough to encourage extensive population growth and though there is a sense that growth might be slowing in Sherwood, city planners anticipate that housing stock is needed and will be absorbed as developed.

Single-family and low to medium density housing is best positioned for future development other than in designated employment areas. Single-family housing continues to be well absorbed within the area where the market reflects trends in line with the rest of the Portland Metropolitan Area. According to Zillow, the median home value in Sherwood is currently $407,400, a 10.6% growth over the past year with expectations to continue growing by at least 2.5% year over year. Information provided from Zillow also provides that the media list price in Sherwood is $224 per square foot which is higher than the Portland Metropolitan average of $213 per square foot.

With the 5B - Sherwood West Urban Reserve holding the ability to provide the City of Sherwood and the Portland Metropolitan areas much needed land for more housing, the 5F - Tonquin Road Urban Reserve area should be viewed as an opportunity for the city and Washington County to grow businesses and employment. A significant portion of the Sherwood community commutes out of the city for work in Hillsboro, Beaverton and Portland, making it a “bedroom” community. The idea would be to bring more manufacturing, distribution and other commercial uses to Sherwood because the city is known as a great community with good schools and quality of life. This area would be attractive to an incoming manufacturing or distribution company, because it is in an area that has decent access to Interstate-5 without having to encounter the congested traffic flow of Tualatin-Sherwood Road.

The industries that could see some success in Sherwood are the smaller to mid-sized companies or campus-like parcels of land to accommodate research-type organizations or companies. The amount of land that could be developed, taking into consideration habitat
SHERWOOD URBAN RESERVES ANALYSIS

protection and infrastructure, is about 160 acres. This is a good-sized area to put a cluster of concrete-tilt up office and light industrial parks, like the ones currently on Tualatin-Sherwood Road. The location of the area is ideal for companies who need space and not a large magnitude of traffic volume on adjacent roads, but still have quick access to a major freeway. The industrial rent comparables within a 3-mile radius range from $6.24/SF/year to $9.89/SF/year. According to the Tonquin Employment Area report, the net absorption has doubled the new supply, vacancy is down and rents are rising. This breaks down into simple supply and demand economics and it means that the 5F - Tonquin Road Urban Reserve could inject some much needed land into the UGB for employment and commercial uses.

SITE ANALYSIS

5B - SHERWOOD WEST

On Sherwood’s western edge is Metro’s Urban Reserve Area 5b, also known as Sherwood West and consisting of approximately 1,291 acres of land currently zoned as farmland uses. Driving north on SW Elwert Road, it is apparent where the Urban Growth Boundary ends; to the east lies newly constructed subdivisions representing dense development for a suburban neighborhood, whereas to the west, trees are the densest, lining the street and protecting views of rolling green hills and farms in the distance. What cannot be seen from this road is the amount of preserved land covering the 1,291 acres of Sherwood West. Farms that have been standing for likely almost a century represent most of the development, however new construction of large single-family homes are found sprinkled between the operating farms and vineyards, offering new residents spectacular, uninterrupted views both south and west.
With such a vast Urban Reserve such as 5b - Sherwood West, the topography of the land varies drastically. The land is far from flat, with rolling hills that create deep canyons and high peaks. The 1,291 acres illustrates multiple characteristics as well, part of the land covered in dense forest while other parts of the Urban Reserve covered in sprawling green fields. In terms of future uses, the topography offers development the opportunity to take advantage of the hills to create value with the breathtaking views. On a clear day from on the highest peaks, Mount Hood can even be seen in the distance.
Floodplains and Wetlands (Title 13 Lands Inventory), Sherwood West
Though the site’s topography offers great opportunities for future development, the 1,291 acres poses a few challenges that any future developer would need to consider before moving forward. Chicken Creek runs primarily east-west through the Urban Reserve, creating challenges for development due to the proximity to a water source. Development too close to the creek would have tremendous flood threat associated with it. This area along Chicken Creek would likely need to be designated as open space for use by the public, which does offer an opportunity for future master planning. Running almost parallel with Chicken Creek are large power lines, which likely have an easement from the local power or communications company utilizing the power lines. This easement could be tricky to deal with for future development and is also unsightly and undesirable for future residents to live next to.

Sherwood West Preliminary Concept Plan, Option 1
With any land brought into the UGB and development that would follow, there is a need to include substantial infrastructure improvements to support any type of development. The Sherwood West Urban Reserve offers great opportunity because there are already many highly accessible roads within the 1,291 acres, though most of the roads would need additional improvements such as wider lanes, sidewalks and stoplights. Currently, many of the roads are utilized for rural purposes and tend to be narrower without sidewalks, while traffic is monitored primarily through stop signs. As with any large-scale development, future developers and the City of Sherwood would need to take the cost of infrastructure improvements into consideration.

The new development that runs right up to the UGB within the current Sherwood city limits offer a great advantage for future development if Sherwood West were to be brought into Metro’s UGB. 1,291 acres is a substantial amount of land that can support a wide mix of development types including schools, parks, multifamily housing, row homes, middle-income single-family houses and high-end single-family housing. With the area being so large and due to the topography of the site, some of the farms and vineyards would likely be able to continue operation while maintaining large swaths of their existing land without having to sell to developers. Bringing 5b - Sherwood West into the Urban Growth Boundary would not only supply a large amount of product needed to meet pent up demand as discussed above, there would also be economic advantages to the City of Sherwood as thousands of additional residents could add to the city’s overall population, creating more demand for local goods and services.

5F - TONQUIN ROAD

The 5F - Tonquin Road Urban Reserve section is approximately 600 acres in size and is part of the Tonquin Scablands area. It consists of 31 parcels, ranging in size of just over a ¼ of an acre to 160 acres. It is located on the eastern edge of the City of Sherwood,
in unincorporated Washington County. This urban reserve area neighbors the Tonquin Employment Area, a 300-acre area that is already a part of the UGB. The 5f - Tonquin Road Urban Reserve would be annexed as part of the City of Sherwood if brought into the UGB and would be used towards achieving their long-term employment plan. There are only a few commercial uses in the reserve currently that are employment-centric. There is a dog kennel facility, sportsman gun club and the Knife River Corporation office and quarry where aggregate material is excavated and processed. Otherwise, the 5f - Tonquin Road Urban Reserve is mostly wooded area.

At first glance, the 5f - Tonquin Road Urban Reserve is an area that could be an area of residential and single-family development. There are many suburban neighborhoods surrounding the area and there always seems to be a need for housing in communities such as Sherwood and Tualatin. However, due to the topography along with the current commercial uses, this area should to be a continuation of the Tonquin Employment Area that is already within the UGB.

The topography of the 5f - Tonquin Road Urban Reserve contains a variety of slopes and grades. There are a few areas where the slopes are greater than 25% but for the most part, the area's slopes are less than 10%. The elevations of the site range from approximately 300 feet at the eastern edge to 140 feet at the southwestern edge (City of Sherwood). It is important to note there are areas of the Tonquin Road Reserve that contain wetlands, floodplains and creeks that would likely be preserved. Coffee Lake Creek and Rock Creek runs through the southwest portion of the land area. According to a report by Metro, these natural landscapes would need to be protected and could become part of a trail system that would connect to a larger network of trails providing protection to the area while still making it usable to the public.

There are two major commercial operations in the 5f - Tonquin Road Urban Reserve – the Tri-County Gun Club and the Knife River operation and quarry. These two businesses have been in the area for some time and imagine they would put up a good fight to stay and not be kicked out the area in place of suburban housing. The location of the land also pushes for commercial use due to the proximity to I-5 and other major thoroughfares. It makes more economic sense to satisfy the need of commercial uses and businesses for the 5f - Tonquin Road Urban Reserve area than to create another subdivision.

There are many large hurdles that will need to be overcome for this area to be able to provide any significant developable land, but the main one is infrastructure. This hurdle comes at a significant cost due to construction and overcoming the areas somewhat challenging topography. The infrastructure for the 5f - Tonquin Road Urban Reserve area would need to be fairly significant to serve a bustling employment area. Tonquin Road is a two-lane road that would need to be widened to add additional lanes along with sidewalks and bike lanes. Besides road work, there would need to be significant improvements made to bring sewer, water and stormwater management systems to the area. There is currently work being done to extend SW 124th Avenue. The road is being extended south to connect SW Tualatin-Sherwood Road and SW Grahams Ferry Road. The road extension will provide a two-lane road and installation of a water transmission line as part of the Willamette Water Supply Project.

The 5f - Tonquin Road Urban Reserve area could be a valuable asset to Washington County and to the City of Sherwood if brought into the UGB. Though there are challenges to overcome to develop the area in an intelligent way. The area would need additional infrastructure to serve the need of a new commercial area but also to help break the site up in a way that makes it more manageable for transportation logistics. Retail would likely not be as supported in this area due to access issues unless it was providing a service to its neighboring commercial businesses and that would not be a sustainable way of doing business. The 5f - Tonquin Road Urban Reserve area could become a great area for distribution or manufacturing companies that can attract employees from Sherwood, Tualatin and Wilsonville. This could be a small pocket of the Urban Reserves that could provide a lot
of jobs and be very profitable if done right. If the right companies could be attracted to the area to open a larger footprint or expand their operations, this area could be very successful.

The 5f - Tonquin Road Urban Reserve area is in an area that is poised to grow and is likely to absorb increased development of commercial uses. With the infrastructure improvements and its proximity to areas already included in the Urban Growth Boundary, the 5f - Tonquin Road Urban Reserve should be included in the UGB. It is a great area for industrial uses with the access to necessary resources – power, people and a major freeway.

RECOMMENDATION

Employment and industrial uses are not as supported within the City of Sherwood because of the limited access to highways. This limited access matched with the exceptional absorption and need for housing, indicate areas like 5b - Sherwood West are best poised for single-family home development along with other services for housing residents such as schools, parks and small-scale neighborhood retail.

With the City of Portland’s population growing, the need for housing and additional services in Portland’s suburban cities congruently grows. There is an exponential need for housing which is illustrated by the rise in housing prices and historically low vacancy rates metro wide. It is vital that Metro continues to expand the Urban Growth Boundary in correspondence to the continuing population growth. By doing this, cities like Sherwood will be able to expand their economy allowing more residents to move into the community and thrive.

As stated above, a significant amount of Sherwood residents commute to other cities like Beaverton, Hillsboro, Tualatin and Portland for employment. This can be attributed to the overall lack of employment areas in Sherwood city limits. By bringing the 5f - Tonquin Road Urban Reserve into the UGB, the City of Sherwood would have the ability to provide its economy with more employment based uses in continuation with the Tonquin Employment Area. Because of the congestion on Highway 99 and a lack of major roadways directly linking this area to I-5, the City of Sherwood would need to focus on the roadway infrastructure plan as they develop a concept plan for this area.

Since both reserves provide Sherwood with two needed uses, housing and employment, it would be strategic to attempt to bring both reserves into the UGB congruently, rather than presenting one option to Metro at a time. This process of bringing an Urban Reserve into the UGB and then annexing it into city limits can be extremely timely; and with population surging at the rates they are projected to grow, the City of Sherwood would only be setting itself up for success. Even if both reserves are brought into the UGB, are annexed to the City of Sherwood and the market conditions change in a way that doesn’t support additional development, the property owners who were brought into the UGB would be the only parties negatively affected. Ultimately their property taxes would increase as they would be part of the City of Sherwood’s jurisdiction and their land use zoning would change in accordance with city standards. Focusing on these two areas will help the city achieve their goals of adding more housing and employment options, giving the city an opportunity to be more than just a bedroom or commuter community.
SITE ANALYSIS

The Oregon Washington County urban reserves of South Cooper Mountain, Roy Rogers West and Roy Rogers East compromise an approximate total of 3,000 acres along the western edge of the Portland Urban Growth Boundary (UGB).
SOUTHWEST URBAN RESERVES ANALYSIS

SOUTHWEST URBAN RESERVES ANALYSIS

SOUTHWEST URBAN RESERVES ANALYSIS

SOUTH COOPER MOUNTAIN
Location
The South Cooper Mountain urban reserve is surrounded on three sides by the city of Beaverton. It is bordered by SW Kemmer Road to the north, SW 175th Road to the east, Tile Flat Road to the south and Grabhorn Road to the west. South Cooper Mountain currently has a rural road network. Adjacent thoroughfares run up to the border of the urban reserve including 175th to 170th Avenue corridor, Roy Rogers Road and Grabhorn Road.

Area
The South Cooper Mountain urban reserve comprises approximately 2,300 acres that span public land, private land, forested riparian corridors, high-quality upland forest, open meadows, farmed meadows, parkland and rural homes. The South Cooper Mountain Urban Reserve is bordered by two other sub-areas that are under consideration for further development: North Cooper Mountain Sub-Area and South Cooper Mountain Annexation Area.

Topology
Land is characterized by a combination of meadows, hills and riparian regions. The southeastern side of the urban reserve is mostly hilly but could accommodate development. The southwestern and northeastern areas are relatively flat and are also amenable to development. Riparian regions are numerous, particularly in the center of the urban reserve. Steeper inclines are found more frequently along the edges of tributaries with riparian regions being less amenable to development. Major notable topological landmarks in the area are: Grabhorn meadow along the western edge of the reserve; Hilltop a higher elevation area with views of Tualatin Valley.

Creeks total approximately 600 acres of the urban reserve area. There are existing nature trails within Cooper Mountain Nature Park. One potential issue is the extensive network of creeks and substantially sized park which limits the extent of development possible in the urban reserve. The tributaries are a sensitive ecosystem that will require environmental impact studies and potentially parks or other preservation approaches. The high proportion of waterways also increases the possibility of flooding.

Roy Rogers West
Location
Roy Rogers West is a 187 acre Washington County reserve situated on the western edge of the Urban Growth Boundary and adjacent to the cities of Beaverton to the north and Tigard to the east. Rural and agricultural lands are located to the west and south. The South Cooper Mountain development lies to the north and the reserve abuts River Terrace, a new master planned residential neighborhood. The reserve is bordered by SW Scholls Ferry Road on the north, a major thoroughfare serving the area. SW Vandermost Road boarders the reserve to
the west and dead ends about 1 ½ miles south of Scholls Ferry. SW Roy Rogers Road lies
less than ¼ mile to the east and connects the City of Beaverton with the City of Sherwood to
the south.

Topography
Roy Rogers West lies south of Cooper Mountain, west of Bull Mountain and north of the Tualatin River. Tributaries
carry runoff water from Cooper Mountain and Bull Mountain shaping the landscape as water flows toward the Tualatin River.
These tributaries may be subject to periodic flooding and the waterways are protected reserves to ensure adequate water
quality and healthy riparian environments. The land gradually slopes downward from the north to the south with sections of
relatively flat terrain.

Geology
Specific geologic condition surveys for Roy Rogers West have not been completed. However, studies completed for the nearby West Bull Mountain Concept, River Terrace area, indicate that the geologic layers consist of Columbia River Basalt bedrock; topped by the Hillsboro Formation, a type of clay and sandy silt; then overlaid with silt deposits from the prehistoric Missoula Floods. The Missoula deposits are good quality soils for agriculture and farming.

Nearby Development - River Terrace, Tigard
In 2010, the City of Tigard approved the West Bull Mountain Concept Plan (the Plan). The Plan, known as River Terrace; places emphasis on creating a community with a variety of housing options at varying densities. River Terrace will be home to 11,600 future residents living in 3,766 dwellings at an average density of 11.5 dwellings per acre. Parks, bike lanes and walking trails along with significant infrastructure, commercial and civic uses are incorporated into the design. The Plan also requires protection of natural resources such as significant tree groves, wetlands and waterways.

The Polygon Collection at River Terrace is a master planned neighborhood abutting the eastern edge of the Roy Rogers West Urban Reserve. The development will be managed with a Home Owners Association responsible for maintaining the community center, swimming pool, gym, parks, paths and other open spaces. A retail center and employment district, estimated to be about six acres in size is slated to be built within the next two years.

Nearby Development - South Cooper Mountain, Beaverton
Located directly to the north of Roy Rogers West, the South Cooper Mountain area, consisting of 2,300 acres, is set for near term urban development. Overall, certain areas are planned to have a capacity of 7,490 housing units at an overall density of 11.2 dwellings per acre. Along SW Scholls Ferry Road, the density of South Cooper Mountain will increase to 14.5 dwellings per acre. This dense Main Street styled neighborhood will include ten acres of frontage along Scholls Ferry with ground floor retail and second floor office and live-work spaces. Main Street will be located directly west of a new Beaverton School District high school. The high school is built on a 40-acre site and will provide parking to the Main Street neighborhood under a shared parking agreement. The high school will also serve the homes in the northern most section of River Terrace and Roy Rogers West.
ROY ROGERS EAST – BEEF BEND SOUTH

Site Location
The Roy Rogers East - Beef Bend South urban reserve area is a roughly 500-acre area located just west of King City. Approximately 300 acres of the total land space is buildable. To the north, along the entirety of SW Beef Bend Road lies the city of Tigard. Areas east of SW 150th Avenue are located within unincorporated Washington County. The southern border fronts the north bank of the Tualatin River. Where SW Elsner Road meets SW Roy Rogers Road, there is a memorandum of understanding (MOU), but no official intergovernmental agreement, between Tigard and King City stating that the area south of Beef Bend, except the NE quadrant of its intersection with Roy Rogers, would fall within King City jurisdiction. South of the site area lies Sherwood, according to a 2005 MOU.

Topography
With elevation rising up to 600’ directly north and northeast of the site area, a riparian habitat dominates much of the landscape, especially in areas close to the river. Uncultivated, unproductive land is commonplace throughout the site area, and management of stormwater advancing from Bull Mountain should be of critical concern to future development. As shown in the images the FEMA 100-year floodplain encroaches upon the site.

Building footprints within the site area are sparsely located. Housing stock is generally well maintained with roughly 15% of buildings in a state of disrepair. Industrial uses in particular seem to only be viable within substantial areas of flat topography located toward the northwest.

Sources: Google Maps, Metro GIS, Metro RLIS
MARKET ANALYSIS

South Cooper Mountain, Roy Rogers West and Roy Rogers East are all located in Washington County, which is the economic powerhouse of the Portland metro area. Portland is the largest city in Oregon with a population of approximately 814,813 individuals. There is a total of 331,642 households in Portland and on average 2.32 people inhabit each household. Total household expenditures in Portland are below the national average. The median age of the current population is 36.75 with 236,241 people being married and 313,237 being single.

All trends point to the City of Portland and surrounding areas to continue to experience significant growth. According to US Census Data, Portland grew by approximately by 50,000 individuals from 583,800 inhabitants in 2010 to 632,309 inhabitants as of 2015. Portland’s Bureau of Planning and Sustainability predicts that by 2035, 123,000 new households will be formed and 142,000 new jobs will be created in Portland.

Overall growth metrics point to a continued demand for residential housing within the Portland Urban Growth Boundary. Indicators show steady household formation trends due to increasing job growth in high wage occupations and consumer preference for the Portland market. Furthermore, there is a constrained supply of available real estate due to underbuilding in the Portland area during the 2008 recession. Currently the housing market within Portland is extremely tight, and there is an increasing demand for housing of all types.

As of 2016, semiconductors, software and computer services are the largest industry segments in Oregon. Wood products, which was the main economic driver for decades now run a distant second to high-tech exports. Overall, Oregon’s export trade is strong despite economic declines in other areas. Forecasts predict that Oregon’s economy will become increasingly dependent on international trade.

The Portland area, and Washington County in particular, is branded as the “Silicon Forest” because it is attracting companies with its skilled workforce, strong infrastructure, access to West Coast and Asian markets, and high quality of life. Oregon’s high-tech industry accounts for 13 percent of the state’s economy and 60 percent of Oregon’s international exports. The Portland metro area includes the long-established campuses of Intel, a top-ranking private employer, Google, and Oracle, along with newcomers such as eBay, Mozilla, Airbnb, and Salesforce.com.

The Oregon Department of Employment recommends that Oregon communities invest in developing employment opportunities in Oregon around high-growth and high demand industries such as systems and data specialists, business intelligence analysts, industrial machinists, millwrights and operators, and rehabilitation therapists. Other employment areas with notable projected growth are technologically skilled mechanics and maintenance technicians, mental and behavioral health counselors, interdisciplinary engineers, and primary healthcare practitioners.
**SOUTHWEST URBAN RESERVES ANALYSIS**

**Major Portland Employers:**

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Source: U.S. Department of Housing and Urban Development

**SOUTH COOPER MOUNTAIN**

**Population & Housing**

South Cooper Mountain Urban Reserve is adjacent to the city of Beaverton. Due to strong economic, social and geographic ties to Portland, Beaverton is experiencing many parallel trends as Portland. During the decade from 2000-2010, the City of Beaverton added over 13,600 new residents at a rate of roughly 1.7% per year, which was a rate considerably higher than state level trends. However, since 2010 the population growth in Beaverton has slowed a bit, which could be due to a slow economic recovery from the last recession or possibly the limited supply of sites for expanding Beaverton’s housing stock. In the current market Beaverton has only 339 vacant single-family lots available for development. The City’s current Buildable Lands Inventory shows a total capacity of 950 additional single family units on vacant property, of which 611 are located in the South Cooper Mountain planning area. An additional capacity of 1,258 units is expected on infill/developed land.

According to the City of Beaverton Economic Analysis 2015-16, “A look at migration patterns would suggest that Beaverton’s relatively slow population growth could be largely attributed to housing supply constraints.... from 2010-2013, Washington County was among the fastest growing large counties in the region, accounting for 16% of statewide net-migration... while growth has slowed to close to the statewide average in Beaverton.” This data suggests that a larger share of population is still moving to other communities within Washington County, and Beaverton could be missing out on receiving its proportion of migrants. Nevertheless, the issue of limited housing stock remains relevant to the entire area because other incorporated cities in Washington County such as Tigard and Hillsboro are also faced with limited land availability and relatively small housing inventories.

**Market research shows a demand for more residential in the Beaverton area and a steady increase in home sale prices over the past 5 years. Beaverton market data shows an increase in median home sales of $36,500 or 12% for an average of $349,500 per home over the past year. The average price per square foot for this same period rose to $210, which was an**
increase from the previously recorded $194 psf. Median rents for the same time period came to $1,775 per unit or $2.04 psf. Data pulled from Axiometrics in the table below show an average rent of eight properties nearby the South Cooper Mountain Urban reserve to total $1,326 rent per unit or $1.53 psf.

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<td>1998</td>
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<td>$1,258</td>
<td>$1.56</td>
<td>60.0%</td>
<td>$25,600,000</td>
<td>11/18/2013</td>
<td>$112,281</td>
<td>228</td>
<td>1996</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>Seven West of the Trails II</td>
<td>$1,227</td>
<td>$1.47</td>
<td>90.0%</td>
<td>$26,000,000</td>
<td>11/30/2016</td>
<td>$492,308</td>
<td>195</td>
<td>1996</td>
<td>2000</td>
<td>C</td>
</tr>
<tr>
<td>Soft at Murray Hill</td>
<td>$1,434</td>
<td>$1.68</td>
<td>94.9%</td>
<td>$37,000,000</td>
<td>02/28/2007</td>
<td>$105,412</td>
<td>352</td>
<td>1999</td>
<td>B+</td>
<td></td>
</tr>
<tr>
<td>Sterling Pointe</td>
<td>$1,379</td>
<td>$1.51</td>
<td>97.2%</td>
<td>$91,090,000</td>
<td>09/04/2015</td>
<td>$144,371</td>
<td>630</td>
<td>1999</td>
<td>B+</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>$1,326</td>
<td>$1.53</td>
<td>94.2%</td>
<td>$45,403,750</td>
<td></td>
<td>$162,665</td>
<td>306</td>
<td>1989</td>
<td>75</td>
<td>B+</td>
</tr>
</tbody>
</table>

Source: Axiometrics

Beaverton has a very stable population, approximately 67% of residents are married and 62% are homeowners. It has a higher education level than the average US citizen with a rate of 44% of inhabitants possessing a college degree. On the other hand, this means that 33% of the residents are single and 56% of residents did not graduate from college. Beaverton’s population has a generally higher concentration of younger residents relative to the national average. The median age of an individual living in Beaverton is 35 years-old and the median household income is $58,695. This is about average if compared Portland and other surrounding municipalities.

### Employment & Industry

Key tech employers in the Beaverton area include Linux Technology Center of IBM, Tektronix, Maxim Integrated Products and VeriWave. It is also the location of the Oregon Technology Business Center (OTBC), which is a non-profit that incubates local start-ups and is helping to foster more technology networking in Beaverton and increase its visibility as a tech center.

Nike’s world headquarters is located adjacent to Beaverton in unincorporated Washington County. A number of other sports and apparel firms have followed in Nike’s shoe steps including Columbia Sportswear, which relocated to Beaverton in 2007. According to Beaverton’s Urban Redevelopment Agency’s annual report, the agency sees limited opportunity in continuing to develop Beaverton as a “cluster of sporting equipment and apparel activity ” due to land constraints and lack of a broad Beaverton-based cluster extending beyond the several well-known apparel companies that are already present.

Tourism is a significant component of Beaverton’s economy, primarily from visitors staying in hotels and other accommodations. The area southwest of Beaverton is ideally suited to growing wine grapes. Oregon overall ranks fourth in the US in wine production and is famous for its Pinot Noir. Washington County is home to more than a dozen wineries, with two located right in Beaverton.

According the Beaverton Chamber of Commerce Beaverton, small businesses account for the majority of local Beaverton employment. Small businesses are an essential part of any community. Most new jobs each year in Beaverton are created by existing small businesses.
The general picture of employment in Beaverton by industry is as follows:

- Wholesale and Retail Trade 24.8%
- Manufacturing 22.9%
- Government 7.2%
- Finance, Insurance & Real Estate 5.8%
- Transportation & Public Utilities 4.2%
- Construction and Mining 5.6%
- Services 27.5%

Financing Urban Renewal and Urban Development in Beaverton
Currently the primary funding source for urban renewal projects in Beaverton is tax increment financing.

Transportation
Beaverton is a suburb to Portland, but it is also a destination for employment. 78% of people working in Beaverton live somewhere else and commute into Beaverton for work. On the other hand, an average of 77% of employed Beaverton residents commute elsewhere in the region for their jobs. This translates into around 22% of local jobs being filled by local residents. In Hillsboro and Vancouver approximately 33% of local jobs are filled by local residents, thus Beaverton could do more to provide both housing and employment opportunities for its residents and workers.

ROY ROGERS WEST
Market Overview
Roy Rogers West is located within 45 minutes of the Portland CBD and 30 minutes from Hillsboro where significant high wage employment opportunities exist. The land adjacent to Roy Rogers West that is included in the Urban Growth Boundary is experiencing significant development and population growth. The area boasts good quality schools, a thriving parks and recreation system and nearby neighborhood grocery and lifestyle retail.

The Portland-Vancouver-Hillsboro Metropolitan Statistical Area has experienced consistent economic growth since 2011. This growth results in a declining unemployment rate from a high of 11.3% in June 2009 to 9.0% in June 2011 to 3.9% in January 2017. The U.S. Department of Housing and Urban Development estimates the Washington County (Beaverton–Hillsboro Submarket) will have demand for 7,675 new single-family homes and 5,325 market-rate rental units between 2016 and 2018. The Submarket has experienced an estimated population growth averaging 1.4% per year or 9,600 individuals per year since 2010. About 30% of this population growth is a result of in-migration resulting from jobs growth in the high-tech industry. The combined economic factors of jobs growth and population growth have resulted in the need for both single-family and multi-family housing in Washington County. The areas located in South Beaverton and River Terrace in Tigard are primarily zoned for residential and commercial uses such as small neighborhood retail centers.

Commercial Office, Industrial and Retail Markets
The City of Tigard has not approved zoning for general commercial uses in the immediate area. The nearest location in Tigard that permits general commercial and professional uses is located at SW 125th Avenue and Scholls Ferry Road about three miles away from the site. The City of Beaverton has zoned Town Center Commercial and Residential near SW Barrows Road and SW Horizon Blvd. about 1 ½ miles away.

Real estate data included in CoStar reports for the Westside Outlying Office Market show...
office uses are not built in the immediate area of Roy Rogers West. There has been no
delivery of office space since 2013 with only 1,000 SF and 6,000 SF expected to be delivered
in 2018 and 2019, respectively. Simply put, it is unlikely there will be future demand for office
space within this urban reserve.

A similar situation occurs with light industrial space. The last deliveries occurred in 2013 with
over 30,000 SF delivered. There has been no new construction since that time. The next
deliveries projected in 2018 are 20,000 SF followed by 30,000 SF per year between 2019
to 2021 in the Westside Outlying market. There are no units expected for delivery near Roy
Rogers West. It is probable future zoning will prohibit this type of development with the
majority of the light industrial space being located between Hillsboro and Forest Grove or to
the south in Sherwood.

Retail, such as grocery anchored and neighborhood centers, is sprinkled throughout the
immediate area nearest Roy Rogers West. This retail primarily supports the consumer needs
of residential neighborhoods. The key retail centers include the Murray Scholls Town Center,
Murrayhill Market Place and Progress Ridge Townsquare. In 2015 about 40,000 SF of retail
was delivered in the Progress Ridge area with no additional square footage delivered in 2016
and 2017. CoStar estimates additional deliveries of retail ranging from 40,000 SF to 75,000
SF annually between 2018 and 2021; however, no projects are currently under construction.
Local rent comparables indicate average rent to be $18.69 per square foot. Economic
analysis anticipates low rent growth for retail in the upcoming year.

Multi-family Residential Market
There is demand for two and three bedroom residential units as well as senior housing in
the City of Tigard. The subset of residents creating this demand are young professionals,
empty nesters and retirees who desire high quality housing. The median age in Tigard is
40 years which is higher than Beaverton at 38 years and Sherwood at 37 years. Demand
for high quality housing is also driven by population growth. Tigard has experienced 10%
population growth over the past five years which exceed the Portland-Vancouver-Hillsboro
MSA average of 7%. This is in part due to job growth driven by Nike and Intel as well as
other employment growth located in Hillsboro and downtown Portland.

There were no units of multi-family residential housing delivered in Tigard in 2015 and 2016.
However, there are 240 units scheduled to be delivered in 2017 near SW 135th and Scholls
Ferry Road in 2017. This location is about two miles from Roy Rogers West. It is anticipated
that this urban reserve, when added into the Urban Growth Boundary, will be a good
location for multi-family residential.

Multi-Family Residential Rent Comparables

<table>
<thead>
<tr>
<th></th>
<th>Studio</th>
<th>One Bedroom</th>
<th>Two Bedroom</th>
<th>Three Bedroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Size</td>
<td>491 SF</td>
<td>685 SF</td>
<td>976 SF</td>
<td>1,215 SF</td>
</tr>
<tr>
<td>Asking Rent per Unit</td>
<td>$1,007</td>
<td>$1,178</td>
<td>$1,416</td>
<td>$1,676</td>
</tr>
<tr>
<td>Asking Rent per SF</td>
<td>$2.05</td>
<td>$1.72</td>
<td>$1.45</td>
<td>$1.38</td>
</tr>
<tr>
<td>Effective Rent per Unit</td>
<td>$985</td>
<td>$1,176</td>
<td>$1,396</td>
<td>$1,673</td>
</tr>
<tr>
<td>Effective Rent Per SF</td>
<td>$2.01</td>
<td>$1.72</td>
<td>$1.43</td>
<td>$1.38</td>
</tr>
<tr>
<td>Annual Effective Rent Growth</td>
<td>6.5%</td>
<td>2.6%</td>
<td>2.9%</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

Source: CoStar, May 2017
Single-family Residential Market
The demand for homes in the Cities of Tigard and Beaverton remain strong, causing home values to appreciate. This is a trend that began in 2012 and continues. The target market in the neighborhoods nearest to Roy Rogers West are second and third-time homebuyers interested in upgrading to a larger home. Also, included in the target market are younger high-tech employees who earn higher wages. The River Terrace neighborhood, located to the east of Roy Rogers West consists of townhomes and single-family residential units. It is expected that future development of the Roy Rogers West urban reserve will consist primarily of single-family homes.

Single-Family Residential For Sale Comparables

<table>
<thead>
<tr>
<th></th>
<th>Bed/Bath</th>
<th>Size</th>
<th>Sales Price</th>
<th>Price per SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Townhouse</td>
<td>2/2</td>
<td>1,221 SF</td>
<td>$276,990</td>
<td>$227</td>
</tr>
<tr>
<td>Townhouse</td>
<td>3/2</td>
<td>1,372 SF</td>
<td>$339,990</td>
<td>$248</td>
</tr>
<tr>
<td>Single Family- Under 2,000 SF</td>
<td>4/3</td>
<td>1,745 SF</td>
<td>$436,490</td>
<td>$250</td>
</tr>
<tr>
<td>Single Family- 2,000 - 2,500 SF</td>
<td>4/3</td>
<td>2,148 SF</td>
<td>$496,445</td>
<td>$231</td>
</tr>
<tr>
<td>Single Family- 2,500 - 3,000 SF</td>
<td>4/3</td>
<td>2,775 SF</td>
<td>$541,590</td>
<td>$195</td>
</tr>
<tr>
<td>Single Family- Over 3,000 SF</td>
<td>4/3</td>
<td>3,346 SF</td>
<td>$603,235</td>
<td>$180</td>
</tr>
</tbody>
</table>

Source: Polygon Northwest, April 2017

It is unlikely this reserve will provide any commercial office or industrial space. It will mainly be focused on providing higher density, quality residential dwellings for all income levels. There may be opportunity for a small mixed-use neighborhood retail, probably less than 40,000 SF. This limitation is due to the close proximity of other retail and commercial uses located at Progress Ridge and the proposed South Cooper Mountain Main Street development.

The Roy Rogers West urban reserve will be composed of single family homes, apartments and townhomes. Apartments and townhomes could be constructed along the northern section near Scholls Ferry Road creating high density zones that aligns well the future Main Street development in South Cooper Mountain near the Beaverton Mountainside High School. Where the topography is difficult to develop, it may be appropriate to build homes on larger lots. Preliminary estimates show that approximately 50% of the 187 acres included in the reserve is suitable for residential development. Assuming a density goal of 11.5 dwellings per acre, this reserve will support construction of 1,075 dwelling units.

ROY ROGERS EAST – BEEF BEND SOUTH

Employment & Industry
Roughly 45 minutes from downtown Portland and 30 minutes from downtown Beaverton, the site is in closer proximity to small concentrations of employment in Tigard, Tualatin and Wilsonville.

Retail shopping opportunities are few and far between, with nearest retail available within King City, 1.5 miles from the eastern edge of Beef Bend South. There are two retail establishments, Baggenstos Farmers Market and Al’s Garden & Home, on the north/south arterial Roy Rogers Road. There are also several retail and entertainment options to the south, at Roy Rogers and Pacific Hwy West. A critical mass of new residents could help support additional retail, particularly at the intersection of Roy Rogers and Beef Bend, where traffic counts are highest and visibility is greatest.

Transportation
Traffic counts are at about 20,000 vehicles per day along SW Roy Rogers Road, and 5,300 per day on Beef Bend Road. The nearest bus line is 1.3 miles from the eastern edge of the
site area, with an additional 2.3 miles to a connection to the MAX at Tigard Transit Center. Roy Rogers provides major northbound access to the SW Scholls Ferry Road, where the road extends to areas farther north along SW 175th Avenue.

Nearby Development
As mentioned in reports from Roy Rogers West, Polygon Homes has been doing major development to the north in Tigard. Directly to the east, Legend Homes has developed a residential subdivision with homes smaller than the typical Polygon home, yet at a similar price per square foot of about $160 psf to $200 psf for new construction. Development in these areas has been exclusively residential; these developments would aide in the support of commercial uses in Roy Rogers East.

Residential Market Activity - Homes to the immediate north and east:

<table>
<thead>
<tr>
<th>Address</th>
<th>4897 SW Huntwood Ct</th>
<th>14228 SW Tewkesbury</th>
<th>14973 SW Rosario Ln</th>
</tr>
</thead>
<tbody>
<tr>
<td>List Price</td>
<td>$574,900</td>
<td>$425,000</td>
<td>$650,000</td>
</tr>
<tr>
<td>List Date</td>
<td>04/20/2017</td>
<td>05/09/2017</td>
<td>03/23/2017</td>
</tr>
<tr>
<td>SF</td>
<td>3,154</td>
<td>2,650</td>
<td>4,794</td>
</tr>
<tr>
<td>BR/BA</td>
<td>5/3</td>
<td>3/2.1</td>
<td>4/3</td>
</tr>
<tr>
<td>Acreage</td>
<td>0.11</td>
<td>0.11</td>
<td>0.23</td>
</tr>
<tr>
<td>Year Built</td>
<td>2005</td>
<td>2001</td>
<td>1990</td>
</tr>
<tr>
<td>Taxes</td>
<td>$5,961</td>
<td>$4,716</td>
<td>$5,821</td>
</tr>
<tr>
<td>HOA/Year</td>
<td>$400</td>
<td>$400</td>
<td>$0</td>
</tr>
<tr>
<td>PPSF</td>
<td>$182.27</td>
<td>$160.38</td>
<td>$135.58</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>17434 SW 135th Pl</th>
<th>17423 SW Montague Way</th>
<th>14756 SW Mulberry Dr</th>
</tr>
</thead>
<tbody>
<tr>
<td>List Price</td>
<td>$475,000</td>
<td>$410,000</td>
<td>$429,900</td>
</tr>
<tr>
<td>List Date</td>
<td>04/27/2017</td>
<td>04/06/2017</td>
<td>05/05/2017</td>
</tr>
<tr>
<td>SF</td>
<td>2,562</td>
<td>1,849</td>
<td>2,415</td>
</tr>
<tr>
<td>BR/BA</td>
<td>4/2.1</td>
<td>4/2.1</td>
<td>4/3</td>
</tr>
<tr>
<td>Acreage</td>
<td>0.09</td>
<td>0.08</td>
<td>0.12</td>
</tr>
<tr>
<td>Year Built</td>
<td>2005</td>
<td>2012</td>
<td>2011</td>
</tr>
<tr>
<td>Taxes</td>
<td>$5,002</td>
<td>$4,051</td>
<td>$4,748</td>
</tr>
<tr>
<td>HOA/Year</td>
<td>$792</td>
<td>$596</td>
<td>$266</td>
</tr>
<tr>
<td>PPSF</td>
<td>$185.40</td>
<td>$221.74</td>
<td>$178.01</td>
</tr>
</tbody>
</table>
## SOUTHWEST URBAN RESERVES ANALYSIS

### SOLD

<table>
<thead>
<tr>
<th>Address</th>
<th>4611 SW Trevor Ln</th>
<th>16850 SW Romer Terr</th>
<th>13575 SW King Lear Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sold Price</td>
<td>$489,900</td>
<td>$410,000</td>
<td>$425,000</td>
</tr>
<tr>
<td>Sold Date</td>
<td>03/22/2017</td>
<td>05/01/2017</td>
<td>04/12/2017</td>
</tr>
<tr>
<td>SF</td>
<td>2,529</td>
<td>1,678</td>
<td>2,532</td>
</tr>
<tr>
<td>BR/BA</td>
<td>3/3</td>
<td>3/2.1</td>
<td>3/2.1</td>
</tr>
<tr>
<td>Acreage</td>
<td>0.11</td>
<td>0.05</td>
<td>0.08</td>
</tr>
<tr>
<td>Year Built</td>
<td>2012</td>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>Taxes</td>
<td>$5,747</td>
<td>$3,543</td>
<td>$4,315</td>
</tr>
<tr>
<td>HOA/Year</td>
<td>$0</td>
<td>$616</td>
<td>$844</td>
</tr>
<tr>
<td>PPSF</td>
<td>$193.71</td>
<td>$226.40</td>
<td>$167.85</td>
</tr>
</tbody>
</table>

Source: RMLS

### Nearby Commercial Activity:

<table>
<thead>
<tr>
<th>Address</th>
<th>City</th>
<th>Type</th>
<th>SF</th>
<th>Rent/Sale Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Lease</td>
<td>14991 SW Tualatin</td>
<td>Sherwood</td>
<td>1,750 SF</td>
<td>$9.60/SF NNN</td>
</tr>
<tr>
<td></td>
<td>Sherwood Road</td>
<td>Flex Light Manufacturing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Lease</td>
<td>13565 SW Tualatin</td>
<td>Sherwood</td>
<td>7,500 SF</td>
<td>$7.20/SF NNN</td>
</tr>
<tr>
<td></td>
<td>Sherwood Road</td>
<td>Industrial Warehouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Lease</td>
<td>11555 Durham Road</td>
<td>King City</td>
<td>1,500 SF</td>
<td>$20.00/SF NNN</td>
</tr>
<tr>
<td></td>
<td>Ground Floor Retail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Lease</td>
<td>16315 SW Barrows Road</td>
<td>Beaverton</td>
<td>1,700 SF</td>
<td>$18.00/SF NNN</td>
</tr>
<tr>
<td></td>
<td>Office</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Sale</td>
<td>11701 SW Itel Street</td>
<td>Tualatin</td>
<td>13,824 SF</td>
<td>$2,400,000 $173.62/SF</td>
</tr>
<tr>
<td></td>
<td>Industrial Warehouse</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: CoStar
Multifamily Rentals: The two nearest multifamily rental properties are located just northeast of the site area:

<table>
<thead>
<tr>
<th></th>
<th>The Oakmont</th>
<th>Maybeck at the Bend</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address</strong></td>
<td>14495 SW Beef Bend Road</td>
<td>13830 SW Chinn Ln</td>
</tr>
<tr>
<td><strong>City</strong></td>
<td>Portland</td>
<td>Tigard</td>
</tr>
<tr>
<td><strong>Asset Class</strong></td>
<td>B</td>
<td>B -</td>
</tr>
<tr>
<td><strong>Year Built</strong></td>
<td>1990</td>
<td>1997</td>
</tr>
<tr>
<td><strong>Occupancy</strong></td>
<td>97.0%</td>
<td>92.6%</td>
</tr>
<tr>
<td><strong>Average Effective Rent/Unit</strong></td>
<td>$1,361</td>
<td>$1,278</td>
</tr>
<tr>
<td><strong>Average Effective Rent/SF</strong></td>
<td>$1.61</td>
<td>$1.47</td>
</tr>
<tr>
<td><strong>Market Rate Units</strong></td>
<td>124 (100%)</td>
<td>120 (100%)</td>
</tr>
<tr>
<td><strong>Average Area/Unit</strong></td>
<td>845 SF</td>
<td>868 SF</td>
</tr>
<tr>
<td><strong>Unit Mix:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Studio/1 BR</strong></td>
<td>40 units (32%)</td>
<td>30 units (25%)</td>
</tr>
<tr>
<td><strong>Effective Rent/SF</strong></td>
<td>$1.63</td>
<td>$1.63</td>
</tr>
<tr>
<td><strong>2 BR</strong></td>
<td>84 units (68%)</td>
<td>60 units (50%)</td>
</tr>
<tr>
<td><strong>Effective Rent/SF</strong></td>
<td>$1.61</td>
<td>$1.40</td>
</tr>
<tr>
<td><strong>3+ BR</strong></td>
<td>No units</td>
<td>30 units (25%)</td>
</tr>
<tr>
<td><strong>Effective Rent/SF</strong></td>
<td>N/A</td>
<td>$1.49</td>
</tr>
</tbody>
</table>

Source: Axiometrics

According to a market analysis by Leland Consulting Group, there have been robust household growth projections nearly double the national rate. A combination of strong income demographics and the expected influx of new residents infer ample market support for residential development in the site area. Other factors for consideration:

- Baby boomers, aged 52-70, will continue to drive the market for assisted living and active senior housing;
- Downsizing, resulting in less maintenance and higher flexibility, is likely to play a role in their buying decisions;
- Millennials, aged 19-35, are beginning to emerge from a period of delayed household formation, and will continue to drive demand for rental and ownership housing;
- Neighborhoods in the Portland Metro area with urban walkability, close proximity to jobs, and cultural amenities have seen the greatest increase in values; and
- Similar areas in suburban locations have proven to be a viable alternative, especially to those unable or unwilling to relocate to areas nearer to the CBD.

According to Ted Reid, Metro’s Principal Regional Planner, while there is relative affordability for the Portland Metro area, compared to other cities on the west coast, is seeing a major influx of low-income (i.e. ~$10,000 to $20,000 in income) and high-income (i.e. over ~$100,000) households. The Great Recession brought with it very little new construction, while populations continued to grow. A housing shortage materialized around the entire country, but has become especially prevalent in Portland.
INFRASTRUCTURE

The urban growth boundary expansions of South Cooper Mountain and Roy Rogers will need to evaluate the area as a whole and leverage inter-jurisdictional agencies to make the most efficient use of existing infrastructure and area services.

Water and Sanitary Sewer

Historically there existed multiple waste water treatment districts throughout Washington County and beyond. Due to the occurrence of several service failures and inconsistent service delivery, waste water treatment was consolidated under the entity Clean Water Services (CWS). Existing development within the URA planning area is served with on-site private domestic and/or irrigation wells. All developed parcels currently within the site area are served by on-site private septic systems. Thus in order to be annexed, the three southwest urban growth reserves addressed in this analysis will depend on sewer services all which would be delivered by Clean Water Services. The build-out of these services for South Cooper Mountain and Roy Rogers could take up to twenty years. It is critical that strong inter-jurisdictional collaboration takes place to develop a master plan.

Clean Water Services and the Cities of Beaverton and Tigard have worked in cooperation to develop water and sanitary sewer plans that can be phased in over time to provide for the expansion in South Cooper Mountain, River Terrace and Roy Rogers West. River Terrace completed a sewer pump station in 2015 adjacent to Roy Rogers Road which will help serve future development. Additional, smaller, developer financed pump stations will be required as development occurs. Further water infrastructure has also been built into the area in the form of a 24-inch water line and 21-inch gravity sanitary sewer line have been laid under Scholls Ferry Road to handle expanding sewer needs. Clean Water Services would be the sanitary sewer provider for future development within the site area. Coordination with CWS would be needed to identify any future system needs. Overall the plan is based on the theory of maintaining minimum water pressure while providing sufficient water flow to fight a fire in the most difficult space within the service area. The benefit of this regional planning allows South Cooper Mountain, Roy Rogers West and Roy Rogers East – Beef Bend South to connect to the system efficiently.

The key facilities that will serve the South Cooper Mountain reserve will be a new 24-inch water line is planned to extend along SW 175th Avenue, ultimately connecting to a future five-million-gallon tank to be located near the intersection of SW 175th Avenue and SW Weir Road. By supplementing the existing system with this new five million-gallon storage tank, there will be adequate water storage to serve the entire planning area. It is scheduled to be constructed by 2020.

An existing 21-inch gravity sanitary sewer located under SW Scholls Ferry Road can serve some of the area east of 175th Avenue and north of Scholls Ferry Road as well as the planned High School site. Most of the East Hills portion of the Urban Reserve can also be served either with connections to existing sewer lines to the east or with sewer line extensions in SW 175th Avenue that will gravity flow to the existing line in SW Scholls Ferry Road. With the exception of the high school site, much of the area west of SW 175th Avenue -- including a portion of the East Hills, the Hilltop, and the eastern portion of the URA Lowlands as well as most of the SCMAA -- will be conveyed towards the low point in SW Scholls Ferry Road, at the creek crossing near SW Vandermost Road, and eventually be conveyed to the new River Terrace Pump Station which was placed in service during 2015. A new Tile Flat Road Pump Station will be needed to serve future development on the west side of the Urban Reserve Area, including Grabhorn Meadow and the western part of the URA Lowlands, and southern two-thirds of North Cooper Mountain.

The Intergovernmental Water Board would be the provider of public drinking water. Water lines and storage facilities will be required to provide water service to the site area. King City will require coordination with the City of Tigard for water services.
Fire service flow is the largest single point demand in the South Cooper Mountain area. Although providing domestic and irrigation services to the area is essential, the water system expansion will be developed to provide sufficient fire flow while maintaining a minimum water pressure.

**Storm Drainage**
Currently CWS is responsible for handling all storm drainage throughout Washington County. There are currently natural storm water infiltration and conveyance through natural drainage ways that discharge into the Tualatin River. These drainage ways are susceptible to erosion and degradation from high flows. Tigard and CWS are currently considering alternatives to manage high flows in order to reduce the adverse impacts. During the annexation of Washington County southwest urban reserves, multiple developers are encouraged to share in storm water management features in order to lower costs.

It is recommended that storm water will be managed through Regional Stormwater Facilities (RSFs). The regional approach is preferred because it is consistent with planning in other newly urbanizing areas; it provides planned, comprehensive flow control in a cost-effective manner; and it provides the highest level of certainty of meeting the flow management guidelines being established by CWS. In addition, RSFs will meet water quality requirements (capture and treatment of stormwater pollutants) as well as preserving the stream health of the receiving channel by avoiding hydrographic modification.

However, RSFs require a high level of coordinated implementation. It is important to create a flexible management plan that also allows for site-scale storm water management facilities in lieu of, or in combination with, RSFs.

**Roads**
Significant road construction is planned for the areas adjacent to Roy Rogers West. Scholls Ferry Road has been widened to a five-lane urban arterial from the SW Roy Rogers intersection moving eastward into Beaverton. The arterial reduces to a two-lane rural road as it nears Roy Rogers West. In 2018, SW Roy Rogers Road will also be improved to a five-lane urban arterial. It is currently a 2-lane rural road.

The City of Beaverton created several transportation scenarios connecting SW Bull Mountain Road to the southeast with SW Tile Flat Road to the northwest of the Roy Rogers West Urban Reserve. The proposed road is a three-lane County arterial that will run through the center of the Roy Rogers West. This is a long-term plan, according to the City of Beaverton, is not expected to begin construction for 20+ years. Estimated cost to construct is $18,780,000. An additional two-lane collector street, connecting the Tile Flat Road extension to Scholls Ferry Road is estimated at $2,000,000. Funding for road construction and maintenance will come primarily from Washington County with significant contributions from the private sector. Limited funding is expected to come from the Cities of Tigard and Beaverton.

**Electrical Substation**
PGE is constructing a substation near the southeast corner of Roy Rogers and Scholls Ferry Roads. This substation will be sufficient to serve the needs of the River Terrace neighborhoods as well as any future development in Roy Rogers West.

**Schools**
South Cooper Mountain and the northernmost section of Roy Rogers West will be served by the Beaverton School District and the southernmost section of Roy Rogers West and Roy Rogers East – Beef Bend South will be served by Tigard-Tualatin schools.

The Beaverton School District’s annual enrollment growth rate ranks it among the fastest growing districts in the State and they have received the designation of a ‘high growth’ district under ORS 195.110. Currently the Beaverton School District is addressing overcrowding through a combination attendance boundary adjustments and portable classrooms.

Beaverton is aware that the current rate of growth exceeds available space at some schools and that in the future they will continue to see increases in students that they will be required to serve from the urban growth boundary expansion and elsewhere. They are building schools to address this need. Beaverton will be opening a brand new campus this fall: Beaverton’s sixth high school, Mountainside High School, is scheduled to enroll students for September 2017. Plans for an additional elementary school in the South Cooper Mountain are in process.

Much of the Beaverton School District’s capital improvement program are tied to long range planning, demographic projections for student enrollment, and land acquisition functions. Both short and long-range enrollment projections indicate that the District will continue to grow for the foreseeable future. In 2006 Beaverton passed a Capital Improvement Bond, from which the Beaverton School District planned and designed new elementary schools, expanded several others, created a performing arts educational facility, and a new options high school. This Bond also funds many major improvements and repair projects.

Tigard-Tualatin Schools have acquired property in River Terrace to construct a new middle school or grade school depending on school age population projections.

Fire District
Tualatin Valley Fire and Rescue has indicated that a new fire station will be constructed along Roy Rogers Road. Currently there is no time line established for the construction of the station.

Park District
Tualatin Hills Park & Recreation District operates aquatic centers, nature centers, recreation centers, sports centers, outdoor parks, trails & nature areas, historic sites and service centers across the cities of Beaverton, Tigard and King City. The City of Tigard also provides significant parks and recreation services. Tigard is in the process of updating its Parks and Recreation Master Plan. This planning will occur over the remainder of 2017 and into 2018. Private developers are also required to develop parks in the area.

Public Transportation
Beaverton is connected to the Portland Metro area through bus, light rail and commuter rail. The Beaverton Transit Center serves the MAX Light Rail, the Blue Line, the Red Line and the Westside Express Service. The station is also a hub for numerous bus lines around Beaverton. The 88 - Hart/198th Ave Tri-Met bus is the bus line that passes with the closest proximity to the South Cooper Mountain Urban reserve.

INSTITUTIONAL CHANGES
South Cooper Mountain

Current Zoning:
Washington County is currently responsible for assigning the zoning designations for South Cooper Mountain. The South Cooper Mountain Urban Reserve is currently nearly entirely zoned for “exclusive farm or forest use.” The northwest corner is zoned as “Parks & Open Spaces” and has already established as the Cooper Mountain Nature Park. Finally, the Southeast corner is zoned as “Rural Residential or Future Urban.”

When South Cooper Mountain is annexed into the City of Beaverton the property will be
rezoned to meet development needs. Current Beaverton zoning is as follows:

**Residential**
- R10 - Urban Low Density 10,000 sq. ft. - Single Family
- R7 - Urban Standard Density 7,000 sq. ft. - Single Family
- R5 - Urban Standard Density 5,000 sq. ft. - Single Family
- R4 - Urban Medium Density 4,000 sq. ft. - Single Family
- R2 - Urban Medium Density 2,000 sq. ft. - Multi-Family
- R1 - Urban High Density 1,000 sq. ft. - Multi-Family

**Commercial**
- NS Neighborhood Service Center
- CS Community Service
- CC Corridor Commercial
- GC General Commercial

**ROY ROGERS WEST**

**Zoning and Land Use**
Roy Rogers West is zoned Agriculture and Forestry District (AF-20) and Exclusive Farm Use District (EFU) per the Washington County Community Codes §344 and §340, respectively. AF-20 requires an 80-acre minimum lot size and provides for exclusive farm use while recognizing certain lands within the zone may be marginal for such uses. EFU also requires an 80-acre minimum lot size to preserve and maintain agricultural land or farm use consistent with needs for agricultural products, forests and open spaces. Both of these agricultural uses qualify for farm and forestland property tax deferral.

When Roy Rogers West is annexed into the City of Tigard the property will be rezoned to meet development needs. An indication of future zoning can be found in the nearest developed land at River Terrace. Current zoning is as follows:
- R-4.5 Residential 7,500 SF minimum lot size
- R-7 Residential 5,000 SF minimum lot size
- R-12 Residential 3,050 SF minimum lot size
- R-25 Residential 1,480 SF minimum lot size
- C-C Community commercial
Roy Rogers East – Beef Bend South
The site area is mostly within EFU zoning, with smaller areas zoned AF-5, AF-10 and RR-5 toward King City to the east. Future zoning change would depend on economic viability based on the density of new development and infrastructure-funding mechanisms.

RECOMMENDATIONS
The South Cooper Mountain, Roy Rogers West and Roy Rogers East – Beef Bend South Urban Reserves are tied together through their proximity, their dependence on shared inter-jurisdictional services and their common values. They are all connected to communities in Portland’s “western suburbs” that in the not-so-faraway past were fairly rural communities. Signs of their farming-oriented past are everywhere, most notably in the permanence of a rural road network on the outskirts of the cities and in a population of inhabitants that expects to see agricultural views nearby and to take advantage of easy access to nature. In addition, these communities share common challenges and today they are suffering from a lack of housing production that is leading to rising rents and prices in the region. In particular, Washington County is facing extremely high demand for single family homes that are affordable to families in the median to low income range. With the need for housing foremost in mind, the recommendation of this analysis is to proceed with the annexation of the South Cooper Mountain, Roy Rogers West, Roy Rogers East – Beef Bend South Urban Reserves.

It can be assumed that the demand for affordable single-family homes will stay steady or increase while the administrative and political annexation process moves forward. The administrative and political timelines are long and thus new land must be added to the UGB now in order to have sites ready for development within the next 5 to 10 years. In order to respond to this critical housing situation, the jurisdictional and zoning changes should encourage the highest densities of single-family homes, townhouses and duplexes that are appropriate for the topology of each site. Maximizing density will also make the infrastructure investments necessary for the expansion more feasible. Ultimately upfront infrastructure costs are the biggest challenges to expanding any UGB and the average cost per door ultimately determines whether the site area should be annexed.

The planned expansions into South Cooper Mountain, Roy Rogers West, Roy Rogers East – Beef Bend South should include strict density zoning regulations in order to meet Metro’s requirements of 10 units per gross acre in UGB expansions. All local cities will need to have their concept plans approved by Metro as meeting the 2040 Growth Concept, which establishes the borders of the Urban Growth Boundary and maps out regional town centers and density patterns. Plans will also need to adhere to local, regional, state and even federal (if there are endangered species on the site) land-use regulations.

All three reserves are served by the major east-west arterial, Schools Ferry Road and north-south high volume corridor, 175th Avenue/Roy Rogers Road. Metro, Washington County and the state will need to coordinate to plan for growth on these corridors by building out sidewalks, creating a pedestrian and bicycle system and conducting capacity
improvements. Although 175th Avenue/Roy Rogers Road is not tagged for extensive main street development, nevertheless it should be zoned for some residential-appropriate retail and it is in the interest of all three cities to place strategic signals that allow for the addition of some retail and an increase in traffic.

South Cooper Mountain
Analysis and Potential Annexation into the UGB
The South Cooper Reserve area has 1470 acres of buildable land, a 230 acre existing park, and 600 acres of undevelopable land occupied by riparian regions. Providing infrastructure to the undevelopable portions would have costs and impacts disproportionate to the housing benefits. It is less expensive to build on flat land and to provide service to such land. Therefore, it is logical for Beaverton to annex the eastern portion of the reserve and allow the park and riparian region to remain as a natural preserve. The eastern-most part of the reserve, Grabhorn Meadow, is not currently well-served by services or roads, but if this changes in the future then it would be an ideal location for a university campus focusing in agriculture or viticulture that could make use of the sloped land and riparian regions unsuitable for residential development.

In 2014 the Beaverton community created a Citizens Advisory Committee to conduct a very
thorough analysis and create a concept plan outlining guidance around how and why to develop the South Cooper Mountain urban reserve. The resulting concept plan recognized that the distinct natural landscapes that make-up the different sub-areas of the South Cooper Mountain urban reserve were the principal driving factors that determined how to best develop the land.

The Hilltop and the East Hills sub-areas compromise the most promising buildable areas in the South Cooper Mountain Urban Reserve. The 175th corridor provides the necessary infrastructure to support extending development into the western half of the urban reserve. Both areas have close-by access to existing water, sewer and electrical infrastructure that can be feasibly extended to serve the area. The land use framework developed by the Beaverton South Cooper Mountain Concept Plan Citizens Advisory Committee designates this area for both compact and single-family neighborhood development.

The South Cooper Mountain Hilltop and East Hills sites are poised for development because they border existing residential neighborhoods that are already in high demand. Nearby residential properties on standard lots average $400,000-$500,000. It is important that the execution of the concept plan successfully stimulate the development of housing stock to deliver the product that the market demands. Although the higher-income corridors, for instance along SW Scholls Ferry Road will be able to support high prices for housing developers such as Polygon Homes, Legend and Holt, it is critical that the housing created address the critical demand for entry-level home ownership from the $250,000 to $600,000 range.

The northernmost sub-area, North Cooper Mountain, which is for the most part already developed, should remain as large-lot single-family residential dwellings. Since the southern and western portions of North Cooper Mountain are proximate to an active gravel quarry and are difficult to serve with sewer, it is recommended that zoning is created to support the existing developments and no services infrastructure be built out in the near future. Only in the northern portion of North Cooper Mountain, which is readily served with sanitary sewer and has some remaining developable land, will a medium density development of single-family homes be proposed.

South Cooper Mountain Housing Capacity and Density by Subarea – New Dwellings

<table>
<thead>
<tr>
<th>Subarea</th>
<th>Capacity (Housing Units)</th>
<th>Net Density (Dwellings per Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCM Annexation Area</td>
<td>3,430</td>
<td>14.5</td>
</tr>
<tr>
<td>North Cooper Mountain</td>
<td>300</td>
<td>3.9</td>
</tr>
<tr>
<td>Urban Reserve Area</td>
<td>3,760</td>
<td>10.6</td>
</tr>
<tr>
<td>Total</td>
<td>7,490</td>
<td>11.2</td>
</tr>
</tbody>
</table>

Per the above chart, a total of 7,490 housing units are proposed for the buildable portions of the South Cooper Mountain urban reserve, which will result of an average density of 11.2 dwellings per acre. Given the relatively large portion of land that is not suitable for development, these are aggressive targets that encourage high density and efficient use of the land proposed for annexation.

Grabhorn Meadow is located on the western side of the South Cooper Mountain urban reserve and although this area is suitable for new compact neighborhoods, it is currently not well-served by roads and substantial infrastructure expansion is required to provide urban services to this area.

The portion of rural land west of Beaverton that is dedicated to long-term agriculture production, indicates that pears, apples, hazelnuts and grapes for wine will play a significant role in the economic future of the area and that at least a portion of the Tualatin Valley will remain agriculture based for the foreseeable future. The Grabhorn Meadow site was already identified in the South Cooper Mountain concept plan as an area suitable for a school development. It is the recommendation of this analysis that in the long term, when services
become available to Grabhorn Meadow, that the site be considered as a location for a PCC or other university campus that focuses on an industry linked to the Tualatin Valley food services industry, such as viticulture, craft beverages, fruit, berry and nut cultivation and/or agriculture incubator food production.

The biggest challenge facing the South Cooper Reserve is the remoteness of the location, which is not accessibly by public transportation and is unlikely to be so in the near future. Furthermore, a pervasive challenge is the limited funds available for transportation needs, even once they have been identified.

Roy Rogers West
Analysis and Annexation Potential into the UGB
Tigard will annex the Roy Rogers West Urban Reserve. The timing of the annexation will be within the next 10 years with construction of infrastructure to begin within 15 - 20 years. Considerable development of adjacent property is currently underway and it will take several years build out and absorb these units. Tigard City Staff understand that incorporating the tax lots of Roy Rogers West into the UGB will have a negative impact on the rural lifestyle of the property owners who actively farm their land; however, it is arguable the tax lot owners could benefit economically more from selling their land to developers rather than continue to farm.

The extension of SW Tile Flat Road to connect with SW Bull Mountain Road may ultimately serve as the district division for schools. Residences to the north of the new arterial could attend Beaverton School District while residences to the south could attend the Tigard-Tualatin District. Due to at-capacity or overcrowding in all Tigard-Tualatin schools, it is likely that the southern portion of the Roy Rogers West reserve will be developed last. Another challenge for the Roy Rogers West reserve is to develop pedestrian and bike connectivity across Scholls Ferry Road to accommodate students going to school and residents traveling to the South Cooper Mountain Main Street.

Consideration must also be given to the riparian habitat that exists within Roy Rogers West. Buffers created to protect these habitats must be designed in such a way to accommodate future urban connections, such as roads and pathways. Based on topographical analysis, it appears that significant lands may be dedicated to preserve these habitats and provide additional buffer from the surrounding development.

It is unlikely that this reserve will serve any industrial purposes. It will mainly be focused on providing high density, quality residential dwellings for all income levels. There may be opportunity for a small mixed-use neighborhood retail center of less than 40,000 SF. This limitation is primarily due to the close proximity of other retail and commercial uses located at Progress Ridge within 1½ miles, a new retail center of approximately 40,000 SF located within ½ mile on Roy Rogers Road and the proposed South Cooper Mountain Main Street.

The reserve, once designed, will include single family homes, apartments and townhomes. Due to dedication of land for transportation and other related infrastructure as well as topographical constraints, approximately 50% of the acreage is available for housing development. Assuming a density goal of 11.5 dwellings per acre, this reserve will support the construction of 1,075 dwelling units. Funding for transportation and other infrastructure will be costly. Developers can expect to pay System Development Charges or other public assessments that average $35,000 or more per dwelling. Overall, this Urban Reserve is situated nicely to be annexed into the City of Tigard.

Roy Rogers East – Beef Bend South
Analysis and Potential Annexation into the UGB
Development will need to occur far enough away from the Tualatin River to avoid the 100-Year Flood Plain and other areas that contain large amounts of pooling water. According to the King City URA 6D Concept Plan, a 150-foot buffer will be maintained with the river.
Flood plains and designated parkland will also be maintained. Consideration will be given to the preservation of natural areas, as well as a transition between rural areas and new development, by means of changes in density.

UGB expansion is contingent on financial analysis to determine infrastructure costs. Feasibility would only exist with enough density and be most viable at the relatively high traffic intersection of Roy Rogers and Beef Bend Roads.

Industrial development is highly unlikely due to the lack of large swaths of flat land within the site as well as the distance from major thoroughfares (I-5 and 99W). Bringing employment to the area is possible; however, the ushering of heavy industry would be unlikely. Flexible lease spaces and office incubators within a town center area such as Beef Bend and Roy Rogers Road would help to attract younger buyers and renters, therefore diversifying age and income demographics. Medical services to support King City and the aging community seems like one practical use of the site area.

An increase of housing supply in surrounding areas has not necessarily affected affordability, considering the large quantity of $500,000+ homes sold. With enough density, a greater range of price points can be available for potential buyers.

A hotel could be a viable consideration for the area, considering close proximity to wine country. This would be included within a mixed-use neighborhood center in the northwest of the site area. Furthermore, small-scale industrial and office flex space could support talent from the burgeoning high-tech trades to the north. A variety of housing types in the mixed-use area will attract a variety of income and age groups. According to Kenny Asher, Community Development Director for Tigard, the need for employment land may exceed the need for housing. However, there is an abundance of sensitive lands, and soil quality must be examined carefully to determine use.

Multi-modal connections to support biking, walking and golf carting should be used throughout the site to encourage a relationship with nature. An extension of Fischer Road from King City going west through the site area would connect the four peninsulas that exist at the southern edge of the area.

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URBAN RESERVE ANALYSIS

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CONTENT:
SITE ANALYSIS
MARKET ANALYSIS
RECOMMENDATION
STAFFORD URBAN RESERVE ANALYSIS

SITE ANALYSIS

Figure 1: Map of Stafford Urban Reserve. Figure 2: Approximate location of Stafford in the Portland Metro Area - Source: Metro & Google Maps

The following analysis of the Stafford Urban Reserve will help inform types of development are possible and the need for the development to be incorporated into the Urban Growth Boundary (“UGB”). It will describe in brief the history of the Urban Growth Boundary, and then discuss how it functions as well as the system of Urban Reserve Areas (“URA”). Further analysis will look at the demographic makeup of the Stafford region before examining the likelihood of development for multifamily, single family, office, retail and industrial. Finally, a recommend a course of action for incorporating these urban reserves into the Urban Growth Boundary will be included.
The Stafford Urban Reserve is a very large area of land located directly south of the City of Portland. Heading south out of the City of Lake Oswego on Stafford Road the beginning of the reserve becomes apparent as suburban neighborhood development gives way to rolling green hills. The hills are dotted with hobby farms and horse stables with a few roads cutting across the landscape. The reserve extends south towards Wilsonville and is bordered by the City of Tualatin to the West and the City of West Linn to the East, the southern area of the reserve is bisected by Interstate 205 and the Tualatin River. The area slopes gradually from north to south leading down into the Tualatin River. The southern area of the reserve around I-205 and the Tualatin river is much flatter than the areas to the north which will impact what type of development is recommended where. In general, the area is surrounded by middle to high-income single-family residential housing. There are few commercial, multi-family or industrial developments immediately around the reserve.

HISTORY

Since the early 1970s, the Portland metropolitan region has maintained an Urban Growth Boundary that creates a boundary to separate urban development and communities from rural and agricultural land as required by Oregon’s land use planning system since the early 1970s. Until 2007, Metro determined every five years whether additional land was needed to maintain a 20-year supply to accommodate the projected population and employment growth. These expansions considered soil-capability and quality above all other factors which was useful for determining where not to develop but did not address the real issue which was to what locations are ideal for future urban growth. This process made investment difficult due to the uncertainty of where the UGB would expand.

In response to local governments calling for improved methods of growth management, going beyond analyzing the soil-capability, the Oregon Legislature enacted Senate Bill (SB) 1011, authorizing Clackamas County, Multnomah County, Washington County and Metro to designate urban and rural reserves under a new process. This bill took effect in July 2007 and is codified under ORS 195.137 – 195.145. Local governments can now place more emphasis on the suitability of lands for sustainable urban development, longer-term security for agriculture and forestry outside the UGB, and respect for landscape features defining the region.

Urban reserves are designed to provide 20 to 30 years of future urban growth area beyond the confines of the UGB (which is set for 20-years). They allow up to a 50-year plan for the urbanized area and are the highest priority of land that local governments must consider when the UGB is amended. Urban reserves are intended to provide greater certainty for commerce, private landowners, and public service providers by determining the likely locations of future UGB expansions. The reserves are implemented through an intergovernmental agreement between Metro and the respective county of that reserve which provides for a coordinated and concurrent process for Metro to adopt a regional framework plan provisions and for the county to adopt a comprehensive plan and zoning provisions.

Urban reserves are first priority for inclusion in the Metro UGB. Furthermore, the reserves will assist the region in implementing the current 2040 Growth Concept, the region’s long-range plan for managing growth that was adopted in 1995.

It took multiple years for the Reserves Steering Committee and county advisors to determine the new urban and rural reserves involving an extensive public process to bring together citizens, stakeholders, local governments and state agencies so that together they could consider and apply the new considerations to land surrounding the UGB. In 2010, Metro and each of three counties entered into intergovernmental agreements to map the areas that were determined to be most appropriate as urban and rural reserves. In 2012, the Oregon Land Conservation and Development Commission ("LCDC") approved and acknowledged the designations.
However, in 2014, the City of Tualatin and the City of West Linn appealed the inclusion of Urban Reserve areas 4A, 4B, 4C and 4D (collectively termed “Stafford”), the City of Lake Oswego also joined to testify extensively against Stafford’s inclusion along with the other two cities. Also, the local community had formed the Stafford Hamlet Community in 2006 with a purpose to preserve the rural character of the region.

The primary concern of local citizens and governments was that if Stafford is identified as an urban reserve, it will create pressures for urbanization before the required public facilities, particularly with regard for transportation, are planned and can support urban development. This concern is based upon the fact that designation of Stafford as an urban reserve will make it first priority for inclusion in the Metro UGB under ORS 192.298 and that Metro must consider expansion of the Metro UGB every six years under ORS 197.299. So even though the planning period for urban reserves is 20-50 years into the future, Stafford will become eligible for inclusion each time Metro considers an urban growth boundary expansion. Tualatin and West Linn persuaded the Court that the original urban reserve designation in the Stafford area did not adequately consider potential future traffic impacts.

The Oregon Court of Appeals Case was remanded back to the LCDC and the matter was further remanded to Metro and Clackamas County to take action consistent with the Court’s opinion. Metro adopted Ordinance 16-1368 in February 2016 which adopted findings concluding that the Stafford Urban Reserve were correctly designated as urban reserves. However, the three surrounding cities remained concerned about the designation of Stafford as an urban reserve.

In April 2017, the Clackamas County Board of County Commissioners accepted testimony related to the findings of fact, statements of reasons and conclusions adopted by Metro in Ordinance 16-1368 and Ordinance 17-1397. The revised findings focused on three primary issues:
• First, whether the Stafford Area designation as an urban reserve is supported by substantial evidence, particularly in light of evidence on the record suggesting that primary transportation facilities currently serving the area will be failing by 2035, and in light of claims made that sewer and water service cannot be efficiently and cost-effectively provided to the Stafford Area

• Secondly, whether the proposed region-wide urban reserve designations continue to meet the “amount of land” standard

• Lastly, whether the proposed region-wide urban reserve designations continue to meet the “best achieves” standard

The Clackamas County Board of County Commissioners voted 5-0 to direct staff to draft an ordinance adopting findings of fact, statements of reasons and conclusions, and to add language to the findings referencing an intergovernmental agreement between Clackamas County, Metro and the cities of Lake Oswego, Tualatin, and West Linn as evidence that the Stafford area can be served by urban level public facilities and services, both efficiently and cost-effectively, as required by state law.

That five-party Intergovernmental Agreement (“IGA”) has been drafted for the Stafford Urban Reserve Areas. The IGA states that the area shall be governed by one or more of the existing cities surrounding the urban reserve area. Unless there is no practical alternative, Metro and Clackamas County state within the agreement that they will oppose any future effort to incorporate a new city or to create new service districts to provide water or sanitary sewer services in Stafford outside of a city. The cities will develop a preliminary concept plan to address transportation, density, community, character, and infrastructure issues. Metro and Clackamas County will undertake a transportation planning project using the $170,000 Community Planning and Development Grant from Metro to the County to study and plan for transportation and other public infrastructure in the Stafford area. The parties of the IGA will continue to support the Joint Policy Advisory Committee on Transportation’s decision to make widening I-205 from Oregon City to Stafford Road a top priority for regional transportation projects.

On June 28th, 2017, Clackamas County will host an official, celebratory signing ceremony with representatives from all five signatories at the County’s Public Services Building.

DEMOGRAPHICS

The cities of West Linn and Lake Oswego are comprised of relatively affluent households with higher income levels than most surrounding areas. According to the US Census Bureau, the city of West Linn has a median household income of $83,933 with an approximately 1.10% annual growth rate. Lake Oswego has a median household income of $85,303 with Tualatin’s less at $66,384 but still higher than Clackamas County as a whole ($64,700) and higher than Oregon ($50,521).

West Linn’s population has grown from 22,261 residents in 2000 to 26,593 in 2015 and the average annual growth rate of 1.3% outpaced the county and state. Lake Oswego and Tualatin have seen more modest population growth over the same period, with 38,945 and 27,545 residents respectively. Clackamas County’s population has grown from 338,291 residents in 2000 to 401,515 residents in 2015, representing an average annual growth rate of 1.1%. The Oregon Office of Economic Analysis projects that Clackamas County’s population will grow to 512,731 by 2035.

MARKET ANALYSIS

MULTI-FAMILY

The multifamily market surrounding the Stafford Urban Reserve – specifically the cities of West Linn, Lake Oswego, and Tualatin – are not showing the same level of market softening
that some areas in the Portland MSA have experienced in recent months. A large part of the reason is that Portland has had a large supply of new apartment units recently delivered with more units on the way. This has resulted in increased apartment vacancy rates in certain Portland neighborhoods, which due to various reasons that are explored below, have not affected the suburban apartment vacancy rates.

Average rents per square foot in Lake Oswego and West Linn are $1.54, up 6% from fall of 2016 according to Multifamily NW’s Spring 2017 Apartment Report. Vacancy rates for Lake Oswego and West Linn are at 4.5% according to the report, up .43% from the previous fall report. Tualatin’s average rent is $1.39 per square foot (up 4% from fall 2016) with vacancy a bit higher than Lake Oswego/West Linn at 4.82%.

![Figure 4: Graph of average rent and vacancy rate. - Source: Multifamily NW](image-url)
Apartment construction in the suburban areas adjacent to the Stafford Triangle is starting to see some growth with 4,341 total proposed units in Washington County as of Spring 2017. This represents a 20.8% increase over proposed units in Fall 2016. Proposed units in Clackamas County are more than half that of Washington County at approximately 1,500 with nearly 1,000 units currently under construction according to Multifamily NW.

The need for additional multifamily in the areas surrounding the Stafford Triangle remains high, with Multifamily NW estimating demand for at least 2,000-3,000 units per year in Washington, Clackamas, and Clark counties based on population growth forecasts. With the City of Portland seeing a decrease in multifamily construction permits due to a potential oversupply and the passing of recent inclusionary zoning legislation, there is an opportunity for multifamily development in the Stafford Triangle to meet future unmet demand.

INDUSTRIAL

The industrial market for the Portland Metropolitan area is very strong. The market is seeing historic occupancy with vacancy rates at 3.5% at the end of the 1st quarter of 2017 according to the JLL 1st Quarter 2017 Market Report. A big driver of the low vacancy rates is the lack of suitable land for industrial development. With no new land supply coming into the urban growth boundary until at least 2018 when Metro reexamines the need, it is likely industrial remains strong in the near future. In addition the need for industrial space is growing on the tenant side. Projects like Amazon’s 855,000 square foot facility in Troutdale and the Gresham Vista Logistics Business park by Specht Properties which is set to deliver another 733,232 square feet. This has contributed to make industrial development a hot commodity. That same JLL quarterly report highlights that until supply outpaces demand there will be continued pressure on rents which could creep up to an average of $0.60 on the shell.
In general, a site that is suitable for industrial development needs to be flat land with a proximity to major transportation infrastructure. Now specifically look at the Stafford Urban Reserve, the majority of the land is not suitable for Industrial development due to either the slope of the land or the distance from a major arterial. Overall if the need for industrial is the primary driver of UGB expansion, Stafford is not a high demand area. However, there is indeed some land that would be suitable for industrial that could be considered as the area is studied and zoned for future development and incorporation into the UGB. On either side of I-205 there are large areas of land that have less than a 10% slope as identified in the map below. Areas with less than 10% slope are in white. The areas west of Stafford Road are the least suitable for industrial of the flat lands due to the proximity to existing schools. However, to the east of Stafford and south of I-205 there are areas suitable in terms of grade and neighborhood make up. These areas should be further examined for their potential as industrial development sites although one large challenge still remains and that is the infrastructure needed to handle industrial development. If industrial development were to happen along Johnson Road there would likely need to be a freeway interchange built to handle the increase in freight. Otherwise freight would be forced to head north on Johnson Road to meet up with Stafford and then head south on Stafford to join I-205. Stafford Road leading to I-205 is already a very taxed road and the increase in freight traffic would cause further delays and traffic on Stafford. Adding another intersection at Johnson Road would be very costly but without the added infrastructure it is likely that industrial development would not be sustainable in this region despite the huge demand for the product.

SINGLE FAMILY
Much of the Stafford Triangle is likely to develop into single family residential housing based on the topography of the land. Currently the most concentrated single family home developments within the reserve area falls in two separate areas. Both of those areas are neighborhoods along the Tualatin River. The first area is north of SW Halcyon road with the Urban Growth Boundary to the west, the river to the north and SW Natchez Court to the east. This area consists of approximately 48 separate tax lots, with lots varying between 3 - .5 acres. Prices in this area vary drastically as of the writing of this report there were three
properties currently listed on the market in this area, with prices of $1.7MM, $850K and $450K respectively. This can prove difficult for future development when property values have a considerable cost to acquire.

Figure 7: The Squares indicate the two most developed areas within the reserve area.

The second area with a concentration of single family home development also falls along the Tualatin River with homes to the north of the river and along Stafford Road to the east. There are approximately 72 separate tax lots with most the lots below half an acre. As of writing, there were three listed properties for sale at $475K, $406K, and $300K. Most of the homes in this area were built between 1960 and 1975 making it a slightly older stock than most the homes outside of the UGB.

Development inside the UGB along the Westside of the boundary includes the Palisades, Westridge, and Childs neighborhoods which fall within Lake Oswego’s city limits and the East Tualatin neighborhood which falls within Tualatin city limits. These bordering neighborhoods are almost exclusively single-family homes. Forty-five homes within one mile of the UGB were listed on the market with an average cost above $800K. Most of the surrounding housing stock in the Lake Oswego neighborhoods sits on an average of a quarter acre (.25). While the Tualatin East neighborhood has slightly smaller lots at an average of .19 acres per house.
Homes in Lake Oswego and Tualatin that are closest to the reserve area are relatively newly constructed with most homes being built after 1990. The overall housing development adjacent to the reserve area is high end construction with homes at the lower end of the cost range being larger than 3,000 SF and starting with 4 bedrooms and 2 bathrooms. Homes feature high-end materials, finishes and fixtures.

Housing in the Lake Oswego area have some of the highest sales prices in the metro region. Using Zillow.com and taking a selection of 50 home prices from the neighborhoods that surround the North Stafford area, the average home price is $819,000 and the median home price is $705,000. According to an Oregonian report, the median home price in Portland is $350,000 as of January 2017 and the median home price in Lake Oswego is $584,000 as reported by Zillow.com. The graph below from Zillow.com shows the aggressive increase in home prices since the recession in the Lake Oswego area. Even within Lake Oswego, the median home price for the area surrounding North Stafford is considerably more expensive than all of Lake Oswego. Some of these very expensive houses have amenities like barns and horse stables.

In West Linn, single-family home sales have been steady. Home sales have been sparse in the unincorporated areas adjacent to the West Linn, likely due to lack of inventory in these rural areas. Housing stock in West Linn is relatively new with most homes built from the 1980’s onward. In the past 12 months, single-family homes located in West Linn just northeast of the Rosemont area averaged the following:

<table>
<thead>
<tr>
<th># of Beds</th>
<th>Min SF</th>
<th>Max SF</th>
<th>Min Sales Price</th>
<th>Max Sales Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5</td>
<td>2,000</td>
<td>2,500</td>
<td>$450,000</td>
<td>$575,000</td>
</tr>
<tr>
<td>4+</td>
<td>3,000</td>
<td>5,000+</td>
<td>$600,000</td>
<td>$800,000</td>
</tr>
</tbody>
</table>

Figure 9: West Linn Average Home Prices
Much of the available land stock near the UGB has been developed and Portland MSA single-family housing supply has reached a historic low inventory level of single-family homes on the market. The RMLS shows average supply in the Portland MSA region at 1.4 months.

Most of the Stafford area seems suited for high-end single family development. Challenges to this are the current density levels of nearby neighborhoods setting lower density standards then are desired by Metro for future development. Other obstacles include a high cost of acquiring land since many large expensive homes have been built on sizable lots requiring developers to pay for the cost of the home or forgo a sizable section of land if the lot is divided.

The Stafford Triangle’s most logical first phase of development falls along the North side of I-205 beginning along the UGB to the west and extending slightly past where Stafford road meets I-205. Land surrounding I-205 is the flattest and most accessible in the area giving it a wide range of development possibilities including light industrial, office park or higher density mixed use. Having the city of Tualatin annex this area would be the most logical as it boarders the area to the East. Extending services such as water and sewer into the reserve would have also make sense coming from Tualatin as it would have the shortest distance to cover.

The area along I-205 also has significantly more community support for development than others in the area. Stafford Hamlet, a board of unincorporated land owners designed to address the concerns of development proposed a compromise plan which includes land North of the Tualatin River staying unincorporated and focusing development around Borland and I-205.

**RETAIL**

Within the I-5 Corridor, the retail market has positive absorption, positive rent growth between 3.1%-6.6%, and boast vacancy rates between 0.0%-8.0% depending on the submarket, according to CoStar. Bordering the Stafford Urban Reserve to the east, West Linn currently has a number of retail options; however, the high household income in the area has created a significant retail gap in the Retail Trade and Food & Drink categories according to an ESRI Marketplace Profile Report.

The two most relevant retail comparable near the Stafford Triangle are Cascade Summit Shopping Center (located directly next to Willamette Church and directly adjacent to the eastern border of the Rosemont reserve) and West Linn Central Village, on the eastern border of West Linn.

Cascade Summit Shopping Center is anchored by Safeway and also contains a Starbucks, a few small restaurants, Bank of America, and Cascade Summit Animal Hospital among other smaller tenants. West Linn Central Village is located on the eastern side of West Linn and is newer and more attractive than Cascade Summit Shopping Center as evidenced by its more upscale anchor grocer Market of Choice. The shopping center also includes a Starbucks, yet another animal hospital, and other smaller restaurants, banks, etc.

Vacancy was minimal at both shopping centers so it was difficult to attain current rental information for retail space in the immediate market area. However, Cedar Oaks Community Center, located farther north but still in West Linn, is leasing retail space for $35/SF/Year triple net, which seems appropriate for the area.

The Stafford Urban Reserve has an opportunity to capture a significant amount of the retail gap in West Linn. The significant leakage in the Retail Trade and Food & Drink categories leads to the perfect opportunity for Stafford to develop a neighborhood shopping center with a large anchor tenant such as a Fred Meyer. Additionally, there is an opportunity to expand the Cascade Summit Shopping Center due to its location bordering the Stafford Reserve. The developable land within the reserve could be used to expand the shopping center or create a new town center.
OFFICE

According to Costar, office vacancies in the I-5 Corridor are high. Currently the vacancy rate is at 26.6%, which is much higher than the Portland Market with only 6.2% vacancy. The city of Tualatin also has a high vacancy rate at 16.1%. Meanwhile, crossing over I-205 into Lake Oswego, the vacancy rate drops to only 5%, bolstered by Kruse Way and Wilsonville’s vacancy rate is at 1.5%. Interestingly, rent growth is consistent, between 5.7% and 7.0% across all markets.

Some areas of the North Stafford area may be suited for office development. As mentioned in previous sections, thanks to its proximity to freeway access, neighborhood demographics, and net absorption of class A office, North Stafford might be presenting a great opportunity to fulfill this need. Currently, rents are running around $24 to $26 per square foot.

<table>
<thead>
<tr>
<th>Place</th>
<th>Vacancy Rates</th>
<th>Rent Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5 Corridor Outlying</td>
<td>26.6%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Lake Oswego / West Linn</td>
<td>5.0%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Tualatin</td>
<td>16.1%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Wilsonville</td>
<td>1.5%</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

INFRASTRUCTURE COSTS

Only one of the six Stafford area reserves, Norwood, which is in the southwest portion of this area, has been identified in Group Mackenzie’s “Assessment of Potential Urban Growth Boundary Expansion Areas” written for Metro. This assessment analyzes the potential development area for an estimated cost of public infrastructure. Public utilities, parks, and schools are the three main types of infrastructure that are looked at. Additionally, only a fraction of this reserve has been analyzed for residential development. Of the 337 acres that have been analyzed, 286 of these acres are buildable. Please note that estimates are based in 2010 dollars, and there may be additional construction fees.

<table>
<thead>
<tr>
<th>Total Reserve Land</th>
<th>337 Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildable Land</td>
<td>286 Acres</td>
</tr>
<tr>
<td>Project Dwelling Units</td>
<td>3331</td>
</tr>
</tbody>
</table>
### STAFFORD URBAN RESERVE ANALYSIS

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer System Costs</td>
<td>$13,170,000</td>
</tr>
<tr>
<td>Water System Costs</td>
<td>$5,990,000</td>
</tr>
<tr>
<td>Storm System Costs</td>
<td>$6,303,000</td>
</tr>
<tr>
<td>Neighborhood Parks</td>
<td>$1,520,000</td>
</tr>
<tr>
<td>Community Parks</td>
<td>$34,400,000</td>
</tr>
<tr>
<td>New Elementary School</td>
<td>$15,000,000</td>
</tr>
<tr>
<td>Road System Costs</td>
<td>$413,390,000</td>
</tr>
<tr>
<td>Estimated Total Infrastructure Costs</td>
<td>$489,773,000</td>
</tr>
</tbody>
</table>

Figure 13: Infrastructure costs. Source: Group Mackenzie’s “Assessment of Potential Urban Growth Boundary Expansion Areas”

Dividing the total estimated infrastructure costs by the amount of projected dwelling units gives us approximately $147,035 of infrastructure costs per unit when constructing single family homes in this area.

**RECOMMENDATION**

The Stafford Triangle’s most logical first phase of development falls along the North side of highway 205 beginning along the UGB to the west and extending slightly past where Stafford road meets Highway 205. Land surrounding I-205 is the flattest and most accessible in the area giving it a wide range of development possibilities including light industrial, office park or higher density mixed use. Having the city of Tualatin annex this area would be the most logical as it boarders the area to the East. Extending services such as water and sewer into the reserve would have also make sense coming from Tualatin as it would have the shortest distance to cover. The area along I-205 also has significantly more community support for development than others in the area.

The best place for Tualatin to bring the needed infrastructure to this area would be along Borland. The expansion would also be an ideal time to make Borland a continuous three lanes east of Saum Creek to Stafford Rd, as well as to create a protected intersection at SW 35th Ave. This would help to reduce traffic burdens of additional development. Stafford Road south to I-205 would also need to be expanded to three lanes as well.

With the high traffic of Stafford and easy access to I-205, the SW corner of Stafford Road would make an ideal location for a New Seasons (style) anchored shopping center. In addition to the location, we are suggesting this type of development due to the surrounding areas minimal vacancy rate and lack of comparable projects that are typically found in such areas.

The majority of Stafford is likely to remain single family, in large part due to the terrain. In addition to the shopping center, our recommendation is that the area along Borland be used to create density with smaller lots and multifamily developments. The demand is there for multi-family, with an estimated 2,000-3,000 units needed per year in Washington, Clackamas, and Clark counties based on population growth forecasts. Additionally, vacancy rates in the surrounding area remain low as discussed previously. Smaller lot single family development would also work well for this area. Currently the Portland MSA is facing a shortage of single family housing with only 1.4 months’ worth of supply. For single family, SW 35th Avenue would need to be developed but would provide a starting point for this type of development. As you move closer to the Tualatin River we strongly recommend single family housing. People will pay a premium to be located near the water and in this area in general, with the average cost of homes being $800,000 on quarter acre lots.

The last type of use we would recommend for this area is Class A Office. Rents in the area are running around $24 to $26 per square foot, while the overall office vacancies in the
I-5 Corridor are high at 26.6%. However, Lake Oswego and West Linn benefit from a low vacancy rates is and rent growth is strong as mentioned previously. Office development in this area will also benefit from good freeway access, strong neighborhood demographics, and positive net absorption.

A second phase of development is recommended for the area of the Stafford Reserve that lies between Stafford Road to the East and the Tualatin River to the West and South. This area has a flatter topography when compared to other areas of the reserve, and is comprised of a small number of large sites (many over 20 acres). The prevalence of larger sites controlled by relatively few landowners makes better the prospect for a future assemblage.

The area’s proximity to I-205 and Tualatin make it a good candidate for multiple uses ranging from low to medium density residential to industrial. Its location north of the Tualatin River allows the area access to major roadways without the need for cost prohibitive infrastructure such as bridges, though it is likely that upgrades to Stafford Road will be needed to alleviate traffic congestion already present in the area. A traffic study is recommended to assess the impact of various development types on traffic in the area.

This group recommends a broad zoning be applied to allow for various development types supported by the market demand and geography present in the area.
MARKET ANALYSIS

Demographics

Wilsonville was incorporated into a city in 1969, with an estimated 1,000 residents in the area and it is now “one of the Portland region’s fastest growing cities”. Even during the uneasy recession, Wilsonville’s households grew at 2.8% annually and 3.2% between the years 2000-2012, which is over double that of the Portland region, which grew at 1.2%. The Figure 1 below illustrates how the population has grown over the past 30 years, growing to 23,740 in the more recent surveys.

Figure 1

<table>
<thead>
<tr>
<th>CENSUS YEAR</th>
<th>POPULATION</th>
<th>PERCENT GROWTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>2,920</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>7,106</td>
<td>143%</td>
</tr>
<tr>
<td>2000</td>
<td>13,991</td>
<td>97%</td>
</tr>
<tr>
<td>2010</td>
<td>19,509</td>
<td>39%</td>
</tr>
<tr>
<td>2012</td>
<td>20,515</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: Wilsonville Economic Development: Demographics

Households in Wilsonville average at 2.3 people/household and 33% of households are single-person households. The average income is higher than other cities in the area and residents are more likely to have a college level degree. In addition, most of Wilsonville’s population is either young adults, or seniors. With an increase in senior population expected, and the growing trend of smaller households (single households, single-parent households, etc.), the area could see demand for a variety of housing types and should consider planning that could meet a wide variety of needs.

According to the Wilsonville Demographics website, “62.8% of the total population is in the prime working ages of 20-64, higher than the national average of 52.9%. The median age in Wilsonville is 36.2 compared to 47.4 in the State of Oregon. The ethnicity breakdown of Wilsonville is 79.4% white, 12.1% Hispanic, 1.4% black, 3.8% Asian and 3.3% other.” The median household income is $60,672, and the per capita income is $34,219.

The City of Wilsonville is a commuter city, with most of its population (83%) commuting out of the city for work, while 93% of the jobs in town are worked by commuters from other cities. Figure 2 illustrates how these percentages are quite normal and similar to those of neighboring cities. This is important to understand because as new development comes to Wilsonville, there should be a lot of emphasis on peak demand due to employment commute patterns of the region.

Figure 2: Wilsonville Commuters

Source: Wilsonville Economic Development: Demographics
Below, Figure 3 illustrates the average pay per employee in Wilsonville in comparison to the neighboring jurisdictions, along with the types of jobs that can be found in Wilsonville.

Figure 3: Wilsonville Income Statistics

<table>
<thead>
<tr>
<th></th>
<th>Average Pay Per Employee, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilsonville</td>
<td>$54,534</td>
</tr>
<tr>
<td>Clackamas Co.</td>
<td>$43,400</td>
</tr>
<tr>
<td>Washington Co.</td>
<td>$56,600</td>
</tr>
<tr>
<td>Portland Region</td>
<td>$49,400</td>
</tr>
</tbody>
</table>

Wilsonville has a strong economy, highlighted by tech-industry leaders and a variety of distribution facilities including companies like Sysco, Mentor Graphics, Xerox, Flir Systems, Microsoft and Orepac. Many of the jobs come from the manufacturing sector which also pays the most average pay per employee.

Location
One of the reasons manufacturing is in Wilsonville is due to its convenient location just south of Portland, with easy access from I-5, the major interstate highway. In addition, it stands as a gateway to all directions of the Portland Metro area and south to Salem. Wilsonville is strategically located allowing access to Beaverton/Hillsboro by highway 217; southeast Portland, Gresham and the Portland International Airport by I-205; and Portland or Salem via I-5. This access makes Wilsonville attractive to manufacturers and commuters, allowing them the flexibility to get to their destination easily and with less travel time. Polygon real estate agents in the nearby sales community of Villebois noted that the area makes an attractive alternative for families wanting to move from Portland.

Housing Supply And Demand
The housing supply in Wilsonville is and will need to be expanded upon if the city would like to continue with its 3.2% yearly growth. According to the Wilsonville tax census, “As of 2010, there were 8,487 households of which 7,859 (93%) were owner occupied.” Recently, Wilsonville has been one of the hottest markets in the Portland Metro area. Wilsonville’s Villebois area is poised to create 2,700 new homes and prices have been skyrocketing in the area. A local real estate agent Andy Green of Green Group Real Estate noted that they were on pace to double sales for the second year in a row. Even with the new supply of housing, prices have increased 7.6% a year over the last 3 years. The median home value in Wilsonville is $384,300 and rising. This growth is a great indicator that the market can absorb more single-family homes in the area. Figure 4 illustrates how Wilsonville and Happy Valley are the two fastest growing suburbs that have permitted new housing stock and maintain high median home prices.
Multi-Family Housing Overview

The present market has been very good for real estate development in general, and as such, it is likely not difficult to show that numerous developments would do well in the area. The rental market in the Portland market has also seen considerable growth in recent years and the areas all around the given site is no exception. Based on the market values for Wilsonville and the current market rents for the area, the best use for the proposed multi-family areas would be three- to four-story apartments with surface level parking. Based on the location and the surrounding area, the focus should be on building one-, two-, and three-bedroom units with a heavy emphasis on two-bedroom units. It seems that some studio units could be added but it is unlikely that these would do well if there were very many of this type.

Regarding unit size, most of the comparable properties in the area are larger than a majority of the Portland MSA. The one-bedroom units are mostly around 600 to 700 square feet, but the two- and three-bedroom units vary greatly depending on the complex. The two-bedroom units started in the high 700's but then went up to nearly 1,200 square feet a unit, often those come with an additional bathroom. The three-bedroom units start in the mid 900's and go up to around 1,300 square feet per unit.

Based on the surrounding comparable complexes in the area, we propose that multi-family housing would do well to provide a few amenities in at least some of the complexes that would be built. A number of the complexes in the area have pools for the residents and a couple also have hot tubs as well. The complexes that have pools were generally newer, larger and typically were able to charge a higher rent. There were also a couple of complexes in the surrounding area that have tennis courts and/or small gyms on site. If developers were able to get a large enough site to build a larger complex, it seems the rents support providing an amenity or two for at least a few apartment buildings.

From research of the comparable properties and market conditions in the area, there are general prices that can be used to estimate the rents that could be achieved in the proposed reserve area. Currently one-bedroom apartments in the area are going for around $1,300 a unit with a range of low $900’s to over $1,500. For two-bedroom units, the average tends to be around $1,600 a unit with a range starting around $1,300 to near $2,000. For three-bedroom units, the cost is around $1,800 with some available locations starting around $1,400 and going up to $2,300. Figure 5 below shows a list of some of the complexes in the area with a summary of their average price per unit and price per square foot. It is important to note that there was only one senior housing complex in the area that had availability. Considering that there is a large aging population that will need more senior housing, it seems it would be very beneficial to add some senior housing to the proposed expansion area. There are traditionally four different categories of senior housing. Providing housing to at least one of those categories would help provide diversity to the area. It
should also be noted that the example community listed below is for senior housing but was not a care facility, and for the one-bedrooms, they are able to achieve some of the highest rents in the area.

Figure 5: Apartment Complexes Rent Rates

<table>
<thead>
<tr>
<th>Apartment</th>
<th>Year</th>
<th>1-Bed</th>
<th>SF</th>
<th>$/SF</th>
<th>2-Bed</th>
<th>SF</th>
<th>$/SF</th>
<th>3-Bed</th>
<th>SF</th>
<th>$/SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portera @ The Grove (55+)</td>
<td>2015</td>
<td>$1,500</td>
<td>815</td>
<td>$1.84</td>
<td>$2,000</td>
<td>1,230</td>
<td>1.63</td>
<td>$2,396</td>
<td>1,490</td>
<td>1.61</td>
</tr>
<tr>
<td>Bell Tower @ Old Town Sq.</td>
<td>2012</td>
<td>$1,628</td>
<td>770</td>
<td>$2.11</td>
<td>$1,975</td>
<td>1,023</td>
<td>1.93</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Jory Trial</td>
<td>2012</td>
<td>$1,150</td>
<td>700</td>
<td>$1.64</td>
<td>$1,626</td>
<td>1,063</td>
<td>1.53</td>
<td>$1,775</td>
<td>1,716</td>
<td>1.03</td>
</tr>
<tr>
<td>Domaine @ Villebois</td>
<td>2008</td>
<td>$1,351</td>
<td>810</td>
<td>$1.67</td>
<td>$1,755</td>
<td>1,012</td>
<td>1.73</td>
<td>$1,965</td>
<td>1,425</td>
<td>1.38</td>
</tr>
<tr>
<td>Village @ Main St.</td>
<td>2007</td>
<td>$1,177</td>
<td>675</td>
<td>$1.74</td>
<td>$1,602</td>
<td>1,077</td>
<td>1.49</td>
<td>$1,765</td>
<td>1,198</td>
<td>1.47</td>
</tr>
<tr>
<td>Wilsonville Summit</td>
<td>2003</td>
<td>$1,315</td>
<td>810</td>
<td>$1.67</td>
<td>$1,552</td>
<td>1,040</td>
<td>1.49</td>
<td>$1,860</td>
<td>1,296</td>
<td>1.44</td>
</tr>
<tr>
<td>Canyon Creek</td>
<td>1998</td>
<td>$1,133</td>
<td>688</td>
<td>$1.65</td>
<td>$1,386</td>
<td>890</td>
<td>1.56</td>
<td>$1,800</td>
<td>1,040</td>
<td>1.73</td>
</tr>
<tr>
<td>Tualatin Heights</td>
<td>1989</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$1,520</td>
<td>986</td>
<td>1.54</td>
<td>$1,650</td>
<td>1,161</td>
<td>1.42</td>
</tr>
<tr>
<td>Stonethrow</td>
<td>1987</td>
<td>$1,295</td>
<td>720</td>
<td>$1.80</td>
<td>$1,480</td>
<td>868</td>
<td>1.71</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Alden Apartments</td>
<td>1978</td>
<td>$1,280</td>
<td>598</td>
<td>$2.14</td>
<td>$1,760</td>
<td>798</td>
<td>2.21</td>
<td>$1,915</td>
<td>970</td>
<td>1.97</td>
</tr>
<tr>
<td>River Lofts</td>
<td>1972</td>
<td>$1,125</td>
<td>667</td>
<td>$1.69</td>
<td>$1,395</td>
<td>1,066</td>
<td>1.31</td>
<td>$1,850</td>
<td>1,124</td>
<td>1.65</td>
</tr>
<tr>
<td>Average</td>
<td>1998</td>
<td>$1,295</td>
<td>721</td>
<td>$1.80</td>
<td>$1,641</td>
<td>1,005</td>
<td>1.65</td>
<td>$1,886</td>
<td>1,269</td>
<td>1.52</td>
</tr>
</tbody>
</table>

Sources: Apartments.com, Forrent.com

In addition, over half of the apartment buildings researched were over 10 years old, some with few amenities. Any new development could obtain rents on the higher end of the rent scale outlined above.

Senior housing should be valued at around $8.5 million for a 40-unit complex based on cap rates in the area and current rents. The non-senior apartments will have a mix of complexes that are 20, 50, or 100 plus units depending on available lot sizes. The large complexes will be able to obtain higher rents but will also likely include more amenities. They will all have a mix of one-, two- and three-bedroom units and focus mostly on two-bedrooms. Based on expenses of 40%, an average rent of $1,450 a unit, and a 5.5 cap, the complexes should sell at $190,000 per unit.

Single-Family Housing Overview

Wilsonville has experienced increased housing demand in the past year. Figure 6 below is an RMLS of transactions completed in the last 12-months within the City of Wilsonville. Sales transactions for 564 homes were completed last year with the median sale price of $405,000 per research on RMLS.

Figure 6: Wilsonville RMLS Transactions

<table>
<thead>
<tr>
<th>REPORT SUMMARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Listed:</td>
</tr>
<tr>
<td>Minimum Sold Price:</td>
</tr>
<tr>
<td>Total Active Units:</td>
</tr>
<tr>
<td>Total Sold:</td>
</tr>
<tr>
<td>Average Sold Price:</td>
</tr>
<tr>
<td>Units Sold/Months Back:</td>
</tr>
<tr>
<td>Median Sold Price:</td>
</tr>
<tr>
<td>Months of Inventory:</td>
</tr>
<tr>
<td>Maximum Sold Price:</td>
</tr>
</tbody>
</table>

NOTE: Unlisted Solds are not included in this report.

Source: RMLS
The Villebois community located in west Wilsonville anticipates completion at the end of the year. National Merchant Builders, Polygon Homes and Lennar are leaders in the sales within the nearby communities. Figure 7 below is a chart of the 1st quarter 2017 sales for existing and new homes within the City of Wilsonville; showing the median price of $410,782, with a total of 102 units sold in the last quarter and an average 64 days on the market.

**Figure 7: RMLS Quarterly Sales in Wilsonville**

<table>
<thead>
<tr>
<th>Bedrooms</th>
<th>Total Sold</th>
<th>Total Volume in 1000s</th>
<th>Sold Price</th>
<th>Sold Price Ratio</th>
<th>DOM</th>
<th>CDOM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total LP</td>
<td>Total SP</td>
<td>Avg</td>
<td>Med</td>
<td>SP/LP%</td>
<td>SP/OLP%</td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td>$7,166</td>
<td>$310,088</td>
<td>$275,698</td>
<td>98.52</td>
<td>99.52</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>$14,108</td>
<td>$400,251</td>
<td>$400,000</td>
<td>99.29</td>
<td>98.03</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>$20,148</td>
<td>$500,743</td>
<td>$460,245</td>
<td>99.41</td>
<td>96.81</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>$2,315</td>
<td>$569,607</td>
<td>$551,450</td>
<td>98.43</td>
<td>98.43</td>
</tr>
<tr>
<td><strong>Summary:</strong></td>
<td><strong>102</strong></td>
<td><strong>$43,737</strong></td>
<td><strong>$43,449</strong></td>
<td><strong>$425,970</strong></td>
<td><strong>$410,782</strong></td>
<td><strong>99.34</strong></td>
</tr>
</tbody>
</table>

Source: RMLS

Researching homes currently on the market and focusing on lots located at a similar distance to downtown Wilsonville as our proposed area, it was found that the average square footage of homes was around 2,681 square feet with an average price of $571,270 (Figure 8).

**Figure 8: Current Homes for Sale in Wilsonville**

<table>
<thead>
<tr>
<th>HOUSES FOR SALE</th>
<th>BEDS/BATHS</th>
<th>SQUARE FOOTAGE</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>28579 SW Wagner St</td>
<td>4B/2.5B</td>
<td>2,052</td>
<td>$425,000</td>
</tr>
<tr>
<td>31060 SW Sandy Ct</td>
<td>4B/2.5B</td>
<td>3,040</td>
<td>$739,900</td>
</tr>
<tr>
<td>28576 SW Cascade Lp</td>
<td>4B/2.5B</td>
<td>3,548</td>
<td>$570,000</td>
</tr>
<tr>
<td>7908 SW Rockbridge</td>
<td>3B/2.5B</td>
<td>2,606</td>
<td>$540,000</td>
</tr>
<tr>
<td>31403 SW Orchard</td>
<td>3B/2.5B</td>
<td>2,303</td>
<td>$459,000</td>
</tr>
<tr>
<td>7350 SW Montgomery</td>
<td>5B/3.5B</td>
<td>3,849</td>
<td>$875,000</td>
</tr>
<tr>
<td>10808 SW Stockholm</td>
<td>3B/2.5B</td>
<td>1,372</td>
<td>$389,990</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td></td>
<td><strong>2,681</strong></td>
<td><strong>$571,270</strong></td>
</tr>
</tbody>
</table>

Sources: Zillow, Redfin

**Industrial Market Overview**

According to the City of Wilsonville’s Economic Opportunities Analysis Update report, during 2011, the Portland region saw positive industrial absorption and specifically the I-5 corridor saw an overall absorption of 761,540 SQ FT, of which, Wilsonville alone was responsible for over half. During this time industrial vacancy rates remained relatively high in Wilsonville (Figure 9). Development projects included three buildings in the Wilsonville Road Business Park, expansion at Rockwell Collins, a new Coca-Cola Bottling Plant and the Mentor Graphics data center. Current other noteworthy industrial tenants in the area include Xerox, Flir Systems, Sysco and Orepac. Wilsonville continues to attract new industrial tenants from around the region and the world.
A recent report produced by Cushman & Wakefield stated Wilsonville currently has a 5.4% industrial vacancy rate, as of 2017 Q1, and with flex space averaging around $13.08/SF/year and distribution/warehouse space averaging $7.20/SF/year, both of which are higher than the overall Portland average, as shown in Figure 10 below.

Looking at available space on the market in Wilsonville, warehouse prices are around $8 SF/year, however, the new construction flex space has average prices of approximately $16 SF/year, with an average overall cost of $11.68/SF (see figure 11). This seems to be a reasonable average estimate for a combination of new industrial flex space and warehouse/distribution space.

Figure 10: Current Industrial Space for Lease

<table>
<thead>
<tr>
<th>Industrial for Lease</th>
<th>Type</th>
<th>SF Available</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>27100 &amp; 27200 SW Parkway Ave Wilsonville, OR 97070</td>
<td>Flex Space</td>
<td>35,010</td>
<td>$17.50 SF/Year</td>
</tr>
<tr>
<td>27929 SW 95th Avenue Wilsonville, OR 97070</td>
<td>Warehouse</td>
<td>5,300</td>
<td>$6.60-$9.60 SF/Year</td>
</tr>
<tr>
<td>27600 SW 95th Avenue Wilsonville, OR 97070</td>
<td>Flex Space</td>
<td>8,712</td>
<td>$14.64 SF/Year</td>
</tr>
<tr>
<td>9325-9425 SW Commerce Cir Wilsonville, OR 97070</td>
<td>Warehouse</td>
<td>4,200</td>
<td>$8 SF/Year</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td>$11.68 SF/Year</td>
</tr>
</tbody>
</table>

Source: Loopnet
4E/4F/4G Urban Reserve Sites

I-5 East-Washington County (4E), Elligsen Road North (4F) and Ellisen Road South (4G), are the three Urban Reserve areas shown below within the blue highlighted area (Figure 11). All three of these indicated areas are located to the north east of Wilsonville, OR, which is a southern suburb of Portland.

The zoning for these areas are Exclusive Farm and Agricultural & Farm. Based on the zoning, it is not a surprise that there are very few businesses found in the three reserves. The current area is filled with mostly small farms with single-family homes on a larger lot. Like the lots they are on, these homes vary greatly in size and quality, a number have small stables for horses.

The reserve borders two different jurisdictions, Tualatin and Wilsonville. The area could be annexed into the City of Wilsonville, however nearby services are also provided by the City of Tualatin. This includes fire protection and schools. There are a few schools not too far from the area including Tualatin High School (Public School) and Horizon Christian High School (Private School). The area has many trees and a small amount of water running through some properties which come from different creeks. There is water that flows in the area and wetlands, however this area is a distance from the 100-year floodplain.

The 4G reserve contains Boeckman Creek which meanders across the site from the southwest to the northeast, creating a natural divide. The creek can be used beneficially in future developments, providing an area for trails and scenic views of the creek could be an amenity and selling point. In addition, it could separate a possible high-density area in the northwest from a single-family
residential area in the southeast. The city is already installing large sewer lines under the main thoroughfares that lead to both Frog Pond and Reserve (4G). The creek is a riparian habitat that had recently undergone restoration and has trails that run along its newly restored waterway. The creek is valued by local residents and has advocated for its preservation. If Reserve (4G) is to be developed, then preserving Boeckman Creek will be of high priority for the neighboring residents and overall community. This will constrain access to the southeast section of Reserve (4G), but this can be used as a positive allowing for single-family homes to have a natural buffer from what could possibly be a denser northwest section of the site.

Overall these areas have very few internal roadways. The main roads around the reserves are Elligsen Road, which connects to the I-5 freeway, SW 6th Ave, SW Stafford Rd and Boeckman Road to the south, which divides Reserve (4G) from Frog Pond. The location of these reserves and the main roads around them provide quick access to I-5 and are not far from I-205. Stafford Road is being developed to the south in Frog Pond and is poised to carry the main sewer lines for these new developments. There are no roads or street lights located on the site and major infrastructure would need to be built prior to developing.

To the west, past I-5, are schools, a couple small parks and single-family housing. To the north there is a larger park with tennis courts, a baseball field, a basketball court and playground. There is also housing north of the reserve, both single-family and multi-family.
The City of Wilsonville has already made comprehensive plans to develop the Urban Reserve Areas that lie to the east of its borders. The City of Wilsonville has identified and is working on annexing the above east, west and south neighborhoods of Frog Pond. Frog Pond is currently undergoing comprehensive planning and is set to develop 2,700 homes in the coming 15-20 years. This development was approved by the City of Wilsonville to be a single-family community with a grange hall, a school and trails to the neighboring parks.

Reserve (4G) to the north is planned to be developed after the other neighborhoods and would benefit from their infrastructure. As you can see by the map the lower southwest quadrant of the map is already developed and is where the City of Wilsonville is located. The expansion into the west, east and south neighborhoods will integrate with the current infrastructure and alleviate a lot of obstacles (e.g. sewer line access and roads). According to the Frog Pond Plan set by the City of Wilsonville, the west and east neighborhoods will be single-family homes while the south neighborhood will incorporate higher densities (e.g. apartments and shopping areas).

One of the difficulties of improving these reserves, especially the northern one (4E) will be how much of it has already been built without a master plan. There are many houses already built in some parts and some of them are larger homes. Most of this area seems like a perfect fit for combined industrial and housing (both multi-family and single-family), unfortunately this land use does not go well with the numerous existing rural residential lots. For the areas that already have large homes it seems likely that single-family homes will start to emerge as the lots get subdivided but even this could be a slow process. Lots that are more a traditional small farm with a small older home will be much easier to transition and increase density.

Overall, these reserves have potential for growth and should be analyzed further to create a master plan. The largest obstacles for this area will be transitioning the existing uses to a denser area and improving the current infrastructure to support the large amount of growth that could happen. Wilsonville has grown over the last few years and improving an area just north of the city would be a great alternative for those who want to be near Portland for a relatively easy commute or trip but still not too close to Portland’s core, as well as for those who want to live and work in the city.

4H – Advance Urban Reserve Site
The 4H urban reserve located off Advance Road in Wilsonville, Oregon is zoned as Residential Agricultural Holding (RAH), which is designated to preserve the future urban development potential and is applied to those properties and areas which are planned for development.

The city has developed a master plan for development of this area, along with additional surrounding areas, called the “Frog Pond Development”. Specifically, the 4H reserve is the east and south neighborhoods of the Frog Pond Development, as shown below. Based on the city’s master plan, the 4H reserve is approximately 280 acres. The city’s goal is to develop this area by 2035 into a walkable community with public trails, parks and open space.

Figure 13: 4H Urban Reserve

Much of the area is open farmland, with some single-family homes, the majority of which appear older, but not necessarily deteriorated. Not much of the farmland appears to be actively used for anything other than private use/private farming. The primary goal of the city is to develop primarily single-family housing in the area.

A cutout of the 4H reserve is an area that has been designated to build a primary and middle school, and a public park. The remaining boundaries are well defined by existing streets, or natural features. A BPA Powerline easement runs through the northern half of the reserve (shown on maps above), which could prove to be a difficult area to develop around. Newland Creek also runs through the northeast portion of the reserve, near the BPA easement, where the land slopes slightly towards the creek. The southwest boundary is flanked by Willow Creek, and remaining areas are surrounded by UGB or other rural area tax lots.

According to Metromap, the 4H reserve does not contain any wetlands and is located outside of the 100-year floodplain. Being flanked on two sides by creeks with a slight slope towards the creeks, it does not appear to have any drainage issues. The remaining land appears to be very flat and open.

The City of Wilsonville plans to have the same service providers and jurisdiction for the 4H reserve as the rest of the city. It is located within the West Linn-Wilsonville School District, Tualatin Valley Fire and Rescue District and the Clackamas County Sheriff’s district (potential to contract law enforcement work from the Wilsonville Police). PGE provides power service to the area and would continue to do so after development. Transportation and public works current falls under the jurisdiction of Clackamas County, but would be transferred to the City of Wilsonville.

The area around the urban reserve consists of mostly farmland and rural open spaces and is roughly one mile from the Willamette River. It is very close to I-5 access in both south and north Wilsonville, and is surrounded by Stafford Road and Advance Road, with close access to Boeckman and
Wilsonville Road, all of which are two lanes, well used roads. Stafford Road is very busy for a rural area. Developing the area would likely call for a need to update the roads, or at a minimum, install some turn lanes and/or stoplights at some of the central intersections, particularly Stafford Road at Advance Road. The east side of Wilsonville has a very large development of new homes which include single-family and condominium units in the Villebois community.

5G – Grahams Ferry Urban Reserve Site

Grahams Ferry Urban Reserve, highlighted in orange above, is located near the City of Wilsonville. The boundaries of the site are as follows: West of I-5 running along Coffee Lake Creek, north of Boeckman Road and east of SW Graham’s Ferry Road. The urban reserve is approximately 63 acres in Clackamas County, which is a requirement for annexation into the City of Wilsonville. The current zoning is Rural Community composed of 21 tax lots.1

The USGS 7.5-minute topography map provided two contours at an elevation of 200’.2 The hill slopes down from the west to the east to meet Coffee Creek and then rises at a gradual slope back to 200’. Due to the gradual slope, this would not be feasible for industrial development but highly desirable for residential development.
Currently, there is a 36” sewer line interceptor that runs north reducing down to 21”, figure on the left, at the north end of the urban reserve. The proposed urban reserve would tie into the lateral shown on the right in the picture below.

Figure 15: Utility Extension Maps

The sewer line can handle the additional residential units if the parcel is transferred out of the Urban Reserve and annexed into the City of Wilsonville. Any proposed development needs to calculate for the extension and connection fees. The City of Wilsonville’s Public Works Department has planned for the urban reserve to be a residential community with water service provided from a proposed 48” line that will be extended eventually to Sherwood.

Existing power and gas lines are located in Boeckman Road. The existing transmission lines and gas lines have the capacity to service residential units within the area. Streetlights would need to be considered on both sides of SW Tooze Road along with the sprinkler main to maintain the common community areas.

Infrastructure improvements are a requirement for SW Grahams Ferry Road. The existing small country two lane roadway would be upgraded to an arterial street that could provide emergency access to the planned unit development. Furthermore, costs will need to be included in the pro forma to cover these infrastructure costs.

In an interview with City of Wilsonville’s Planning Director, Chris Neamtzu, he stated that West-Linn-Wilsonville is a dual district for education. A new elementary school has been constructed in Villebois in the early stage of development. The City of Wilsonville had purchased a school site across Boeckman Road, adjacent to the urban reserves for a new middle school. However, in anticipation of getting the urban reserve on the east side of I-5, the parcel was sold and a larger parcel was acquired. Trying to balance the dual system has been challenging for the school district and Wilsonville residents are receiving funding for new schools due to population growth.

Research on the City of Wilsonville website shows that Wilsonville has an active work area. Data provided on the website indicates the increase of individuals entering the city daily for employment. Microsoft’s, Oregon Tech, Kaiser Permanente, are just a few of the employers in the community. Tri-met does provide rail and bus service to the area. The Wilsonville Transit Center is approximately one mile from the urban reserve. The train currently has three morning and evening times that go into Beaverton. The trip to Portland is approximately an one-hour commute.

The site provides a superb development opportunity, extension of the Villebois community. Currently, the City of Wilsonville is not intending to submit the urban reserve since a concept plan requires approval before submission. The City of Wilsonville is an established municipal agency with several departments to help facilitate the development process. The constraint will be identifying the time to present to Metro. One should plan a year for the concept plan overall and then present to Metro in 2019. The timing of obtaining Metro approval could be one to two years. A developer could work with the current owners to get an option on the parcels.
The City of Wilsonville’s planning, public works, building departments and county officials have the necessary workforce to process a proposed project. The topography of the site is not a challenge for a residential community. Soils reports can be obtained from the adjacent planned community of Villebois for the pro forma assumptions. No easements from utility companies are evident through the urban reserve. The Coffee Creek Reserve can be designed as an amenity to the community and used as a detention basin to capture storm water runoff.

5H – South West Urban Reserve Site

The 5H reserve is located to the southwest of the city of Wilsonville. The reserve nears the Willamette River but does not quite reach it. To the east the border is Willamette Way West, to the north it is SW Wilsonville Road, and to the south and west is the Coral Creek Natural Area. It is one of the smaller reserves that can be found in the Portland MSA but does provide some strong opportunities.
Currently, the reserve is relatively plain and has a slight slope down toward the Willamette River and can be found in the Ladd Hill neighborhood. Though this reserve is not very large (2430 SQ FT), historically the land has been mostly filled with trees and been used for farming. Currently, there is very little business inside the reserve and just one creek, Coral Creek. One potential downside of the reserve is that the southwest side of the reserve is located within the 100-year floodplain.

There are many parks just a short distance away from the site which include River Fox City Park, Walt Morey Park, Park at Merryfield, Tranquil City Park and Graham Oaks Nature Park. The Graham Oaks Nature Park is very close to the site and provides an excellent amenity to the reserve with its many trails.

This area is part of the West Linn-Wilsonville school district. The schools include CREST Public K-12 (0.61mi), Boones Ferry Primary Public P-5 (0.68mi), Inza R Wood Middle Public 6-8 (0.85mi), Northwest Montessori School Private P-K (1.51mi) and Lowrie Primary Public P-5 (1.81mi). As for other public services, Tualatin Valley Fire and Rescue service the area and it is part of the Clackamas County Sheriff’s district. 

As mentioned earlier SW Wilsonville Road borders the property, this road provides excellent immediate access to I-5 and is not too far from the core of the city. If this reserve were built up to its full potential, this area would need additional infrastructure, both within the reserve and around it. Presently, there are no roads within the reserve and though SW Wilsonville Road is good now, with the added stress of more residents, it would likely need to be widened.

The only development near the reserve is to the east. This is a mostly single-family community with some multi-family housing. It is very likely that this reserve would serve as an extension of this community due to its location and surroundings. The city of Wilsonville is very interested in increasing its supply of single-family housing and this site would make for a great addition. The properties to the east have done well and continuing that pattern west is a logical next step. This new community would likely be solely single-family homes, but including a multi-family component is not entirely out of the question. One of the great elements of this reserve is that there are only four separate tax lots with very few homes, so it should be relatively easy to develop almost the entire area as the city wants.
Infrastructure Assumptions
Key infrastructure costs for expansion had been estimated for water, sanitary sewer, storm water, parks and recreation and transportation facilities in 2010. The overall task taken on by the Mackenzie Group for Metro involved the analysis and general cost estimating of public infrastructure needed to serve designated urban reserve properties. Costs have been broken out by each reserve area. The following text and tables summarize these costs for each reserve area from the 2010 report. These estimated values would need adjusted for inflation over the last six to seven years and be compared to recent construction pricing within the market.

Urban Reserve 4E/4F/4G

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<thead>
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<th>Sanitary Sewer Services</th>
<th>8”-12”</th>
<th>12”-18”</th>
<th>18”+</th>
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<tr>
<td>Pipe Classification</td>
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<td>Trunk</td>
<td>Intercepter</td>
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<td>Estimated Pipe Length</td>
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<td>3000</td>
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<td>Estimated Pipe Unit Cost</td>
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<td>Sewer Pipe Cost</td>
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<td>Subtotal Cost</td>
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<tr>
<td>Pump Station Upgrades</td>
<td>0.8MGD pump station: $1,600,000</td>
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<td>Treatment Facility Upgrades</td>
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<tr>
<td>Total Sewer System Cost</td>
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<table>
<thead>
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<th>Water Distribution Services</th>
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<td>Water Transmission Pipe Cost</td>
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<tr>
<td>Water System Upgrade Costs</td>
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<tr>
<td>Total Water System Cost</td>
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<table>
<thead>
<tr>
<th>Storm Sewer Services</th>
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</thead>
<tbody>
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<tr>
<td>Estimated Pipe Unit Cost</td>
</tr>
<tr>
<td>Storm Piping Cost</td>
</tr>
<tr>
<td>Storm System Upgrade Costs</td>
</tr>
<tr>
<td>Total Storm System Cost</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Park Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Park Area (acres)</td>
</tr>
<tr>
<td>Park Unit Cost</td>
</tr>
<tr>
<td>New Park Cost</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New School Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated enrollment: 990 elementary school</td>
</tr>
<tr>
<td>460 middle school</td>
</tr>
<tr>
<td>540 high school</td>
</tr>
<tr>
<td>Estimated school costs: $20,000,000 (New Elementary School)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transportation Services*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Miles</td>
</tr>
<tr>
<td>(in millions)</td>
</tr>
<tr>
<td>Arterials</td>
</tr>
<tr>
<td>Collectors</td>
</tr>
<tr>
<td>Totals</td>
</tr>
</tbody>
</table>

*Data provided by Metro thru the HERS-ST estimating approach
*Data provided for analysis areas 4E and 4F combined

Source: Group Mackenzie Assessment of Potential Urban Growth Boundary Expansion Areas August 3, 2010
### Urban Reserve 4H

#### Sanitary Sewer Services

<table>
<thead>
<tr>
<th>Pipe Classification</th>
<th>8&quot;-12&quot;</th>
<th>12&quot;-18&quot;</th>
<th>18&quot;+</th>
<th>Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector</td>
<td>25800</td>
<td>900</td>
<td>1600</td>
<td>0</td>
</tr>
<tr>
<td>Trunk</td>
<td>$120</td>
<td>$160</td>
<td>$180</td>
<td>$250</td>
</tr>
<tr>
<td>Interceptor</td>
<td>$3,096,000</td>
<td>$144,000</td>
<td>$288,000</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Subtotal Cost:** $3,528,000

**Pump Station Upgrades:**
- 0.25 MGD pump station: $1,300,000

**Treatment Facility Upgrades:**
- 0.25 MGD capacity up sizing: $3,960,000

**Total Sewer System Cost:** $8,788,000

#### Water Distribution Services

<table>
<thead>
<tr>
<th>Water Pipe Size</th>
<th>Estimated Water Demand: 220000 gpd</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot;-12&quot;</td>
<td>$$2,580,000$$</td>
</tr>
<tr>
<td>12&quot;-18&quot;</td>
<td>$$135,000$$</td>
</tr>
<tr>
<td>18&quot;+</td>
<td>$$1,000,000$$</td>
</tr>
</tbody>
</table>

**Total Water System Cost:** $4,215,000

#### Storm Sewer Services

<table>
<thead>
<tr>
<th>Storm Pipe Size</th>
<th>Estimated Storm System Cost: $3,992,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;-18&quot;</td>
<td>$$157,500$$</td>
</tr>
<tr>
<td>18&quot;-24&quot;</td>
<td>$$352,000$$</td>
</tr>
</tbody>
</table>

**Total Storm System Cost:** $3,992,500

#### Park Improvements

<table>
<thead>
<tr>
<th>New Park Area (acres)</th>
<th>Neighborhood Parks</th>
<th>Community Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Park Area (acres)</td>
<td>4.9</td>
<td>22.1</td>
</tr>
</tbody>
</table>

**New School Construction**

- Estimated enrollment: 280 elementary school
- 130 middle school
- 150 high school

**Current capacity estimate:** Expected to exceed capacity

**Estimated school costs:** $20,000,000 (New Elementary School)

#### Transportation Services

<table>
<thead>
<tr>
<th>Lane Miles</th>
<th>Arterials</th>
<th>Normal Cost (in millions)</th>
<th>High Cost (in millions)</th>
<th>Total Cost (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.9</td>
<td>$78.27</td>
<td>$2.58</td>
<td>$80.85</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>$25.44</td>
<td>$1.24</td>
<td>$26.68</td>
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</tr>
</tbody>
</table>

**Total Road System Cost:** $107.52

*Data provided by Metro thru the HERS-ST estimating approach

Source: Group Mackenzie Assessment of Potential Urban Growth Boundary Expansion Areas August 3, 2010
Urban Reserve 5G

Sanitary Sewer Services

<table>
<thead>
<tr>
<th>Sewer Pipe Size</th>
<th>8’-12”</th>
<th>12’-18”</th>
<th>18”+</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe Classification</td>
<td>Collector</td>
<td>Trunk</td>
<td>Interceptor</td>
<td>Main</td>
</tr>
<tr>
<td>Estimated Pipe Length</td>
<td>11000</td>
<td>1400</td>
<td>800</td>
<td>0</td>
</tr>
<tr>
<td>Estimated Pipe Unit Cost</td>
<td>$120</td>
<td>$160</td>
<td>$180</td>
<td>$250</td>
</tr>
<tr>
<td>Sewer Pipe Cost</td>
<td>$1,320,000</td>
<td>$224,000</td>
<td>$144,000</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal Cost</td>
<td>$1,688,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Station Upgrades</td>
<td>0.1MGD pump station</td>
<td>$1,200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Facility Upgrades</td>
<td>Associated increased maintenance</td>
<td>$300,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sewer System Cost</td>
<td>$3,188,000</td>
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<td></td>
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</table>

Water Distribution Services

<table>
<thead>
<tr>
<th>Water Pipe Size</th>
<th>8’-12”</th>
<th>12’-18”</th>
<th>18”+</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Water Demand</td>
<td>100000 gpd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Pipe Length</td>
<td>11000</td>
<td>1400</td>
<td>5000</td>
<td></td>
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<tr>
<td>Estimated Pipe Unit Cost</td>
<td>$100</td>
<td>$150</td>
<td>$200</td>
<td></td>
</tr>
<tr>
<td>Water Transmission Pipe Cost</td>
<td>$1,100,000</td>
<td>$210,000</td>
<td>$1,000,000</td>
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</tr>
<tr>
<td>Water System Upgrade Costs</td>
<td>Storage and pumping</td>
<td>$200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Water System Cost</td>
<td>$2,510,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Storm Sewer Services

<table>
<thead>
<tr>
<th>Storm Pipe Size</th>
<th>12”-18”</th>
<th>18”-24”</th>
<th>24”-48”</th>
<th>48”+</th>
<th>Total Storm System Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Pipe Length</td>
<td>11000</td>
<td>1400</td>
<td>800</td>
<td>0</td>
<td></td>
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<tr>
<td>Estimated Pipe Unit Cost</td>
<td>$135</td>
<td>$175</td>
<td>$220</td>
<td>$330</td>
<td></td>
</tr>
<tr>
<td>Storm Piping Cost</td>
<td>$1,485,000</td>
<td>$245,000</td>
<td>$176,000</td>
<td>$0</td>
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</tr>
<tr>
<td>Storm System Upgrade Costs</td>
<td>No system upgrades expected</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Storm System Cost</td>
<td>$1,906,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Park Improvements

<table>
<thead>
<tr>
<th>New Park Area (acres)</th>
<th>Neighborhood Parks</th>
<th>Community Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Park Area Cost</td>
<td>$200,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>New Park Cost</td>
<td>$660,000</td>
<td>$14,700,000</td>
</tr>
</tbody>
</table>

New School Construction

Estimated enrollment: 150 elementary school, 70 middle school, 80 high school
Current capacity estimate: Expected within enrollment capacity
Estimated school costs: $500,000 (increased maintenance costs)

Transportation Services*

<table>
<thead>
<tr>
<th>Arterials</th>
<th>Lane Miles</th>
<th>Normal Cost (in millions)</th>
<th>High Cost (in millions)</th>
<th>Total Cost (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6</td>
<td>$30.62</td>
<td>$49.46</td>
<td>$80.08</td>
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<tr>
<td>Collectors</td>
<td>3.7</td>
<td>$32.87</td>
<td>$14.84</td>
<td>$47.71</td>
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<tr>
<td>Totals</td>
<td>8.3</td>
<td><strong>Total Road System Cost:</strong> $127.78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Data provided by Metro thru the HERS-ST estimating approach

Source: Group Mackenzie Assessment of Potential Urban Growth Boundary Expansion Areas August 3, 2010

Urban Reserve 5H

No infrastructure study is available for urban reserve site 5H.
The Urban Reserves located to the northeast of Wilsonville are the focus of this recommendation. This section of Urban Reserves has been identified as a great opportunity to further development in Wilsonville and increase the Portland Metro housing supply. The section has natural boundaries with I-5 to the west, SW Frobase Road to the north, Stafford Road to the east and Homesteader Road to the south. There are advantages to having the site encapsulated with these main arterials. The primary advantages are access to the site has already been established and key infrastructure can be easily added to accommodate the site. The site is roughly 1,080 acres and many of the tax lots are currently zoned Exclusive Farm and Forest. The terrain is primarily flat with forest to the northwest adjacent to the freeway, moving east into flat farm land. In the southern section there is a small, trail aligned creek, Newland Creek, which many of the residents would prefer to conserve. This area is in a great position to foster a growing community and economy. With proper planning and placement, this site can hold flex commercial space, multifamily units and single-family homes. The coming years will prove to be an important time for the development of this area. Along Stafford Road, the buying of acres and conversion into single-family multimillion dollar homes has already begun. It is imperative that sections be zoned off for development to enable a community directed plan to guide future growth.
Figure 18: Density Mix

Figure 18 illustrates a density overlay for future zoning uses and how they can be implemented in the area. Recommendations include to extend the infrastructure already in place and provide continuity with the surrounding industries along with the Frog Pond development to the south. This will create a cohesive feel throughout the new communities and enable for a stronger industrial core. The different Sections were divided by their proximity to the freeway and commercial core. Below is an explanation for each section and recommendations of possible uses for the space.

Sections A, B and E
These sections are located to the Northeast of Wilsonville and are surrounded by single-family homes along Stafford Road and Frobase Road. The recommendation is to dedicate these three plots for single-family housing. It would provide space for starter homes and a community for people who want to live at the edge of a growing city. Based upon the Frog Pond Plan, an estimated 1,600 homes can be added to these designated areas. Key notes: create multiple arterials to support the new development and prevent congestion to and from the single-family homes.

Section C
This section is unique due to its proximity to the Mercedes Benz dealership and the surrounding flex industrial space. Our recommendation is to continue SW Parkway Avenue to the north and extend the flex industrial space along the freeway. This section can hold various types of industrial/commercial use buildings with easy access to the freeway. There is a large forest in the section that can be utilized as a natural buffer between the industrial/commercial buildings and the multi-family units in section D.

Section D
This section is in the center of the Urban Reserve, it is the hardest to access with no roads or infrastructure in its vicinity. This section is in a pivotal location because of its access to the proposed
single-family homes to the north and east, and the proposed industrial/flex to the south and west. If planned correctly, this section can accommodate high-density multi-family, while providing key infrastructure components to the adjacent sections. Streets and sewage lines can be implemented in this section to connect the established lines with the proposed single-family homes in section A and B. Key notes: create arterials that relieve congestion and provide access to sections A, B and E.

Section F
The development of this section of the Urban Reserve can go in many directions due to its proximity to the freeway and SW Elligsen Road. The recommendation is to extend the industrial/flex that is already established to the southwest, while also providing arterials to proposed housing developments to the north. Extending the established industrial/commercial uses will create continuity and a gradual buffer into the housing units to the north. Given the surrounding businesses and retail shops, this section can provide space for industry, employment, and growth. This section would be one of the easiest to develop due to its proximity to established sewer lines and freeway access. Developing this section first would allow for key infrastructure to be put into place that could later be extended to the northern housing units, allowing for a natural progression of creating jobs first then housing to support development.

Sections G
This section is located south of Elligsen Road and has an established multi-family community to the east. The recommendation for this area is to expand the multi-family units while also providing housing for seniors. As the baby boomers become older, it will become important to provide housing for an aging generation. This section would work best as senior housing because of its proximity to the retail core of Wilsonville and to the freeway. Families can feel relieved by the accessibility to the housing by freeway and the community’s accessibility to local amenities. There is a small creek that runs diagonally between section G and H. This could provide for a scenic corridor, attractive to seniors and providing space to enjoy the outdoors. Key notes: develop around Boeckman Creek, it is a great natural feature that can provide natural accessibility for the future developments. Bike lanes can be built along the creek to allow for bikers to commute from their community into the Downtown core.

Section H
This section is located north of Homesteader Road and sits adjacent to the proposed Frog Pond development to the south. After reading residents’ testimonies, their preference would be to make this area single-family homes. The recommendation would be to extend the single-family homes of the Frog Pond Plan into this section. It would allow for continuity of the community and provide a gradual buffer into the denser section G to the north. As mentioned above in section G, Boeckman Creek runs through this section and would be an important feature to include in the development of this section. Many residents spoke of wanting the creek accentuated and preserved. Key notes: develop this section to extend the Frog Pond development and allow for natural buffers to be preserved and enhanced.

General Recommendations
The City of Wilsonville’s urban reserves would provide a variety of housing and commercial needs for future residents to meet the continued growth. The scale, density and type of housing and commercial space would include a combination of executive, low-density, medium-density, high-density and mid-rise residential uses, as well as mixed-use residential/commercial areas, consistent with current and future market demand in the area in related to average densities, likely pricing and other Wilsonville market trends.

The City should continue to work on the comprehensive plan amendment opportunities to develop a mix of housing types and price ranges for Wilsonville’s growing workforce, especially for the number of employees within professional and business, retail, leisure, hospitality and health services. Housing densities that reduce land costs and increase housing affordability within Portland MSA are needed. These housing forms may include suggestions as mention from single-family homes on small lots or in cluster housing development; row houses or townhouses; or multi-family apartments.

The City of Wilsonville should consider financing the infrastructure for the urban renewal areas.
through system development charges, property taxes, general obligation bonds and local improvement districts. In Oregon, jurisdictions can impose system development charges (SDCs) for water, wastewater, storm drainage, transportation, parks and schools. Both the City of Wilsonville and Clackamas County have the authority to levy property taxes with double majority voter approval. It is unknown whether the city or county has the ability to increases its local option levy due to statutory limitations.

General obligation bonds, in contrast, are not subject to the same limits other than double majority voter approval. These must be used for capital projects; a criterion which infrastructure investment should meet. While a city or county-wide property tax has the potential to generate significant funds, one disadvantage is the perceived fairness of who pays versus who benefits from growth. A property tax spreads the unmet costs of growth across the entire community. However, this wide base also offers the potential of a relatively lower per property burden.

Local Improvement Districts (LIDs) are similar to SDCs in that they charge only those who will benefit from the infrastructure investment. A LID is a semi-voluntary charge against property values requiring the support of 51% of landowners within the district; the boundaries of a district are flexible. Property owners can opt to pay over as many as 20 years and funds can be used for capital improvements or maintenance.

In Oregon, LIDs have been used for small-scale projects such as local street improvement and for larger transportation improvements, such as the Portland downtown transit mall light rail extension and streetcar development. A key consideration in Wilsonville’s potential use of a LID is landowners’ willingness and ability to contribute and the risk associated with possible future real estate downturns.

END NOTES

1. http://www.ci.wilsonville.or.us/DocumentCenter/View/9588
2. http://www.ci.wilsonville.or.us/DocumentCenter/View/9588
5. http://www.ci.wilsonville.or.us/DocumentCenter/View/9588
7. https://censusreporter.org/profiles/16000US4182800-wilsonville-or/