

3. Land-Use Element

This chapter is a required element of a comprehensive plan developed to meet the provisions of the GMA. It describes how the plan's overall goals will be implemented through land-use mechanisms. In overview, this chapter presents descriptions of the area surrounding Nooksack, an inventory of existing land use, an estimate of future demands for land, and a description of the development that must occur, both inside and outside the existing city, in order to meet future demands.

Geography and Environment

The city of Nooksack is located near the Canadian border in western Whatcom County, approximately 18 miles northeast of the city of Bellingham. Nooksack is a small city encompassing just 443 acres of land. The city of Everson is immediately to the southwest. SR 9 and the Burlington Northern railroad tracks bisect town, heading north to Sumas and south to Nugent's Corner. The terrain consists primarily of gently sloping land in the Sumas River basin. Immediately east of town across the Sumas River is a higher area underlain by gravel deposits created by glaciation.

Surface waters. The region slopes gently northward, so the Sumas River flows north to the Fraser River in Canada. Breckenridge Creek joins the Sumas River just east of city limits, and Swift Creek joins the Sumas River southeast of city limits. Breckenridge Creek, Swift Creek, and the Sumas River all have their headwaters on Sumas Mountain, a 3,400' foothill of the Cascade Mountains that lies three miles to the east of the area shown on Map 1. The other major waterbody in the region is the Nooksack River, which flows west through Everson and empties into Bellingham Bay. All the local rivers follow meandering courses and have shifted beds many times in the past.

According to the Department of Ecology, the Sumas River is a "Class A" waterbody, meaning that water quality should meet high standards. Monitoring programs downstream from Nooksack have revealed, however, that water quality fails to meet some "Class A" standards: water temperature reaches 22° C in the summer, compared to a desired maximum of 18° C; dissolved oxygen concentrations have dipped as low as 6.1 mg/L, compared to a standard of 8.0 mg/L; concentrations of fecal coliform bacteria and of certain metals (silver, cadmium, lead, mercury) have exceeded allowable levels. Substandard water quality detracts from many beneficial uses of the river, but particularly impacts fish habitat. Nooksack is not responsible for these water-quality problems, though, because the developed part of the city is distant from the river, and there are [virtually no few storm or water discharges and no](#) sanitary sewer discharges from the city to the river. Elevated temperatures are a natural consequence of low flows during the hot summer months, and runoff from farms is regarded as the major cause of low oxygen and high coliform concentrations.

Wetlands. Map 2 shows wetlands in and around Nooksack as found in the National Wetlands Inventory (NWI) and in an inventory conducted for the city by David Evans & Associates (DEA). Generally, these wetlands are seasonally flooded and are associated with sloughs formed by old courses of the local rivers. Most of the wetlands are classified "palustrine emergent" (PEMC)

according to the National Wetlands Inventory. The largest wetlands are east of town along Breckenridge Creek ~~and Swift Creek~~. There are approximately 37 acres of wetlands within city limits.

Flooding. Many the local rivers regularly overflow their banks and flood nearby areas. Map 3 shows the locations of flood-prone areas according to maps prepared by the Federal Emergency Management Agency (FEMA) and adopted by the city of Nooksack in 2004. Flood-prone bands adjoin each river, and the sloughs also flood. In some areas the flooding covers broader expanses, such as at the north end of town near Gillies Road, and to the east of town in the region between ~~Swift Creek~~ S. Pass Road and Breckenridge Creek. There are approximately 195 acres of land within city limits located in the 100-year floodplain.

Severe flooding is associated with the Nooksack River. Given the prevailing northward slope, floodwaters from the Nooksack also tend to head north to Canada. There is a major floodway west of city limits, the edge of which is visible at the upper left corner of Map 3.

Soils. Information regarding local soils has been taken from the soil survey conducted by the ~~Soil~~ Natural Resource Conservation Service (SNRCS). Soil types under the existing city are number 107, Mt. Vernon, and number 115, Oridia. Both these soils consist of nutrient-rich sediments deposited by the flooding that occurs regularly along the rivers and streams. When protected from flooding, these soils are good crop land. The soils have the strength to support buildings, but drainage around foundations and footings can be a problem.

East of town are a series of soils associated with the glacial gravel deposits, including number 51, Everett, and numbers 79, 80, and 81, Kickerville. These soils are also good crop land but are typically used as pasture because the gravel can make tilling difficult. These soils are well-suited for building sites, although the slopes associated with number 81 can prove problematic.

Two areas of soil number 116, Pangborn, also lie to the east of town. This is a mucky soil that has limited usefulness for either farming or building. In the latter case, the muck must be excavated or the buildings must be constructed on pilings. Pangborn soils are highlighted on Map 4.

Groundwater. Because of high levels of dissolved iron, little use is made of the local groundwater. Most residents of the immediate area use municipal water supplied from wells near the city of Sumas, 7 miles to the north.

Critical Areas and Resource Lands

The GMA requires that Nooksack identify, classify, and protect certain critical areas and resource lands. Included in the critical area classifications are wetlands, frequently flooded areas, fish and wildlife habitat conservation areas, geologically hazardous areas, and critical aquifer recharge areas. Resource lands are those containing important agricultural, forest, or mineral resources. The Goals and Policies relating to critical areas and resource lands are located in Chapter 2, under Environmental Goals. In late 1991 Nooksack adopted a Critical Areas Ordinance (CAO)

to meet the GMA mandate. The CAO is codified as Chapter 16.08 of the Nooksack Municipal Code. The ordinance applies only within city limits, but Whatcom County has also developed a CAO for the unincorporated land around the city. [The CAO was last updated in 2006.](#) In 1999 the City updated its Shoreline Master Program or SMP (Chapter 16.04). When this document was approved by the Department of Ecology in the fall of 2001, the CAO's wetland regulations became part of the Shoreline Master Program. [In December 2015, the Nooksack SMP was updated again to be consistent with new state guidelines.](#)

Wetlands. Wetlands are fragile ecosystems which assist in the reduction of erosion, flooding, and water pollution. Wetlands also provide an important habitat for wildlife, plants and fisheries. Wetlands are grouped into four different categories based on their characteristics and the functions and values they perform. Wetland regulations, including required buffers, setbacks and performance standards are contained in the [CAO \(Chapter 16.08 NMC\) and the](#) Nooksack Shoreline Master Program (Chapter 16.04 NMC).

Aquifer recharge areas. Although little use of groundwater occurs locally, the entire city of Nooksack has been protected as an area with high susceptibility to groundwater contamination. Regulations pertaining to the protection of aquifer recharge areas are contained in the Critical Areas Ordinance (Chapter 16.08).

Frequently flooded areas. Flood-prone areas are regulated both by the CAO and by [a-the](#) National Flood Insurance Program Ordinance, which is codified as Chapter 15.10 of the Nooksack Municipal Code. Due to the large amount of land located within areas subject to flooding, Nooksack's rules for floodplain management are more stringent than the minimum required by FEMA.

The ordinances reference a Flood Insurance Rate Map prepared by FEMA in 2004. The city adopted the new maps for regulatory purposes shortly after they became available; however, the city is actively pursuing modifications and improvements to the FEMA maps in areas adjacent to the Sumas River where floodplain and floodway mapping appear to deviate substantially from local knowledge regarding flood-prone areas. The city also intends to coordinate with the county in floodplain management activities.

Although the 2004 FEMA maps may be inaccurate in the areas adjacent to the Sumas River, they nevertheless represent the best available information regarding the pattern of flooding near Nooksack. The city has therefore used the 2004 FEMA maps for planning purposes. All flood-related analyses and calculations in this plan are based upon those maps.

Geologically hazardous areas. Within the city limits, [the-onlyone major, but infrequent,](#) geological hazard is from volcanic eruption, which might lead to mudflows and flooding along the Sumas River. This hazard is addressed by the provisions of the CAO dealing with frequently flooded areas.

As mentioned earlier, soil type 116, Pangborn, is present east of the city limits. This soil type is subject to liquefaction during earthquakes. The [CAO should be amended to include International](#)

Building Code (IBC) includes rules for development on this soil type ~~at the time that pertinent areas are annexed.~~

Sediments from a slide area on Sumas Mountain that are carried by Swift Creek into the Sumas River contain naturally occurring asbestos, which could pose a hazard to public health. In 2009, Whatcom County shifted a large portion of the Nooksack UGA into UGA Reserve status in recognition of areas that might be impacted by sediments from Swift Creek. As part of the 2016 update of the city and county comprehensive plans, Nooksack proposed removing 81 acres from the UGA Reserve in exchange for UGA north of Tom Road that would not be subject to impacts from Swift Creek sediment. Future development within the city and its UGA adjacent to the Sumas River will need to be conditioned to ensure potential impacts from sediments containing naturally occurring asbestos will be minimized and mitigated.

Fish and wildlife habitat conservation areas. The GMA identifies fish and wildlife habitat conservation areas as lands containing priority habitats, ponds, streams, and state preserves. Maps 5 and 6 show nearby fish habitat and wildlife habitat, respectively, according to a database maintained by the Whatcom County planning department. The database contains data provided to the county by the Department of Fish and Wildlife, as well as additional data collected locally.

As seen on Map 5, all the local creeks are habitat for anadromous fish, including coho, cutthroat, chum, steelhead, and pink salmon. In addition, Breckenridge Creek is a significant spawning and rearing zone, including the stream section immediately east of town. As seen on Map 6, there is significant habitat for birds surrounding Nooksack. The low-lying lands west of town associated with the Nooksack River flooding are good habitat for raptors, waterfowl, and swans. The creeks east of town are habitat for raptors, waterfowl, and bald eagles, and Breckenridge Creek is identified as a bald eagle concentration area. The creeks are also shown as riparian zones, and the sloughs running through the north part of town are shown as wetlands important to priority habitats and species (PHS).

The CAO contains a limited discussion of habitat conservation areas. Streams and wetlands, which comprise the majority of habitat conservation areas within the City of Nooksack, are regulated through the Shoreline Master Program (Chapter 16.04 NMC).

Resource lands. No resource lands of long-term commercial significance have been identified within the existing city limits or in the city's urban growth area (UGA) and UGA Reserve designated by Whatcom County.

Much of the land surrounding Nooksack UGA is designated as agricultural resource land by Whatcom County. The exception is the upland to the northeast, which is zoned R5A (one house per 5 acres) by the county.

The uplands to the northeast are also the site of gravel deposits designated as mineral resource lands by Whatcom County, and an active gravel mine exists just east of the Sumas River. Map 7 shows the locations of mineral resource lands near Nooksack according to the county Comprehensive Plan.

The surrounding agricultural and mineral resources make it impossible for Nooksack to expand without impacting resource lands. The city intends to grow in such a fashion that the agricultural resource lands will be able to coexist within the UGA until the event of an annexation. At that time agricultural lands will become part of the city and available for development.

Shoreline Management Program

Another ordinance regulating the environment is the Shoreline Management Program (SMP), codified as Chapter 16.04 of the Nooksack Municipal Code. The City updated the [Shoreline Management Program \(SMP\)](#) in ~~the spring of 1999~~ [December 2015](#). ~~It~~ [The SMP](#) establishes development setbacks from significant streams. As the city grows to the east, the SMP will become increasingly important, because both the Sumas River and Breckenridge Creek have flow volumes large enough to qualify as regulated streams. Buffers and setbacks on streams and wetlands are established in the Shoreline Master Program (Chapter 16.04 NMC). [The goals and policies of the SMP are included as an element of the city’s comprehensive plan as required by the Growth Management Act. See Chapter 9.](#)

Areas of Historical Significance

Two buildings of historical significance have been identified in or near the city of Nooksack. Originally used as a school house, the *Glen Echo Community Club* is located at the intersection of South Pass and Goodwin Roads (just east of the UGA [Reserve](#)). This site is essentially unaltered and is expected to remain in its current use as a community entertainment and social center. The “Nooksack Store” building has been occupied by a number of different businesses since it was built in 1913. It is currently not being used [for commercial purposes](#), but the Community Action Plan calls for the building to be acquired by the City and used as a centrally located municipal building.

Current [Land Use and Zoning](#) ~~and Land Use~~

[Land use inventory](#)

A [GIS-based](#) land-use inventory was ~~conducted in the spring of 1992, and a GIS system developed~~ [completed](#) in ~~1994~~ [2004](#). ~~The GIS and inventory were~~ [and was](#) updated in ~~2004~~ [2015](#) to support this plan revision. [Land use with the city was divided into nine land use categories, and the results are presented in Table 3-1.](#)

[Table 3-1: Current Land Use \(City limits\)](#)

Category	Acreage	Percentage
Residential, Single-Family	142	32%
Residential, Multifamily	6	1%
Mobile Homes	8	2%

Commercial	7	2%
Industrial	8	2%
Public and Quasi-Public	29	7%
Agricultural	139	31%
Vacant	17	4%
Right-of-Way	86	19%
Total	443	100%

Zone [definitions](#)[descriptions](#), locations, and sizes

There are eight zoning classifications in Nooksack. The zones have the following [definitions](#)[descriptions](#):

Residential. This zone allows one single-family home on a minimum 9,600 square foot lot. Multi-family homes are allowed on a lot with a minimum size of 9,600 square feet plus 4,800 square feet for each unit beyond the first (i.e. one unit on 9,600, two units on 14,400, etc.). Multi-family structures must be separated by 500 feet. Some low-impact commercial uses are permitted in the residential zone [The Residential-8600 sub-zone was established in 2015. It allows one dingle-family residence on a minimum 8,600 square foot lot](#)

Commercial. This zone allows a broad range of retail and service uses. Food processing and production facilities are conditionally permitted. Minimum lot sizes are set by the city council.

Central market [district](#). This zone allows a broad range of pedestrian-oriented retail and service uses. Minimum lot sizes are set by the city council.

~~*Business campus.* This zone allows a mix of uses including light industrial, residential and live-work opportunities, where small businesses can be located on the same site as a single family residence.~~

Light industrial. This zone allows uses such as manufacturing, processing, trucking, warehousing, and storage. Retail uses are conditionally permitted. Minimum lot sizes are set by the city council.

Public. This zone allows public or quasi-public uses such as schools, post offices, cemeteries, and government buildings.

Recreational. This zone allows uses such as parks and church camps.

[Agricultural Urban Reserve.](#) This zone includes lands that are currently in use for agriculture but that are planned for future residential development.

[Open space / Agricultural.](#) This zone [is located in areas where development is severely limited due to the presence of critical areas. It allows ~~only~~ open space and](#) agricultural uses.

Table 3-2 shows the sizes of each of the zones within the current city limits.

Table 3-2: Current Zoning (City limits)

<u>Category</u>	<u>Acreage</u>	<u>Percentage</u>
<u>Residential</u>	<u>306</u>	<u>69%</u>
<u>Commercial</u>	<u>29</u>	<u>7%</u>
<u>Central Market District</u>	<u>6</u>	<u>1%</u>
<u>Light Industrial</u>	<u>13</u>	<u>3%</u>
<u>Recreational</u>	<u>2</u>	<u><1%</u>
<u>Public</u>	<u>15</u>	<u>3%</u>
<u>Agricultural Urban Reserve</u>	<u>39</u>	<u>9%</u>
<u>Open Space/Agricultural</u>	<u>33</u>	<u>8%</u>
<u>Total</u>	<u>443</u>	<u>100%</u>

As can be seen from Table 3-2, over two-thirds of the city is located within the Residential zone. The second largest zone is the Agricultural Urban Reserve zone, which includes lands currently used for agriculture that are expected to be converted to residential uses during the planning period.

Table 3-1. Land Inventory, Existing City Limits
(acres)

Zone	Total	Conforming development	Nonconforming development	Vacant	
				Development limitations	No limitations
Residential	246	135	7	55	49
Commercial	37	8	8	15	6
Central market	5	4	1	0	0
Industrial	10	3	0	1	6
Business campus	4	1	0	0	3
Public	16	16	0	0	0
Recreational	2	2	0	0	0
Agricultural	123	†67	0	42	14
Total	443				

† Agriculturally zoned land destined for continued farm use is classified as "Conforming development," and that destined for conversion to urban use, as revealed later in the chapter, is classified as "Vacant."

Map 8 shows the location of each zone within the existing city limits. Generally, the commercial, central market and industrial zones are located adjacent to SR 9 in the heart of the city, the agricultural urban reserve and open space / agriculture zones are at the fringes of the city, and the residential zone includes everything in-between. Public and recreational zoning is assigned to scattered parcels throughout town, with the elementary-middle school in the southwest corner of town being the largest such parcel.

~~Table 3-1 lists the sizes of each zone and also describes the extent of development within the zones. All values in the table are gross acreages including streets and rights of way. The "Total" column shows the total acreage occupied by each zone and accounts for all 443 acres within city limits. The next two columns show how much acreage is developed within each zone. Most development has occurred in conformance with zoning regulations, but the residential and commercial zones contain a small amount of nonconforming use: there are several churches in the residential zones and several homes in the commercial zones. The one major multi-family development in town is included as a conforming residential use. The final columns describe the vacant land in town, broken into two categories. Areas subject to "Development limitations" are those that are impacted by critical areas such as wetlands, shoreline, and floodplain. Development might still be possible in such areas, but environmental constraints increase the cost and make development less feasible.~~

Density of development

Overall density. Density of development can be expressed either as housing units per acre or as people per acre. Using data from other chapters, we can calculate existing overall density:

$$\begin{array}{l} 910-1,460 \text{ people} \div 443 \text{ acres} = \mathbf{2.053.3 \text{ people per acre}} \\ 314-492 \text{ housing units} \div 443 \text{ acres} = \mathbf{0.711.1 \text{ housing units per acre}} \end{array}$$

Density in residential zone. The same calculations can be applied to the developed residential zone areas, which ~~is totals 135-156~~ acres in size (see Table 3-1). ~~However, an assumption must be made about how many people live in the 15 houses contained in the nonresidential zones. Assuming an average ratio of 2.9 people per housing unit (see the housing chapter), there are 15 homes and 44 people to be subtracted from the dividends of the previous calculations:~~

$$\begin{array}{l} 866-1,460 \text{ people} \div 135-156 \text{ acres} = \mathbf{6.49.4 \text{ people per developed residential acre}} \\ 305-299-492 \text{ housing units} \div 135-156 \text{ acres} = \mathbf{2.23.2 \text{ housing units per developed residential acre}} \end{array}$$

Average lot size. ~~The average size of an existing residential lot can be estimated by accounting for the amount of platted residential acreage that is in public ownership. The plat of Nooksack is a spacious turn-of-the-century plat with 80-foot streets and 16-foot alleys, with the result that 40 percent of the gross acreage is dedicated to public use. More recent plats have included substantially smaller street rights-of-way and no alleys, with the result being that approximately 25 percent of the gross acreage is dedicated to public use. Assuming a ratio of 80/20 of the old~~

pattern to the new pattern yields a weighted average of 37 percent of gross acreage dedicated to the public. The average lot size thus appears to be:

$$(43,560 \text{ sq ft per acre} \div 2.2 \text{ units per acre}) \times 63\% \text{ private} = \mathbf{12,474 \text{ sq ft per unit}}$$

Obviously, residential development has occurred at densities lower than allowed by the zoning regulations. Wide rights-of-way in combination with large lots combine to give Nooksack its spacious feel.

Potential for infill

There is developable land remaining within city limits; however much of this land is currently being used for agriculture. Table 3-4 The land capacity analysis prepared by the county identifies 30-42 acres of vacant-net developable residential land that is readily developable available within city limits. Some of this land lies in the unplatted swatheplatted area adjacent to Tom Road along on the west-north side of town or in the unplatted area east of E. Fourth Street that is near the Sumas River, and other pockets are scattered near the sloughs. The location of readily-developable residential infill parcels is shown on **Map 11**. In addition, 42-7 acres of commercial land and 3 acres of industrial land lie outside of critical areas and are readily developable.

As revealed in Table 3-1, there Including several small open space parcels, there are 72-33 acres of agriculturally zoned-land within city limits that are zoned Open Space / Agriculture and are anticipated to remain in farm use or in open space due to proximity to critical areas. Some of this acreage actually lies outside of critical areas but is nevertheless passed over for development, because the developable portions are odd-shaped pockets scattered within larger parcels that are still in active farm use. Development of the small pockets would result in conversion of a relatively large amount of land out of farm use in order to gain a relatively small number of homesites. Examples of these pockets are the area between the sloughs in the agricultural zone at the west edge of town, and the area out of the floodplain in the agricultural zone to the east of Gillies Road. The Agricultural Urban Reserve zoning district includes areas currently being used for agriculture that have been identified for future residential development. These areas have a future zoning designation of Residential and are eligible to be rezoned when additional land is needed for residential purposes.

Future Land Use

This section develops the linkage between population and land area. A population projection was identified in an earlier chapter, and sufficient land area must be provided to accommodate those people. The size of the required area can't be calculated without making assumptions about the density of development -- the number of people that will live in each housing unit and the number of units that will fit within an acre.

The city council has discussed the issue of residential density many times during development of this plan. As described earlier, existing development averages just over 2-3 units per acre. The GMA and the county-wide planning policies call for increases in residential density before expansion into surrounding undeveloped lands, and the Whatcom County comprehensive plan suggests a minimum of 4 units per net developable acre in small cities such as Nooksack. Recent development patterns indicate that this goal is achievable: the most recent subdivisions in previously unplatted areas have achieved densities of 4.2 dwelling units per net developable acre. However, several factors will continue to make this achieving planned residential densities a challenge:

- As mentioned earlier, Nooksack was originally platted with 80-foot streets and 16-foot alleys, which places 40 percent of platted land into rights-of-way. Most of the platted area is already developed. ~~Against such a backdrop, the city is hard put to ensure densities of 4 units per acre in already platted areas.~~
- Existing lot sizes are an artifact of the onsite sewer systems used through 1988: each lot had to be large enough to contain a septic drain field. Though a sanitary sewer is now present to support higher densities, the existing ownership pattern does not go away. Residents like their yards and are unwilling to sell half their lot and allow another home to be built 10-30 feet away.
- City residents overwhelmingly support a continuation of the density pattern that now exists, as was shown in the community survey (see Chapter 2).

It is impractical to assume that Nooksack will accommodate growth by somehow increasing densities within the existing developed residential areas. Nooksack therefore intends to meet the mandate of the GMA by ensuring that new developments meet two principles. First, Nooksack will encourage development of suitable unplatted land within city limits before supporting residential annexations. Second, Nooksack will support residential design standards that produce reasonably compact development. Development that occurs according to the standards outlined below will have a density 50 percent higher than now exists in the developed residential zone.

Density of intended use

Lot size. As noted in the discussion of vision and goals, residential zoning will continue to impose a minimum lot size of 9,600 square feet for the first unit on a lot, with another 4,800 square feet for each additional unit to a maximum of four units per structure. Lots with multi-family structures must be separated by 500 feet. Combining these restrictions, and without yet accounting for public rights-of-way, a maximum of 25.7 units will fit within a five-acre development. This equates to a maximum of 5.1 units per acre, although an average of between 4.2 and 4.8 units per acre is more likely. The city has also established the Residential-8600 sub-district within which the minimum lot size for a single-family residence has been reduced to 8,600 square feet. The minimum lot sizes for duplexes and multifamily units in this sub-zone have been similarly reduced to help increase overall residential densities.

Road standards. Nooksack's design standards now require only a 50- to 60-foot right-of-way for a typical residential street, and alleys are no longer required. If land is platted in a rectangular grid according to these standards, an average of 28 percent of the land is consumed by rights-of-way. When cul-de-sacs are used, this average can decrease to as little as 18 percent. We will assume a mix of grid and cul-de-sac development, with cul-de-sacs being more typical, leading to the dedication of 22 percent of land area for rights-of-way, leaving 78 percent of land available for building lots. Therefore a maximum of 4.0 units will fit within each gross developable acre (5.1 units per acre X 78% = 4.0 units per gross acre), with 3.7 units per acre being the more conservative estimate (4.8 units per acre X 78% = 3.7 units per gross acre). As stated earlier, County planning goals for urban development within small cities are for a minimum of 4 units per net developable acre, not including land for rights-of-way, infrastructure or undevelopable critical areas. As shown below, to be consistent with this policy, average lot sizes would need to be no greater than 10,890 square feet.

43,560 square feet per acre ÷ 4 lots per acre = 10,890 square feet per lot

As evidenced by all of the most recent subdivisions within the city, market forces have already and will continue to drive average lot sizes well below the above figure and closer to the 9,600 square foot minimum lot size that is currently in place. In addition, in early 2004 Nooksack adopted development regulations allowing for manufactured home subdivisions. The minimum lot size in any such development is 8,500 square feet rather than the standard 9,600 square feet. In fact, the ~~most recent~~ manufactured home subdivision approved by the Nooksack city council ~~was a manufactured home park that in 2004~~ created 32 residential lots within a gross area of 6.3 acres (including roads, utilities and infrastructure), resulting in a density of over 5 units per gross acre.

As stated above, recent subdivisions been achieved overall densities of approximately 4.2 units per net developable acre. These developments were completed in the Residential zone, which requires a minimum lot size of 9,600 square feet for a single-family residence. In 2015 the city established the Residential-8600 sub-district, which allows a single-family dwelling unit to be constructed on a minimum 8,600 square foot lot. Based on the densities achieved in recent subdivisions and the establishment of the Residential-8600 sub-district, the city is planning on increasing the density of new development to 4.4 dwelling units per net developable acre.

Occupancy. As noted in the housing chapter, the 2000-2010 census revealed that 2.9 people lived in each housing unit in Nooksack, which is similar to and slightly higher compared to other areas. ~~For the county as a whole, this ratio was just 2.5 people per unit, and in Nooksack itself this ratio was 3.4 people in 1990. In light of nationwide trends toward smaller households, it seems likely that the average household size in Nooksack will continue to decline. This~~ Although there is some consideration given to the possibility that average household sizes may decline over time, this plan therefore assumes ~~continues to assume~~ that average **household size will decrease to remain 2-62.9 people per unit** ~~by through~~ the end of the planning period.

The two factors highlighted above can be combined to reveal a **planned density of 9-612.76 people per net developable acre** (~~2-62.9~~ people per unit X ~~3-74.4~~ units per acre = ~~9-612.76~~)

people per acre), which is about 50-35 percent greater than the existing density of 6.539.4 people per developed residential acre.

Developable acreage required

Residential. ~~Table 2-1 shows that~~As stated in chapter 2, Nooksack plans to accommodate 1,129,990 newcomers during the planning period. Using the factors developed above, these newcomers will fit in about 118-78 net developable acres of land (1,129,990 people ÷ 9.612.76 people per acre = 118-78 acres). ~~DCTED planning policies~~The state Department of Commerce recommends use of a market factor of 25 percent, so the city must provide a **minimum of 147 104 acres of developable residential land** to accommodate expected residential growth (118-78 acres ÷ 0.75 X 1.25 = 147-104 acres) .

Commercial and industrial. As noted in the discussion of vision and goals, there is a need for more developable commercial and industrial land. According to a memo prepared by the American Planning Association¹, 17 percent of the land area in a typical small city is used for commercial and industrial purposes. The 52-48 acres of Nooksack that is currently zoned commercial, central market and light industrial is equivalent to only 12-11 percent of the existing city land area. To increase the economic viability of the community, Nooksack plans to provide substantially more commercial and industrial land within the city during the planning period, as shown below.

Short-term vs. long-term planning areas UGA and UGA Reserve

Whatcom County, in development of its comprehensive plan, has distinguished between two varieties of areas intended for urban expansion, ~~both of which are included within an Urban Growth Area (UGA) as defined by the GMA.~~ The first of these is the Short Term Planning Urban Growth Area (STPAUGA), which is the area available for annexation to a city in the near term. Within the STPAUGA, a property owners can petition for annexation into the city and the city council can demonstrate-determine the need for the required land base, as well as the availability of required urban services. The second area is the Long-Term UGA UGA Reserve, which includes areas not available for annexation, but ~~nevertheless included within the UGA in order to achieve a logical service area boundary~~which may be converted to UGA at some point in the future. There are typically unresolved issues associated with provision of services to or need for the land area within ~~a LTUGA~~the UGA Reserve. This plan ~~defines-identifies~~ an STPA-UGA and a LTPAUGA Reserve for Nooksack identical to those established in the Whatcom County Comprehensive Plan.

Sizes and locations of proposed zones

Map 9 shows proposed future zoning for Nooksack and the surrounding UGA and UGA Reserve, and Map 10 shows future zoning overlaid by critical areas. Table 3-2-3 shows the size of each

¹ Harris, Christopher: "Bringing Land-Use Ratios into the '90s," August 1992, American Planning Association.

proposed zone ~~and also accounts for the impacts of critical areas.~~ This table can be compared to Table 3-1 to see what is gained with the proposed ~~zoning changes to the city's UGA and UGA Reserve.~~ ~~As before, the "Total" column shows the total acreage occupied by each zone and accounts for all acreage in the UGA.~~ Nooksack will gain a total of ~~223~~ 162 acres under this plan. ~~The next column shows how much acreage is already developed within each zone. This column includes both the conforming and nonconforming development shown in Table 3-1. The next two columns describe the vacant land within the combined STPA and current city limits, broken into two categories. As before, areas subject to "Development limitations" are those that are impacted by critical areas. Finally, the~~ The rightmost column describes the additional acreage within the ~~long-term~~ UGA Reserve.

Table 3-23. Sizes of Proposed Zones
(acres)

<u>Category</u>	<u>City</u>	<u>UGA</u>	<u>City and UGA</u>	<u>UGA Reserve</u>
<u>Residential</u>	<u>323</u>	<u>84</u>	<u>407</u>	
<u>Residential-8600</u>	<u>27</u>	<u>0</u>	<u>27</u>	
<u>Commercial</u>	<u>29</u>	<u>12</u>	<u>41</u>	
<u>Central Market District</u>	<u>6</u>	<u>0</u>	<u>6</u>	
<u>Light Industrial</u>	<u>13</u>	<u>31</u>	<u>44</u>	<u>31</u>
<u>Recreational</u>	<u>2</u>	<u>0</u>	<u>2</u>	
<u>Public</u>	<u>15</u>	<u>38</u>	<u>53</u>	
<u>Open Space/Agricultural</u>	<u>28</u>	<u>1</u>	<u>30</u>	
<u>Total</u>	<u>443</u>	<u>166</u>	<u>609</u>	<u>31</u>

<u>Zone</u>	<u>Total</u>	<u>City limits combined with short-term planning area</u>			<u>Long-term UGA</u>
		<u>Developed</u>	<u>Vacant</u>		
			<u>Development limitations</u>	<u>No limitations</u>	
<u>Residential</u>	<u>320</u>	<u>144</u>	<u>120</u>	<u>65</u>	<u>1</u>
<u>Res. Cluster</u>	<u>83</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>83</u>
<u>Commercial</u>	<u>37</u>	<u>16</u>	<u>15</u>	<u>6</u>	<u>-</u>
<u>Central Market</u>	<u>5</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>-</u>
<u>Industrial</u>	<u>89</u>	<u>3</u>	<u>33</u>	<u>53</u>	<u>-</u>
<u>Public</u>	<u>57</u>	<u>57</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>Recreational</u>	<u>2</u>	<u>2</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>Agricultural</u>	<u>73</u>	<u>73</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>Total</u>	<u>666</u>				

~~‡ Land zoned "Agricultural" and destined for continued farm use is classified as "Developed."~~

Highlights of the proposed zoning are mentioned below, and a site-specific discussion is presented in the next section.

- ~~• A new residential-cluster zone classification is was previously proposed in the portion of the UGA Reserve that was removed as part of the 2016 comprehensive plan update. This zone is applied to an area in the LTUGA that includes shoreline areas and is partially flood-prone. Clustering will allow denser development of areas removed from the shorelines and preservation of open space along the creeks. This zone will require an overall density of 3 units per gross acre, a minimum lot size of 7,500 square feet, and setaside of at least 25 percent of land in open space reserve. The City expects that residential-cluster development will be necessary in the future at other locations, including where residential development is proposed in proximity to the Nooksack Slough.~~
- There is an increase in the amount of developed public land because the Nooksack Cemetery and the Nooksack Elementary school ~~are remain included within~~ the ~~STPAUGA and the 6-acre, future ball field located adjacent to the Middle School has been added to the UGA as part of the 2016 update.~~
- There are sizable increases in the inventory of residential, commercial, and industrial land. Some of the increase is due to ~~the rezoning of land within the existing city to Industrial zoning, but most is due to expansion into unincorporated land~~ retention of the residential areas within the UGA; however, forty-nine acres has been added to the UGA as part of the 2016 update. This includes the 29-acre area north of Tom Road planned for future industrial development and the 10-acre, future commercial area and the 10-acre, future residential area located south of S. Pass Road.
- ~~Although not shown in Table 3-2, there is an increase in the amount of recreational land. As part of implementing the Community Action Plan, a park and trails corridor is planned to be developed along the Sumas River and Breckenridge Creek area. As shown on Map 9, the area designated for this use has a non-regulatory recreational overlay zone that includes the SMP buffer and setback requirements established under the Shorelines Management Program. While the area has severe development constraints, it can be a great asset to the community as a natural corridor with trails and viewing areas. Development of such a system will require a partnership with property owners, the Department of Ecology, and the Washington State Department of Fish and Wildlife. In exchange for the addition of fifty-five acres to the UGA, an 81-acre area located north of S. Pass Road and east of the Sumas River was removed from the UGA Reserve. The remaining UGA Reserve includes approximately 31 acres located north of S. Pass Road.~~

Neighborhood-specific reasons for zoning

Locations of zones are established based on the geographic attributes of the land as related to goals and policies described elsewhere in this plan. The following area-specific discussion is

linked to Map 10 -- each numbered area listed below has a corresponding number on the map. The discussion centers around [the in-city areas proposed for zone changes](#) [major undeveloped areas within the city](#) and the new zoning proposed for the UGA.

- 1) [Area between Gillies Road and railroad, near north city limits](#). This 39-acre area is now zoned [agricultural-Residential](#) and is in active farm use. [In 2007 the area was approved for a 76-lot residential subdivision, but no development has yet occurred](#). Flood maps show this area mostly within the 100-year floodplain. Pockets of higher ground (500-year floodplain) exist at the south edge of the area. Wetlands maps show extensive wetlands within the southeast half of the area. The area fronts upon the B-N rail line and Gillies Road, but is separated from SR9 by the rail line. [Industrial-Residential zoning is proposed will be retained](#) for the area. As much as half of the site may be undevelopable, but the remainder [is already incorporated, adjacent to the rail line, and removed from the developed residential areas can support residential development](#). [Direct access to SR9 would be possible by building a short eastern extension of Tom Road](#). City sewer and water [are likewise is](#) available along [SR9 Gillies Road](#). [City sewer is available to the south along E. Fourth Street; however, construction of a sewer lift station will likely be necessary](#).
- 2) [Area fronting on south of Tom Road to the west of SR9](#). This ~~44.530~~ acre area is now zoned agricultural [urban reserve](#) and is in active farm use. Flood maps show an area of 100-year floodplain covering the northwest third of the area. Local knowledge indicates that in 1990 the flood waters extended further east than shown on the maps. Residential zoning is proposed for the [portion between SR9 and the undeveloped W. First Street right-of-way, with the remaining 8 acres to retain agricultural zoning area](#).
- 3) [Area west of W. 3rd Street and north of Madison](#). This 25-acre area is now zoned a [combination of](#) agricultural [urban reserve and residential](#) and is in active farm use. The area contains wetlands and bands of 100-year floodplain associated with two sloughs, along with an area of 500-year floodplain to the south. The majority of the area is outside the 100-year floodplain. Access to the non-flood-prone portions is complicated because of the sloughs. [Retention of agricultural-Residential zoning is proposed for this area, because conversion to an urban use would result in very few developable sites relative to the acreage removed from agricultural use the area is already within the city and could be developed using residential cluster options once adopted](#).
- 4) [Area between Nooksack Avenue and B-N rail line](#). This 7-acre area is now zoned industrial. The narrow shape, combined with the immediate proximity of homes to the east and west, makes the area problematic for industrial development, despite the presence of the rail line. The owner prefers industrial use. Industrial zoning is proposed for the area.
- 5) [Area south of South Pass Road](#). This 22-acre area is now zoned commercial [and residential](#). The area contains a pocket of wetland. About two-thirds of the area is within the 100-year floodplain. The area fronts on SR9 and also on South Pass Road, which is a county major collector [with potential for larger traffic volumes if SR9 is moved to the new right-of-way](#). Continued commercial [and residential](#) zoning of the area is proposed. [As part of the 2016](#)

update of the city and county comprehensive plans, the city proposed adding the adjacent 20-acre area to the south to eliminate two split-jurisdiction parcels. A combination of residential and commercial zoning is proposed in that additional 20-acre area as well.

- 6) Area north of South Pass Road and south of Hertel Way. This 14.5-acre area is now primarily zoned residential with a small area zoned open space / agricultural. The area is entirely within the 100-year floodplain, is subject to stream setbacks under the Shoreline Management Program, and has wetlands at the east near the river. A 32-lot manufacture home park was recently developed within a portion of this area. Residential zoning is proposed-retained for the developed portion of this area. Open space / agricultural zoning will also be retained in the undeveloped area except along S. Pass Road where some additional Residential zoning is proposed.

- 7) Area between Hertel Way and E. Madison (north/south) and between the railroad and Sumas River (east/west). This 40-acre area had been zoned Business-CampusResidential with approximately four acres zoned for industrial use in the northwest corner; ~~however, as part of the 2004 comprehensive plan update, all but four of the acres designated as Business-Campus were rezoned to Residential.~~ The majority of the area ~~is currently in active farm use and is almost entirely within the 100-year floodplain, is subject to stream setbacks under the Shoreline Management Program, and has wetlands to the east near the river and to the west along a slough.~~ A residential zoning district is proposed for the majority of this area. ~~The remaining four acres of Business-Campus adjacent to the Burlington Northern railroad are designated for future industrial use. The area adjacent to Sumas River is in the 100-year floodway. It is undevelopable and should be incorporated into the Nooksack Parks and Trails system as a natural riparian buffer serving the Sumas River. However the rest of this zoning district is only periodically subject to flooding and can be developed as a residential subdivision if planned properly to mitigate flooding~~was developed to include the Plat of the Village of Nooksack. Some additional residential development will be possible immediately adjacent to E. Madison Street once the local FEMA maps have been updated to reduce the areas mapped as floodway.

- 8) Area east of Sumas River and southwest of Breckenridge Creek. This ~~8381~~ acre area is now zoned agricultural in the county and is a productive berry farm in active farm use. The area contains wetlands associated with Breckenridge Creek and the Sumas River. About a third of the area is in the 100-year floodplain. Another part at the southeast is in the 500-year floodplain. The area is subject to stream setbacks under the Shoreline Management Program. A major natural gas pipeline traverses the area and will affect the development potential. No urban utilities are present within this area straddled by the two streams. The In 2009, Whatcom County re-designated the area ~~is not included within the STPA identified in the Whatcom County Comp. Plan, and is likewise not slated for near-term development within this plan~~from UGA status to UGA Reserve due to potential impacts from Swift Creek sediments containing naturally occurring asbestos. ~~Inclusion of the area within the LTUGA is sensible in order to preserve a logical service area boundary along South Pass Road.~~ Residential cluster zoning is ultimately proposed for the area As part of the 2016

comprehensive plan update, the city proposed removing the area from the UGA Reserve in exchange for the addition of a new UGA north of Tom Road adjacent to the state highway.

~~— One likely route for a connector between Madison Street and South Pass Road would be through this area. This area would then also generate much of the traffic that would use the connector. Developments in this area should bear proportional responsibility for construction of the connector.~~

- 9) Future industrial parcel south of Breckenridge Creek. This 3732-acre area is now zoned agricultural in the county and is in sporadic-active farm use. The area contains a narrow band of 100-year floodplain associated with Breckenridge Creek. The area is subject to stream setbacks under the Shoreline Management Program. The area fronts on South Pass Road, a county major collector. At the west of the area is a forested ridge that separates the area from the proposed adjacent residential cluster zone lower lying area to the west. The area is buffered to the north both by Breckenridge Creek and by the vertical separation associated with the uplands. The owner wants to develop the parcel for industrial use as soon as possible In 2009, Whatcom County re-designated this area UGA Reserve due to potential impacts from Swift Creek sediments. Shifting this area back to UGA status will require coordination between the city and the county to ensure that management policies are in place to limit potential hazards associated with Swift Creek sediments potentially containing naturally occurring asbestos. Industrial zoning is-was proposed for this area previously; however, the future land use designation will need to be revisited at the time the area is evaluated for re-inclusion in the UGA.

One likely-possible route for the-proposed a connector between Breckenridge Road (aka Madison Street) and South Pass Road is through this area. This area will generate much of the traffic that will use the connector. Developments in this area should bear proportional responsibility for construction of the connector. This area is not adjacent to existing city limits and cannot be easily provided with sewer service, which would ordinarily preclude development of the area in the near term unless a sewer lift station is constructed. However, the city strongly favors industrial development in this area and supports development of the parcel on a septic system in the county's jurisdiction. Water is available because the area is now served by the Nooksack Rural Water Association.

- 10) Area north of Breckenridge Creek. This area is now zoned R5A-UR4 in the county. In the northwest corner, the area contains a pocket of Pangborn soil and wetland associated with a depression, as well as a band of 100-year floodplain associated with Breckenridge Creek. The area is subject to stream setbacks under the Shoreline Management Program. The area fronts on Breckenridge Road, a county minor collector. The Nooksack Valley School District recently constructed the Nooksack Elementary school in part of this area (just to the east of the Nooksack Cemetery). Public zoning is proposed for the central portion of the area that contains the school and cemetery. Residential zoning is proposed for the remainder.

~~— One likely route for the proposed connector between Breckenridge Road (aka Madison Street) and South Pass Road is through this area. The school will generate much of the traffic that~~

~~will use the connector and should therefore bear proportional responsibility for construction of the connector.~~

- 11) Area north of Madison/Breckenridge Road, east of Sumas River. This 50-acre area is now zoned R5A-UR4 in the county. The area contains a small amount of wetland and 100-year floodplain associated with the Sumas River. The area is subject to stream setbacks under the Shoreline Management Program. The area contains a 20-acre pocket of Pangborn muck associated with a depression. An active gravel mine exists in the excluded panhandle of unincorporated land to the north, and other county-designated mineral resource lands are present to the north. A major natural gas pipeline traverses the area and will affect the development potential. A portion of the area is in active farm use. Residential zoning is proposed for the majority of this area. A small area of Open Space/Agricultural zoning is proposed adjacent to the Sumas River. The proximity of residential use to gravel mining is a significant conflict that will require mitigation need to be addressed.

~~This area will generate much of the traffic that will use the proposed connector road between Madison Avenue (aka Breckenridge Road) and South Pass Road. Developments in this area should bear proportional responsibility for construction of the connector.~~

- 12) Area between E. Fourth Street/Gillies Road and Sumas River. This area is now zoned open space / agricultural and agricultural urban reserve in ~~both~~ the city ~~and the county~~ and is in active farm use. The area is predominantly within the 100-year floodplain, and the northern portion is impacted by sediments from Swift Creek potentially containing naturally occurring asbestos. The area contains wetlands associated with the Sumas River and with a slough. The area is subject to stream setbacks under the Shoreline Management Program. Retention of open space / agricultural zoning is proposed for a portion of this area, because conversion to an urban use would result in very few developable sites relative to the acreage removed from agricultural use and could expose residents to future flooding, including inundation by waters containing Swift Creek sediments. Residential-8600 zoning is planned for the southwest portion of the area that is currently zoned agricultural urban reserve because this area is less impacted by flooding and is closer to public infrastructure located in E. Fourth Street.

- 13) Area east of the W. 1st St. alley to Nooksack Avenue from Jackson St. to Lincoln St. This area is now zoned Central Market with the park located on the NE corner of the Madison St., Nooksack Avenue intersection. ~~A Central Market zoning district is planned~~ zoning will be retained for the area. This zone should attract commercial shops that will cater to both community and highway traffic. When more fully developed, the District will provide a concentrated and aesthetically pleasing commercial core with both service oriented business and municipal services.

- 14) ~~The Sumas River and Breckenridge Creek Corridor~~ Area north of Tom Road and west of the State Highway. ~~Breckenridge Creek is a tributary to Sumas River but the two waterways are very different in character. Breckenridge Creek is a highly functional creek rich in both in-stream structure and adjacent riparian vegetation. It provides excellent habitat for a wide~~

~~variety of vertebrates and invertebrates. The northern bank of Breckenridge Creek has between 100 and 200 feet of natural vegetation buffering it from the cemetery on the bluff. This 29-acre area was proposed to be added to the Nooksack UGA as part of the 2016 update of the city's comprehensive plan. The city's proposal included removing approximately 81 acres of UGA Reserve located north of S. Pass Road and east of the Sumas River in exchange for adding the area north of Tom Road plus a 6-acre area adjacent to the Middle School discussed below. The 29-acre area has frontage on both State Route 9 and Tom Road and is already served by city water. Major water, sewer and electrical transmission lines are in place within the state highway, and these facilities have sufficient capacity available to serve the proposed expansion of the UGA.~~

~~Sumas River, by contrast, is degraded in a variety of ways. It has no in-stream structure; its riparian area is degraded with non-native invasive vegetation (reed canary grass). The River also suffers from excessive amounts of sediment originating from a massive slide at the headwaters of the river. Periodic deposits of fine sediment results during periods of heavy rain and swelling waters. Whatcom County is working with the Army Corps of Engineers to mitigate the impacts from the slide. Adjacent upland use is predominately agricultural with some residential development abutting Sumas River. In order to provide habitat for local and anadromous fish populations, the river will require some reconstruction to achieve in-stream diversity, side channels and the creation of deep pools. The adjacent upland is almost devoid of vegetation. Significant amounts of vegetative restoration will create shade and nutrients for aquatic life while at the same time increasing upland habitat. The area does not contain any wetlands, and only a small area at the northwest corner is mapped as being within the 100-year floodplain. Prior to annexation of this area, development limitations on the floodplain areas must be recorded with the County Auditor to limit development to stormwater facilities, open space and/or environmental restoration in order to comply with a new state law.~~

~~The corridor area contains wetlands associated with Breckenridge Creek and the Sumas River. With environmental constraints that include floodways, wetlands and riparian areas, development will be difficult under the State's Shoreline Management Program and a GMA mandate to protect critical areas. Based on proximity to major transportation routes and utilities, industrial zoning is proposed for this area.~~

~~A non-regulatory Park and Trail overlay zone is planned along these two waterways. The overlay identifies a corridor as wide as 300 feet in some areas that will provide an opportunity for the City to designate a natural corridor along each side of Sumas River and Breckenridge Creek and create a natural trail system.~~

- ~~1.5) Area west of Nooksack Valley Middle School. This 6-acre area was proposed to be added to the Nooksack UGA as part of the 2016 update of the city's comprehensive plan. This property is owned by the Nooksack Valley School District and is currently zoned agricultural in the county. The parcel is is planned for development of new ball fields. Public zoning is proposed.~~

Capacity for Residential Development

Maps 11 and 12 present the residential development capacity of the land in and around Nooksack.

- *Infill.* As mandated by the Growth Management Act, Nooksack shall first accommodate growth in suitable areas within the existing city limits. ~~The “readily developable” infill parcels identified in Map 11 contain 39 acres of land, and the infill parcels with “development limitations” amount to another 95 acres. The development limitations applicable to the infill parcels relate to the presence of wetlands, shorelines, and floodplain. According to the land capacity analysis prepared by the county, the lands within the existing city limits contains approximately 42 net developable residential acres in addition to those parcels already approved for residential subdivisions. This acreage figure includes a market factor subtraction of approximately 21 percent.~~
- *Short-term Planning Area UGA.* ~~The STPA~~ According to the land capacity analysis prepared by the county, the UGA contains ~~37~~24 acres of ~~readily net~~ developable ~~residential~~ land and 25 acres of land with development limitations. The major development limitation in the STPA-UGA is the 20-acre pocket of muck soil, ~~which would have to be excavated and backfilled prior to development.~~ The above figure also includes the 21 percent market factor subtraction.
- *Long-term UGA Reserve.* The ~~LTUGA-UGA Reserve~~ contains 83 acres of residential cluster. ~~No attempt has been made at this time to quantify the portions that are readily developable~~ does not contain any land planned for future residential development.

Earlier in the chapter, a need for ~~447~~104 acres of ~~net~~ developable residential land was established. The incorporated city combined with the ~~STPA-UGA~~ provides ~~only 65~~66 acres of ~~readily net~~ developable land, which ~~is equates to approximately 82~~84 acres ~~less than needed once the market factor subtraction is eliminated.~~ However, it is assumed that the deficit will be mitigated by development that occurs on the additional 120 acres of land within the combined city/~~STPA~~ that are subject to development limitations plus development within the LTPA. ~~The additional 20 acres needed to meet the target acreage will be provided through two residential subdivisions that had been approved but not constructed at the time the land capacity analysis was completed.~~ These included the Gill and DeHoog subdivisions.

Residential Land ~~Supply~~ Capacity Analysis

~~In 2013, the county developed a land capacity analysis, detailed methodology in collaboration with the seven cities. This methodology utilized data from both county and city GIS mapping systems along with data from the county assessor’s office and the state office of financial management to quantify the development capacity available within each city and UGA. Gross developable acreage was reduced to account for the presence of critical areas, future needs for infrastructure and other public uses, and market factors. Net developable residential acreage was converted to residential growth capacity using assumed densities provided by each city, persons~~

per household information from state and federal sources, and occupancy rates developed by the state office of financial management. Net developable commercial and industrial acreage was converted to commercial and industrial growth capacity using floor area ratios and employment density information, which in some cases was provided by each city.

In 2004-2015, a detailed analysis was completed on a parcel by parcel basis to obtain a more accurate picture of the adequacy of the proposed residential land supply. Using GIS-based mapping and combining information from the Whatcom County Assessor's office with local knowledge, each parcel was reviewed to determine whether or not it was fully developed, partially developed or undeveloped. The methodology utilized was consistent with the methods agreed upon by the Growth management Oversight Committee for use by all jurisdictions within the county in conjunction with updating their comprehensive plans the county utilized the agreed upon land capacity analysis, detailed methodology to analyze the residential growth component of the UGA proposal put forward by Nooksack. The results of that analysis are presented in Table 3-4, below. It is important to note that the residential growth capacities in Table 3-4 have already incorporated the agreed upon market factor subtractions that are intended to account for that proportion of the total developable land area that will not be made available during the planning period due to market factors.

Table 3-4: Residential Growth Capacity

	<u>City</u>	<u>UGA</u>	<u>Totals</u>
<u>Dwelling Units</u>	<u>232</u>	<u>91</u>	<u>323</u>
<u>Population.</u>	<u>719</u>	<u>282</u>	<u>1,001</u>

Fully developed lots. Fully developed parcels included developed residential lots that did not have any development potential. This determination was based on lots that were smaller than twice the minimum lot size or that contained development that precluded further subdivision (such as a residence placed in the center of a double-sized lot) or parcels impacted by critical areas that precluded any additional development. Each of these lots or parcels was assigned a value of zero for the number of future residential lots that it could provide.

Partially developed lots. This category included residentially zoned lots that contained at least one residence and that were larger than twice the minimum lot size and not fully constrained by critical areas. Each parcel was reviewed to determine how many additional residential lots could be accommodated. No subtraction for roadways or infrastructure was considered for lots located on existing roads. Larger undeveloped parcels were analyzed based on an average of 3.2 lots per gross acre within a standard subdivision—thereby allowing for new roads and infrastructure such as stormwater management facilities. A value was assigned to each lot or parcel corresponding to the number of additional residential lots that could reasonably be accommodated taking into account such factors as critical areas.

Undeveloped lots. Undeveloped lots included vacant platted lots that were not constrained by critical areas plus larger parcels that had the potential to be subdivided. Once again, each parcel

was reviewed to determine the number of residential lots that could reasonably be accommodated.

Parcels containing non-conforming development such as churches were also identified, but no development potential was assigned to such properties. Vacant parcels that were fully constrained by critical areas were also identified and were not assigned any future development potential.

Table 3-3 shows the number of additional residential lots potentially available in each of the residential areas in the city limits, the STPA and the LTPA

Table 3-3
Residential Development Potential
(new dwelling units)

Area	Undeveloped Lots or Parcels	Partially Developed Lots or Parcels	Total # of Residential Units
Within City Limits	127	70	197
STPA		165	165
LTPA		249	249
Total	127	484	611

The following calculations demonstrate that Nooksack has an adequate land supply to accommodate the planned growth over the next twenty years. The planned population in 2024 is 2,039. This represents an increase of 1,129 people.

$$2039 - 910 = 1,129 \text{ increase in population}$$

Based on a 25% market factor, Nooksack would need to have a land supply capable of accommodating a population increase of 1,411. The resulting population that would need to be accommodated would then be 2,321 people.

$$1,129 \times 1.25 = 1,411 \text{ population increase based on market factor}$$

$$910 + 1,411 = 2,321 \text{ total population to be accommodated}$$

Assuming that in 2024 an average of 2.6 people will reside in each housing unit, then a total of 893 dwelling units will be needed.

$$2,321 \div 2.6 = 893 \text{ total units to accommodate including market factor}$$

Subtracting the existing 310 dwelling units but adding back 10 units currently located within the Commercial or Central market zoning districts that will likely be replaced by future commercial development yields a total of 593 units that would need to be accommodated.

~~893 - 310 + 10 = 593 new units to be accommodated including market factor~~

As can be seen from Table 3-34, the detailed pareel-land capacity analysis indicates that available lots-land within the city limits plus future development potential within the STPA and the LTPAUGA will providecan accommodate an additional 611-units1,001 people, which is slightly more than the number-of-units990 people required to plan for based on the population growth allocation to Nooksack adopted by the county council. The Nooksack residential land supply is, therefore, considered to be adequate.

Employment Land Capacity Analysis

In 2015, the county utilized the agreed upon land capacity analysis, detailed methodology to analyze the employment growth component of the UGA proposal put forward by Nooksack. The results of that analysis are presented in Table 3-5, below. It is important to note that the employment growth capacities in Table 3-5 have already incorporated the agreed upon market factor subtractions that are intended to account for that proportion of the total developable land area that will not be made available during the planning period due to market factors.

Table 3-5: Employment Growth Capacity

	<u>City</u>	<u>UGA</u>	<u>Totals</u>
<u>Floor Area (sq. ft.)</u>	<u>74,872</u>	<u>86,672</u>	<u>161,544</u>
<u>Employees</u>	<u>62</u>	<u>44</u>	<u>106</u>

As can be seen from Table 3-5, the detailed land capacity analysis indicates that available land within the city limits plus future development potential within the UGA can accommodate an additional 106 new employees, which is slightly less than the 115 jobs required to plan for based on the employment growth allocation to Nooksack adopted by the county council. The Nooksack employment land supply is, therefore, considered to be adequate.

Parks, Trails, Open Space and Greenways

Open space and trails will be a dominantan important theme as the City's Parks and Trail System takes shapecity's comprehensive plan and development regulations are implemented over the next twenty years. Zoning, environmental constraints and capital improvement projects will all be factors contributing to the maintenance and development of open space within and around Nooksack. If the required buffers are maintained along the sloughs, streams, and wetlands, about 172over 100 acres of land will remain in open space. These buffers, present throughout the town, will simultaneously serve as fish and wildlife habitat and as aesthetic features preserving the rural character of Nooksack. In addition, the exclusion of the large berry farm (area no. 8 on

~~Map 10) from the STPA will result in a large open space for years to come. Eventual cluster zoning within that area will also preserve open space.~~

~~A non-regulatory PARKS AND TRAILS overlay corridor is~~ Open space corridors are planned along Breckenridge Creek and the Sumas River as part of the City of Nooksack Parks and Trails system with an emphasis on restoration and preservation of their natural riparian buffers. ~~The~~ corridor, illustrated on Map 7 could achieve a width of as much as 300 feet in some areas

~~The key to the development of the trail system is the restoration and enhancement of Sumas River and access into the already well-established Breckenridge Creek corridors. While Breckenridge Creek has excellent in-stream character and diverse multiple canopy layers of riparian vegetation, Sumas needs extensive work to restore its habitat value. In order to provide habitat for local and anadromous fish populations, the river will require some reconstruction to achieve in-stream diversity, side channels and the creation of deep pools. The riparian corridors and adjacent upland along Sumas River lacks vegetation. Significant amounts of vegetative restoration will create shade and nutrients for aquatic life while at the same time increasing upland habitat.~~

~~The overlay zone~~ Planned open space within the city incorporates associated wetlands, floodway, natural riparian areas and adjacent upland. While ~~the area has~~ some areas have severe development constraints, ~~it these areas~~ can be a great asset to the community as a natural corridor, with trails and viewing areas possible at some locations. ~~However, much of this land is under private ownership and development of such a systems will require a partnership with property owners, the Department of Ecology, and the Washington State Department of Fish and Wildlife. FEMA-designated floodplains and floodways that serve to limit development will help preserve open space corridors through town and to the west of town.~~

~~Funding for this system will come from a variety of sources, however the City should explore the use of “park impact fees” as a baseline funding sources for this park system. A detailed funding strategy with a Capital Facilities element should be included in a Parks and Trails Plan.~~ Open space / Agriculture zoning has been established in areas where urban development is inappropriate due to environmental limitations such as floodways and hazardous areas impacted by sediments from Swift Creek potentially containing naturally occurring asbestos. Ongoing agriculture will allow these areas to remain in open space for the foreseeable future.

~~City-owned park and open space properties will be retained and enhanced. In addition, the Nooksack Valley School District has plans to expand its recreational facilities at the Middle School to accommodate new ball fields. These facilities will increase the open space buffer separating Nooksack from the City of Everson to the west.~~

~~If properly implemented, a parks and trail system will result in enhancement of natural systems and the creation of a new park in the City of Nooksack. The 18,000 lineal feet planned for trails primarily along Sumas River and Breckenridge Creek will provide both community members and visitors access to trails, with no elevation gain. These trails will be ideal for running, biking, or pushing a stroller. The trail system will fork off of Sumas River into the Business Campus and~~

the recreation fields, eventually connecting to Nooksack Avenue and the Market District. The trails, in conjunction with sidewalks along Nooksack Avenue and Breckenridge Road, will provide a network of pedestrian and bike routes throughout the core of the town. Finally, it is important to look at the lands surrounding Nooksack. The city is almost entirely surrounded by lands designated as agricultural lands of long term commercial significance. These resource land designations will help maintain large amounts of open space around Nooksack that have helped define the city's rural character.

The restoration of the creeks and their surrounding uplands will function as the centerpiece of a cohesive, recognizable park character, rooted in the Breckenridge and Sumas greenways and the adjacent open space areas, reaching far into the community to influence downtown renewal, fresh commercial areas, and other defining elements of a healthy community. In summary, the prevalence of critical areas and resource lands both in and near the city, in combination with planned capital improvements, will result in preservation of a large amount of open space within and surrounding the city. Nooksack will retain the rural feel that is so important to residents.

Planning Approaches to Increase Physical Activity

Nooksack has established several approaches to encouraging increased physical activity among its citizens. These include:

- Requiring the construction of sidewalks within all new subdivisions
- Planning for interconnections between neighborhoods
- Planning for a compact urban commercial area
- Establishing higher density residential areas at locations near the commercial core and the major transit route through town
- Maintaining existing park facilities
- Planning for and developing additional park, recreation, trail and open space facilities

Essential Public Facilities

“Essential public facilities” include those facilities that are typically difficult to site, such as airports, state education facilities, state or regional transportation facilities, regional transit authority facilities, state and local correctional facilities, solid waste handling facilities, and in-patient facilities, such as substance abuse facilities, mental health facilities, group homes, and secure community transition facilities.

A major public facility of regional significance that is currently under consideration is the proposed construction of new jail facilities within Whatcom County. The County has proposed a funding mechanism whereby cities contribute to the capital cost of the facility through establishment of a countywide sales tax in exchange for the future ability to house prisoners at lower rates. This mechanism is conceptually acceptable to the City of Nooksack, but has not yet been approved by voters.

The county-wide planning policies contain a number of policies related to the siting of essential public facilities (see Appendix IV). The city has adopted the countywide planning policies and will continue to participate in their implementation in relation to the siting of the new jail facility and other essential public facilities when proposed. The city also adopts the following goal and policies related to essential public facilities:

Goal: To cooperate with other federal, state and local agencies in planning for and siting essential public facilities.

Policy: When the county or a federal, state or regional government initiates the process of planning for the siting of an essential public facility that will serve or impact through its construction the citizens of Nooksack, the city should become an active participant in the processes set forth by the initiating agency.

Policy: The city should incorporate expenditures related to the siting of essential public facilities into its capital facilities planning and annual budget processes.

Policy: The city comprehensive plan and development regulations shall not prohibit, nor shall they be construed to prohibit, the siting of essential public facilities.

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