

APPENDIX 3: Pre-Qualified Concept Plans

City of Beaverton

II. City of Beaverton

The City of Beaverton is located in the Tualatin River Valley, seven miles west of Portland, Oregon. By population Beaverton is the sixth largest city in the state of Oregon and the second largest in Washington County with more than 86,000 residents. Beaverton is a family friendly city where residents enjoy easy access to a complete range of community services and employment opportunities.

Beaverton, along with Portland and Vancouver, was rated the number three city to live in the United States. The Award of Excellence was presented by Frommer's® Travel guides. This standing was determined by a number of essential factors, including economy and jobs, cost of living, climate, education, health and healthcare, transportation, crime, leisure, arts and culture and quality of life. More than 400 metropolitan areas in the United States and Canada were evaluated.

Neighborhoods

Development of the electronics industry in the post World War II era resulted in extensive growth for the City of Beaverton including construction of multiple attractive and well-planned neighborhoods. Currently, the city recognizes 11 separate Neighborhood Association Committees (NACs) that are open to anyone who lives, works, owns a business, or represents an institution or non-profit organization within the boundaries of the NAC. Although NAC membership does not confer any special rights, it does provide neighbors with the opportunity to meet and discuss a variety of issues important to their neighborhood and the City. NACs often collaborate with the City to provide resources, events and activities.

Parks

The City has a vast amount of "Green Space" with a park located within a half mile of every home. These park options are the result of Beaverton partnering with Tualatin Hills Park and Recreation District (THPRD), the primary park service provider, and Metro. THPRD has 200 parks spread over 1,600 acres with 30 miles of hiking trails and a 25-mile multi-use path network. Metro works with the City and THPRD to acquire green spaces, natural areas and park lands that are accessible to urban residents.

Schools

Beaverton is currently served by two public school districts, the Beaverton School District (BSD) and Portland Public Schools (PPS). BSD is the main education provider serving over 36,000 students in 46 schools from kindergarten through 12th grade. Beaverton is also served by several private schools.

Employment

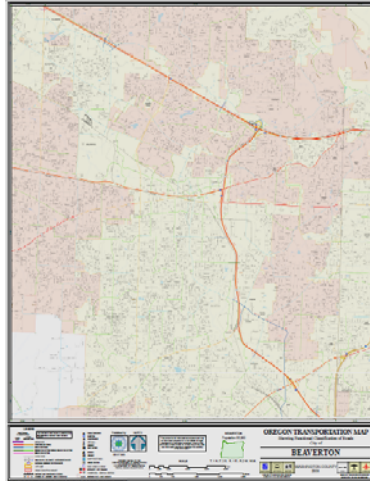
Employment opportunities within the City are wide-ranging with a total number of jobs near 55,000. The city and the immediate surrounding area have a strong diversity of industries and employers including technology, manufacturing, export trade and apparel.

Transportation

Auto: The existing arterial roadway system within the City of Beaverton is often constrained and overburdened by the number of motor vehicle trips within the City, but also by numerous motor vehicle trips created by people passing through the community. This situation is the result of historic development patterns that have placed many services and jobs along State Highways 8, 10, 26, 210 and 217. State Routes 8, Tualatin-Valley Highway/Canyon Road, and 10, Farmington Road/Beaverton-Hillsdale Highway, are generally east-west principal arterials that pass through the historic center of the City; Highway 26 is a southeast-northwest grade-separated principal arterial within the northern portion

of the City forming part of the City’s current northern boundary; State Route 210, Scholls Ferry Road/Barrows Road, is a northeast-southwest principal arterial/urban collector forming part of the southern boundary of the City; and Highway 217 is a north-south grade-separated principal arterial within the eastern portion of the City.

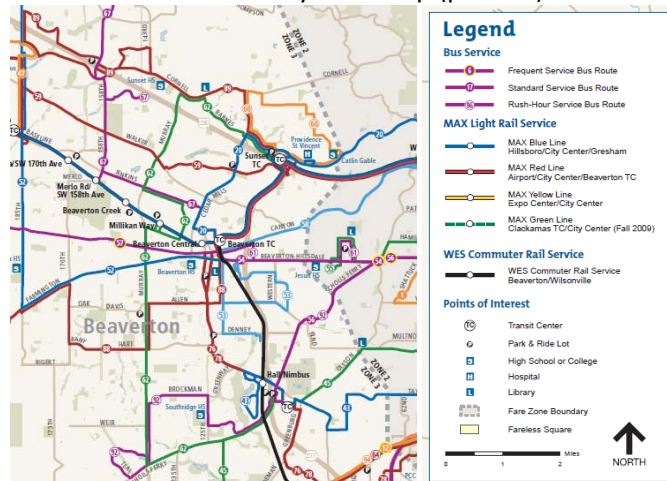
Oregon Department of Transportation – City of Beaverton map



<http://egov.oregon.gov/ODOT/TD/TDATA/gis/docs/citymaps/Beaverton.pdf>

Transit: The challenges provided by the existing roadway system have been moderately offset by the benefits provided by TriMet’s regional public transportation system. The City of Beaverton is uniquely served by bus, MAX light rail and WES commuter rail systems that converge at the Beaverton Transit Center north of State Route 8 and west of State Route 217. Bus routes traverse the City, mainly on arterial and collector routes. Light rail follows State Routes 26 and 217 heading west out of Portland diverting southwest to the Beaverton Transit Center and continuing northwest through a corridor between State Route 8 and State Route 26 to the City of Hillsboro. Commuter rail service is provided parallel to Highway 217 within Beaverton; commuter rail’s northern most point is Beaverton Transit Center and its southern most point is within the City of Wilsonville.

TriMet System Map (portion)



<http://www.trimet.org/pdfs/trimetsystemmap.pdf>

Within the Regional High Capacity Transit System Plan several Next Phase Regional Priority Corridors have been identified. Four of the Next Phase Regional Priority Corridors are within the current boundaries of the City of Beaverton, they are

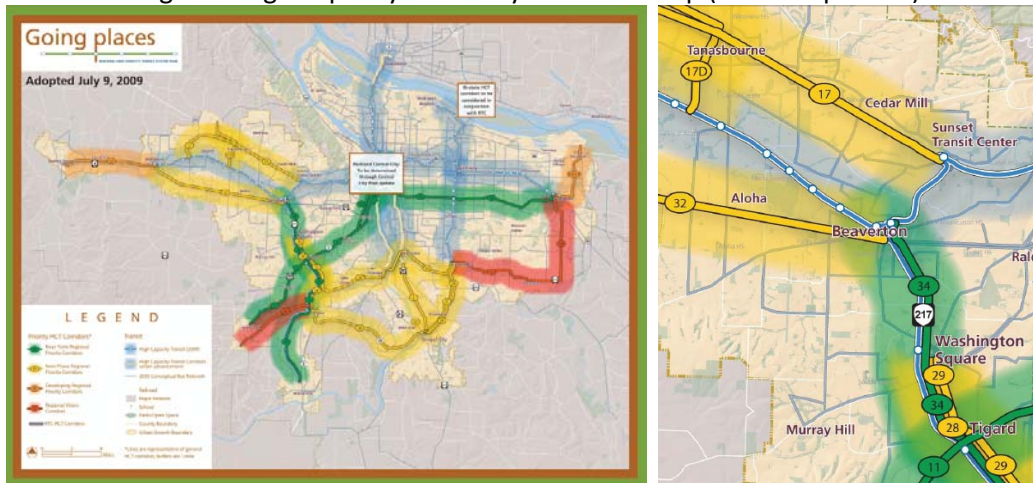
- 17 – Highway 26 corridor,
- 28 & 29 – Washington Square Regional Center, and
- 32 – Tualatin-Valley Highway.

The following table from the Regional High Capacity Transit System Plan describes Next Phase Regional Priority Corridors:

Tiers	Summary	Potential methods to reach targets		Potential system expansion targets	Potential strategies
		Potential local actions (applied to each corridor)	Potential regional support (assistance with corridor assessment against system expansion targets)		
Next phase regional priority corridors ¹	Corridors where future HCT investment may be viable if recommended planning and policy actions are implemented.	<ul style="list-style-type: none"> • Develop corridor problem statement • Define corridor extent • Assess corridor against system expansion targets • Create ridership development plan/ land use/TOD plans for centers and stations • Assess mode and function of HCT 	<ul style="list-style-type: none"> • Create land use/TOD plans for centers and stations • Analyze station siting alternatives • Coordinate with MTIP priorities 	<ul style="list-style-type: none"> • Transit supportive land use/station context • Community support • Partnership/political leadership • Regional transit network connectivity • Housing needs supportiveness • Financial capacity – capital and operating finance plans 	<ul style="list-style-type: none"> • Existing land use and transportation working groups

¹ The location of the alignment is to be decided through a corridor refinement plan and/or alternatives analysis.

Regional High Capacity Transit System Plan Map (whole & portion)



http://library.oregonmetro.gov/files/res_no_09-4052_pkt.pdf

Freight: Beaverton benefits from a continually operating railroad system operated by Portland & Western Railroad Company (P&W). According to P&W they operate, “a 520-mile regional system, providing quality railroad service to more than 135 customers” and each year P&W moves, “more than 90,000 carloads of paper, steel, grain, forest products, chemicals, aggregates, fertilizers and consumer goods”. [www.gwrr.com/operations/railroads/north_america/portland_western_railroad_inc] The movement of goods over the P&W system provides Beaverton area businesses with freight movement opportunities that do not rely on sharing the existing street system.

The highway system, managed by the Oregon Department of Transportation, also benefits Beaverton. Most of the freight transported in and out of the city is moved on the highways, especially Highways 26 and 217.

Utilities

Water Supply: The City of Beaverton supplies water to approximately 66,000 or 79 percent of the 86,205 residents who live within the City limits. The remaining 21 percent of residents in Beaverton are supplied water by Tualatin Valley Water District (TVWD), West Slope Water District and the Raleigh Water District. The City is a member of the Joint Water Commission (JWC) with four other cities within Washington County and TVWD. The primary source of Beaverton's water supply is from the JWC water treatment plant which entitles the City to up to 15 million gallons per day of treated drinking water. The City is also a member of the Regional Water Providers Consortium (Consortium) with 22 other water providers from within the region. Both the JWC and the Consortium coordinate efforts to plan for and supply water. The Consortium takes further efforts to educate citizens on the importance of water conservation.

Sanitary Sewer / Storm Water: Clean Water Services (CWS) is the sanitary sewer and storm water provider in coordination with the City. CWS with Washington County and 11 cities, including Beaverton, are co-implementers of a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit. The 13 co-implementers continue efforts and programs that are in place to ensure compliance with the requirements of CWS's Storm Water Management Plan (SWMP) and NPDES permit. Updating and improving the SWMP is a continual process that includes and builds upon the District's on-going public involvement and participation activities.

Private Utilities: Electricity, natural gas, fuel oil, telecommunications are all privately held utilities that are installed with development at the expense of the developer.

Growth Aspirations

The current acreage within the city limits is 11,915.5 acres which includes land uses that are comprised of approximately 6,107 acres residential, 711 acres commercial, 1,212 acres industrial and 1,071 acres multiple use. Approximately 434 acres carry Washington County Transit-Oriented or Institutional zoning as they have been annexed into the City but have not been converted from Washington County zoning to City of Beaverton zoning. The remaining acreage, approximately 2,400 acres, is within transportation infrastructure.

Regional Centers: The City of Beaverton anticipates the majority of population and economic growth within the Beaverton Downtown Regional Center and the Washington Square Regional Center with further job opportunities supplied by industries located along the Highway 217 corridor. The two regional centers contain acreage that is available for development, infill and redevelopment at higher floor area ratios and building heights than have previously been developed.

The Beaverton Downtown Regional Center is served by all three transit amenities, noted above, Highways 8, 10, and 217, public the and private utilities including the Beaverton Central Plant, government facilities, and a wide range of commercial and service oriented businesses.

The Washington Square Regional Center includes land under the jurisdiction of Washington County and the cities of Beaverton and Tigard. Washington Square Regional Center is served by bus and heavy rail transit, Highways 210 and 217, public and private utilities and a wide range of light industrial,

commercial and service oriented businesses. Current limitations set by the Transportation Planning Rule and transportation capacity constraints associated with Highway 217 leave city officials uncertain about the future of this regional center.

Town Centers: The town centers of Cedar Mill, in the north, and Murray Scholls, in the south, represent two areas of recent major redevelopment for the City of Beaverton. Both areas are accessed by arterial roadways and bus transit options and are serviced by public and private utilities. Each area includes a mix of residential densities and services of varying ages, including plans for retail centers that are not yet constructed. Realization of full development build-out at the Teufel, in Cedar Mill, and Progress Quarry, in Murray Scholls, is preferred by the City prior to planning and development of future town centers.

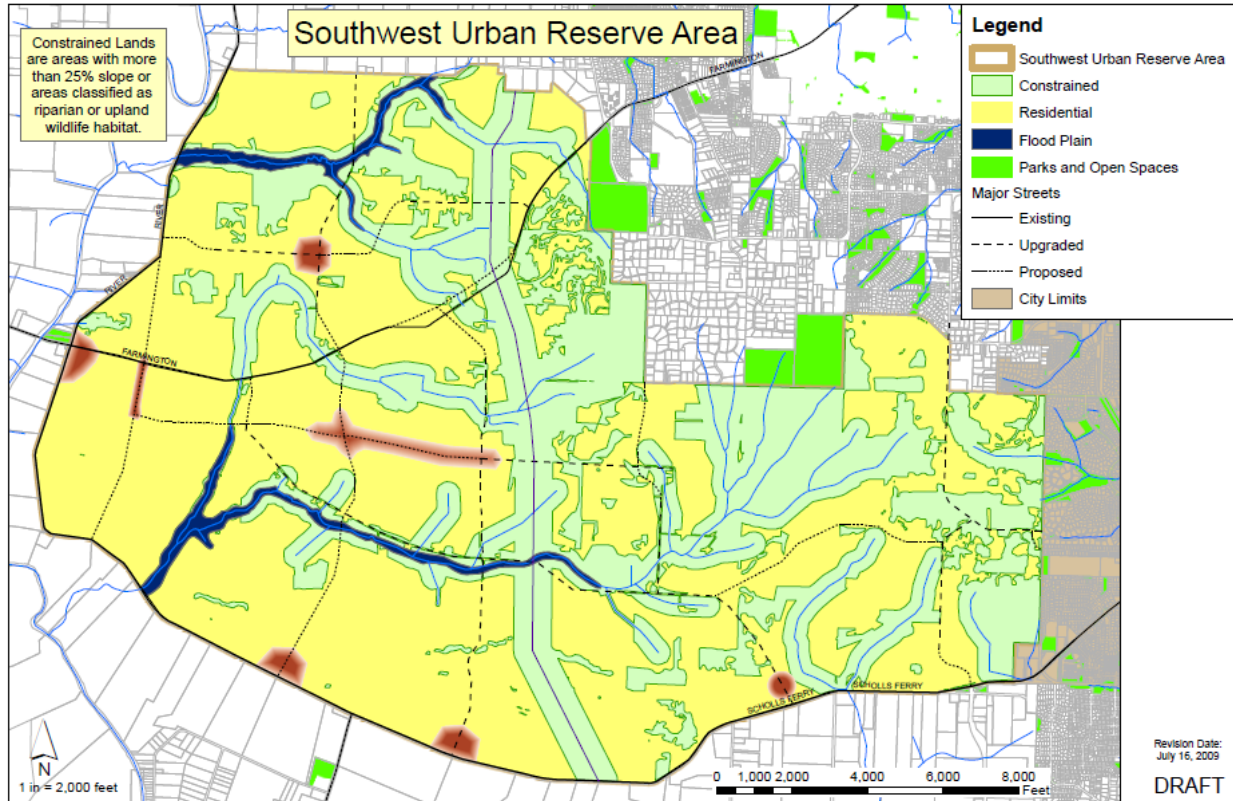
Urban Renewal: In November, 2008, Beaverton voters approved a Charter amendment to make urban renewal available to the City. The City is in the process of hiring a consulting firm to study the feasibility of urban renewal. The study will evaluate whether the legal criteria for urban renewal exist, as well as whether urban renewal will produce sufficient revenue and generate an adequate amount of private investment.

Overview

The City of Beaverton will benefit from implementing policies that promote full service neighborhoods that, when assembled, present a dynamic city with an array of options and opportunities. This can be realized by respecting aspirations for near-term growth through redevelopment and infill while establishing opportunities for future growth outward.

III. Potential Candidate Reserve Areas

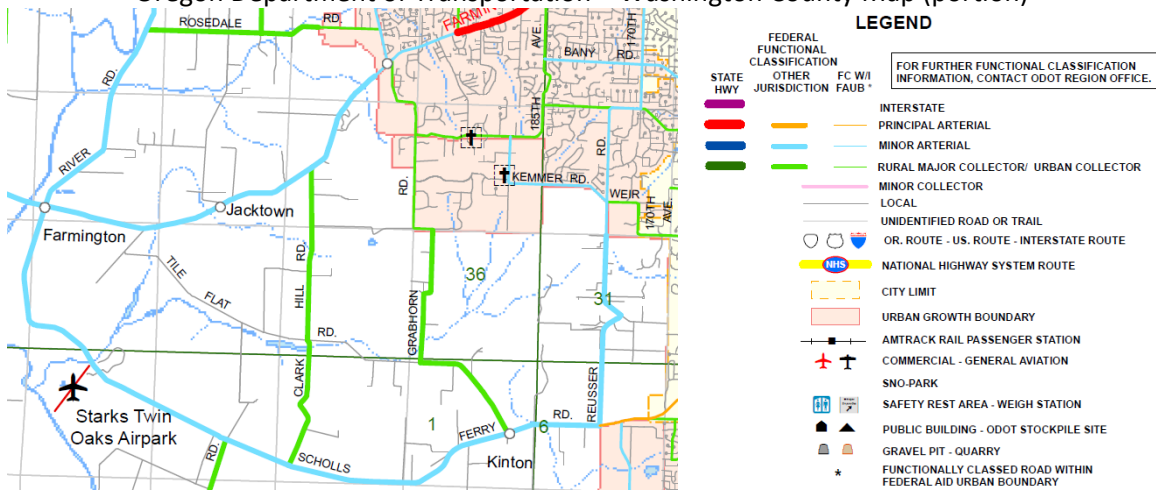
Southwest Urban Reserve Area



The Southwest Urban Reserve Area is west of the Urban Growth Boundary that touches the southern portion of the City of Beaverton. The area is roughly bordered by Rosedale Road, Stone Creek Drive and Kemmer Road on the north, Scholls Ferry Road on the south, River Road on the west and the Urban Growth Boundary on the east. The topography of this area is comprised of the hilltop terrain of Cooper Mountain that slopes west and south toward relatively flat lands upstream from the Tualatin River. Constrained lands like slopes, creeks, riparian corridors and the power line corridor divide the area into nearly a dozen subareas. Existing land uses in this area include, but are not limited to, farms, orchards, quarries (active and inactive), landscape nurseries, large lot residential and a 231 acre regional nature park (Cooper Mountain Regional Park).

The existing transportation system is automobile-oriented mainly on rural roads with exceptions inside suburban style subdivisions in the eastern portion of the area. Four minor arterial roadways-- Farmington Road, Scholls Ferry Road, River Road, and Reusser Road-- and three rural major collectors-- Rosedale Road, Clarkhill Road and Grabhorn Road--are located within and around the Southwest Urban Reserve Area providing a basic frame for transportation service in the area. It is unusual for these rural roads to have curb, gutter, sidewalk or street trees. TriMet does not provide service in the Southwest Urban Reserve Area.

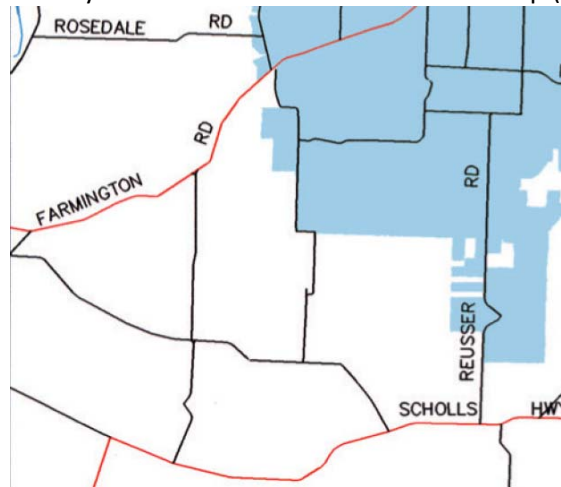
Oregon Department of Transportation – Washington County Map (portion)



<http://www.oregon.gov/ODOT/TD/TDATA/gis/docs/countymaps/wash1.pdf>

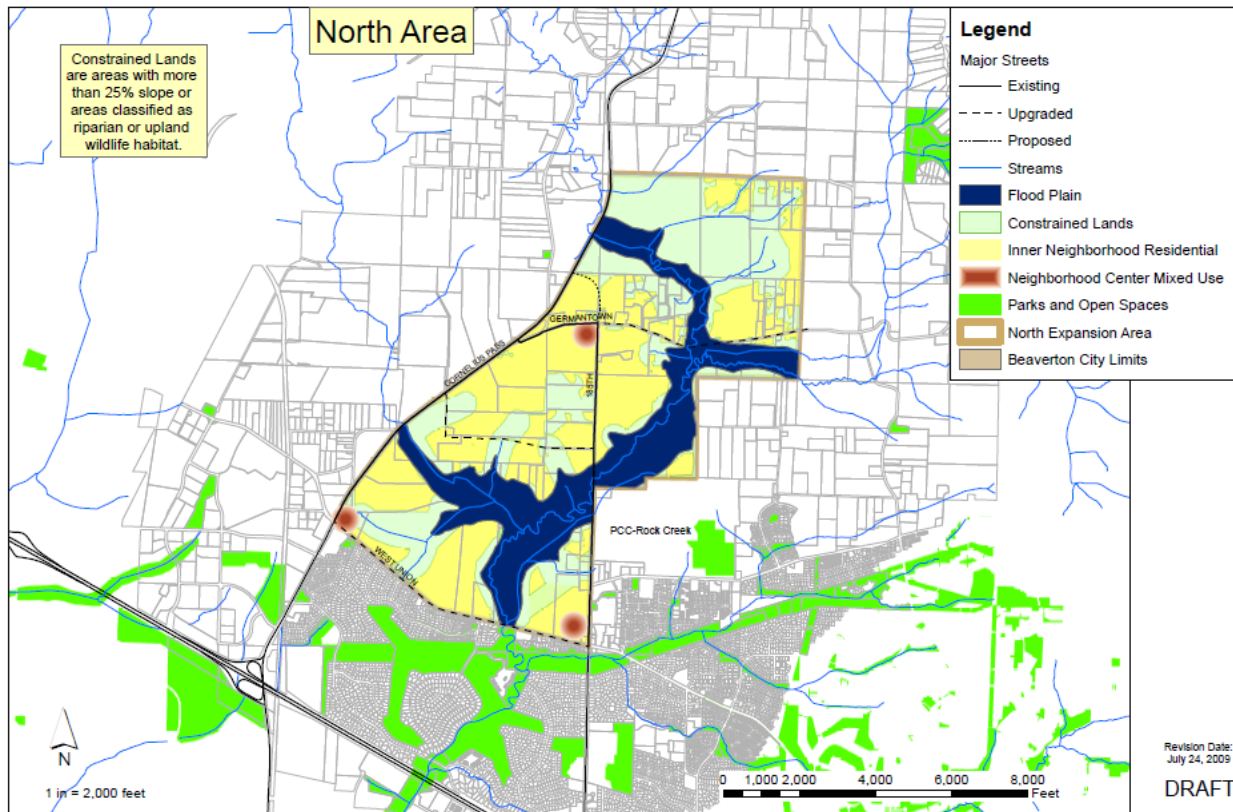
Utilities are typically private. Water is provided by individual wells with the exception of Tualatin Valley Water District providing service to most properties along Reusser Road and east to the Urban Growth Boundary. Sewerage is basically contained by individual septic systems as sanitary and storm services provided by Clean Water Services' district are outside of this area.

Tualatin Valley Water District – General District Map (portion)



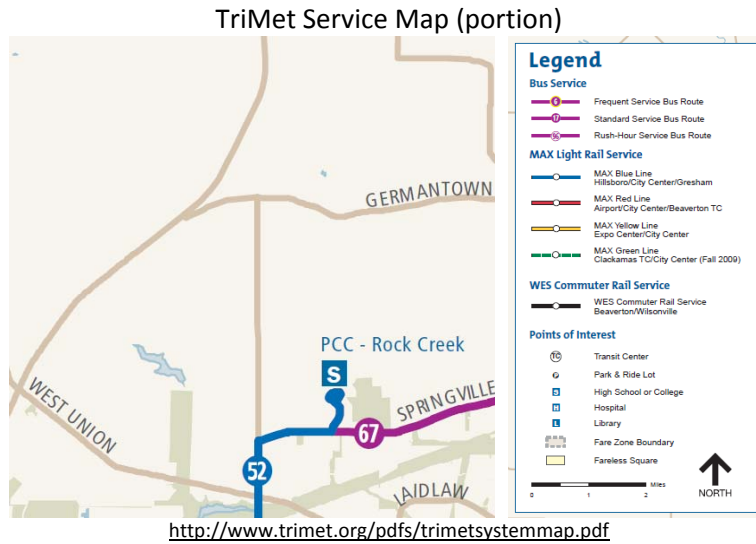
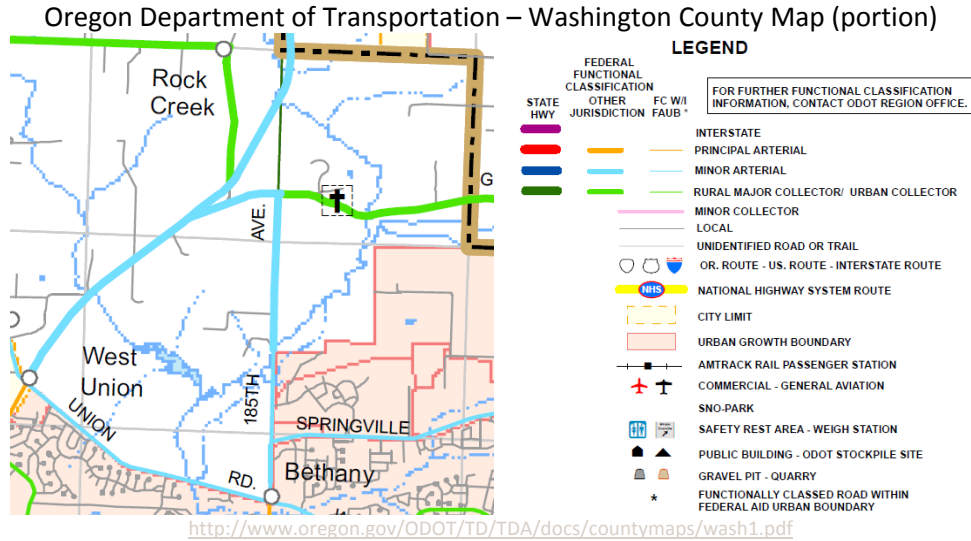
http://www.tvwd.org/media/43867/general_district_map.pdf

North Urban Reserve Area



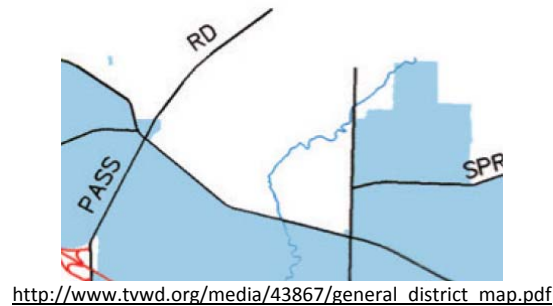
The North Urban Reserve Area is bordered by West Union Road on the south, 185th Avenue and the Urban Growth Boundary on the east, the Washington County/Multnomah County line on the east and north and Cornelius Pass Road on the west. The topography of this area is comprised of rolling uplands, riparian areas, Rock Creek and tributaries, and Holcomb Lake. Constrained lands such as slopes, creeks and riparian corridors divide the area into seven subareas. Existing land use in this area include farms, rural residential and commercial.

The existing transportation system is automobile-oriented mainly on rural roads with the intersections of Cornelius Pass Road/West Union Road and 185th Avenue/West Union Road as exceptions. Four minor arterial roadways, Cornelius Pass Road, West Union Road, 185th Avenue and a portion of Germantown Road, and one rural major collector, Germantown Road, are located within and around the North Urban Reserve Area. It is unusual for these rural roads to have curb, gutter, sidewalk or street trees. TriMet currently provides standard bus service on 185th Avenue from West Union Road to Springville Road.



Utilities are typically private. Water is provided by individual wells with the exception of Tualatin Valley Water District providing service to properties at the northwest corner of 185th Avenue/West Union Road and the northeast corner of Cornelius Pass Road/West Union Road. Sewerage is contained by individual septic systems; Clean Water Services district is outside of this area.

Tualatin Valley Water District – General District Map (portion)



IV.Pre-Qualifying Concept Plan

Southwest Urban Reserve Area

The Southwest Urban Reserve Area includes a total of 7,367 gross acres. In reviewing the area to determine the extent of net buildable acreage City staff extracted and removed constrained acreage to derive a net buildable land base. In so doing, the following land elements were removed from the gross acreage:

- Metro's Goal Five Inventory classes I, II, III, and A, B, C,
- Washington County's Goal 5 Inventory,
- Floodplains,
- Slopes greater than 25 percent,
- Metro's Cooper Mountain Park,
- A City of Beaverton water tank,
- Infrastructure easements, and
- 260 potential school acres and 936 potential park acres.

The result of removing the above listed lands is a remaining 3,330 net buildable acres. The majority of acreage removed from the gross acreage is Goal Five designated land.

Linear parks are envisioned along stream corridors in order to allow residents, employees and visitors opportunities to enjoy preserved natural resources while providing off-street pedestrian and bicycle trails to link sub areas together. With the abundance of constrained lands occurring in natural areas, it was assumed that parkland will generally locate in natural areas that have development constraints. Mixed use zoning is proposed in seven general sub-areas throughout with the largest concentration proposed along new and realigned roadway central to the Southwest Urban Reserve Area; mixed use zoning areas are to include, but not be limited to, commercial, employment, school and high density residential uses. The remaining buildable acreage is planned for single family residential zoning at 10 units per acre. Assumptions include 3,330 jobs distributed throughout the mixed use zoning areas and 34,965 dwelling units that support a population of 88,461 residents. Refer to map to see the potential distribution of land uses in the study urban reserve area.

North Urban Reserve Area

The North Urban Reserve Area includes a total of 1,725 gross acres. In reviewing the area to determine the extent of net buildable acreage City staff extracted and removed constrained acreage to derive a net buildable land base. In so doing, the following land elements were removed from the gross acreage:

- Metro's Goal Five Inventory classes I, II, III, and A, B, C,
- Washington County's Goal 5 program,
- Floodplains,
- slopes greater than 25 percent,
- infrastructure easements, and
- 40 potential school acres and 149 potential park acres.

The result of removing the above listed lands is 542 net buildable acres. The majority of acreage removed from the gross acreage is Goal Five designated land and is the same acreage as the park acreage. It is assumed that some of the undeveloped, but farmed floodplains will be used for parks and recreation.

A total of 5,687 dwelling units are presumed with a corresponding population increase of 14,388 residents. Additionally, 542 jobs are expected in three, 10-acre mixed use zoned areas in order to provide neighborhood center service. See map for more information.

Cornelius Pass Road and the area to the east serve as a physical break between the Cities of Hillsboro and Beaverton. This area is a logical extension of the Bethany area that was brought into the urban growth boundary in 2002.

V. Findings - Factors for Designation of Lands as Urban Reserves (OAR 660-27-0050)

Urban Reserve Factors:

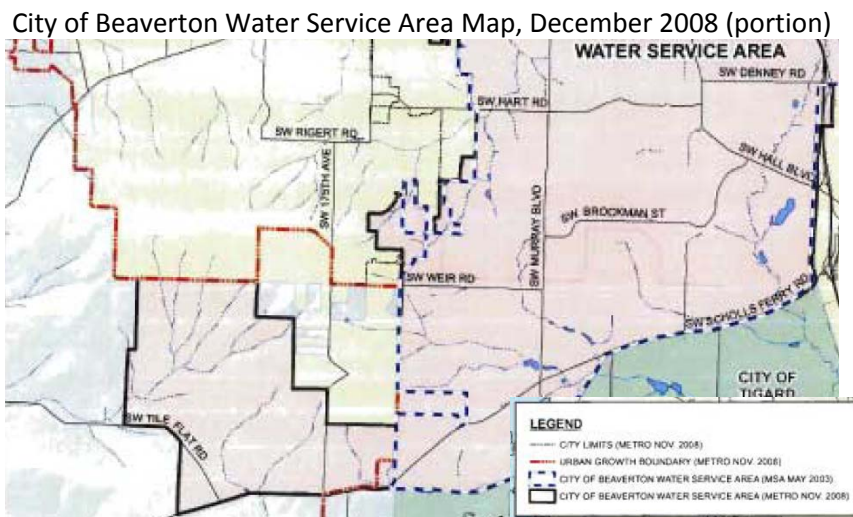
When identifying and selecting lands for designation as urban reserves under this division, Metro shall base its decision on consideration of whether land proposed for designation as urban reserves, alone or in conjunction with land inside the UGB:

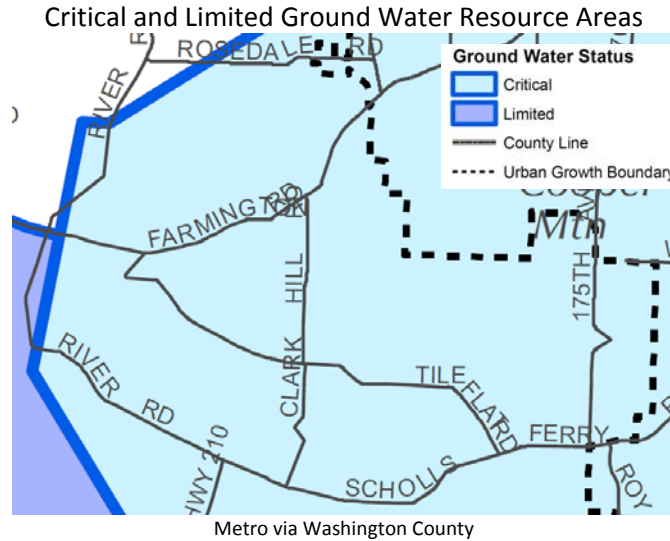
Southwest Urban Reserve Area

(1) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;

Members of the Joint Water Commission (JWC) are expected to be the water service provider for this area. The City of Beaverton currently owns and operates a water tank on Cooper Mountain on a parcel within the urban reserve study area. Within the next five years the need for water service on Cooper Mountain and within the eastern portion of the Southwest Urban Reserve Area will require water system improvements along the 550 foot topographic contour, to be provided by the City of Beaverton. Tualatin Valley Water District (TVWD) will provide service at and above 585 feet. Both the City of Beaverton and TVWD system plans will provide water service westward to Grabhorn Road and south to Tile Flat Road and Scholls Ferry Road. Water service to the remainder of the Southwest Urban Reserve Area will include construction of a JWC future large transmission line as identified by the JWC Master Plan. The estimated cost for a fully developed potable water system for the Southwest Urban Reserve Area is \$350,889,360 in 2009 dollars.

The Metro Infrastructure Improvements Analysis Water Suitability Map depicts the Southwest Urban Reserve Area as having high water suitability.





Sanitary and Storm Sewer services for the Southwest Urban Reserve Area will most likely be provided through Clean Water Services in coordination with the cities of Beaverton, Hillsboro and Tigard. Existing facilities and upsizing of existing pipe facilities will be adequate to serve the eastern most sub-area in the near future. However, as urban development moves further west, new sewer trunks and pump stations will be required, as may a new treatment facility. New infrastructure will also benefit development within areas 63/64 and south Hillsboro. The estimated cost for fully developed piped sanitary sewer and storm drainage systems in the Southwest Urban Reserve Area is \$123,672,570 for each, resulting in a total of \$247,345,140 for both in 2009 dollars. The amount estimated for sanitary sewer does not include the potential need for a new treatment facility. These improvements are expected to be funded through the existing System Development Charge structure.

The Metro Infrastructure Improvements Analysis Sewer Efficiency Map depicts the Southwest Urban Reserve Area as being moderately difficult to serve.

Existing transportation facilities require considerable upgrades to accommodate future growth projections. New transportation infrastructure will also be required. Further discussion of transportation improvements and their costs is provided in subsection 4, below.

(2) Includes sufficient development capacity to support a healthy economy;

It is expected that the Southwest Urban Reserve Area will primarily develop with residential uses to support industries and employment areas developing in Hillsboro directly to the north. Land within this expansion area is generally not suitable for industrial employment as it lacks proximity to airports of notable size, freeways and railways. Service industry employment is anticipated to be the main economic drivers in this area. The Southwest Urban Reserve Area is expected to contain approximately 190 acres of mixed use zoned land, which will provide services to surrounding residential uses.

(3) Can be efficiently and cost-effectively served with public schools and other urban-level public facilities and services by appropriate and financially capable service providers;

The Southwest Urban Reserve Area is expected to be served by several appropriate, capable and proven service providers, as follows:

- Fire: Tualatin Valley Fire and Rescue and Washington County Fire District Number 2 currently split service to this area. Additional fire stations will be required as development levels reach specific thresholds for service as set by the fire districts.
- Schools: Provision of public education services is currently provided by Beaverton School District in the eastern and northeast portion of the area and by Hillsboro School District over the remaining majority of the area. Capital improvement bond funds will likely be required in order to acquire approximately 260 acres to construct an estimated need for potentially 12 elementary schools, 3 middle schools and 2 high schools.
- Parks: The Southwest Urban Reserve Area currently receives limited park services from Metro and Tualatin Hills Park and Recreation District (THPRD). Metro owns Cooper Mountain Park and co-manages the property with THPRD. THPRD also currently provides service to a small part of the north portion of this expansion area. Further provision of park services in this area will require additional land acquisition by Metro and annexation into THPRD, as the City of Beaverton does not have a parks department.

(4) Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers;

The current rural road system within the Southwest Urban Reserve Area is a minimal framework for transportation service. Improvements to this transportation framework are expected to include upgrades to existing roads, construction of new roads, bikeways and trails and accommodation of public transit. Recreational trails may generally be located along natural resource corridors and within the area of the Bonneville Power Administration (BPA) line to provide connected off-street options. Realignment of existing roads and construction of new roads will be required to supply suitable spacing between facilities. Bus transit stops are expected to locate within the nodes of mixed use development as ridership needs meet thresholds for service. Weaving the trails, roads and transit facilities together will provide residents, employees and visitors with a well-connected travel system.

The cost for upgrading existing road facilities and constructing new road facilities is estimated at \$480,000,000 in 2009 dollars. This total includes \$240,000,000 for upgrades and \$240,000,000 for new facilities, but does not include trails and transit amenities. The estimate is based on the roads depicted on the pre-qualifying concept plan constructed as five land arterials. In order to project the cost for a future year, the estimated cost should be multiplied by 6% per year for inflation.

(5) Can be designed to preserve and enhance natural ecological systems;

As noted above, floodplains, slopes greater than 25 percent, Washington County's Goal 5 Inventory and Metro's Goal Five Inventory classes I, II, III and A, B, C have been removed from the total gross acreage

as part of calculating for net buildable acreage. Most of the acreage included in the noted categories is associated with creeks, slopes and tree stands within the Southwest Urban Reserve Area. The location of resources within the categories does not preclude the area from being designed and developed respective of preserving and enhancing the natural ecological systems.

Creeks from the Southwest Urban Reserve Area primarily drain to the west through a portion of the Middle Tualatin River sub-watershed, with minimal creek flow heading south to the Lower Tualatin River sub-watershed and north to the Rock Creek sub-watershed. Intact ecological systems associated with these creeks are expected to be preserved and enhanced as the area develops. In limited instances floodplains may be developed with ball fields or soccer fields for schools and parks.

As with creeks, other natural ecological systems that are not directly connected with stream flows will be evaluated for function, quality and size in order to determine the level of preservation and enhancement to ensure continuation of the resource's characteristics.

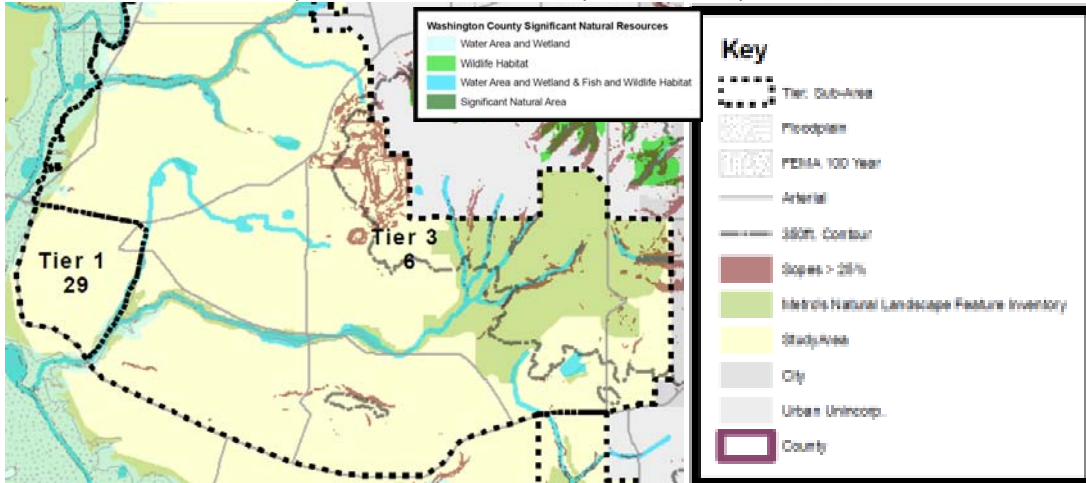
(6) Includes sufficient land suitable for a range of needed housing types;

The Southwest Urban Reserve Area has the capacity to accommodate approximately 36,561 dwelling units with at least 3,800 of those dwelling units within mixed use areas. The spine of development on the proposed east-west collector located between Tile Flat Road and Farmington Road will provide a village center with approximately 80 acres of mixed use development with zoning allowing high density residential. Outside of mixed used designations, the remaining acreage is planned to develop with an average 10 units to the acre from low to medium densities.

(7) Can be developed in a way that preserves important natural landscape features included in urban reserves; and

Important natural landscape features within the Southwest Urban Reserve Area involve many of the areas already included in the constrained areas listed previously in this document with some additional areas. The additional areas involve an expanded buffer along the Tualatin River, the entirety of Cooper Mountain Nature Park and areas extending east and south from Cooper Mountain Nature Park. Limiting development of the Southwest Urban Reserve Area based upon site specific evaluations will allow for preservation of important natural landscape features.

Important Natural Landscape Features (portion)

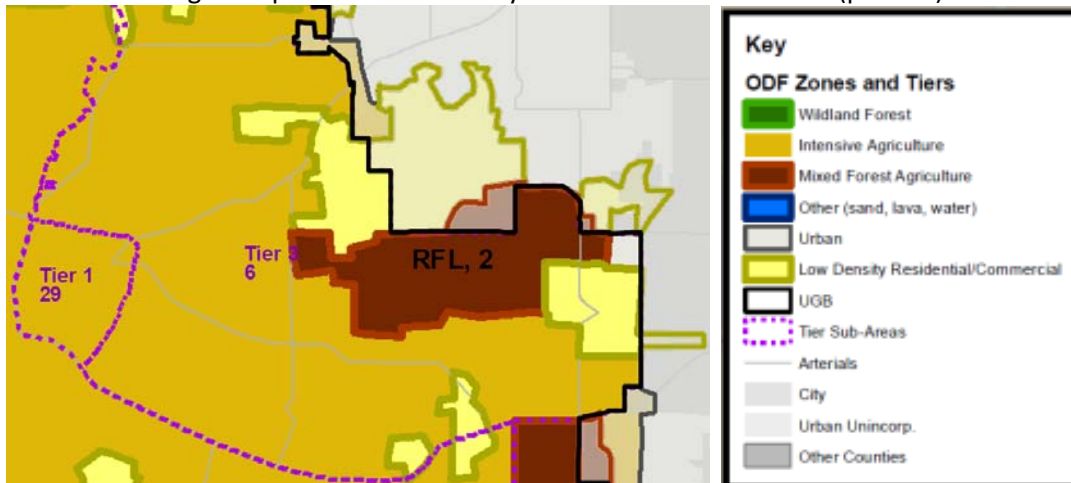


Metro via Washington County

(8) Can be designed to avoid or minimize adverse effects on farm and forest practices, and adverse effects on important natural landscape features, on nearby land including land designated as rural reserves.

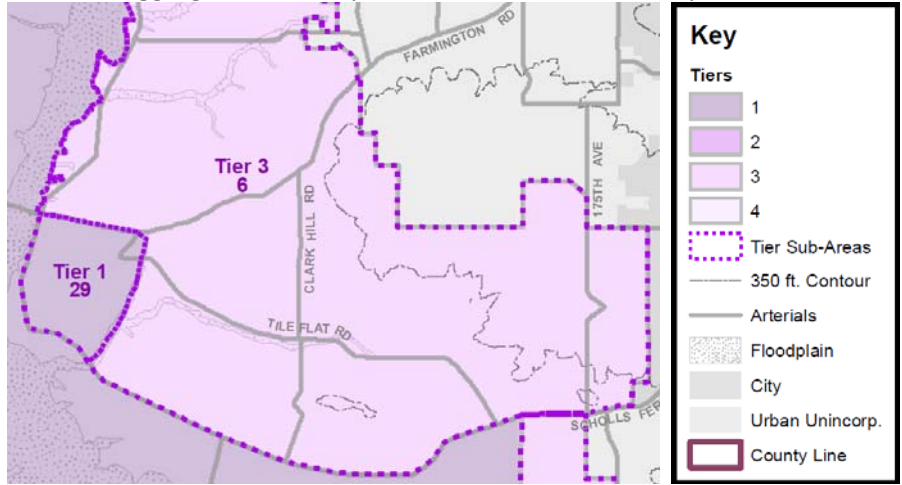
Forestry and farm lands inside the Southwest Urban Reserve Area are primarily Tier 3 with a portion of Tier 1 within the western end as aggregated by Washington County. The Southwest Urban Reserve Area is bordered by River Road on the west and Scholls Ferry on the south. These two roads connect in an area known as Groner’s Corner, providing a continual boundary around the Southwest Urban Reserve Area. This boundary will provide a distinct separation between potential urban uses and the surrounding Tier 1 intensive agriculture.

Oregon Department of Forestry Tiers and Farm Sub-Areas (portion)



Metro via Washington County

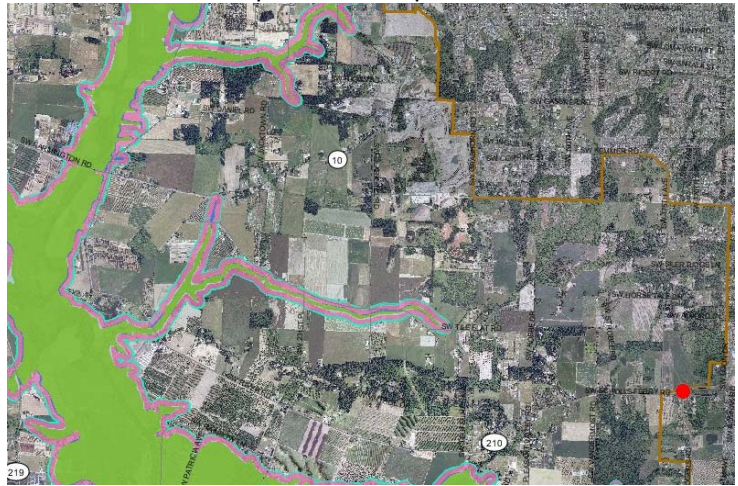
Aggregated Forestry Tiers and Farm Sub-Areas (portion)



Metro via Washington County

Additionally, the Tualatin River floodplain and floodplain buffer, to the west of River Road and the south of Scholls Ferry, is a significant natural buffer to further urbanization of lands west of River Road.

Floodplain & Floodplain Buffer



Washington County Geonet

North Urban Reserve Area

(1) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;

The North Urban Reserve Area can be served by water, storm and sanitary sewer lines extended for the Bethany area that was brought into the UGB in 2002. The Metro Infrastructure Improvements Analysis Water Suitability Map depicts the Southwest Urban Reserves Area as having high water suitability. Tualatin Valley Water District is expected to be the water service provider for this area as the current water service boundary between the City of Hillsboro and TVWD is Cornelius Pass Road. The estimated cost for a fully developed potable water system for the North Urban Reserve Area is \$81,795,153 in 2009 dollars.

Sanitary and Storm Sewer services for the North Urban Reserve Area will most likely be provided through Clean Water Services in coordination with the cities of Beaverton and Hillsboro. The Metro Infrastructure Improvements Analysis Sewer Efficiency Map depicts the North Urban Reserve Area as being moderately difficult to serve. As urban development moves into this area new sewer trunks and lines will be required. The estimated cost for fully developed piped sanitary sewer and storm drainage systems in the North Urban Reserve Area is \$28,829,080 for each, resulting in a total of \$57,658,160 for both in 2009 dollars. These improvements are expected to be funded through the existing System Development Charge structure.

Existing transportation facilities require considerable upgrades accommodate current and future growth projections. New transportation infrastructure will also be required. Further discussion of transportation improvements and their costs is provided in subsection 4, below.

(2) Includes sufficient development capacity to support a healthy economy;

It is expected that the North Urban Reserve Area will primarily develop with residential uses to support industries and employment areas developing in Hillsboro directly to the south and west and existing industries within the City of Beaverton to the southeast. Land within this expansion area is generally not suitable for industrial employment since contiguous land outside of natural resource lands is not large enough for many industrial uses and the area lacks proximity to airports and railways of significant size. Service industry employment is anticipated to be the main job provider in this area. The North Urban Reserve Area is expected to contain approximately 30 acres of mixed use zoned land, which will provide neighborhood center services to surrounding residential uses.

(3) Can be efficiently and cost-effectively served with public schools and other urban-level public facilities and services by appropriate and financially capable service providers;

The North Urban Reserve Area is expected to be served by several appropriate, capable and proven service providers, as follows:

- Fire: Tualatin Valley Fire and Rescue currently provides service to this area. Additional fire stations may be required as development levels reach specific thresholds for service as set by the fire district.

- Schools: Provision of public education services is currently provided by Beaverton School District east of Rock Creek south of Green Lane and by Hillsboro School District over the remaining area. Capital improvement bond funds will likely be required in order to acquire approximately 40 acres in order to construct an estimated need for potentially 2 elementary schools and 1 middle school.
- Parks: This area is currently not served by a park district. Provision of park services in this area will require annexation into THPRD, as the City of Beaverton does not have a parks department.

(4) Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers;

Development of the North Urban Reserve Area is expected to include a few solutions. Bikeways and recreation trails along natural resource corridors and a Bonneville Power Administration (BPA) line will provide connected off-street options. Upgrading of existing roads and construction of new roads will be required to accommodate a mix of transportation options. Bus transit stops are expected to locate near neighborhood centers as ridership needs meet thresholds for service. Weaving trails, roads and transit facilities will provide residents, employees and visitors with a well-connected travel system.

The cost for upgrading existing road facilities and constructing new road facilities is estimated at \$115,000,000 in 2009 dollars. This total includes \$107,000,000 for upgrades and \$8,000,000 for new facilities, but does not include trails and transit amenities. The estimate is based on the roads depicted on the pre-qualifying concept plan constructed as five land arterials. In order to project the cost for a future year, the estimated cost should be multiplied by 6% per year for inflation.

(5) Can be designed to preserve and enhance natural ecological systems;

As noted above, floodplains, slopes greater than 25 percent Washington County's Goal 5 Inventory and Metro's Goal Five Inventory classes I, II, III and A, B, C have been removed from the total gross acreage as part of calculating for net buildable acreage. Most of the acreage included in the noted categories is associated with Rock Creek and tributaries of Rock Creek within the North Urban Reserve Area. The location of resources within these categorized does not preclude the area from being designed and developed respective of preserving and enhancing the natural ecological systems.

Creeks from the North Urban Reserve Area primarily drain into Rock Creek, which flows to the south. In tact ecological systems associated with these creeks are expected to be preserved and enhanced as the area develops. In limited instances floodplains may be developed with ball fields or soccer fields for schools and parks.

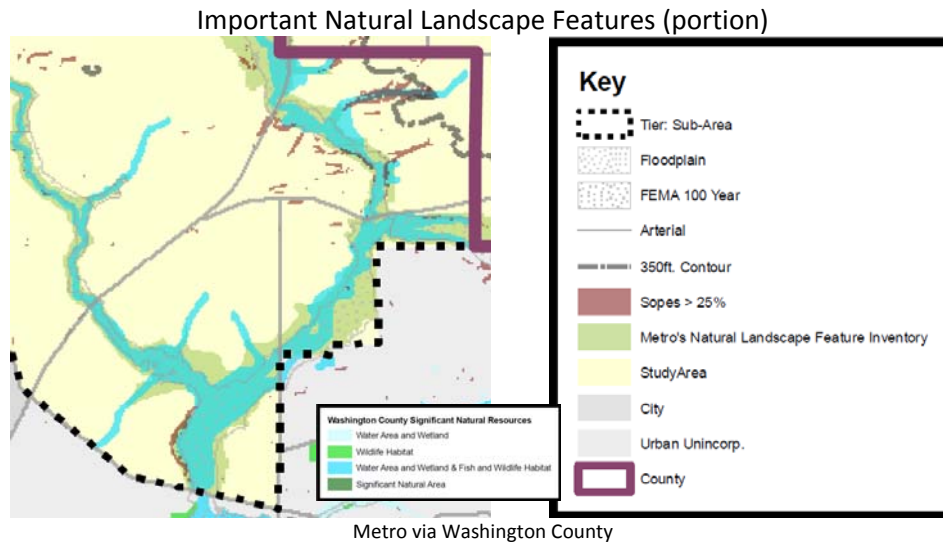
As with creeks, other natural ecological systems that are not directly connected with stream flows will be evaluated for function, quality and size in order to determine the level of preservation and enhancement to ensure continuation of the resource's characteristics.

(6) Includes sufficient land suitable for a range of needed housing types;

The North Urban Reserve Area has the capacity to accommodate approximately 5,828 dwelling units with at least 30 of those dwelling units within mixed use neighborhood centers allowing high density residential. Outside of mixed used designations, the remaining acreage is planned to develop with an average 10 units to the acre from low to medium densities.

(7) Can be developed in a way that preserves important natural landscape features included in urban reserves; and

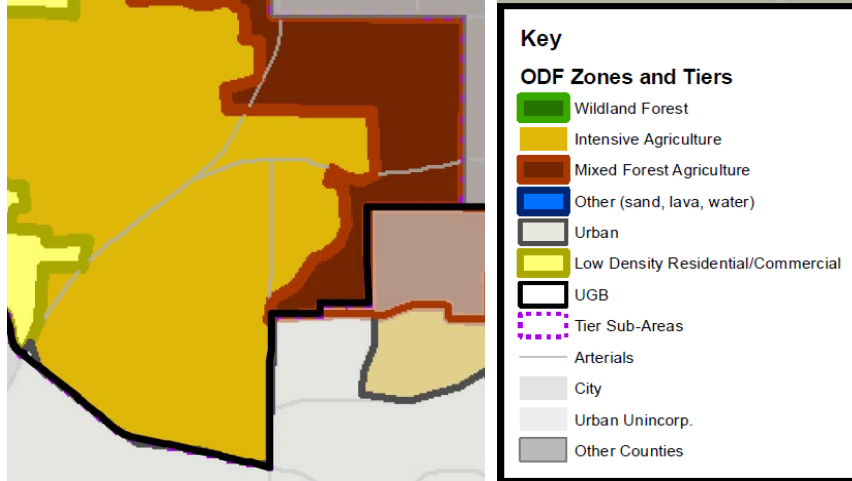
Important natural landscape features within the North Urban Reserve Area involve many of the areas already included in the constrained areas listed previously in this document. Limiting development of the North Urban Reserve Area based upon site specific evaluations will allow for preservation of important natural landscape features.



(8) Can be designed to avoid or minimize adverse effects on farm and forest practices, and adverse effects on important natural landscape features, on nearby land including land designated as rural reserves.

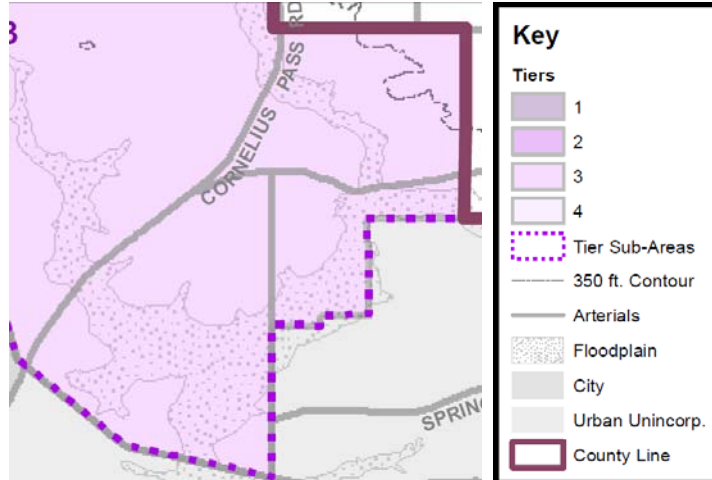
Land uses outside the boundaries of the North Urban Reserve Area vary. Suburban level development exists south of West Union Road and east of 185th Avenue. North and east of the Washington County/Multnomah County lines within Multnomah County the land uses are farm, forestry and rural residential, currently under consideration for urban reserve designation by Multnomah County. Lands west of Cornelius Pass Road are also farm, forestry and rural residential; however these lands are also under consideration for urban reserves. Forestry and farm lands in and around the North Urban Reserve Area are considered to be Tier 3 as aggregated by Washington County.

Oregon Department of Forestry Tiers and Farm Sub-Areas (portion)



Metro via Washington County

Aggregated Forestry Tiers and Farm Sub-Areas (portion)



Metro via Washington County

It is arguable that the most northern portion of the North Urban Reserve Area is not viable for urban development. This portion, northeast of the northern fork of Rock Creek, north of Germantown Road, includes non-constrained lands that are carved up by constrained lands. The constrained lands provide a buffer to mixed forest use land to the north.