City of Battle Ground, Washington

Comprehensive Plan 2015-2035








Adopted by City Council June 27, 2016

Ord. No. 16-05

Effective Date July 27, 2016

ACKNOWLEDGEMENTS:

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Chapter 1 – Introduction

Overview of the Comprehensive Plan

The Battle Ground Comprehensive and Transportation Plan (Plan) is based on the principle that decisions affecting Battle Ground's development should be made in a coordinated and responsible way. The Plan articulates a vision for the future of Battle Ground that sustains the values of its citizens and establishes a flexible policy framework for making decisions over the next 20 years.

The City of Battle Ground is responsible for meeting the diverse needs of its current and future residents. Battle Ground's citizens need livable neighborhoods, recreational opportunities, places to shop and work, and an effective, balanced, and cost- efficient transportation system. The City of Battle Ground is required to provide public services and facilities and to adopt regulations that guide growth in ways that meet the needs of city residents while complying with state and federal laws. The process used to develop this Plan took a balanced approach to achieving the City's goals, objectives, and strategies for responding to residents' needs. Thus, the Plan is intended to serve as the guide for growth and development within the city.

1990 Growth Management Act

The Growth Management Plan mandated by the Washington Growth Management Act (GMA) of 1990 requires that cities and counties, with state oversight, plan and control where and how much growth occurs. The comprehensive plans developed by communities under this mandate will guide land use decisions in the future. Battle Ground has used the growth management process for thoughtful community development that will promote a sustainable community. At least every 10 years, the City of Battle Ground, Clark County, and other communities within Clark County are required to review their urban growth boundaries to accommodate future growth, their policies and strategies for achieving their long-term vision, and their overall progress in achieving their 20-year plans for the future.

The GMA requires counties or counties with cities that have a population growth rate of 10 percent or more over the previous 10 years to prepare and adopt 20-year plans that meet GMA requirements. The Plan responds to the GMA and its subsequent amendments. Each element of the Plan includes a more detailed description of how each of these goals is met.

GMA Goals

Plans adopted under the act must address the 13 goals of GMA, as follows (RCW 36.70A.020):

1. **Urban Growth:** Encourage new development to occur in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
2. **Reduce Sprawl:** Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
3. **Transportation:** Encourage efficient multi- modal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.
4. **Housing:** Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing.

5. **Economic Development:** Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, and encourage growth, all within the capacities of the state's natural resources, public services, and public facilities.
6. **Property Rights:** Private property shall not be taken for public use without just compensation having been made. The property of landowners shall be protected from arbitrary and discriminatory actions.
7. **Permits:** Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.
8. **Natural Resource Industries:** Maintain and enhance natural resource-based industries, including productive timber, agricultural and fisheries industries.
9. **Open Space and Recreation:** Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.
10. **Environment:** Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.
11. **Citizen Participation and Coordination:** Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.
12. **Public Facilities and Services:** Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.
13. **Historic Preservation:** Identify and encourage the preservation of lands, sites and structures that have historical or archaeological significance.

1995 Comprehensive Plan

In 1995, Battle Ground completed and adopted its first Comprehensive Plan (1995 Plan). The 1995 Plan, which was prepared with citizen input, established a 20-year Urban Growth Area (UGA). Over the 1992 to 2012 period, growth was planned to occur only in this UGA. In preparing the 1995 Plan, the community defined its vision for the future. The community's vision for 2012 was "to be a compact, self-contained community with a diversity of housing types and sizes; an economic base including retail, commercial, industrial and business park enterprises; and community facilities to support and enhance such development." The 1995 Plan provided information and defined policies and goals for natural resources, critical areas, growth management, land use, parks and open space, transportation, housing, and utilities.

2004 and 2007 Comprehensive Plan

The City, in concert with Clark County, and other area jurisdictions updated their Plans in 2004. A growth rate of 1.69 percent was assumed and urban growth areas were expanded by 6,124 acres, or 9.57 square miles. This Plan was appealed by multiple parties to the Growth Management Hearings Board. The City of Battle Ground was among the list of appellants. The City's concern, along with some of the other appellants, concerned the last-minute reduction in the assumed growth rate, moving it from 1.83 percent to 1.69 percent.

In 2005, with a new County Board, they agreed 1.69 growth rate was too low and agreed to reopen the Plan. Relying on county assurances for an increased local process, the city of Battle Ground and development petitioners withdrew their appeals. The Board of County Commissioners launched a two-year update process that culminated in adoption of a 2007 Comprehensive Plan. In this update, a new

growth rate of 2.2 percent growth rate was assumed for the first six years and a 2.0 percent growth rate for the remainder of the 20-year plan. (Source: Clark County Planning, 2015 Plan Update, Issue Paper 1, GMA Overview)

50-Year Vision

Another component of the City's comprehensive planning history is its 50-year vision. In the summer of 2000, the City launched an effort to create a 50-year Vision for the community that would be the foundation for future Plan updates and future City policy decisions. To assist in the development of the Community Vision, the City Council convened a Community Visioning Committee (CVC) during the summer of 2000. The members of the CVC represented many facets of the community and included several citizens at large, senior and youth representatives, business and development interests, the faith community, the City's Planning Commission and Parks Advisory Board, and other public agencies such as the Battle Ground School District, the Washington State Department of Transportation, and C-TRAN. Over a nine-month period, the CVC held several public meetings to create a draft Vision consisting of Vision Concepts, Guiding Principles, and a 50-year Vision Map. In addition, extensive outreach activities were under- taken to solicit input from the Battle Ground community. The Planning Commission held public hearings on the draft Vision and forwarded its recommendations to the City Council, which adopted the 50-year Vision in April 2001.

CITY VISION STATEMENT

50 Year Vision Guiding Principles

The following Guiding Principles provide the framework for the Vision Concepts and map, the Comprehensive and Transportation Plan Rewrite policies, and implementation strategies.

Vision Concepts

The following Vision Concepts provide specific guidance concerning the Comprehensive Plan and Transportation Plan policies and future city policy decisions.

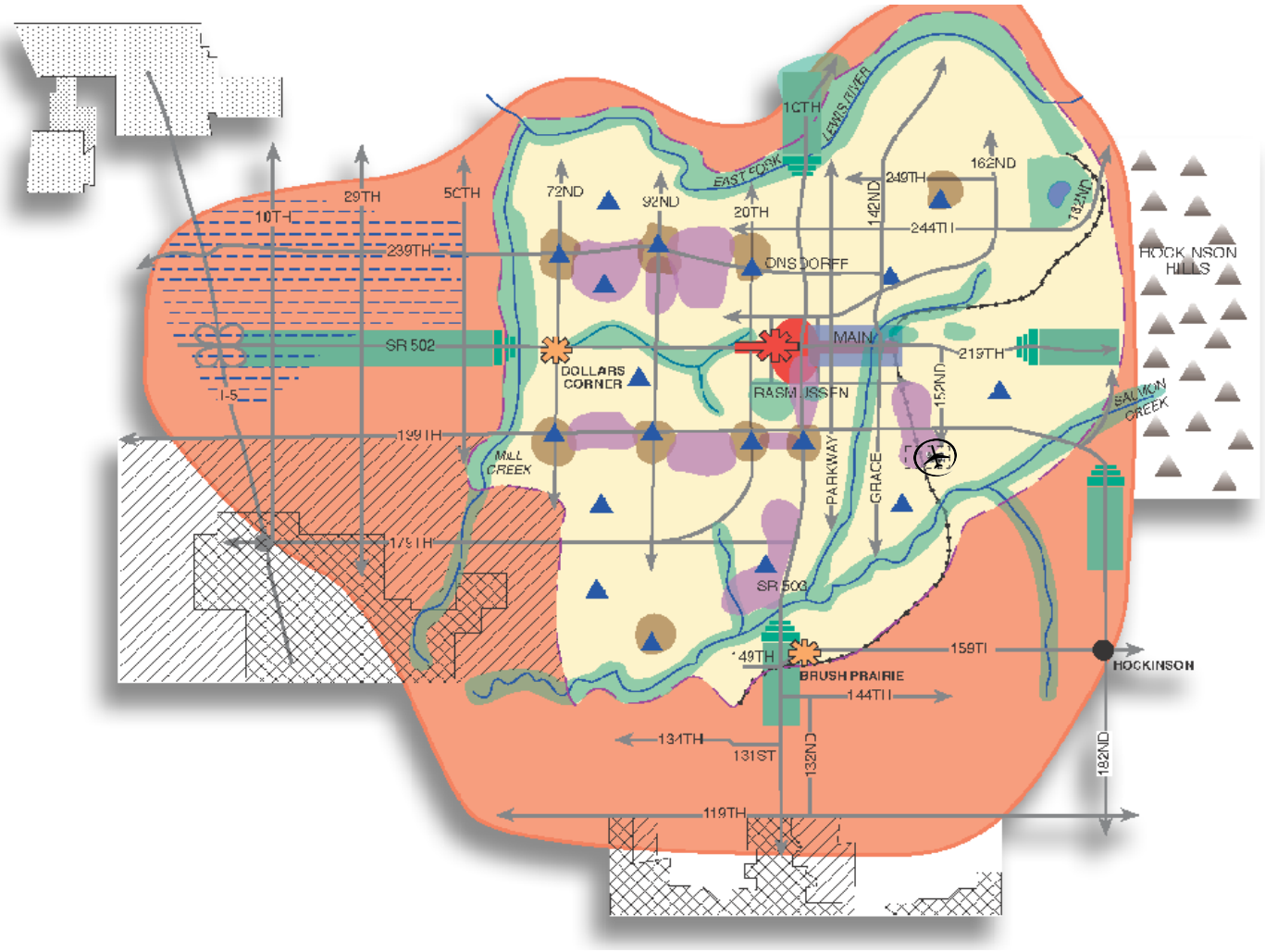
- Battle Ground is a city with a small town feel where both local and regional services are within easy reach.
- Battle Ground is the social, cultural, commercial, service, education, and civic center for Central Clark County.
- The heart of Battle Ground is the downtown district, which is centered at Main Street and Parkway, and includes the school district property, old town, the railroad, and a town square. This area will be planned as a cohesive district to take advantage of new opportunities and to build on the current strengths of the area.
- There is a viable commercial district located on Main Street between 102nd Avenue and Grace Avenue. This district has different characteristics along its length, from large regional stores on one end to smaller, locally-owned stores on the other end.
- Battle Ground has one regional service center focused on Main Street between 20th Avenue and SR503, community centers at Dollars Corner and Brush Prairie, and neighborhood activity centers located throughout the city.
- Public spaces and investments in schools, library, a youth center, senior centers, and parks help to develop a sense of place while providing the services that make a complete community.
- A system of neighborhood, community and regional parks, greenways, and open spaces are identified ad protected for a range of passive and active uses. Where possible, these sites are located adjacent to future school sites.

- Battle Ground is served by a number of transportation options within and around the city, including an I-5 interchange at 219th, public transit, the Cheletchie railroad and its corridor, and the opportunity to use an airport.
- Transportation access in Battle Ground is provided through a system of trails and local, collector and arterial streets that provide improved connectivity for a range of transportation choices, including automobiles, bicycles, pedestrians, transit and commuter rail.
- Neighborhoods are the building blocks for future development and improvements and help maintain a small town feel. Neighborhoods are identified by parks, schools, physical features, commercial services, or other community resources. They include multiple uses such as convenience institutions such as a branch post office or a community center.
- New housing developments offer a range of options and locations and help create new neighborhoods, while in-fill housing is sensitive to existing housing types and neighborhood character.
- New employment and economic development areas are identified, preserved and promoted throughout the city and provide family-wage jobs for residents of Battle Ground, help create a self-reliant community, and provide a solid revenue base to support needed services.
- Battle Ground is influenced by the other jurisdictions surrounding it and will work with these jurisdictions to plan for the "area of influence" in a manner that implements the Battle Ground 50-Year Community Vision.
- Gateways to Battle Ground are defined by physical features such as state and regional parks, the East Fork of the Lewis River, Salmon Creek, farmland, rural development, open space, large stands of trees, stream corridors, and environmentally sensitive lands. The City will work with the surrounding jurisdictions to protect these natural boundaries.
- The corridors leading up to the gateways are protected from development that would compromise the feeling of openness and increase traffic congestion. In particular, the city will work with Clark County and other jurisdictions to protect the areas of influence that surround the city, especially the area between I-5 and the western gateway to the city.
- Stream corridors, environmentally sensitive areas, and regional parks help to build identify and are protected, enhanced, and integrated into the fabric of the community and provide needed open spaces, trail connections, and the opportunity to live with a natural environment.
- All areas of the city will be planned in a comprehensive way that integrates the elements of a complete neighborhood, including employment opportunities, housing, parks and open spaces, transportation, environmental resources, and other civic services. Each area will be planned in the context of the entire city, with particular attention given to how the area relates to the regional community centers and the downtown district.

City of Battle Ground 50-Year Vision Map

The following Vision map depicts the community's preferred future development and transportation scenario in broad brush strokes (see Map below). The preferred development scenario is further refined and implemented through the policies contained with this Comprehensive and Transportation Plan. The City's Planning Commission and City Council have worked together closely throughout the planning process to ensure widespread support for this Plan.

50 Year Vision Map



- Gateway to the City
- Neighborhood Activity Center/Park
- Neighborhood Activity Center
- Regional Activity Center
- Area of Influence
- Entry Corridor
- Downtown District
- Higher Density Residential
- Employment/Economic Center
- Stream Corridor/Open Space
- Residential
- Joint Economic Area
- Vancouver Urban Reserve
- Vancouver Urban Growth Area
- Ridgefield Urban Reserve
- Ridgefield Urban Growth Area
- Stream
- 50 Year Threshold
- Major Transportation Corridor
- Commercial Corridor
- Airstrip

THE CITY OF BATTLE GROUND

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Public Involvement

The participation of the citizens of Battle Ground was fundamental to the success of this entire planning process. This included open houses in conjunction with the County Plan update held at the Battle Ground Community Center. Newspaper notifications, website updates, and public participation opportunities with the Planning Commission and City Council.

Integration with Other City Plans

The City must ensure that urban services match the requirements of the citizenry in a cost-effective way, which has required the development of long-range master plans for all major municipal functions. Capital facilities master plans were adopted concurrently with this Plan. These adopted facilities master plans reduce the risk of both private and public investment. This Plan incorporates adopted sewer, stormwater, drinking water, transportation, and parks master plans. The Plan serves as an integrating mechanism to ensure that these plans are compatible and advance the goals described in the City's overall vision. The following documents are considered an integral part of this Plan:

- City of Battle Ground Parks, Recreation and Open Space Plan
- City of Battle Ground Transportation System Plan
- City of Battle Ground Water System Plan
- City of Battle Ground General Sewer Plan
- City of Battle Ground Stormwater Management Plan
- City of Battle Ground Shoreline Master Program

Integration with Clark County Plans

A cornerstone of the GMA is coordinated planning between different jurisdictions within a region. To that end, Clark County adopted a Community Framework Plan in 1993. The Community Framework Plan includes county-wide planning policies under which all cities agreed to plan. The City of Battle Ground's goals and objectives are coordinated and comply with the County's policy framework. The County's Comprehensive Plan provides direction to the City of Battle Ground and other local Clark County jurisdictions on countywide development policies, including population allocations, transportation systems, vacant land inventories, and land allocations. The County and City have coordinated and confirmed that their land use inventory and forecasts and transportation models are compatible.

How to Use the Plan

The Plan is designed to articulate a vision for Battle Ground's development and to describe a strategy for accomplishing this vision over a 20-year period. The Plan will be implemented through the Land Development Code and other regulations. The Plan also articulates community priorities for City expenditures on capital facilities and transportation improvements and how such improvements could be financed in the future.

The Plan is a legally binding document that guides the creation of regulations and ordinances for the City. Its goals and objectives express the ideal vision for Battle Ground. However, these multiple goals and objectives may occasionally conflict with one another. Additionally, circumstances may arise that are not addressed in the Plan. Therefore, the Plan provides guidance in the decision-making process, but

does not constitute a regulation. It is intended that the Plan be adjusted over time as conditions change or as new information is discovered about how successful the Plan is in achieving its goals.

Although integrated and coordinated, each element of the Plan establishes policies on a specific aspect of life in Battle Ground. A brief description of the 10 elements follows.

Livability: This element addresses the preservation and enhancement of qualities that make Battle Ground an interesting and dynamic place for people to live. Much of this element relates to urban design within Battle Ground. Livability is not a required element under the GMA, but a "design" element that is optional under the GMA.

Land Use: The Land Use element provides guidelines for property development during the next 20 years. It strives to achieve a balance between the land that is available for the creation of new jobs and that is used for housing. It emphasizes the stability of existing neighborhoods, while enhancing regional, community, and neighborhood centers. The GMA requirements include identification of urban growth areas, consistency with county-wide planning policies, and a description of population densities.

Housing: This element encourages a range of housing types and prices to meet the needs of all citizens of Battle Ground. GMA requires that this element be consistent with county-wide planning policies, include an inventory and analysis of existing and projected housing needs, identify sufficient land for housing, and a number of other requirements.

Growth Management: This goal of the Growth Management element is to promote a logical sequence of growth through annexation. This is not a required element under GMA, but is included to help manage future growth within the city.

Environment: This element includes the inclusion of best available science for protecting critical areas and review of designations for critical areas. Critical areas include wetlands, aquifer recharge areas, fish and wildlife conservation areas, frequently flooded areas, and geologically hazardous areas. The GMA actually includes the provisions for critical areas within the land use element, but Battle Ground has elected to include a separate element to address these issues, as provided in RCW 3670A.080.

Economic Development: This element encourages a strong, independent, and broad-based economy in the city. This is an optional element under GMA.

Parks, Recreation and Open Space: This element provides direction on creating open spaces, trails, and parks within the community for present and future generations. It represents an update of the Park and Recreation Plan, and is an optional element under GMA.

Transportation: This element establishes a Transportation Plan for the city, which ensures that the transportation system is safe, efficient, balanced, environmentally sustainable, and improves livability. The GMA requires that the transportation element be consistent with county-wide policies, be based on the land use plan, include an estimate of traffic impacts on state-owned facilities, provide an inventory of existing transportation services, and provide a financing plan for new improvements, among other requirements.

Capital Facilities: The Capital Facilities element creates a plan for stormwater, wastewater, and drinking water infrastructure, and will foster environmental sustainability and cost-efficient development of new infrastructure. The GMA requires that this element be consistent with county-wide policies, include the proposed location and capacities for new facilities, provide a six-year financing plan, and include an assessment of the land use assumptions if funding is not available to serve new growth.

Private Utilities: This element helps to ensure that the provision of electrical, cable, telephone, and other private utilities are well managed and timely. The GMA requires that this element be consistent with county-wide policies, include the general location and proposed location of utilities, and provide coordination between all service providers.

Chapter 2 – Livability

Introduction

The Livability Element represents what the citizens of Battle Ground have identified as an important component of their community and its image. This Element of the Plan focuses on blending Battle Ground's new development with the downtown core and other unique residential and commercial areas. It fosters a greater connection between Battle Ground residents and their town, the preservation of public views, protection of historic and cultural resources, and increased civic engagement.

Neighborhood units are the key to making this Element a success. Neighborhoods include parks, schools, and unique characteristics that residents identify with their place. The Livability Element promotes the development of a complete community that provides a strong sense of place for residents and visitors to Battle Ground. The Livability Element is not required under GMA.

Growth Management Act

GMA encourages the preservation and protection of Washington's quality of life. The GMA provides for communities to establish policies related to design as an optional component of their comprehensive plan but does not provide specific programmatic guidance. Historic preservation protects and enhances a community's special attributes. The GMA mandates that communities strive to:

• Identify and encourage the preservation of lands, sites, and structures that have historical, cultural and archaeological significance.

The GMA calls for public involvement and participation in the development of the Plan and implementing plans. It mandates "early and continuous public participation in the development and amendment of comprehensive land use plans and development regulations implementing such plans." It is within the mandate and spirit of the GMA to encourage communities to involve citizens in a range of planning and policymaking activities. One of the goals of the GMA is to:

• Encourage citizen participation and coordination between communities.

Legacy Standards

In April 1999, the Legacy Standards adopted by the Battle Ground City Council went into effect. The standards prescribe architectural variety, streetscapes that are pedestrian friendly and street networks that connect in a grid pattern when possible. The intent of the Legacy Standards is to create a community where it is possible for people to meet on the sidewalk in front of their homes, eliminate "fenced canyons" (unwelcoming thoroughfares which have no relationship with surrounding residential uses), and human scale architecture (designed to primarily relate to pedestrians rather than automobiles). In addition, the Legacy Standards are intended to provide a more efficient transportation system that allows people the choice of walking, biking or driving to their destination.

Embedded throughout the development code, the Legacy Standards manage growth to create a built environment that would have a positive effect long into the future – one that would conserve services

such as sewer, water, police and fire protection, and demonstrate the City's respect for its natural setting. The standards are founded on the following set of premises:

- Establish a new baseline standard for new development.
- Recognize existing community identity.
- Establish interrelationships between neighborhoods and commercial developments.
- Recognize the need to meet individual choice in housing and neighborhoods.
- Improve neighborhood livability.
- Create incentive systems, options and opportunities for new development to implement desirable design elements.
- Recognize the physical and environmental constraints within the city and their impacts on new development design.
- Enhance the natural environment.
- Provide and preserve the opportunity to establish and maintain open spaces.
- Recognize multiple modes of transportation and make driving optional.
- Encourage multiple uses of the street system.

Livability Element Goals and Objectives

Livability Goal 1:
An integrated mix of uses.

Objectives
LO1.1 Encourage a lively and active downtown core through a mix of uses.

LO1.2 Encourage a mix of uses in new neighborhood centers that serve the local neighborhood and create a unique neighborhood identity.

LO1.3 Protect and strengthen existing mixed-use areas.

LO1.4 The City will encourage development in new mixed-use areas to have compatible building orientation.

LO1.5 The City will endeavor to promote the placement of new mixed-use development in a manner that creates compatibility and support among uses.

Livability Goal 2:
Human-scaled architectural design and spatial relationships.

Objectives

LO2.1 Promote new development, both public and private that is human-scaled.

LO2.2 Encourage the use of design elements that reinforce the small town identity of Battle Ground.

LO2.3 Encourage innovative design solutions in private development projects that add diversity and depth to Battle Ground's character.

LO2.4 Promote new development that provides an appropriate balance between pedestrian orientation and automobile access.

LO2.5 Encourage store sizes that are compatible with surrounding uses, particularly adjacent to, and within new and existing neighborhoods.

LO2.6 Promote the design of public and recreation spaces and rights-of-way that improve the pedestrian environment and increase the opportunity for social interaction.

LO2.7 Encourage the creation of civic spaces in both private and public facilities that provide opportunities for neighbors to meet.

LO2.8 Encourage the development of a distinct and attractive identity in each of Battle Ground's neighborhoods.

LO2.9 Foster the development of an attractive urban character along Battle Ground's commercial streets and its commercial districts.

LO2.10 The City will consider tree preservation and enhancement programs.

Livability Goal 3:

An integrated mix of housing types and densities.

Objectives

LO3.1 Encourage a wide range of living choices in all neighborhoods while respecting existing housing.

LO3.2 Promote residential design and location that provides transitions between housing types.

LO3.3 Encourage master planning of new residential neighborhoods.

Livability Goal 4:

Create the opportunity for participation of all residents, landowners and business owners in public decisions.

Objectives

LO4.1 Encourage involvement in land use decisions through a variety of means.

Livability Goal 5:

The City will encourage new development design that protects and promotes significant views.

Objectives

LO5.1 Preserve and enhance unique and significant existing public views.

LO5.2 Promote the creation of new views through innovative development designs and master planning.

LO5.3 Explore the location of new public spaces and parks that will preserve significant views.

LO5.4 The City will seek to protect the views of the night sky.

Livability Goal 6:
The City will encourage preservation, enhancement and integration of its historic resources and cultural heritage.

Objectives
LO6.1 Encourage the preservation of historic architecture and significant cultural resources through public information, advocacy and (where necessary) regulation.

LO6.2 Support opportunities for organizations and institutions that celebrate the historic and cultural resources of Battle Ground.

LO6.3 Encourage the celebration of the agricultural tradition of the Battle Ground area.

Existing Conditions

Neighborhoods

Battle Ground's older neighborhoods reflect changes that took place during more than a century of settlement and development. The identities of new neighborhoods have changed to correspond with changes in the City's broader identity as it has been transformed from a small town, to a suburban community, to its current status as a growing city.

The Battle Ground UGA was developed during four main periods. Although the earliest known European settlements in the area occurred during the late 1800s, a cohesive community began to take shape between 1901 and 1944 when Battle Ground was first platted and the railroad was constructed. Neighborhoods were slow to develop during this period. Battle Ground's first neighborhood began to develop during this period around what is today known as Old Town. Many of the houses and other structures that were developed during 1901 to 1944 can still be found both north and south of East Main Street. Housing that was built during this era reflects a mix of design types and densities, and utilizes a grid-like street network for circulation.

Other structures built during this period are spread throughout the UGA, with a concentration being located near Cramer Road and 189th Street.

A second wave of development occurred during 1945 to 1959. Battle Ground was first incorporated during this period, in 1951, when it began providing water and sewer services and fire and police protection. The rate of growth in Battle Ground's neighborhoods became more regular during this period, although was still modest compared to today. Much of the new construction that took place during this period was infill development, and was concentrated within the previously existing neighborhood that surrounded East Main Street.

The neighborhood reflected traditional aesthetics and design values, such as connected grid-like streets, and a variety of design types and densities.

The rate of development within Battle Ground steadily increased between 1960 and 1985, with growth spikes occurring during the late 1960s and early 1970s. The development pattern in Battle Ground began to change significantly during this period, as increased mobility provided by automobiles spurred development further away from downtown Battle Ground and people who worked in Vancouver or Portland began to settle in the city. Distinct new neighborhoods were constructed during this era throughout Battle Ground, with subdivisions located north and south of the Old Town area, near the intersection of Parkway and SW 11th Avenue, and near Main and SW 20th Avenue. Development that took place during this era was typically constructed with cul-de-sac streets, and houses shared homogeneous designs and densities.

The most recent wave of development, which occurred between 1985 and the present, was marked by a rapidly increasing rate of growth. New and distinct subdivisions that were developed during this period were also constructed around cul-de-sacs, and had smaller parcel sizes than earlier development. Ingress and egress to subdivisions was typically provided through few street connections that linked to arterials, making access to the areas limited for automobiles, pedestrians and cyclists. These subdivisions are located at the northern, western, and southern extents of the 2004 City boundaries. Additionally, some subdivisions were developed in County land that is within the 2004 UGA, which typically have larger lot sizes.

The City of Battle Ground recently adopted Legacy Standards, during 1999, to guide the development of new subdivisions that are better integrated with surrounding neighborhoods and the City-at-large.

New subdivisions that were constructed subsequent to the adoption of the Legacy Standards have greater architectural diversity, and improved street connectivity that encourages circulation for pedestrians and cyclists.

Commercial Districts

Battle Ground contains three distinct commercial districts that serve regional, sub-regional, and local markets.

A regional commercial center is generally located along W. Main Street between 102nd Avenue and 10th Avenue. Retail businesses in this area serve markets in Battle Ground and outlying areas. Several new national big-box retail chains on large parcels anchor this district. Smaller businesses that rely on higher traffic volumes along W. Main Street are also present. Stores in this area offer ample off-street parking because they primarily serve shoppers who arrive by automobile.

Another commercial center is located along W. Main Street and E. Main Street, between 10th Avenue and Parkway Avenue. Retail and service oriented businesses in this area serve the Battle Ground market, and outlying areas. This area contains a greater mix of small and large stores on small to medium sized parcels. Development in this area generally predates the regional commercial center to the west.

Old Town is generally located along E. Main Street between Parkway Avenue and Grace Avenue.

Businesses in this area are a mix of restaurants, service providers, and specialty retailers. This area has a “main street feel”. Buildings in this area have storefront windows, are oriented towards the street, have curb-tight sidewalks, and minimal setbacks from the sidewalk.

Commercial development is generally not present within residential areas.

Industrial Areas

The City of Battle Ground presently contains a variety of industrial uses concentrated in the southeast corner of the city. A small industrial park was recently developed near SE Grace Avenue and NE 199th Street. The industrial park contains light manufacturing and warehousing facilities. This area provides convenient access to regional transportation facilities, permits easy ingress and egress of heavy trucks, has ample parking, and yet supports non-motorized transportation through the provision of sidewalks. Buildings in this area generally have a large footprint but still maintain a relationship with adjacent streets by having a small setback on at least one wall. Additionally, a dairy and plastic manufacturing plant is located on E. Main Street.

Historic Preservation

The Battle Ground area has been settled for over a century and has a rich and colorful history. There are fifteen historic properties on the Clark County Register of Historic Places. These resources root residents in their community's history. Although there are currently no historic places within the UGA that are listed on the National Register, it is possible that there are properties that are eligible.

Views

Battle Ground residents currently enjoy views of Mt. Saint Helens, Mt. Hood, and the foothills of the Washington Cascades. There are currently no view protection requirements.

Public Involvement

The Battle Ground Public Participation Plan consists of the following key elements:

1. Broad dissemination of project proposals. Completed drafts that are being discussed and deliberated on by the Planning Commission and the City Council will be posted on its web site. Published drafts of material being considered by the Planning Commission and City Council located at City Hall and the City Library. Notice that these materials are available will be given to the local paper of record for publication.

2. Opportunity for written comment. The City will accept written comment on any and all aspects of the Plan and process at any Public Workshop, Planning Commission or City Council meeting or hearing. The City will accept any written testimony, opinions, and thoughts on the GMA Plan or process at any time during the Plan's creation up to final adoption of the Plan by City Council.

3. Public meetings after effective public notice. The City will not conduct public hearings or public meetings unless such meeting or hearing complies with the public notice requirements as set forth in the Battle Ground Municipal Code. Notice will be placed on the City web site. Notice will be on display at City Hall on public notice boards. The City will keep a record of names and addresses of any person interested in receiving a direct notice of a hearing or meeting on the GMA. The City will send notice of a meeting or hearing on the GMA in a timely manner before the hearing or meeting.

4. Provision for open discussion. The Planning Commission, City Council, and Public Workshops, will provide the opportunity for public comment on any and all aspects of the GMA planning effort. The Planning Commission and City Council provide, at all of the regularly scheduled meetings, an opportunity for open public comment as standard practice. The Public Hearings for the GMA Plan and process will provide for open public discussion of issues. There will also be

open discussion opportunity provided at the GMA Public Workshops that the City staff will be conducting.

5. Communication programs. The City will provide at the earliest possible time available, notice of any workshops, meetings, hearings, or session that involve presentation, discussion, review, deliberation, or adoption of any part of the GMA Plan or regulation. Notice of such meetings will be placed in the paper of record, posted on the City web site and on public notice boards in City Hall.

6. Information services. The City will strive to keep the web site up to date with activities that relate to the GMA planning process. The City will place articles within the citywide newsletter updating the public on the GMA process. The City will, on occasion, provide information on the GMA process on utility bills.

7. Consideration of and response to public comments. City staff will catalogue all written response and note verbal input to the GMA Plan. Staff will then provide input, and possibly a recommendation on each issue to the Planning Commission and City Council.

Analysis and Projections

As growth continues to occur at a rapid rate, Battle Ground could lose some of the unique identity and qualities that originally attracted people to the City. Development during the past decade in Battle Ground has not created a cohesive identity for the town because design characteristics of new subdivisions are inwardly focused rather than well- integrated with surrounding neighborhoods and the City-at-large. Well-designed buildings, attractively landscaped streets, mix and character of land uses, parks, open spaces, and location and character of commercial areas all are important to the overall quality of life in Battle Ground. Implementation of the City's Legacy Standards has guided new development that reflects these design characteristics, and creates a better fit with other neighborhoods and the City-at-large. Development of residential property will continue under the Legacy Standards, but this development is not required to be master planned or designed as a neighborhood. In addition, new commercial development has not occurred in a manner that promotes a small town feel and future development is likely to continue this trend, with bigger and bigger stores that are isolated from existing and future neighborhoods. The following analysis provides visual examples of how Battle Ground can continue to grow while preserving the small town feel that is so important to residents.

Human-Scale Design

Human scale is the proportional relationship of buildings and public spaces to people. Human scale design creates places that are ordered in such a way that people feel comfortable and safe. People are drawn to these places and tend to enjoy spending time in them. By contrast, a place that is either too small or too large is out of human scale, and will tend to make people feel uncomfortable. People react by avoiding these places or moving through them quickly. Human scale can be further reinforced by the choice of materials, textures, patterns, colors, and details. The following illustrations depict design concepts that will help guide implementation of the City's goals and objectives related to human scale design.

Figure 2-1: Streetscape Concept

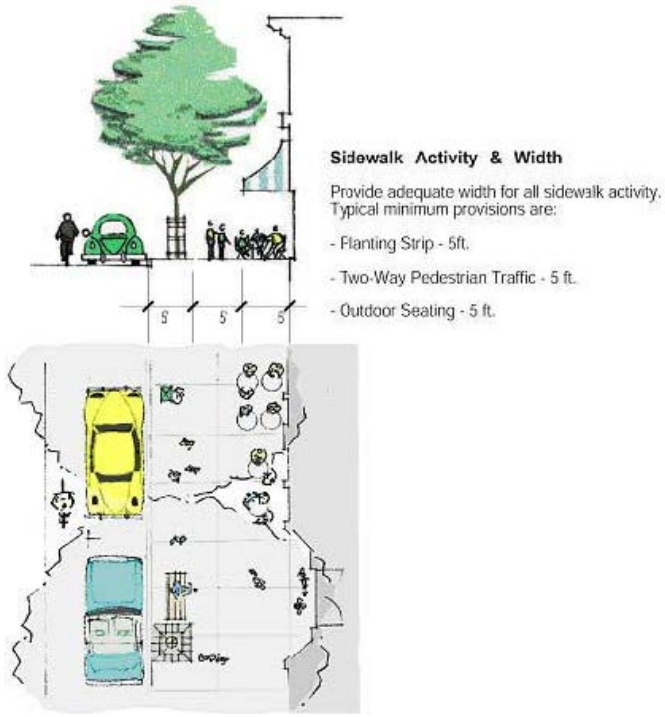


Figure 2-2: Balance of Pedestrian and Automobile Spaces in Mixed Use Areas

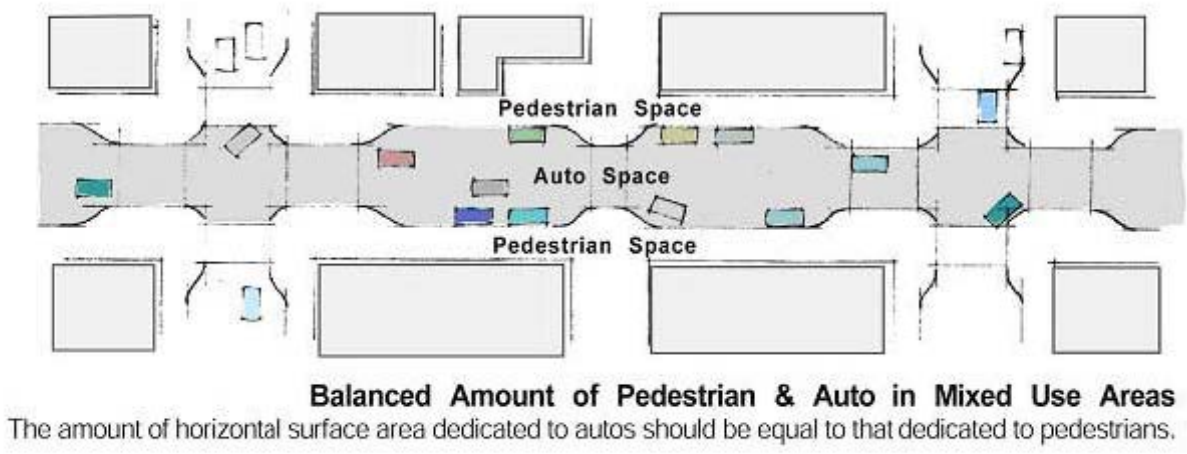
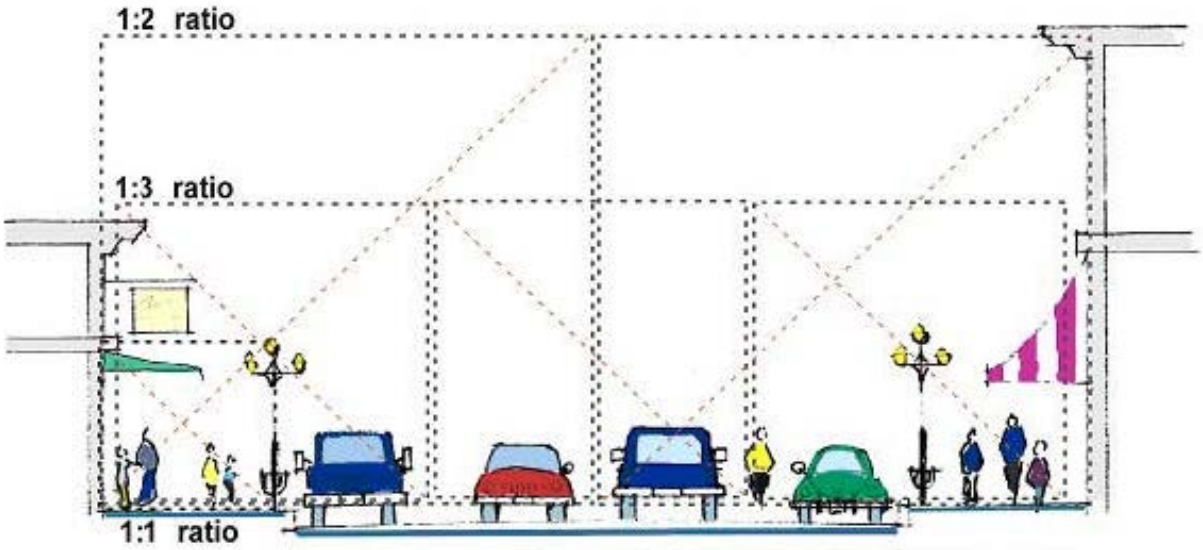


Figure 2-3: Human Scale Width to Height Ratios



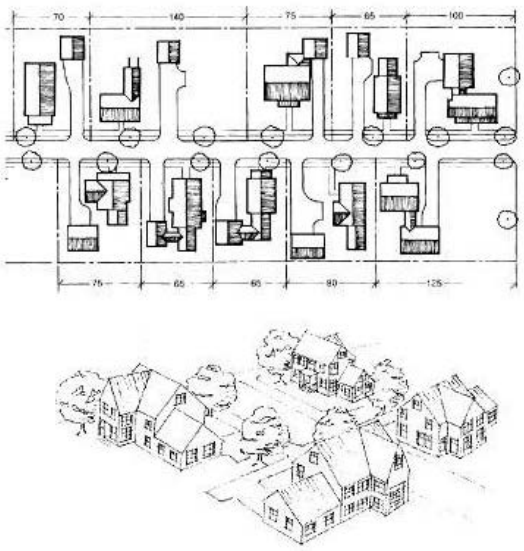
Human Scale Height-to-Width Ratios

An 'outdoor room' with vertical surfaces no greater than 3 times horizontal surfaces.

Residential Design

Battle Ground residents prefer residential areas that are human scaled, integrated, cohesive, and diverse neighborhood units. The design of Battle Ground's residential areas should help to create unique, comfortable, and interesting places for residents and visitors. These areas will promote leisurely evening strolls and more walking trips to school, work, parks, and commercial areas. Battle Ground's neighborhoods should be designed to make them memorable places for families to live. The layout of streets and buildings will also promote improved access to transit services. A variety of design concepts are illustrated in this section to help guide development of new residential areas that meet the goals and objectives established by the Plan. The following illustrations depict how good neighborhood design concepts should be applied depending on the area's density.

Figure 2-4: 6-8 Units per Acre (5,600-7,000 Square Feet per Unit)



Average lot sizes

Living spaces oriented to streets

Garages set-back from house

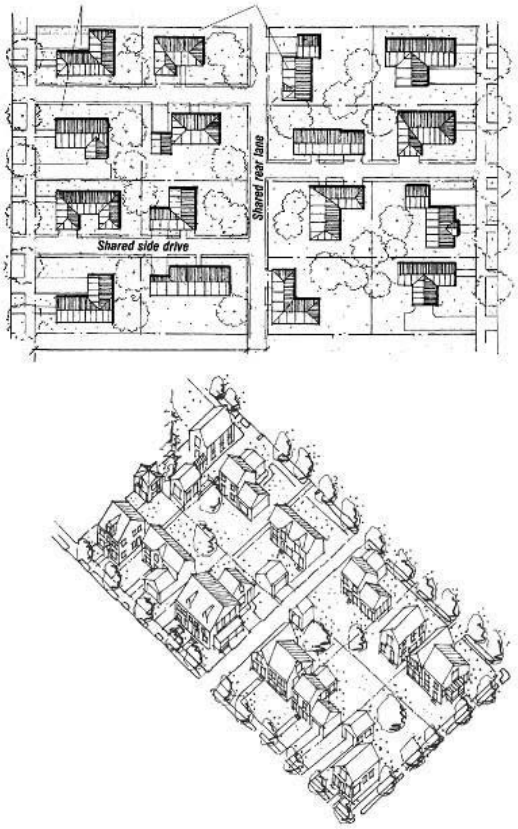
Consistent streetscape design

Planter strip

Street trees

Wide sidewalks

Figure 2-5: 10-12 Units per Acre (3.500-5,000 Square Feet per Unit)



More building frontage at street

Skinny streets

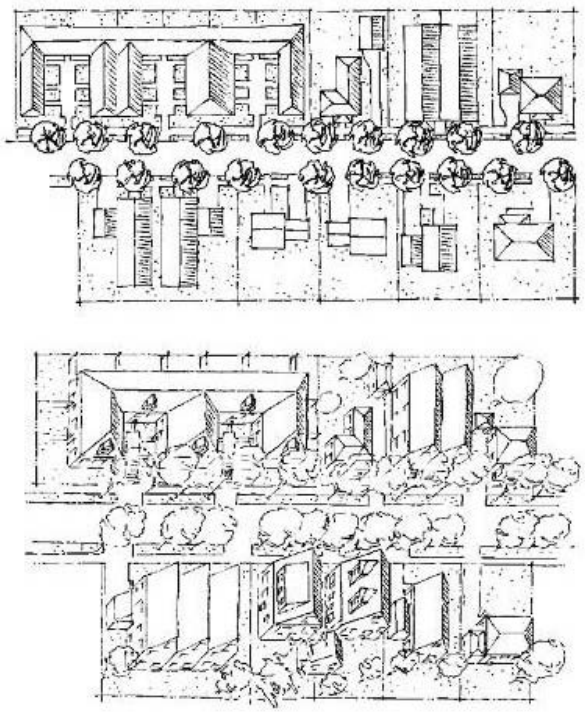
Alley access to garages

More signalized crossings

Pedestrian scale streetscape

Pervasive pedestrian connections

Figure 2-6: 16-18 Units per Acre (Mix Of 3,500 Square Foot Lots, Row / Town Houses, Garden- Style Apartments)



Architectural diversity

Primary entrances oriented to sidewalk

More building frontage at street

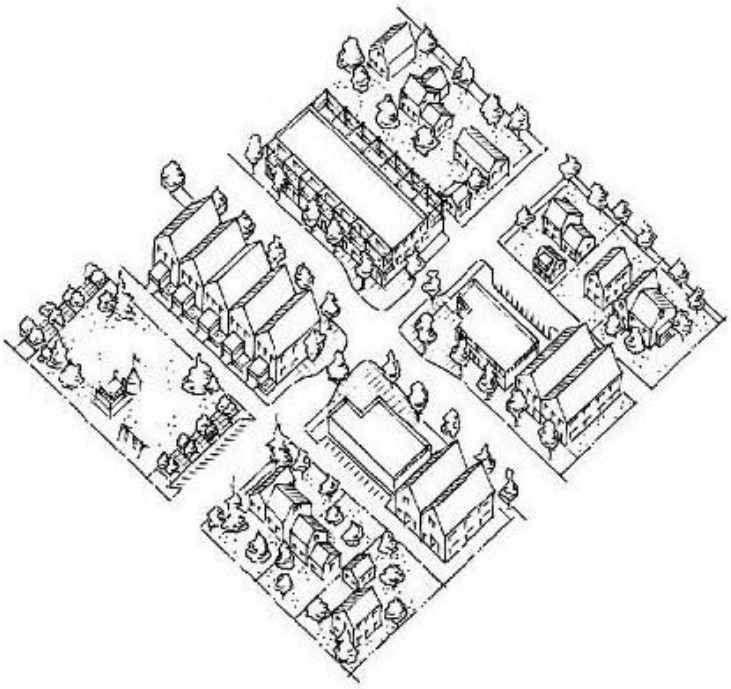
Building massing has traffic calming effect

Flexibility for environmental conservation

Pedestrian scale streetscape

Supports well integrated parks system

Figure 2-7: Neighborhood-Scale Commercial



More local walking trips

Reduces traffic trips and volumes

More building frontage at street

Slower traffic speeds

Safer streets

Less crime - more eyes on street

More retail variety

Greater convenience

Better access for young and elderly

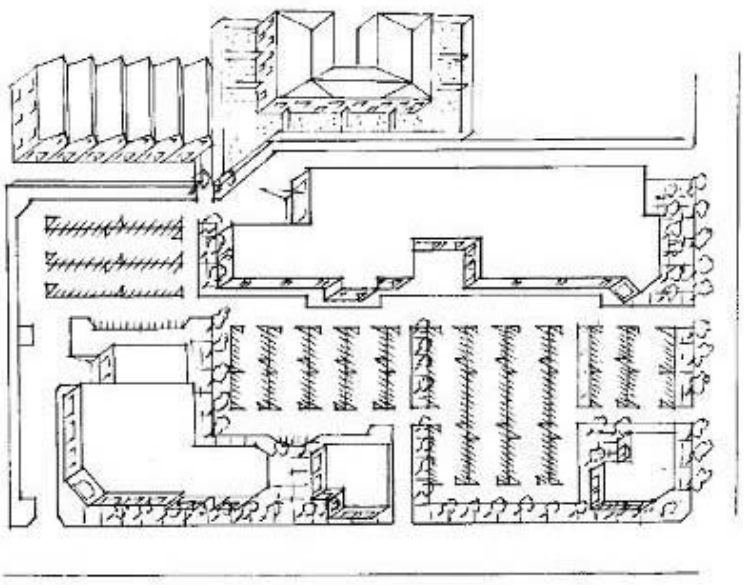
Pedestrian scale streetscape

Commercial Design

Battle Ground residents prefer commercial areas to be well integrated with other areas of the city, at a variety of scales, and to comfortably accommodate pedestrians. Regional commercial areas should be developed to draw shoppers and workers to walk to several stores in the area by designing the area to promote pedestrian circulation. Large-scale commercial areas should provide multiple safe pathways for people with disabilities.

Neighborhood-scale commercial establishments should be convenient for residents to walk to and that meets basic shopping needs and provides local meeting places. Alternatively, strip-mall development promotes reliance on automobiles for even short-distance trips and does not promote community livability that is preferred by this Plan. The illustrations that have been included in this section depict design concepts that should be included in existing and new development to help meet the goals and objectives established by the Plan.

Figure 2-8: Pedestrian-Friendly Large-Scale Retail



Variety of uses allows combined trips

Reduces traffic trips and volumes

More building frontage at street

Pedestrian scale streetscape

Slower, safer traffic

More signalized crossings

Longer hours of operation - less crime

Less area for surface parking

More development area

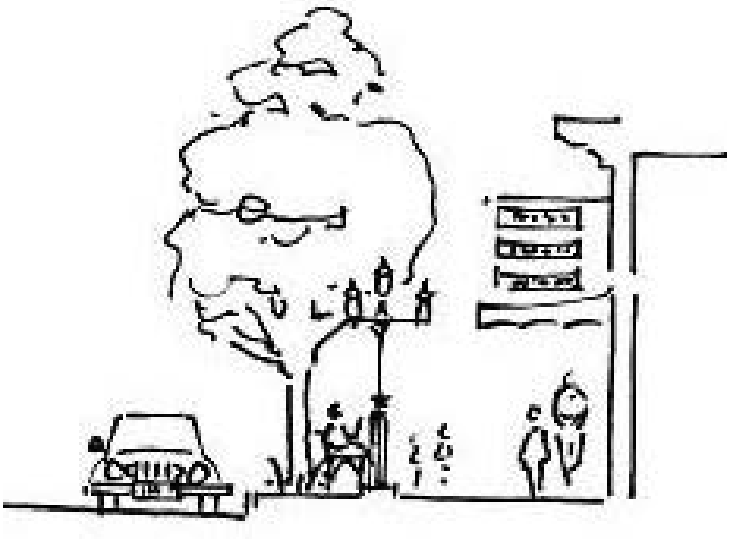
Lower commercial rents

More retail variety

Greater convenience

Pedestrian connections to adjacent housing

Figure 2-9: Pedestrian-Friendly Streetscape as Buffer to Large-Scale Commercial Sites



Industrial Design

Battle Ground's industrial areas will be developed in the future in a way that integrates them with their broader urban context. Development in these areas should be designed to make them pedestrian friendly, cohesive, and well connected to adjacent areas. Figure 2-10 depicts design concepts that should be implemented to accomplish the goals and objectives established in the Plan.

Historic Resources, Views and Public Involvement

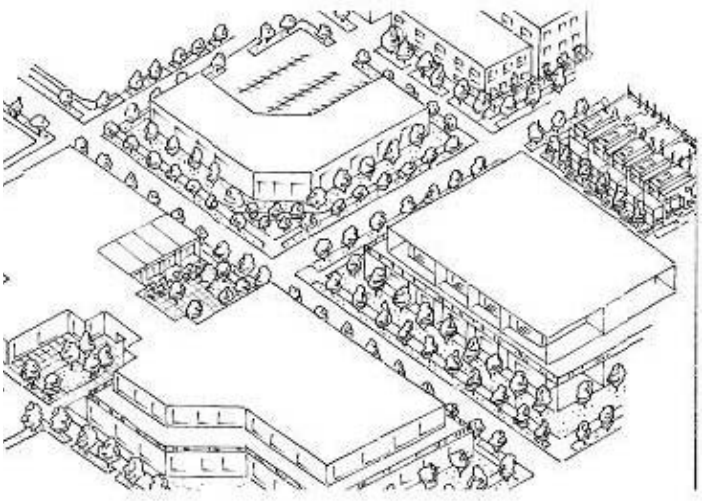
Battle Ground's historic resources could play an increasingly important part in defining a unique identity for the City. An opportunity exists for Battle Ground to build on the historical development pattern that is typical of the areas north and south of E. Main Street through continued implementation of the City's Legacy Standards.

Views of Mt. St. Helens and Mt. Hood may become obscured by new development unless viewsheds are preserved through strategically siting new parks and open space, and through master-planned developments that preserve and enhance significant viewsheds. No new regulations to protect private views are suggested; rather views should be preserved through the strategic location of streets, public parks and open space.

Public involvement will continue to play an important role in the City's planning and policymaking processes. The City will need strategies that help to foster a sense of ownership among new residents by engaging and involving them regularly.

Human-Scale Industrial

Figure 2-10: Human-Scale Industrial



Findings:

The livability of Battle Ground's communities will continue to improve as the Legacy Standards are implemented and refined. Enhancing neighborhood livability requires a level of completeness. A greater effort must be made to improve on existing Legacy Standards, enhance traffic circulation between neighborhoods, and support development of commercial areas tailored to the needs of neighborhood and local markets. The Livability Goals provide the basic framework for the creation of these neighborhoods throughout Battle Ground. They will be complete places – neighborhoods with well-integrated commercial areas, human-scaled streets that are safe, commercial and industrial development with a mix of compatible uses – that encourage private-sector investment. These neighborhoods will be a more enjoyable place for Battle Ground residents to shop, gather and recreate.

Battle Ground's key opportunities for enhancing neighborhood completeness are neighborhood-scale commercial, pedestrian-friendly large-scale retail development, pedestrian-friendly industrial, human scale development, and residential development variety. The following describes the policy justification for the Livability Goals addressing those opportunities.

Human-scale Design

Human scale districts will be developed in the future to reflect the following characteristics:

- Pedestrian-oriented area - Equity in pedestrian and auto space within mixed-use districts optimizes commercial viability and long-term success.
- Connectivity - Pervasive connections will maximize walking trips – mid-block crossings, pedestrian alleys, curb extensions, etc.
- Continuity - Continuous building frontage, and architectural treatment and detail will add intrigue and interest to the streetscape.

Human scale streetscapes will be developed in the future to reflect the following characteristics:

- Horizontal vs. vertical space relationships
  Humans are most comfortable in "outdoor rooms" similar in dimension to indoor rooms
  A ratio of vertical to horizontal space less than 1:3.

Human scale sidewalks will be developed in the future to reflect the following characteristics:

- Furnishing zone - Street-trees, seating, lighting (minimum depth 5 feet).
- Clear zone - Circulation area (minimum depth 5 feet).
- Activity zone - Activity area associated with interior use, café tables, etc., (minimum depth 5 feet).

Residential Design

6-8 units per acre (5,600-7,000 square feet per unit) residential areas will be developed in the future to reflect the following characteristics:

- Average lot sizes - Requiring average lot sizes, instead of minimum lot sizes allows for greater development flexibility.
- Greater architectural flexibility - Differing lot sizes provide opportunity for architectural variety and distinction, and/or context sensitivity.
- Living areas oriented to streets - Orient interior living space, instead of garages is visually preferred.
- Pedestrian-oriented streetscape - Streets with wide sidewalks and street trees create greater human interaction potential.
- Traffic calming effect - Complete streets – on-street parking, street trees, wide sidewalks, and houses closer to the street slow traffic.
- Environmental sensitivity - Greater flexibility for environmental conservation.

10-12 units per acre (3,500-5,000 square feet per unit) residential areas will be developed in the future to reflect the following characteristics:

- Convenience - More residences closer to goods and services – increases convenience- oriented walking trips.
- Single-family infill opportunity - Alley-fed accessory units represent a compatible density increase and help defer mortgage costs.
- Greater housing affordability - Smaller or more efficiently developed units offer increased affordability.
- More efficient use of land - Concentrating residential development provides more opportunity to integrate parks and open space areas.

- Traffic calming effect - Complete streets – on-street parking, street trees, wide sidewalks, and houses closer to the street slow traffic.

16-18 units per acre (mix of 3,500 square feet lots, row / town houses, garden-style apartments) residential areas will be developed in the future to reflect the following characteristics:

- Maximizes neighborhood diversity - Architectural variety adds aesthetic interest to a neighborhood and increases potential for social and ethnic diversity.
- Maximizes social interaction - Clustering development area maximizes potential for public space vitality.
- Compatibility - Unique transition between single-family and mixed-use areas.
- Pedestrian-oriented streets - Greatest potential for pedestrian-oriented streets – skinny streets with better connectivity, traffic calming, and more signalized intersections.
- Alley access - Smaller lots create the greatest potential for rear-lot (alley) parking access.
- Less crime - More eyes on street – more people deter crime.
- Maximizes parks and recreation integration.

Commercial Design

Neighborhood-scale commercial uses will be developed in the future to reflect the following characteristics:

- Greater neighborhood diversity - Retail infill within neighborhoods enhances variety by serving unique neighborhood markets.
- Unique central places within neighborhoods - The unique social and physical characteristics within neighborhoods will result in unique public places.
- Greater convenience - Convenience oriented goods and services are brought directly to the neighborhood.
- Greater opportunity for elderly and children - Neighborhood retail within walking distance best serves those who don't drive.
- Pedestrian-scale streetscapes - Increased pedestrian demand precipitates pedestrian oriented streets – better connectivity, more pleasant sidewalk settings, safer crossings, etc.
- More building frontage at streets - Buildings, instead of parking lots, next to sidewalks provide direct access for pedestrians.
- Lower traffic volumes and speeds - More walking to neighborhood shops means less driving.
- Less crime - The presence of more people, more often – more eyes on street – is a significant crime deterrent.

Pedestrian-friendly large-scale retail areas will be developed in the future to reflect the following characteristics:

- Greater convenience - More uses at a given location encourages leaving the car parked and combine walking trips.
- Reduces community traffic volumes - More localized walking trips means less driving within the community.
- Pedestrian-scale streetscapes - Increased pedestrian access to typically auto-oriented uses precipitates pedestrian oriented streets – better connectivity, more pleasant sidewalk settings, safer crossings, etc.
- More building frontage at streets - Wider set-backs and sidewalks through surface parking lots effectively extends the pedestrian realm.
- More pedestrian connectivity to surrounding residential - For retail centers adjacent to residential areas, providing direct pedestrian access can reduce neighborhood vehicle trips.
- Less crime - Greater variety in retail use extends hours of operation and increases human activity and, therefore, safety.
- More cost-effective use of land - Increasing the intensity and variety of development lowers commercial rents.
- More development area - More area for buildings, less for surface parking.

Industrial Design

Pedestrian-friendly industrial areas will be developed in the future to reflect the following characteristics:

- Mix of uses - Compatible uses include: light industrial, office, flex incubator space, small manufacturing, and convenience commercial.
- Compatible street grid - Better connectivity and compatibility with existing development is achieved by extending the existing street grid into industrial development.
- Combined mid-day convenience trips - The best combination of uses provides opportunities for workers to walk and reduce mid-day driving trips.
- Better pedestrian connectivity between uses - Buildings, instead of parking lots, next to sidewalks provide direct access for pedestrians.
- More efficient use of land - Industrial development designed for multiple uses extends market life and lowers commercial rents.
- Environmental conservation - Greater variety in building footprints increases flexibility for environmental conservation – wetlands, sensitive habitat, view resources, etc.

Historic Resources, Views and Public Involvement

Historic resources will play an increasingly important role in contributing to the City's livability and sense of place. Historic resources should be celebrated as an integral part of Battle Ground's heritage and have a prominent place in its landscape.

Public involvement approaches and policies will need to continue to evolve as the city grows and changes. New technologies will need to be employed to ensure that as many residents as possible have the opportunity to influence land use decision-making within their community.

Chapter 3 - Land Use

Introduction

The Land Use Element guides how land will be developed in Battle Ground during the next 20 years. This Element establishes the urban pattern for the city by directing residential, commercial, and industrial growth. Ensuring that different uses work well together are compatible and essential in creating attractive neighborhoods, vibrant commercial areas, and improved livability. If future land uses are well planned, provision of capital facilities will be more cost effective.

Central to the Land Use Element and the Comprehensive Plan as a whole is the Comprehensive Plan Map, which establishes a policy framework for regulating the locations and intensities of future land uses (see **Comprehensive Plan Map**). The City's Zoning Code and other development regulations must be consistent with the Comprehensive Plan Map, the accompanying narrative contained within this Land Use element, and the other Comprehensive Plan Elements.

Growth Management Act

The GMA requires that Battle Ground's Comprehensive Plan include a Land Use Element to establish land use designations and intensities that are sufficient to accommodate the city's 20-year population growth and other land use needs. The Land Use Element must provide an inventory and overview of Battle Ground's land development capacity. Several additional provisions are included to ensure that the City's Plan accommodates a variety of uses and that neighboring uses are compatible. The GMA also calls for the Land Use Element to protect the quality and quantity of groundwater used for public water supplies and critical areas. Policies supporting groundwater protection and critical areas are addressed in the Environment Element of the Plan. Three statewide planning goals established by the GMA are relevant to the Land Use Element:

- Urban Growth - Encourage new development to occur in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
- Reduce Sprawl - Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
- Property Rights - Private property shall not be taken for public use without just compensation having been made. The property of landowners shall be protected from arbitrary and discriminatory actions.

County-Wide Land Use Policies

The Clark County Community Framework Plan establishes a regional vision for how growth should occur in unincorporated Clark County and the cities of Battle Ground, Vancouver, Camas, La Center, and Washougal. The Clark County Community Framework Plan envisions Battle Ground as a complete community containing a full range of residential, commercial, and industrial uses, schools, neighborhoods, and community and regional parks. The Framework Plan encourages Battle Ground's development to include employment opportunities and lower densities than a major urban center, averaging between six and eight units per net residential acre. Higher densities are planned to occur along transit corridors and in the community center, with lower densities planned for established neighborhoods and on the outskirts of Battle Ground. Additionally, the Framework Plan directs Battle Ground to develop a focus in the center of the city that combines commercial, civic, cultural, and recreational uses.

The Clark County Comprehensive Growth Management Plan policies establish five land use goals that guide development in the county, including:

- Adopt UGA boundaries to accommodate residential and employment increases projected within the boundaries over the next 20-years.
- Encourage more compact and efficiently served urban forms, and reduce the inappropriate conversion of land to sprawling, low-density development.
- Land use patterns and individual developments should be locationally and functionally integrated to reduce sprawl, promote pedestrian and transit use and limit the need for automobile trips and to foster neighborhood and community identity.
- Designate Urban Reserve Areas (URAs) adjacent to urban growth areas in order to preserve the opportunity for orderly and efficient transition from rural to urban land uses if and when needed in the future.
- Designate an Industrial Reserve Areas overlay (IRAs) at certain specified locations adjacent to designated Urban Growth Areas. Premature land parcelization and development of uses which are potentially incompatible with or preclude later industrial development shall be limited in order to preserve opportunities for the future siting of larger industrial uses or concentrations of uses.

Land Use Element Goals and Objectives

Land Use Goal 1:
The City will work to achieve a balance between jobs and housing.

Objectives
LUO1.1 The City will strive to balance the amount of land available for future employment uses with the current and projected housing land required.

Land Use Goal 2:
The City will work for the promotion and preservation of the historic downtown area.

Objectives
LUO2.1 Develop incentives to promote downtown growth, redevelopment and business opportunity.

LUO2.2 Develop a downtown plan to outline design standards, and uses to guide redevelopment of the downtown area.

Land Use Goal 3:
The City will work for the development of a regional center and community and neighborhood centers.

Objectives
LUO3.1 The City will work to insure that all centers within the City work together and provide the appropriate services in the appropriate locations.

LUO3.2 A regional center district will be created that includes uses for people from throughout the

region to focus future planning and public and private improvements.

LUO3.3 A community center district will be created that includes uses for people from throughout the city to focus future planning and public and private improvements.

LUO3.4 A neighborhood center district will be created that includes uses for those people in the neighborhood and some people passing through to focus future planning and public and private improvements.

Land Use Goal 4:
The City will require new industrial development to locate in areas that are appropriate for the long-term growth of the city.

Objectives
LUO4.1 The City will identify industrial areas that have good public infrastructure, and that are buffered from residential areas.

LUO4.2 The City will seek to identify industrial areas that have a minimum impact on the environment.

LUO4.3 The City will facilitate the development of existing vacant industrial land and strive to maximize the benefit of each site.

Land Use Goal 5:
The City will identify the appropriate quantity and location of residential development.

Objectives
LUO5.1 The City will work to insure that new residential development occurs using neighborhoods as the building blocks for new development.

LUO5.2 The City will work to insure that all neighborhoods within the city work together, and provide the appropriate types and densities of housing in the appropriate locations.

LUO5.3 The City will encourage infill and increased density to occur in and around commercial zones.

Land Use Goal 6:
The City will protect the stability of existing neighborhoods.

Objectives
LUO6.1 The City will work to plan new land uses in a manner that protects existing neighborhoods.

Land Use Goal 7:
The City will encourage the integration of appropriate institutional uses within the community.

Objectives
LUO7.1 The City will work to determine the character and need for institutional uses.

Land Use Goal 8:

The City will provide for general aviation needs within airparks in a way that will minimize impacts to the surrounding area.

Objectives

LUO8.1 The City will work to determine the potential demand for general aviation needs and the future use of the airpark.

Land Use Goal 9:

The City will identify commercial areas along the SR502 and SR 503 corridors as it expands to the west and the south.

Objectives

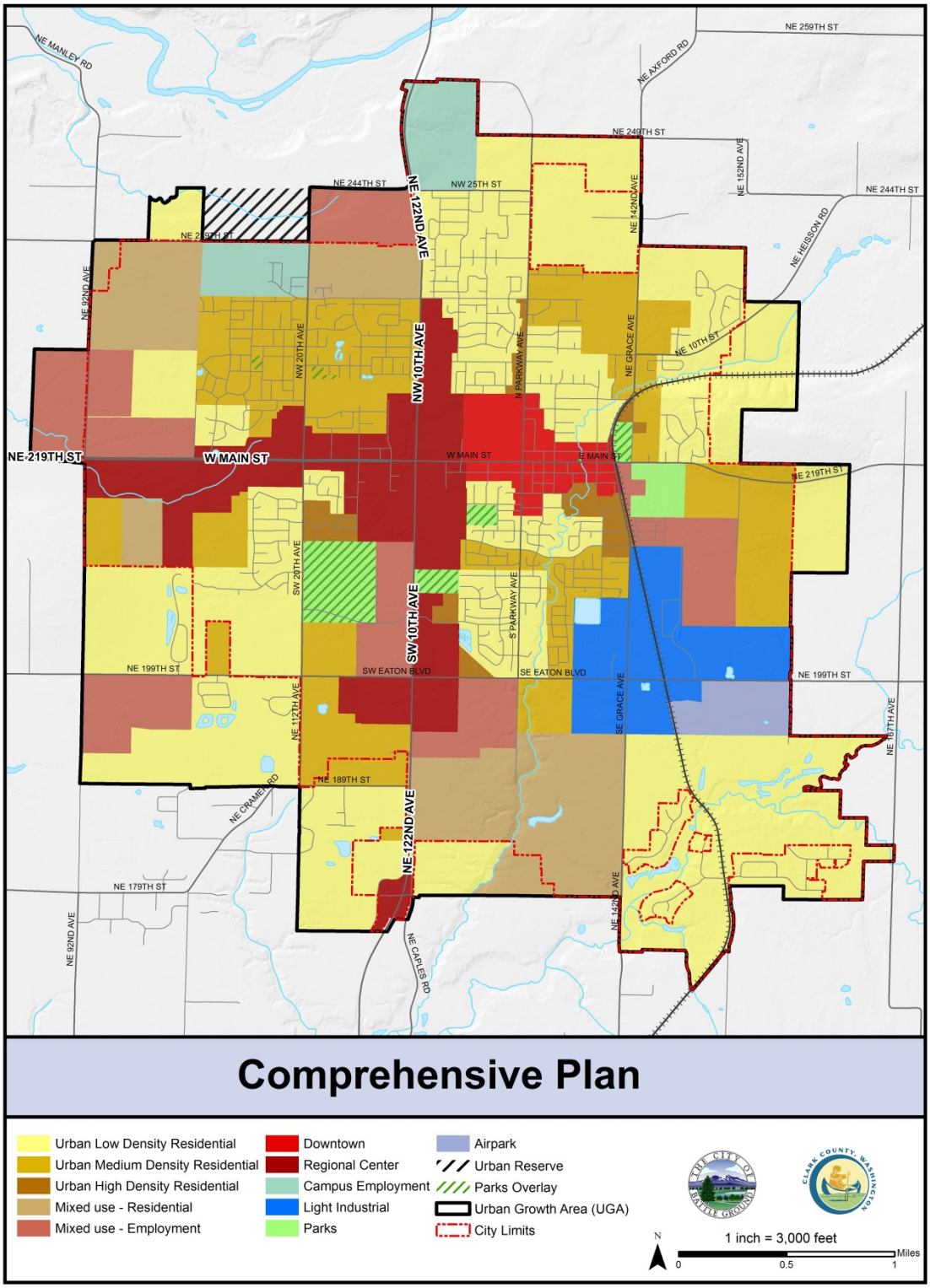
LUO9.1 The City will work to maximize the State Route corridors for commercial growth to promote jobs and services.

Comprehensive Plan Map

Comprehensive Plan Map, which officially designates the types and intensities of land uses allowed on individual properties throughout the city of Battle Ground. Designations applied by Clark County in the unincorporated UGA are also indicated. The designations within the future UGA depict the City's plans to achieve its vision as these lands are brought within the Battle Ground UGA in the future. The areas designated in this "Future Urban Growth Area" are intended to be illustrative, and have not been adopted by Clark County. Clark County should be consulted in order to ascertain the actual comprehensive plan designations for these areas.

The Comprehensive Plan Map was developed in an effort to create a commercial, civic and cultural center in the heart of Battle Ground. The regional center is extended along Main Street and SR 503 because of the superior transportation access that this area offers, and builds on the existing regional commercial investment. Another regional center was designated at SR 503 and Eaton Boulevard because of good transportation access in this area. Mixed-use areas were located in the western part of town to provide good access to regional transportation facilities. Higher density residential districts were primarily located in the western and southern areas of the city because they offered easy access to employment centers in Battle Ground, Vancouver, and Portland. Industrial areas were designated in the southwestern area of the city to build on existing investments and to ensure that industrial activities will minimize negative impacts on residential and other commercial uses. Other existing zones were not changed significantly, to preserve existing residential and commercial areas.

Figure 3-1: Comprehensive Plan Map



The Comprehensive Plan designations table (below) described the intent of each designation and associated zoning designations. Specific Zoning Code provisions, including permitted development densities and development standards, are found in the Battle Ground Municipal Code.

Existing Land Uses

Battle Ground is at the center of the Clark County, and has naturally been a hub for commerce. The City's center is focused around a commercial district along SR-502 and Main Street, serving residents living in Battle Ground and the surrounding region. This area is characterized by large retail and service-oriented enterprises. East of the regional center is the older commercial center of Battle Ground, which hosts restaurants, service-oriented businesses, specialty retailers, and government buildings. The Battle Ground School District maintains its main campus in this location, including a high school, middle school, and two primary schools.

The city of Battle Ground presently contains a variety of industrial uses focused in the southeast corner of the city, including light manufacturing and warehousing facilities. An industrial park was recently developed near SE Grace Avenue and Eaton Boulevard. Battle Ground's neighborhoods are spread throughout the city and are interspersed with some remnants of Battle Ground's rural past. For the most part, these neighborhoods have been developed recently. While there are some old neighborhoods near East Main Street, most dwellings were constructed during the 1980s or later. Battle Ground's newest and fastest growing neighborhoods are in the northern, northwestern, and southeastern areas of the city.

Land in the UGA, outside of the existing city limits, contains mostly residential uses. While most residences in the unincorporated UGA are characterized by rural development patterns, there are some residential subdivisions that restrict the potential for future urban development. More intensive development is constrained by a lack of adequate sewer, water, and transportation facilities and current land use regulations.

Table 3-1: Comprehensive Plan Designations

	Designation		Zoning	General Intent
RESIDENTIAL	Urban Low Density	UL	R3, R5, R7, Neighborhood Center	Residential ranging from 1.5 to 10 units per acre (manufactured housing allowed on single family lots)
	Urban Medium Density	UM	R7, R10, R12, Neighborhood Center	Residential ranging from 5 to 12 units per acre (manufactured housing allowed on single family lots)
	Urban High Density	UH	R12, R16, R20, Neighborhood Center	Residential ranging from 10 to 22 units per acre
COMMERCIAL	Regional Commercial	RC	Regional Center Commercial	Commercial center serving large areas of the County
	Downtown	D	R10, R12, R16, R20, Community Commercial Center, Downtown	Historic "identity" district providing a destination opportunity for primarily smaller, independently owned retail,

				service and entertainment venues.
MIXED USE	Mixed Use Employment	MXE	Regional Center Commercial, Community Commercial Center, Neighborhood Center, Campus Employment, Mixed use Employment,	Mixed use Opportunity with employment emphasis
	Mixed Use Residential	MXR	Community Commercial Center, Neighborhood Center, Campus Employment, Mixed Use Employment, Mixed Use Residential	Mixed use opportunity with residential emphasis
INDUSTRIAL	Light Industrial	ML	Light Industrial, Employment Campus, Neighborhood Center	"Clean" industry, including manufacturing
	Campus Employment	IC	Light Industrial, Campus Employment, Neighborhood Center	Primarily office and research and development uses in setting emphasizing aesthetics and compatibility
OTHER DESIGNATIONS	Park Overlay	P	Park	Existing and planned parks
	Airpark	A	Airpark	Supports airport activities by preventing incompatible land uses from locating in the area

Planning for Jobs

The GMA requires that enough land must be designated within the Urban Growth Area, at sufficient densities, to accommodate the city's anticipated population increase. The following projections and analysis, together with the Comprehensive Plan Map, will assure the City can accommodate the anticipated growth.

In 2035, the city is projected to add 6,708 households and 8,605 jobs.* This would result in a balance of 1.28 jobs for every household (1.28:1). Table 3-2 below provides a way of measuring Battle Ground's desired employment in relation to the number of households. The countywide goal is to establish a balance of one job per household (1:1). This Plan envisions a slightly higher ratio of 1.2 jobs per household, thereby providing for sufficient amount of commercial, industrial, and mixed-used land for jobs. **Battle Ground's Employment Capacity is estimated at 10,060, when factoring in redevelopment and public employment capacities.*

Battle Ground's intends to be a complete community that provides residents the opportunity work and reside in the same community. Based on a surge of housing development growth in the 90s and 2000s, Battle Ground is positioning itself to preserve as sufficient supply of lands for jobs, and thereby avoid becoming strictly a "bedroom community." As shown in the Jobs to Households table below, in 2003 the City had 0.87 jobs per household and in 2013 this increased to 0.93 jobs per household. This

trend is a good indicator that Battle Ground is on its way to achieving the desired jobs-to-housing balance of 1.28 to 1. Land development and public infrastructure investments, together, will help to create new complete neighborhoods that are identified by parks, schools, physical features, commercial services, or other community resources.

Table 3-3 shows the Employment Land Capacity, for the 2015 - 2035 Planning Horizon table below, shows a total of 430 net developable acres of commercial land and 161 net developable acres of industrial land. Together, this is 591 acres of employment land that will be sufficient to accommodate the projected job targets. One of the challenges of providing suitable lands for jobs is the high amount of wetlands in Battle Ground. These encumbrances have been factored into the overall net acreage needed. A developer may choose to impact these areas if there are no other feasible alternatives, as long as the impacts are adequately mitigated under local, state, and federal law. Also factored into this Plan, is the existing capacity that institutions have to accommodate additional jobs without the need for additional acreage.

Table 3-2: Jobs to Households

	Jobs	Households	Jobs to/ Household	
2003	3,533	4,034	0.87 to 1	City
2013	5,609	5,979	0.93 to 1	City
2035	8,605*	6,708	1.28 to 1	Projected Capacity

Source: City of Battle Ground Comprehensive Plan, 2007; "Employment and Wages within Clark County: Cities and Unincorporated Areas," Scott Bailey, Regional Economist, Washington Employment Security Department; American Community Survey, U.S. Census Bureau. Clark County Vacant Buildable Lands Report.

**Battle Ground's Employment Capacity is estimated at 10,060, when factoring in redevelopment and public employment capacities.*

Table 3-3: Employment Land Capacity, for the 2015 - 2035 Planning Horizon

	Gross Acres	Net Acres*
Commercial		
City	580.2	365.3
UGA	98.2	64.9
Total	678.4	430.3
Industrial		
City	307.3	161.6
UGA	0	0
Total	307.3	161.6

Source: Clark County Buildable Lands Report, 2015. *Note: Net Acres includes land that is either vacant or underutilized and not encumbered by critical areas.

Planning for Residential

As indicated in Table 3-4 the Residential Population and Capacity, as of 2015 the City contains 1,133 acres of net developable acres of residential land. RCW 36.70A.215 requires that "suitable land to accommodate the countywide population projection established for the county pursuant to RCW 43.62.035 and the subsequent population allocations within the county and between the county and its cities and the requirements of RCW 36.70A.110." Battle Ground must plan for approximately 6,708 additional dwelling units, which translate into a need of 1,118 developable acres, according to the Clark County Vacant Buildable lands report.

Table 3-4: Residential Population Capacity

Battle Ground	2015 Population	Population to be housed in by 2035	Residential Units needed	Observed Units per acre	2035 Projected Population
	20,871	17,845	6,708	4.2	38,443
	Gross Acres	Net Acres			
City	1,797	786			
UGA	740	332			
Total	2,537	1,118			

Source: Clark County Community Planning, 2015 Vacant Buildable Lands Model.

As indicated in Table 3-5 the New Single-Family Development Density by City, 2006-2014, Battle Ground has added single-family homes at densities of 3 units per acre, however this actually is much higher considering many subdivision developments in Battle Ground contain wetlands that require protection. A better measure of density may actually be observed by the net acreage of 6-8 based on platting activity in Battle Ground in the early 2000s. A notable change during this time frame as shown in Table 3-6 New Multi-Family Development Density by City, the high density of new multi-family development in the City, is averaging 23.7 dwelling units per acre.

Table 3-5: New Single-Family Development Density by City, 2006-2014

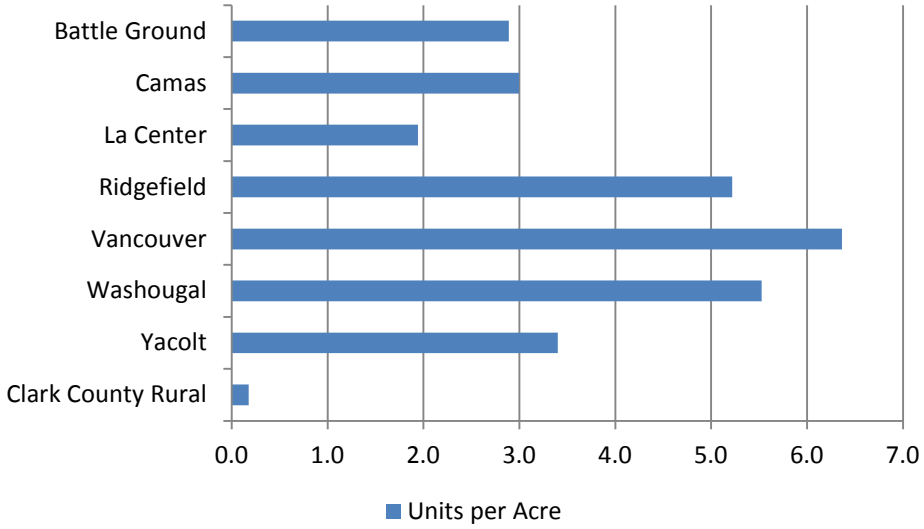
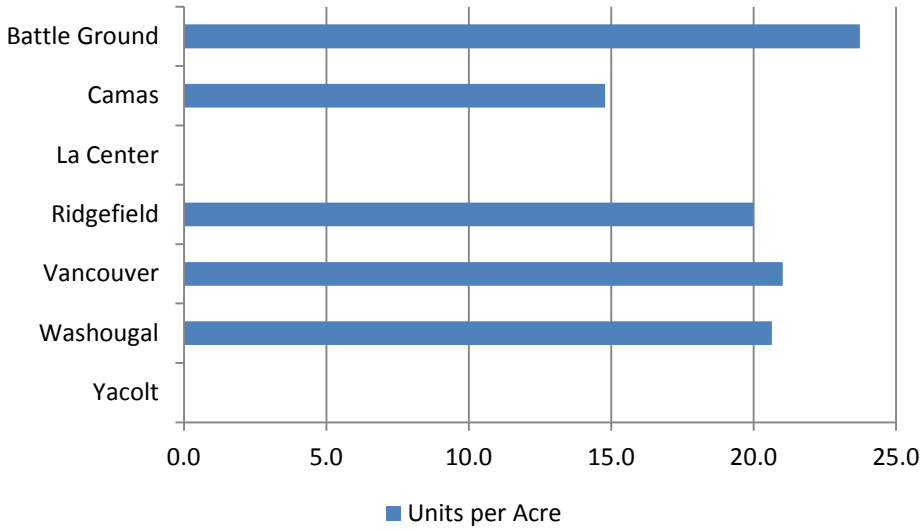


Table 3-6: New Multi-Family Development Density by City, 2006-2014



Monitoring building permits provides a measure of the level of construction activity and the rate at which residential land is being developed. Table 3-7, Single-Family and Multi-Family Building Permits, 2006-2014, shows the number of new single-family and multi-family building permits issued, and the single-family and multi-family split from July 1, 2006 to December 31, 2014. During this growth cycle, 34% of all dwellings were multi-family, and the 66% were single family. Battle Ground leads Camas, Washougal, and Ridgefield in the percentage of multi-family, but trails Vancouver who leads the County at 62%. In conformance with GMA, it is the City's policy to provide for a variety of housing options for residents by specifying that no more than 75 percent of any new dwelling type shall be of the same

product type (i.e. single-family housing). With the influx of multi-family development in recent years, Battle Ground is achieving this target.

Table 3-7: Single-Family and Multi-Family Building Permits, 2006-2014

Battle Ground		Single-Family			Multi-Family			Total		
		Units	%SF	Acres	Units	%MF	Acres	Units	Acres	Units/Acre
	City	506	64%	175.1	280	36%	11.8	786	187	4.2
	UGA	45	100%	62.2	0	0%	0	45	62	0.7
	Total	551	66%	237.3	280	34%	11.8	831	249	3.3

Source: Clark County Buildable Lands Report

Most new employment and population growth in Battle Ground is expected to occur on vacant or underdeveloped land. Due to the limited availability of vacant or underdeveloped land within the existing city limits, the city expects to strategically annex new land from its Urban Growth Area that supports cohesive neighborhoods and the city's "small town feel". The Urban Growth Area was expanded in 2004 and 2007 to accommodate future population growth. With this Plan, no extensive Urban Growth Area Expansions are proposed, except for an 80-acre expansion on the west side of the city for job creation.

Neighborhoods are envisioned in this plan to be the backbone of the community. Neighborhoods will include multiple uses such as convenience retail stores, personal-service businesses, and public institutions such as a branch post-office or a community center. Neighborhoods will have strong interrelationships to surrounding areas and the city's commercial core through compatible land use arrangements and multiple transportation connections.

Commercial development will be focused in four district planning areas. Each commercial area will be developed with a distinct identity linked to the economic functions it serves; however, each area will be integrated with the others and will support the city's small town feel.

District Planning Areas

Districts have been established by the Plan to foster a unique identity for the Sand Hill, West Main Street, Central Main Street, and Old Town areas (see Figure 3-2). The City of Battle Ground will initiate planning for these districts in anticipation of substantial development. The planning process will include establishment of City policy for these areas, analysis of existing conditions, identification of opportunities and constraints to achieving City policy, and a strategic action plan and possible zoning overlays.

The following guidelines are included in this plan to serve as a framework to assist developers in understanding the City's goals and objectives for high quality development within commercial districts, and to provide the basis for future regulations that will implement the districts. The guidelines complement the existing mandatory development regulations contained within the Battle Ground Municipal Code. The City of Battle Ground will refine the guidelines contained in this section in subsequent planning efforts.

Sand Hill District

The Sand Hill District encompasses the lower slopes of Sand Hill located on the western limits of the Future Urban Growth Area. This district extends from 199th Street on the south to approximately 10th Street on the north, and from 102nd Avenue to 92nd Avenue. This area features the lower slopes of Sand Hill that offers sweeping views to the north, east, and south. Development envisioned for this area includes a mix of residential, commercial, and recreational activities. The purpose of this district is to encourage the development of a variety of residential densities to take advantage of the views presented by the geography, and a mix of commercial and office uses to complement the residential growth. On the north side of SR 502, emphasis will be placed on development of a mixture of offices and retail activity in a mixed use neighborhood. A gateway feature will be developed on the western extent of the Sand Hill District, on SR 502 near 199th Street, through special architectural treatment of buildings or a landscape element.

West Main Street District

The West Main Street District encompasses areas along Main Street between 102nd Avenue and SR 503. This district will foster development of a major center for large-scale retail and service enterprises, while engendering a "small town feel" through design guidelines that support the pedestrian environment. Anchor stores, small department stores, grocery stores, and banks are among the types of businesses that are expected to locate in this district. Structures in this district should be clustered together to create nodes of activity and to provide opportunities for shoppers to combine visits to multiple stores in walking trips. Structures should also be sited to complement each other by creating linkages between buildings such as overhangs, trellises, and specially treated pavement. Boxlike development should be avoided by constructing buildings with architecturally detailed and articulated elevations. Parking lots should be located in the interior of sites rather than between buildings and the street to minimize building setbacks, and to provide improved access for pedestrians.

Central Main Street District

The Central Main Street District includes areas along Main Street between SR 503 and 5th Avenue. The purpose of this district is to strengthen the area as a center for civic uses, professional services, and retail uses. Battle Ground's City Hall, the public library and the fire station are located in this area.

Buildings in this area should be human-scaled, and maintain an active frontage and entrance on the street. Blocks should be small in this district to provide many connections for pedestrians traversing the area. Building elevations should have a high degree of architectural detail and articulation. Large box-like development is discouraged within this area. Parking should be available in small lots behind or on the sides of buildings. There are several key redevelopment opportunities within the Central Main Street District, including Meyer's Marketplace. When redevelopment occurs in this area, it should support the purpose of this district. At some time in the future, Battle Ground School District may decentralize some or all of their facilities located in this area. Should this occur, redevelopment of these parcels should occur in a way that is sensitive to the area's design context, including regional center uses and any remaining school uses.

Old Town District

The Old Town District encompasses the areas along Main Street from Parkway to the railroad tracks. The purpose of this district is to reinforce its role as the historic center of Battle Ground's cultural, civic, and commercial life. This district will support development of land uses such as specialty stores, restaurants, and professional services. The most important feature that this district will encourage is human-scaled

buildings that are proportional to the street and people. Buildings should be designed to have a strong relationship with the street through active storefronts, large windows, and a principal façade and entrance that face the street. The streetscape in this area will be focused on encouraging pedestrian use and improving circulation through safe pedestrian crossings, wide sidewalks, street furniture, and other pedestrian amenities. A comprehensive signage program could be developed for the area. Parking should be primarily located on the street.

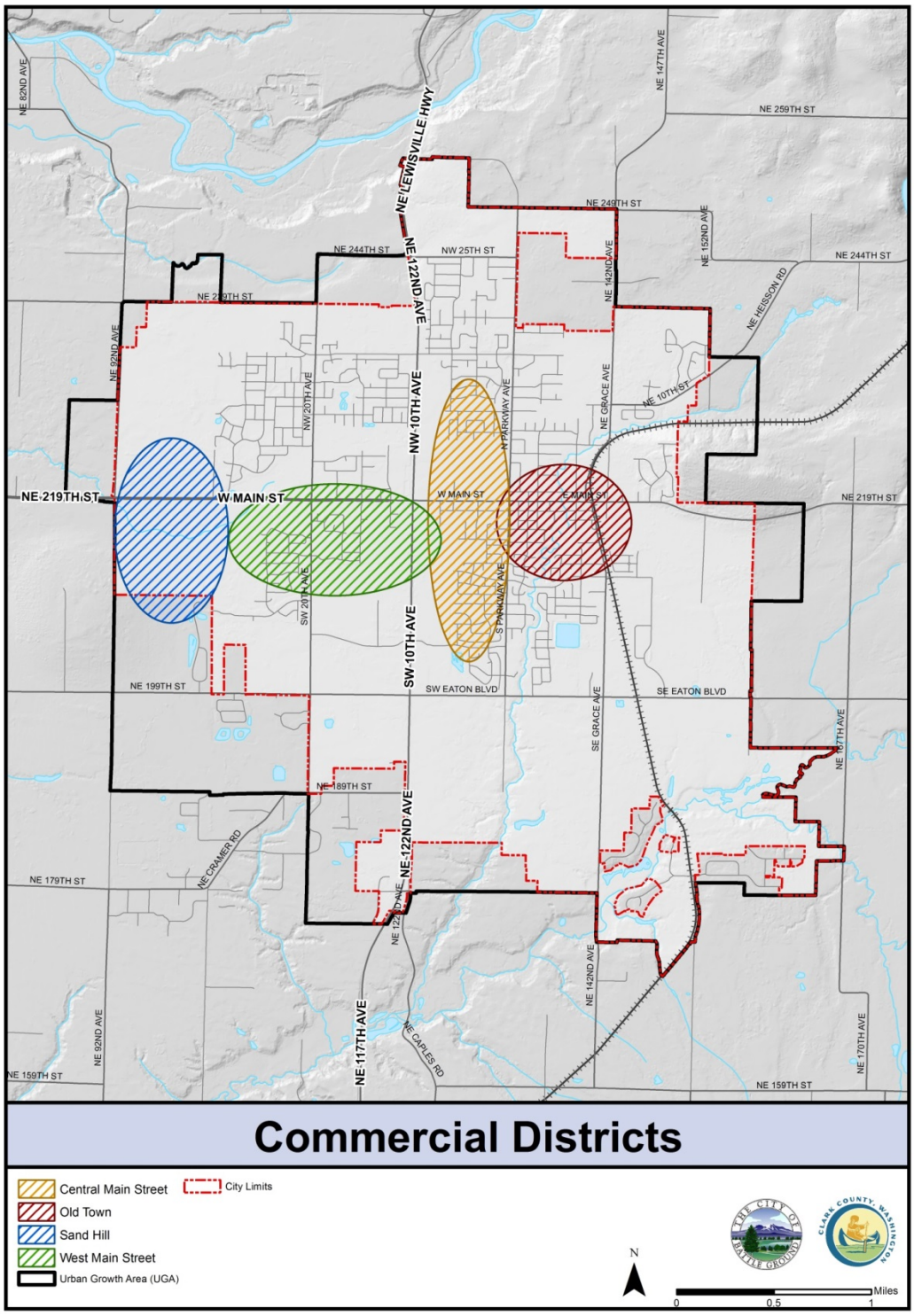
Findings:

The City of Battle Ground has designated land uses and intensities that are sufficient to accommodate anticipated growth during the next 20 years and are consistent with the Countywide Planning Policies and the Growth Management Act. In the future, residential growth will mostly be directed to unique new neighborhoods, and commercial development will occur in a way that supports the city's small town feel while bolstering the economy.

The Plan's intent is to strengthen Battle Ground as a place where family members can live, work, recreate and learn. The Land Use Element will make Battle Ground a more complete community, one that includes both housing and employment, by making additional commercial and industrial land available for development. However, the City will need to continue to improve its jobs-to-housing balance to ensure that residents have opportunities to work in Battle Ground.

The Land Use Element supports the expectation that Battle Ground will emerge as the premier commercial center within central Clark County. The Sand Hill, West Main Street, Central Main Street, and Old Town districts will encourage new growth and development in the city while reinforcing Battle Ground's small town feel. These districts will ensure that new development improves public spaces and the pedestrian environment by making them more functional and attractive for workers, shoppers, and visitors to these areas.

Figure 3-2: Commercial Districts



Chapter 4 - Housing

Introduction

The City of Battle Ground seeks to preserve and enhance existing residential neighborhoods, while accommodating anticipated growth. The Housing Element provides the tools to accomplish this goal. The City of Battle Ground plans to provide opportunities for new residential neighborhoods to be developed that are consistent with the City's small town feel, and residential infill development that is compatible with existing neighborhoods.

This Element was prepared in conjunction with the Land Use Element. Together, they provide an overview of the City's policies on how housing stock may be expanded and improved to meet the housing needs over the next 20 years. The emphasis of this chapter is on preserving existing residential neighborhoods, accommodating future households through new development and infill development, and making adequate provisions for low-income families by supplying sufficient land and allowing for diversity in housing types. The Land Use Element should be consulted to learn more about how housing densities will be permitted in existing and new neighborhoods.

Regulatory Context

The Growth Management Act (GMA) requires that a housing element be included in the comprehensive plan. Advanced planning for housing ensures that adequate and affordable housing is available to the community, and helps to plan for needed infrastructure improvements such as parks, schools, roads, water systems, etc. The GMA established the following housing goal:

- Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing.

The contents of this chapter are guided by the Growth Management Act (RCW 36.70A.070), which specifies that the Housing Element of the 20-Year Plan shall at a minimum, contain:

- An inventory and analysis of existing and projected housing needs;
- A statement of goals, policies, and objectives for the preservation, improvement and development of housing;
- An identification of sufficient land for housing, including government-assisted housing, housing for low-income families, manufactured housing, multifamily housing and group homes and foster care facilities;
- Adequate provisions for existing and projected needs of all economic segments of the community.
- An inventory of public properties no longer needed for use and which may be available for affordable housing. (The only property on the City's inventory is on NW 20th Avenue, just north of the Albertsons.)
- Provisions for accessory dwelling units. Such provisions are subject to regulations, conditions, and limitations as determined by City Council (RCW 43.63A.215).

County-Wide Housing Policies

The Growth Management Act further required inter-jurisdictional coordination and development of county-wide policies as it relates to affordable housing and its distribution regionally. Listed below are the countywide housing goals that Battle Ground incorporates into its Plan:

- Provide for diversity in the type, density, location, and affordability of housing throughout the county and its cities. Encourage and support equal access to housing for rental and homeowners and protect public health and safety;
- Plan for increasing housing needs of low- income and special needs households;
- Provide assistance for maintenance and rehabilitation of housing for Clark County residents;
- Promote an active role in affordable housing using a combination of regulatory, partnership and finance techniques;
- Establish a secure funding mechanism to support development of affordable housing;
- Coordinate and concentrate public expenditures to make positive and visible impacts on targeted neighborhoods; and,
- Support diversity in the mix of housing types in the community, while improving home ownership tenure.

Housing Element Goals and Objectives

Housing Goal 1:

The City will encourage a range of housing types and prices to meet the needs of all citizens of Battle Ground.

Objectives

HO1.1 The City will provide the opportunity to develop an adequate supply of housing to meet the needs and preferences of Battle Ground's households now and in the future.

HO1.2 The City will support the creation of a variety of housing types that are attractive and affordable to potential homebuyers at all income levels.

HO1.3 The City will work to balance density goals and housing type targets with other City goals and objectives.

HO1.4 The City will encourage housing that supports sustainable development patterns, resource efficient design and construction, and the use of renewable energy resources (EO1.1).

HO1.5 The City will work to ensure neighborhood stability through a variety of homeownership and rental housing options and the preservation of existing housing (LUO6.1).

HO1.6 The City will treat residential structures occupied by persons with handicaps the same as similar residential structures occupied by a family or other unrelated individuals.

HO1.7 The City will treat residential structures occupied by group care for children that meets the definition of "familial status" the same as similar residential structures occupied by a family or other unrelated individuals.

Population Growth and Housing Demand

As of 2015, the City of Battle Ground is the third largest incorporated community in Clark County, with a population of 19,250. Historically, Battle Ground added most of its population during 1990 to 2010, growing from a town of 3,758 residents in 1990, to 17,571 in 2010 (Table:4-1: Population Trends). Growth rates during the nineties where very high at around 15%. The 2000's, growth was still high but

tapered to 8%, and proportionally larger city also accounts for decreasing growth rates. The slowest growth occurred during 2010 to 2015 at 2%, however building permit activity has increased in 2014 and 2015, but not at the same rate as the 1990 to 2010 era (Table: 4-2 Population Change).

Table 4-1: Population Trends (1990-2015)

	1990	2000	2010	2015
Battle Ground	3,758	9,332	17,571	20,871
Clark County	238,053	345,238	425,363	448,845
Washington	4,866,669	5,894,121	6,724,540	7,061,410
Source: Washington State Office of Financial Management				

Table 4-2: Population Change (1990-2015)

	1990-2000	2000-2010	2010-15
Battle Ground	148%	88%	10%
Clark County	45%	23%	6%
Washington	21%	14%	5%
Source: Calculations from OFM data Note: Battle Ground's annual growth from 1990-2000 was 14.8 percent. From 2010-15 it is 2%.			

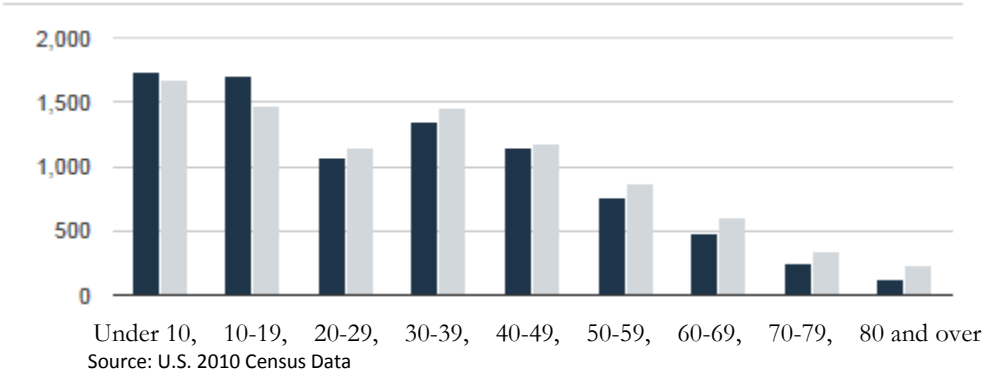
The primary goal of the Housing element is to meet the current and future need for housing, while preserving and enhancing the livability of Battle Ground's existing neighborhoods. Battle Ground's population is expected to add 17,845 new citizens by 2035 with a total population of 38,443. This will require the construction of approximately 6,708 additional dwelling units.

RCW 36.70A.215 requires that "suitable land to accommodate the countywide population projection established for the county pursuant to RCW 43.62.035 and the subsequent population allocations within the county and between the county and its cities and the requirements of RCW 36.70A.110." As noted, Battle Ground must plan for approximately 6,708 additional dwelling units, which translate into a need of 1,118 acres, according to the Clark County Vacant Buildable lands report. The City's existing vacant residential lots, opportunity for infill development, and the land with the existing Urban Growth Boundary can accommodate this demand (Table: Future Demand for New Housing).

Age Characteristics of Residents

The City of Battle Ground's policies support meeting the diverse housing needs of its residents. Understanding the age characteristics of the City's population is an important step towards accomplishing this. Middle-aged adults and young children comprise the greatest share of Battle Ground's population at 61%. The median age is 28.3 (male) and 31.5 (female). Battle Ground has a large population of kids as represented in the "under 10" and "10-19" columns in Table: 4-3 Population/Age Distribution. There is a decrease in population for those in their 20's, but this rebounds for those in their 30's. The population segments then decrease with an aging population. The average household size in the City is 3.1 persons, whereas statewide it is 2.5. Being primarily a young, family-based community, Battle Ground should plan family-sized households (3+ bedrooms).

Table 4-3: Population/Age Distribution by Gender



Source: U.S. 2010 Census Data

A relatively small, but still significant share of Battle Ground's population is comprised of senior citizens. Those 65 and over comprise 8.3 percent of all citizens. This population segment is increasing at a faster rate locally and nationally. In the future, Battle Ground will need to meet the challenges of an aging population such as affording higher rent, rising property taxes and maintenance costs. Houses will also need to be designed to be more accessible and accommodating for those with a disability. Elderly citizens, defined as people over age 85, may require assisted living, in home care, and greater access to medical services.

According to the Clark County Comprehensive Plan, as well as Battle Ground trends between 2000 and 2010, the majority of the elderly population prefers to live independently in family units or alone. Senior living in group quarters has remained the same from 2000 to 2010, while those living alone have increased by 68% and those living in families have increased by 88%. This population could be well served by smaller, affordable and accessible rental and ownership housing units. Accessory Dwelling Units, whether attached or detached, from the primary dwelling unit will continue to be a needed housing type within Battle Ground. To incentivize ADU's, the City may consider greater zoning flexibility or fee reductions. Battle Ground is committed to allowing the development of group, family, or individual housing that meets the special needs of senior citizen and elderly populations.

Table 4-4: Senior Citizens' Housing Arrangements in Battle Ground, 2000 to 2010

Housing Arrangement	2000	2010
In family households	470	1,006
Living alone	237	399
In group quarters	92	96
Total	799	1,501

Source: U.S. Census Bureau, Census 2000, 2010.

Physically Challenged Population

In Battle Ground, nearly 9% of citizens have some form of disability. Disabilities increase with age, and for those over 65, the rate increases to 38%. Housing, along with other public infrastructure, must be designed to accommodate those with physical challenges. The Americans with Disabilities Act (ADA) requires that all new structures designed for public accommodation to be readily accessible and usable by individuals with disabilities. It also requires that when alterations or improvements are made to existing structures, up to 20% of the cost of the improvements shall be allocated to increase the accessibility of the structure or space. The City implements the ADA provisions through its development

and building codes.

Housing Affordability

The City of Battle Ground's affordable housing strategy is to provide an adequate supply of land that is available for development of a diverse array of housing types, and by allowing group housing for low-income populations, subject to regulations adopted by City Council. Analyzing housing affordability provides an important indicator of whether this strategy is succeeding.

In 2015, the average "sold" price in Battle Ground is $260,000 and the average home price per square foot is $145. In Washington State, the average home price is $219,000 and average sale price is $283,284. (Source: Reatlor.com). From 2009-2013, the average price of a home was $213,800. In 1999, the average home was $156,400 and in 1990, $60,300 (Source: U.S Census Data).

Battle Ground's median household income was $57,134 in 2010 (Table: 4-5 Median Household Income). The City's inflation-adjusted median household income grew at a faster rate than Clark County and Vancouver during 2000 to 2010, but grew at a slower rate than Camas, La Center, Ridgefield, Washougal, and Yacolt. Battle Ground's median household income is comparable to that of greater Clark County.

Table 4-5: Median Household Income

	1990	2000	2010	2000-2010
Battle Ground	$31,958	$45,070	$57,134	27%
Camas	$37,649	$60,187	$77,334	28%
La Center	$32,609	$55,333	$71,522	29%
Ridgefield	$35,563	$46,012	$76,295	66%
Vancouver	$28,395	$41,618	$48,875	17%
Washougal	$33,548	$38,719	$61,121	58%
Yacolt	$23,971	$39,444	$53,452	36%
Clark County	$41,897	$48,376	$58,262	20%

Source: U.S. Census Bureau

According to federal guidelines, housing is affordable only when it is 30 percent or less of a household's gross income (including taxes and insurance). In Battle Ground, as well as greater Clark County, low-income households face a growing challenge in trying to find affordable housing due to rising costs of housing. For homeowners, 42% pay over 30% percent of their income on housing, and for renters it is 49% (Table: 4-6 Battle Ground Income and Housing Cost).

Table 4-6: Battle Ground Income and Housing Cost

	Battle Ground	*Vancouver*	*Clark County*	*Washington State*	*Multnomah County*
Percent owned	67%	50%	66%	64%	55%
Median Assessed Value (owner occupied units)	227,900	215,500	$243, 300	$272,900	$276,900
Share of owner-households paying 30% or more of income for housing	42%	41%	40%	40%	41%
Gross rent, Median	$998	$881	$919	$951	$884
Share of renters paying 30% or more of income for housing	49%	51%	52%	50%	54%
Median household income	$57,520	$49,271	$58,764	$59,374	$51,582
Individuals in poverty	12%	16%	12%	13%	17%

Source: American Community Survey, 2013

Rental rates have also increase throughout Clark County. Battle Ground has experienced the greatest percentage of increase in rental costs during the past decade (38.5%); as a result of the increase, renter households must earn $41,000 or more annually to afford the median rent.

Table 4-7: Median Gross Rent by Community, Clark County, 2000 and 2009

City	*2000*	*2009*	*Percent Increase*	*Annual Income needed to Afford*
Vancouver	$671	$820	22%	$32,800
Clark County	684	846	24	33,840
Battle Ground	**743**	**1,029**	**38**	**41,160**
Camas	657	859	31	34,360
La Center	723	793	10	31,720
Ridgefield	725	842	16	33,680
Washougal	609	821	35	32,840
Woodland	544	711	31	28,440
Yacolt	750	680	-9	27,200

Source: American Community Survey 2005-2009 5-year estimate, 2000 Census. Found in "*Analysis of Impediments to Fair Housing Choice*," Prepared by BBC Research & Consulting Clark County, Washington, 2012.

Clark County's Department of Community Services is responsible for the administration of both the CDBG and HOME Program in unincorporated Clark County. They also administer the programs for Battle Ground, as well as Camas, La Center, Ridgefield, Washougal, Woodland, the town of Yacolt.

Funding Sources

Providing housing affordable to low- to-moderate income households and special needs populations typically requires direct subsidies and involvement by public or non-profit sectors. Major agencies and programs in the county include the following:

Vancouver Housing Authority (VHA)

VHA has served as the designated public housing provider in the county since 1942 and in 2010, provided rental housing and housing assistance to approximately 12,500 residents countywide. VHA owns or manages approximately 1,000 units, provides voucher assistance for private rental of 2,300 units and provides 1,900 units of workforce housing for families. VHA also owns or manages 300 special needs units for assisted living, shelters or persons with mental illness.

Community Development Block Grant (CDBG) Program

Since 1985, Clark County has received over one million dollars annually in CDBG funds. Local CDBG program activities related to housing include neighborhood revitalization, affordable housing assistance and assistance to homeless residents. Clark County's Department of Community Services is responsible for the administration of both the CDBG and HOME Program in unincorporated Clark County. They also administer the programs for Battle Ground, as well as Camas, La Center, Ridgefield, Washougal, Woodland, the town of Yacolt.

HOME Investment Partnership (HOME)

Clark County annually allocates federal funds to create affordable low-income housing under the HOME program. Projects include assistance with home buying or renting, housing rehabilitation loans or direct development of affordable rental housing. Housing Rehabilitation Program Vancouver also operates an owner-occupied housing rehabilitation program providing up to $25,000 to moderate income homeowners and an emergency repair grants of up to $5000 for low income mobile home owners.

Non-profit Organizations

Local non-profit organizations involved in low income or special needs housing provision or assistance include: Affordable Community Environments; Columbia Non-Profit Housing; Community Housing Resource Center; Council for the Homeless; Evergreen Habitat for Humanity; Janus Youth; Second Step Housing; and Share.

Housing and Community Development Consolidated Plan 2010-2014

To guide local housing provision and set priorities for local expenditure of federal CDBG and HOME funds, Clark County periodically produces a Consolidated Housing Plan. The Plan provides an analysis of community needs and establishes priority objectives and long-range strategies to guide the allocation of housing and community development resources. It is updated annually through an “Action Plan” with information on projects and funding for the upcoming year and supported by an annual performance report.

Ten Year Homeless Plan, 2012

Pursuant to state requirements to develop plans to end homelessness, in 2012 Clark County, City of Vancouver and area non-profit organizations adopted a 10-year homeless plan. The Plan requires completing annual one-day counts of homeless persons. As of January 2011 there were 650 sheltered

homeless persons in Clark County, 187 unsheltered persons and 834 persons living temporarily with family or friends.

Conclusion

Sufficient land has been allocated throughout the Battle Ground UGB to accommodate the anticipated population growth, and a full range of housing types as required by the GMA. The Land Use and Housing Elements permit the following housing types within the city of Battle Ground:

- single-family (various sizes and densities);
- duplex;
- small multiplex;
- multifamily;
- manufactured homes;
- low income housing;
- mixed use residential;
- mixed use residential/commercial; and,
- group homes.

Battle Ground housing is primarily family-oriented, and is it likely that the housing market will continue to reflect this characteristic in the future. There is likely to be an increase of seniors and elderly, or those with disabilities, who require different housing options. The City will continue to work with the county and federal agencies in helping to meet the needs of populations with special housing needs.

Ownership housing is slightly unaffordable for median income households, and is expected to become less affordable in the future. Rental housing has more problematic given the sharp increase in rent and family incomes that are not increase as much. Lower income households are not expected to experience difficulty affording rental housing in the future, but will find ownership opportunities more constrained. As a result of these needs, their will continue to be a high demand for affordable house. Being a family based, community, Battle Ground will also need to provide homes with three or more bedrooms. The City will continue to coordinate with the County on providing for affordable housing opportunities.

The condition of the city's housing stock is good, which is expected to continue due to increasing investment in the residential market and adequate code enforcement. The City will continue to ensure that the housing stock reflects the highest standards of health, safety, and comfort for its residents.

The City strives to meet Clark County's objective for a housing split that includes approximately 75 percent single-family housing types and 25 percent multifamily housing types. In the future, the City will have an adequate amount of land that is designated for each of these types that will be available for annexation. Therefore, it can be expected that the City will be able to achieve this objective.

Chapter 5 - Growth Management

Introduction

The Growth Management Element provides context for future annexations of unincorporated land into the City of Battle Ground, and establishes strategies to insure these new areas of the city meet the Goals and Objectives found throughout this Plan. In addition, this Element is intended to help manage the rate of growth so the city is able to maintain its small town character. Although this Element is not required by the GMA, the GMA does require each city to identify a UGA (RCW 36.70A. 110). Battle Ground's UGA is an area surrounding the city that is characterized by a mix of agricultural and rural residential development which can accommodate additional urban development. This boundary is a product of negotiations with Clark County as part of their Comprehensive Plan update. This chapter includes state, regional, and local planning policies that relate to annexation and provides policy guidance for future actions within the city's UGA.

Policy and Regulatory Context

Growth Management Act

Three of the 13 statewide planning goals contained in the GMA relate directly to UGAs, Urban Holding Areas and annexation. The three relevant goals are:

Urban growth - Encourage development in urban areas where adequate public facilities and services exist, or can be provided in an efficient manner.

Reduce sprawl - Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.

Public facilities and services - Ensure that public facilities and services necessary to support development shall be adequate to serve the development at the time of occupancy and use, without decreasing current service levels below locally established minimum standards.

County-Wide Growth Management Policies

The Clark County Comprehensive Plan states that Battle Ground's unincorporated UGA may develop for more intensive uses through annexation to the City with a subsequent zone change or through an intergovernmental agreement. The annexation must be consistent with the City and County's comprehensive plans and it must be demonstrated that the following conditions are met for the City to annex land:

1. Full urban services can be provided by the applicable City and other special districts (including schools, fire protection, police protection as well as water, sewer, roads and drainage); and

2. Urban holding zoning cannot be removed unless the City assures that public services will be provided prior to, or in conjunction with development.

In addition, it must be demonstrated that:

- Sensitive environmental resources (including wetlands, fish and wildlife habitat floodplains,

shorelines, geological hazards, priority species and habitats) will be adequately protected;

- Open space corridors will be maintained between urban areas; and

- There will no net loss of industrial land.

The relevant Countywide Planning Policies related to annexation are:

- The County and jurisdictions within the County are to define urban reserve areas (land reserved for future development after 20 years), where appropriate, to allow an orderly conversion of land adjacent to designated UGAs to urban densities, as demonstrated by the need to expand the developable land supply or by regional industrial or public facility needs.

- The County, cities and towns are to work cooperatively, to develop policies governing transition of urban reserve areas between the UGA set by the 20-Year Comprehensive Growth Management Plans and the urban areas conceptualized by the longer-term Community Framework Plan. Such policies are to:

    - encourage urban growth in cities and towns first, then in their UGAs, and finally in the urban reserve area;
    - ensure that any development permitted is consistent with the level of urbanization of the adjacent areas;
    - identify major capital facilities and utilities, provide locational and timing criteria for development of these facilities and utilities;
    - include a mechanism to ensure that major capital facilities and utilities are constructed when needed; and
    - retain 75% development "trigger" on buildable residential and commercial land, 50% of prime industrial land and other established criteria for determining the need and procedures for amending the UGA boundary.

- Develop criteria for uses within urban reserve areas to allow a reasonable use without preempting future transition to urban growth.

- Techniques that enable the urban reserve to be maintained include but are not limited to:
    - conservation easements;
    - tax assessments;
    - pre-planning of lots and the clustering of units; and
    - other innovative techniques.

Growth Management Element Goals and Objectives

Growth Management Goal 1:

The City will seek a sustainable rate of growth

Objectives

GMO1.1 The City will coordinate its growth projections and growth goals with other jurisdictions.

GMO1.2 The City will balance its growth with other City goals.

GMO1.3 The City will strive to grow at a rate that maintains its small town character.

GMO1.4 The City will work to provide adequate urban services concurrently with development.

GMO1.5 The City will encourage efficient growth within the existing city limits before pursuing additional annexations.

GMO1.6 The City will coordinate with Battle Ground School District during annexation processes to maintain District service standards.

Growth Management Goal 2:
Future growth is to occur primarily to the west and south of the current city limits and in all directions consistent with the 50-year vision.

Objectives
GMO2.1 The City will primarily focus future planning efforts to the south and west of the current city limits.

GMO2.2 The City will focus secondary planning efforts for future growth to the north and east.

Growth Management Goal 3:
The City will encourage the efficient and sustainable expansion of the City through the Urban Growth Areas.

Objectives
GMO3.1 The City will seek to achieve desirable growth patterns through annexations.

GMO3.2 The City will seek to achieve a jobs/ housing balance through annexations.

Growth Management Goal 4:
The City will work with the County and other jurisdictions in determining growth policies for the Area of Influence.

Objectives
GMO4.1 The City will seek to preserve the Area of Influence for future urban growth patterns anticipated by the Vision.

Annexation Opportunities and Methods

Battle Ground began its evaluation of potential UGA scenarios during 1999 when the visioning and comprehensive planning processes were initiated. The City's 50-year Vision and Vision Map show future growth primarily to the west and south. This is the direction that City has pursued in its discussions with Clark County; as the County and the City of Battle Ground jointly investigated several alternatives in designating the City's updated UGA. The UGA was designated with consideration to critical areas, projected population growth, anticipated housing densities, and Battle Ground's the ability to supply urban services.

The County's policy is to designate some areas within a new UGA as Urban Holding Areas to prevent land from becoming highly parcelized, or subdivided, until such time as these areas can be annexed by the City. In order for the City to annex these areas, annexation areas must meet the applicable State, County and City goals and policies and they must also be annexed through one of the following methods:

- A new petition method that requires support of property owners representing a majority of the area proposed for annexation and of a majority of the voters in the area;

- The 60 percent petition method that requires approval from owners of property representing a certain percentage of the assessed value of the proposed annexation area; or

- The election method, which requires approval of the voters in the proposed annexation area.

Although there are two other methods of annexation - municipal purpose annexations and annexations of "islands" of unincorporated territory - they are available only in limited circumstances.

The methods by which cities may annex territory are governed strictly by state law, and they vary somewhat by city classification. Cities and towns located in counties that plan under the GMA, including Battle Ground, may only annex property that is located within their designated UGA.

Overall Growth Strategy

The general growth strategy developed for the City of Battle Ground is the result of the 50-year Visioning process, Planning Commission guidance, and a detailed analysis of demographic and future trends. Other influential factors that shaped annexation strategies include the presence of critical areas in and around Battle Ground and planned transportation improvements that will connect the city with the surrounding areas. The City's prioritized growth strategy is to direct growth to occur on:

1. Land within the existing city limits
2. Land to the west and south of the existing City limits
3. Other land within the UGA
4. Land included in the UGA during future Plan updates

The City's policy that ensures the concurrent provision of urban services is a central component of its growth strategy. The City will not permit urban development if adequate urban services cannot be provided concurrently, per GMA regulations. This consideration has a significant effect on the City's future annexation priorities.

Future Growth within Existing City Limits

The City intends to direct growth within the existing City limits before annexing new areas. The City will provide for the development of capital facilities that enable new residential development to take place. A system of impact fees, exactions, or land dedications will be utilized, enabling growth to be guided within the city according to the priorities established in this Plan.

The City will channel new commercial development to its downtown, regional center area, and other centrally located commercial areas focused along SR-502 and SR-503. The City will allow locally serving neighborhood stores to be developed closer to residential areas. The City will take an active role in encouraging industrial development to take place within the City.

Future Growth within the UGA

The City believes that annexation of the UGA is important to adequately serve the area and to plan properly for its continued development. Growth will be encouraged in the UGA outside the current city limits when land inside those limits has been served by adequate capital facilities is not available for further development, a need has been identified to justify additional development elsewhere, and provisions for annexation have been established.

The City of Battle Ground will ensure that annexation of land within the unincorporated UGA occurs so that sustainable growth patterns are supported and growth does not harm, but actually supports the City's small town identity. The City has the opportunity to make annexation conditional to implementation of land development actions and/ or planning that supports City policy but that is not necessarily required by the City Code. This presents an opportunity for the City to advance land development goals and objectives in innovative ways in areas that will become part of the City, but would not necessarily be possible subsequent to annexation.

Development outside the current city limits should be encouraged by the City, if:

- Less than 25% of residential land or commercial land or less than 50% of industrial land is available for development. These conditions "trigger" the need to add additional developable land into the Urban Growth Area to avoid artificially inflating the cost of land that would result from an overly constrained land supply.

- Standards have been established for the location of public facilities and services in UGAs prior to annexation.

- Developable sites within the City have received adequate access to urban services.

- Arrangements for annexation have been determined.

- Land has been master planned, as appropriate.

- A secure funding plan is in place to provide for the urban services required to facilitate development.

The following strategies direct how the City will annex land in the future:

- The City will phase annexations to coincide with its ability to provide a full range of urban services to areas to be annexed. By facilitating adjustments to the City boundary in a logical and orderly fashion during the next 20 years, the City can ensure that new development receives efficient and adequate services.
- The City will not annex territory outside of its UGA.

- The City will encourage unincorporated areas that are already urbanized to annex to the City in order to receive urban services when a firm financing plan is established. Developing areas within the UGA will be required to commit to annex to the City in order to receive a full range of City- provided urban services.

- The City will provide property owners access to all information needed to evaluate and make responsible decisions relative to the delivery of urban services and City boundary changes.

- The City, in agreement with the annexation policies stated in the County's Comprehensive Plan, will work in partnership with Clark County to provide a cooperative framework for future annexations.

- The City will continue to work in cooperation with citizens, property owners, business representatives, existing service providers and other interest groups to develop and implement mutually satisfactory plans for service delivery as annexations occur.

- The City will work with residents and businesses in annexation areas to determine the most appropriate method for annexation as provided by state law.

- The City will give high priority to annexation of areas that lend themselves to master planning. Such areas generally consist of large, intact parcels. These areas also provide for development that will avoid or minimize impact to critical areas, and enable the City to efficiently provide urban services.

The City will assess whether land must be master planned according to the City's vision, goals, and objectives prior to annexation. A master plan is a long-term physical plan for an area that guides and organizes development of land uses, parks, transportation and other capital facilities, and protection of natural resources. Master planning will lay the foundation for the development of neighborhood units that promote a livable community. Master Planning can ensure that newly annexed areas of Battle Ground support a cohesive identity shared by the rest of the City. The City will establish criteria to determine whether master planning is appropriate for land that is planned for annexation. Criteria will be based on the following guiding principles:

- The area has large contiguous blocks of land that have a small or workable amount of parcels that would provide flexibility during the master planning process.

- The area contains critical areas that can be protected through master planning, while providing creative options for land owners to maximize investment on their property.

The City has the ability to provide urban services more efficiently through master planning.

Findings:

The City of Battle Ground's annexation plans are consistent with state, county other policies addressed within this Plan. The City will annex land in a manner that supports its small town identity, provides for efficient provision of urban services, and is environmentally sustainable. Master planning requirements for areas planned for annexation will be a key tool by which the goals and objectives advanced in the Plan will be achieved.

Chapter 6 – Environment

Introduction

The City of Battle Ground's environmental goals and objectives recognize that a healthy environment is essential to creating a livable community. Residents and businesses are attracted to Battle Ground, in part, because of the healthy and clean natural environment that it offers. Environmental conservation will continue to be important to Battle Ground's long-term economic prosperity for generations to come. This Element reaffirms Battle Ground's desire to take actions that contribute to environmental sustainability and to support good development decisions. This Element is optional under the GMA. The GMA requires that the information within this Element be addressed, but indicates that it can be addressed in the Land Use Element of the Plan. Battle Ground has chosen to create a separate Environment Element due to the extent of critical areas within the City and the need to balance protection of these critical areas with the goals and objectives found within other parts of the Plan.

Growth Management Act

The GMA defines critical areas as wetlands, aquifer recharge areas, fish and wildlife habitat, frequently flooded areas, and geologically hazardous areas. The City of Battle Ground amended its critical area regulations in 2004 to reduce impacts caused by development in environmentally sensitive areas, pursuant to the GMA (RCW 36.70A.060). These regulations are contained in the Battle Ground City Code.

The GMA also requires the protection of resource lands. Resource lands are defined as land related to resource-based industries, including productive timber, agriculture, fisheries and mineral extraction. Battle Ground does not contain such lands; therefore, policies related to their conservation are not addressed in the Plan.

The GMA contains goals that are applicable to the Environment Element, including:

- Maintain and enhance natural resource-based industries, including productive timber, agricultural and fisheries industries; and,

- Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.

County-Wide Environment Policies

Clark County's Comprehensive Plan establishes countywide policies for the conservation and protection of natural resources. The County has responded to similar GMA mandates, and provides for the protection of critical areas within the unincorporated area of the county. Development of this element is based on the same environmental concepts expressed in the Clark County Comprehensive Plan. The County's environmental goals are summarized below:

- Protect and conserve environmentally critical areas;
- Protect and recover endangered species within Clark County;
- Protect, conserve, and recover salmonids within Clark County;
- Require sewer service within urban growth areas and discourage septic use;

- Provide a long-range stormwater management program to minimize impacts from stormwater discharge from existing and new development;
- It is important for Clark County citizens' health and the community's economic development prospects to have the region achieve and maintain clean, healthy air;
- Minimize property damage from geological hazards and flooding;
- Clark County will conduct its operations in a manner that meets all National Pollutant Discharge Elimination System (NPDES) and Endangered Species Act (ESA) requirements; and,
- Clark County shall carry out its activities in a manner that can serve as an example of environmentally sustainable practices.

Endangered Species Act

Battle Ground and the surrounding areas contain critical habitat that is needed for endangered anadromous fish species (fish that are born and return to spawn in fresh water, but live most of their lives in the ocean), including several types of salmon. Critical habitat areas include the East Fork of the Lewis River, and Woodin and Salmon creeks. The Endangered Species Act of 1973 was passed to protect plant and animal species that could be placed on the threatened or endangered list by the Secretary of the Interior. The listing process for endangered anadromous fish species is based on population data, and enforcement is handled by the National Oceanic and Atmospheric Administration (NOAA) Fisheries. NOAA Fisheries is responsible for protecting endangered species against further take (killing or harming), creating plans for the recovery of each species and determining critical habitat. The critical habitat is the area that is required by the species for its survival and conservation. Even though a designated critical habitat does not need to be presently occupied by the species, it can still be deemed necessary for its conservation. The process of authorizing a critical habitat includes NOAA Fisheries placing the information in the Federal Register and then soliciting public opinion for consideration in the decision. The City of Battle Ground responds to ESA mandates through a variety of regulatory and action-based mechanisms, most importantly through the designation and protection of critical habitat for ESA-listed fish species.

Section 404 of the Clean Water Act

Battle Ground contains federally regulated wetlands areas, protected under Section 404 of the Clean Water Act (CWA). Wetland dredge and fill activities are regulated at the federal level by the U.S. Army Corps of Engineers (the Corps). A person or agency wanting to impact wetlands must submit a permit application to the Corps for review. The Corps also has the authority to issue general permits that provide authorization on a national, state, or regional level for activities that have minimal adverse impacts on the environment. There are general authorizations for wetlands restoration and enhancement, and for minimal fill in wetlands where streams and rivers begin. The Washington Department of Ecology (Ecology) also reviews permit applications for compliance with Section 404 of the CWA. The City of Battle Ground is mandated to comply with Section 404, and protects wetland areas through a variety of mechanisms including critical areas designations.

Wellhead Protection Plan

The City of Battle Ground adopted a Wellhead Protection Plan in 2000 to ensure that drinking water extracted from underground aquifers will be safe for present and future generations. The purpose of the plan is to protect water-supply sources from becoming contaminated and to develop emergency

response procedures in case one or more sources are lost due to contamination. The plan meets the necessary state requirements found in Washington Administrative Code 246-290.135 (4), and the 1974 Federal Safe Water Drinking Act and subsequent amendments.

Critical Areas Ordinance

The City of Battle Ground adopted a Critical Areas Ordinance (CAO) in 2004 to protect the functions and values of sensitive natural resources. The purpose of the CAO was to identify and provide protections for critical aquifer recharge areas (CARA), sensitive wetlands, frequently flooded areas, geologic hazard zones, and fish and wildlife habitat. The CAO was developed according to the Revised Code of Washington 36.70A.

Shorelines Master Program

The City of Battle Ground adopted its first Shorelines Master Program (SMP) Ordinance in 2012 under the authority granted by the Shoreline Management Act of 1971 Revised Code of Washington (RCW 90.58) and Chapter 173-26 of the Washington Administrative Code (WAC) as amended. The purpose of the SMP is to guide future development of shorelines in the City in a positive, equitable and consistent manner to ensure at a minimum no net loss of shoreline ecological functions and to plan for restoring shorelines that have been impaired or degraded by adopting and fostering the policies contained in RCW 90.58.020, Legislative Findings for Shorelines of the state.

Environment Element Goals and Objectives

Environment Goal 1:
The City will pursue conservation of energy.

Objectives
EO1.1 The City will encourage the development of energy efficient housing using passive and active designs (HO1.4).

EO1.2 The City will investigate energy savings measures in all City operations and encourage energy efficiency by city contractors.

Environment Goal 2:
The City will promote sustainable building and development practices.

Objectives
EO2.1 The City will encourage sustainable development practices for private development within the city.

EO2.2 The City will explore the use of sustainable purchasing practices for City projects and operations.

Environment Goal 3:
The City will advance environmental education and stewardship.
Objectives
EO3.1 The City will explore a variety of environmental education opportunities.

EO3.2 The City will explore a variety of environmental stewardship opportunities.

Environment Goal 4:
The City will encourage protection, preservation and enhancement of Critical Areas within the city and its UGA.

Objectives
EO4.1 The City will identify Critical Areas as practical and necessary to assist with the development of a Critical Areas ordinance.

EO4.2 The City will strive to protect Critical Areas from further loss or degradation and to protect human safety and infrastructure investments.

EO4.3 The City will encourage the enhancement and protection of Critical Areas through appropriate development actions and the work of non-profits and community groups.

EO4.4 The City will explore ways to maximize permanent protection of Critical Areas.

EO4.5 The City will coordinate with other local jurisdictions, including Clark County and special districts to protect critical areas.

Environment Goal 5:
The City will protect and improve the quality, and quantity of drinking water resources.

Objectives
EO5.1 The City will work to provide adequate quantity and quality of drinking water for city use.

EO5.2 The City will encourage the conservation and efficient use of drinking water.

Environment Goal 6:
The City will enhance and protect water quality.

OBJECTIVES
EO6.1 The City will strive to reduce the quantity of stormwater runoff through improved development practices.

EO6.2 The City will work to treat stormwater on site if possible and in all cases treat to meet, at minimum, state requirements.

EO6.3 The City will work to reduce the impacts of construction on water quality and quantity, particularly related to erosion and sedimentation.

Environment Goal 7:
The City will work for the protection of endangered and threatened species.

Objectives
EO7.1 The City will work with NOAA Fisheries, U.S. Fish and Wildlife (USFWS) and other public agencies and non-profit organizations to identify how federal threatened and endangered species, and state species of concern and sensitive species can be protected.

EO7.2 The City will work to restore the habitat of endangered and threatened species to aid the recovery of the species.

Environment Goal 8:
The City will encourage the protection and improvement of air quality within the City and its UGA.

Objectives
EO8.1 The City will encourage and provide facilities for the use of alternative modes of transportation to reduce air pollution.

EO8.2 The City will seek to attract clean industries that do not adversely impact air quality.

EO8.3 The City will work to locate new business and industries so that the adverse impacts on air quality are minimized.

EO8.4 The City will work with property owners and construction companies to lessen air quality impacts from new construction and daily living.

Environment Goal 9:
The City will encourage the minimization of noise impacts from all types of uses within the City and its UGA.

Objectives
E09.1 The City will work with property owners and construction companies to lessen noise impacts from new construction.

E09.2 The City will endeavor to reduce noise impacts through effective ordinances and a program of enforcement that is affordable to administer.

Environment Goal 10:
The City will encourage the reduction of light pollution to maintain, safety, views and enjoyment of the night sky.

Objectives
EO10.1 The City will endeavor to reduce light pollution through effective ordinances and affordable enforcement.

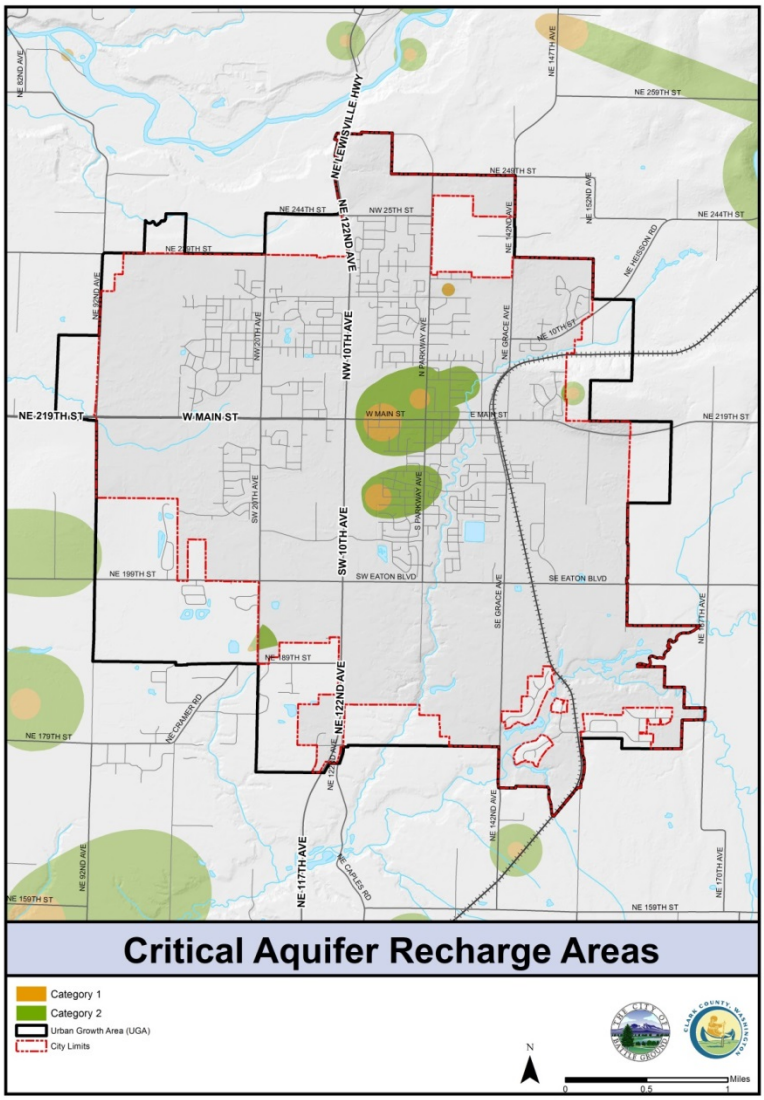
Critical Aquifer Recharge Areas (CARA)

Battle Ground is dependent on clean and safe groundwater as its primary source of drinking water. The City currently owns seven wells that supply drinking water. Four of these (Wells 1, 2, 4, and 5) produce water from a shallow aquifer. Three of these (Wells 6, 7, 8) produce water from a deeper aquifer. The deep wells are now used as the primary supply source because their yields are significantly higher than the shallow wells. In addition, the City also obtains backup supplies from two other sources: the Battle Ground High School Well, and through connections with the Clark Public Utilities system. The City plans to install an additional deep backup supply source, Well 9, in the near future.

Wellhead delineations were prepared for the City wells and for the High School Well. These areas are referred to as CARA. These delineations represent the extent of the area that feeds water into the

underground aquifer for each well under average pumping conditions, also known as the well capture zone (see Figure 6-1). The capture zones for the three deep sources (Wells 6, 7, and 8) are the most extensive. Capture zones for the shallow well are smaller, but cover commercially designated areas of Battle Ground. Some types of commercial development include activities that pose a high risk for groundwater contamination. These activities usually involve the production or use of solvents, petroleum products or other contaminants that could spill and reach the ground water supply. Mapping and inventories of CARAs presented in this element are for informational purposes only, and should not be relied on for technical data. More information on CARAs can be found in the City of Battle Ground Wellhead Protection Plan (2000).

Figure 6-1: Critical Aquifer Recharge



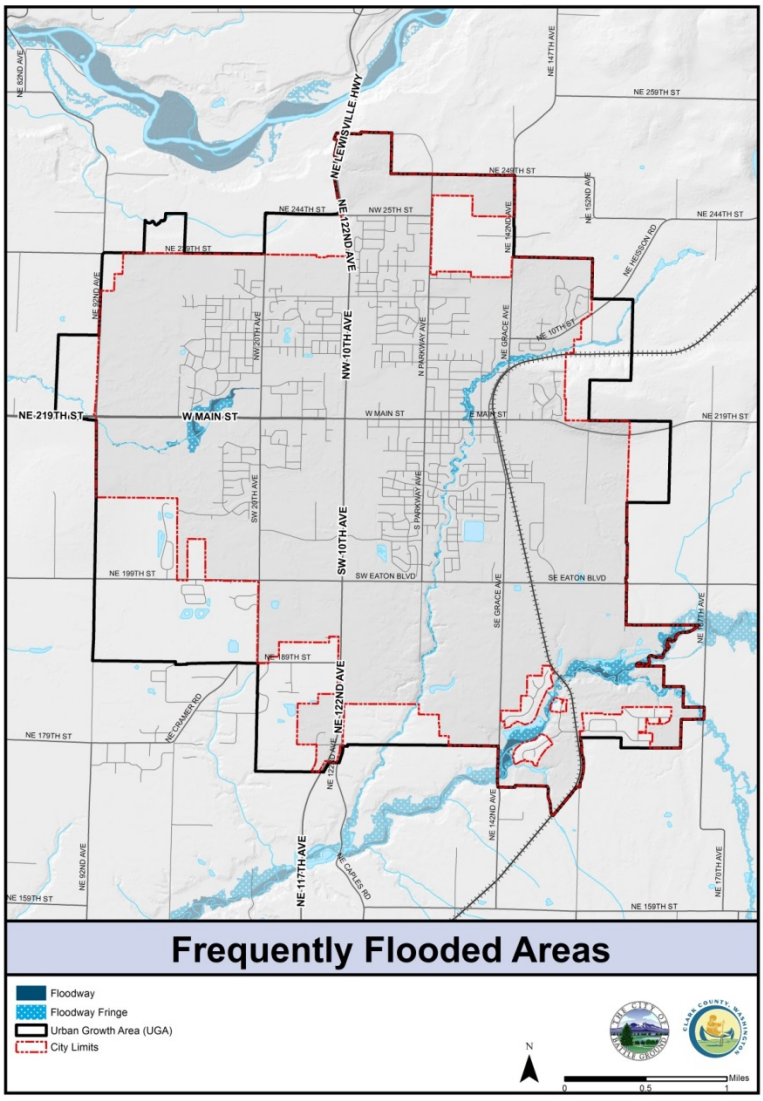
Frequently Flooded Areas

The City of Battle Ground seeks to protect people and property from injury that could be caused by flood events. The City is specifically concerned with events that affect frequently flooded areas. Frequently flooded areas are defined as areas in the floodplain subject to a one percent or greater chance of flooding in any given year including, but not limited to, areas such as streams, lakes, and

wetlands. Development in floodplains reduces the natural water storage capacity, increases the amount of runoff that storm events cause, and could lead to damage of public and private property.

Frequently flooded areas were identified during a 1980 study and updated September 12, 2012 conducted by the Federal Insurance Administration. Flood insurance maps identify floodplains affected by the 100-year storm (areas that are subject to a one percent or greater change of flooding during any given year) (see Figure 6-2). Mapping and inventories of frequently flooded areas presented in this element are for informational purposes only, and should not be relied on for technical data.

Figure 6-2: Frequently Flooded Areas



Geologic Hazards

Geologically hazardous lands are characterized by steep slopes, landslide and erosion-prone areas, and/or high levels of instability during earthquake events.

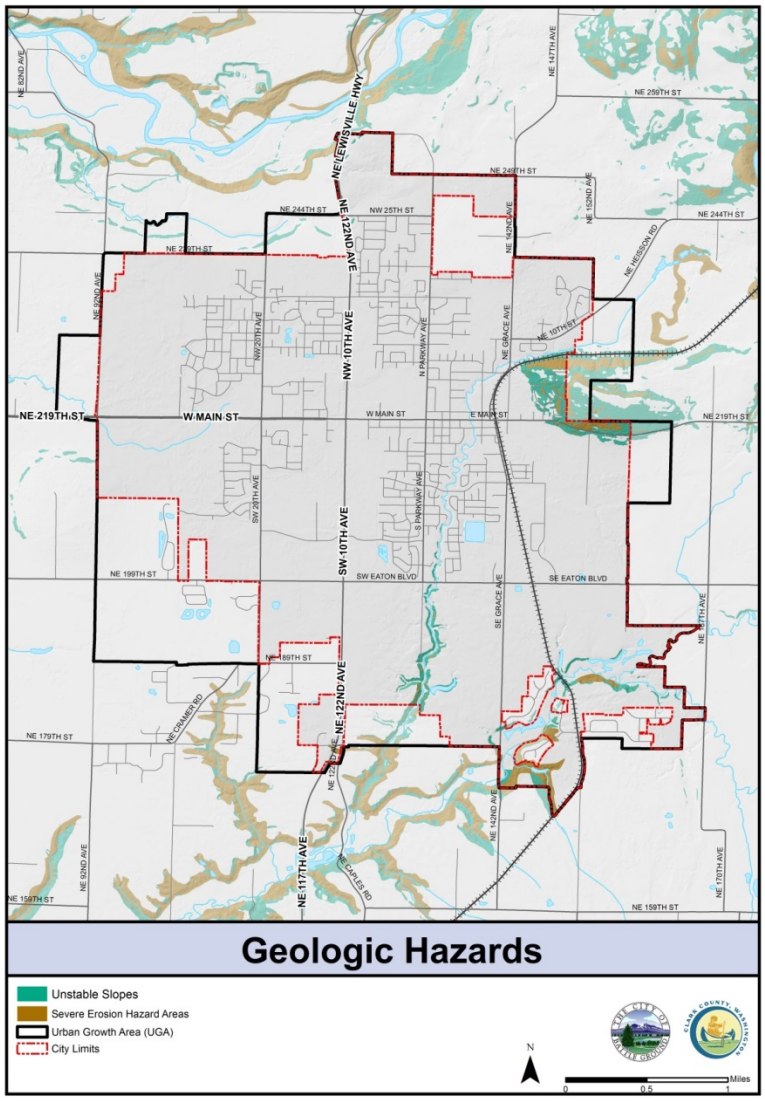
Landslide-prone areas represent a potential hazard to people and property. Inappropriate development activities may disturb the natural stability of soils, rock formations, slopes, and natural water systems to the point that uncontrolled movement of rock and soil, erosion, high water runoff, and unwanted streambed changes may occur. These areas typically have slopes greater than 15 percent, natural water springs or groundwater seepage, sand and gravel soils near the surface, and silt and clay soils underneath.

Seismic hazard areas are characterized by soft, uncompacted soils in association with a shallow groundwater table. During an earthquake, these soils become highly unstable and are unable to provide adequate support to structures. With appropriate construction techniques, such as soil compaction or pile construction, building owners can minimize the potential for damage. A qualified geotechnical engineer is typically required to identify seismically hazardous sites and recommend appropriate construction techniques.

Soil erosion problems are the result of improper or inappropriate construction practices such as grading, and inadequate stormwater management infrastructure. Leveling natural topographic features without providing appropriate stormwater drainage can cause soil to be carried away during storms. However, in some areas of the city where the soils are very sensitive to erosion, urban development may not be appropriate.

Steep slope areas are susceptible to instability when disturbed by construction or other activities. In Battle Ground, geologically hazardous areas have been mapped using countywide data (see Figure 6-3). Mapping and inventories of geologically hazardous areas presented in this element are for informational purposes only, and should not be relied on for technical data.

Figure 6-3: Geologic Hazards



Fish and Wildlife Habitat

Fish and wildlife habitats include streams, ponds, wildlife corridors, upland grazing areas, and stands of intact forest. The City seeks to protect environmentally distinct, fragile and valuable fish and wildlife habitat areas for present and future generations, and to conserve the functional integrity of the habitats needed for species, and critical areas that require protection. These habitats are extremely important to fish and wildlife, which rely on them for foraging, nesting, and breeding.

The City considers the following areas to be critical fish and wildlife habitat:

- High Quality Habitat listed by the Washington Natural Heritage Program
- Waters of the State and naturally occurring ponds that are less than 20 acres, or as listed by the Department of Natural Resources

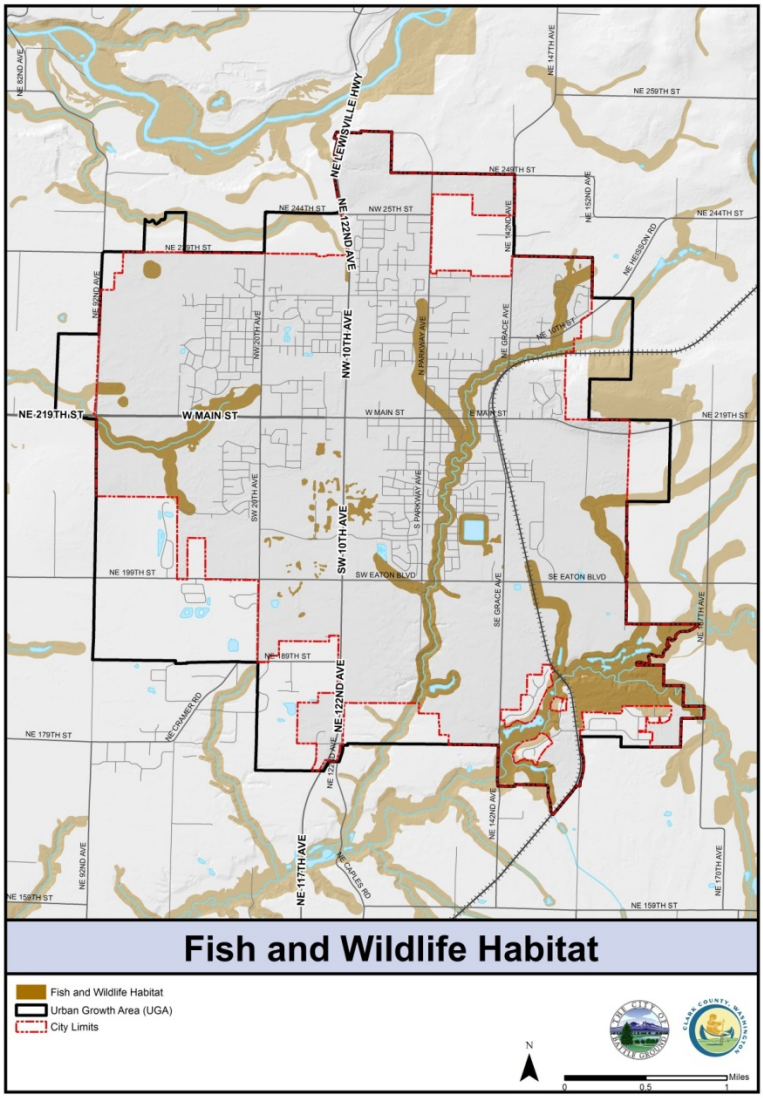
- Locally significant habitat that creates corridors between larger protected areas, as listed by the Washington Department of Fish and Wildlife

- Locally important habitat based on connectivity to priority habitat areas and native tree stands as determined by the City of Battle Ground

- Anadromous fish habitat, including fish streams, channel migration zones and a protective buffer on each side of creeks, as outlined by the Washington Department of Fish and Wildlife.

Preliminary maps of critical fish and wildlife habitat areas have been developed using Washington Department of Fish and Wildlife data and local information (see Figure 6-4). Mapping and inventories of fish and wildlife habitat areas presented in this element do not document all critical fish and wildlife areas, are for informational purposes only, and should not be relied on for technical data.

Figure 6-4: Fish and Wildlife Habitat



Wetlands

Wetlands are areas where the frequent and prolonged presence of water at or near the soil surface drives the natural system, meaning the kind of soils that form, the plants that grow, and the fish and/or wildlife communities that use the habitat. Swamps, marshes, bogs, and riparian wetlands are well-recognized types of wetlands. Wetlands constitute important natural resources which provide significant environmental functions including: the control of flood waters, maintenance of summer stream flows, filtration of pollutants, recharge of groundwater, and provision of significant habitat areas for fish and wildlife. Uncontrolled urban-density development in and adjacent to wetlands can eliminate or significantly reduce the ability of wetlands to provide these important functions, and in the process, negatively affecting public health, safety, and general welfare. Filling wetlands can change the ability of the natural hydrological system to absorb, transport, and process stormwater. The key functions and values that critical wetlands can serve are described below:

- Rare Wetland Type - High quality native wetland communities which qualify for inclusion in the Natural Heritage Information System. Examples are mature forested swamps, bogs and fens.

- Documented Threatened, Endangered and Sensitive Species (T, E & S) - Wetlands that have a documented occurrence of a federal or state listed threatened, endangered, or sensitive plant, animal or fish species. The Washington Department of Fish and Wildlife records and updates the database containing this information. Nationally, nearly 35 percent of all rare and endangered animal species depend on wetlands, even though wetlands comprise only about 5 percent of the land area.

- Local Significance - Wetlands that a community has designated worthy of protection based on local criteria based on their potential to support local ecological functions, provide habitat, support biodiversity, and/or create local economic or cultural value.

- Flood/Stormwater Control - Many floodplain and stream-associated wetlands absorb and store stormwater flows, which reduces flood velocities and stream bank erosion. Preserving these wetlands reduces flood damage and the need for expensive flood control devices such as levees.

- Base Flow/Groundwater Support - Many wetlands store water, slowly releasing the water back into the ground or the steam. Wetlands also augment summer stream flows when the water is needed, by slowly releasing the stored water back to the stream system. This function maintains natural hydrology during the periods of low water flow.

- Water Quality Improvement - Wetlands are highly effective at removing nitrogen, phosphorous, chemicals, heavy metals, and other pollutants from water. For this reason, artificial wetlands are often constructed for cleaning storm water runoff and for tertiary treatment (polishing) of wastewater. Wetlands bordering streams and rivers and those that intercept runoff from fields and roads provide this function.

- Erosion/Shoreline Protection - Wetlands adjacent to the shore or located along streams reduce the water velocity, stopping or slowing the erosion process. Heavily vegetative wetlands are more effective at reducing flow velocity than open water or emergent wetlands.

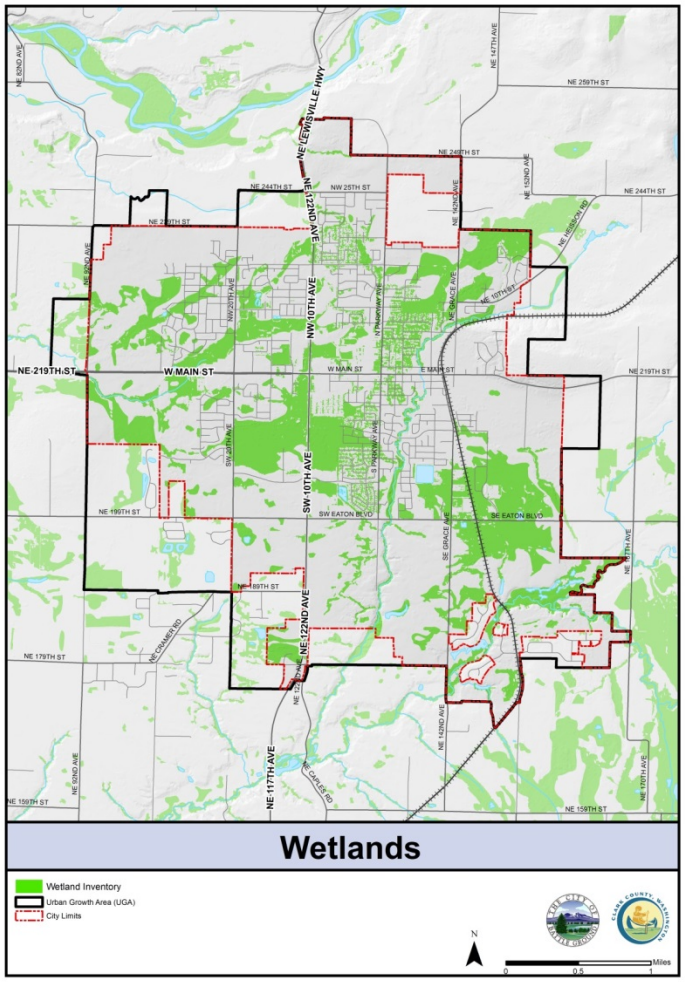
- Habitat Function - Wetlands provide essential water, food, cover, and reproductive areas for many wildlife species. For example, nearly two-thirds of the commercially important fish and

shellfish species are dependent upon estuarine wetland habitats for food, spawning, and/or nursery areas. Similarly, millions of waterfowl, shorebirds, and other birds depend on wetlands. Wetland areas also can provide specific habitat characteristics for species of invertebrates, amphibians, fish, mammals and birds.

- Cultural/Socioeconomic Value - Depending on their type and location, wetlands provide opportunities for fishing, hunting, plant identification, and wildlife observation. They are also visually pleasing, interesting elements in the landscape and provide outdoor classrooms and laboratories.

The City's wetlands inventory map serves as a key source of information in determining where wetlands are located (see Figure 6-5). The map provides a high-level inventory of wetlands areas, using aerial photography, field study, the National Wetlands Inventory, and other data sources, but does not exhaustively detail all wetlands areas. Wetlands areas evolve naturally, therefore wetland mapping and inventories presented in this element are for informational purposes only, and should not be relied on for technical data.

Figure 6-5: Wetlands



Analysis and Projections

Battle Ground is growing rapidly and will experience increasing pressure on its sensitive natural resources. The City will reduce impacts to sensitive natural resources by requiring land use and land division developments to be compatible with the environment.

New code language will be required that balances avoidance, minimization, and/or mitigation of impacts caused by new development to sensitive natural resources with the need for continued economic development. The CAO is the primary tool in preserving sensitive environmental areas, while balancing the rights of landowners to develop their property. These regulations are essential to preserving critical areas for current and future residents of Battle Ground. Other potential protection measures include conservation easements, public purchase or protection as part of an open space purchase. Specific critical areas protection needs are summarized below:

- Critical Aquifer Recharge Areas - Protection of CARAs requires a contamination risk assessment prior to permitting of new development. High-risk uses, as defined in the Wellhead Protection Plan, should be prevented from being developed in CARAs and other safety measures should be developed to mitigate risks to vulnerable groundwater sources including stormwater management, education and outreach, pollution control, and monitoring. The benefit of CARA protections is long-term preservation of the quality and safety of Battle Ground's drinking water. Some of Battle Ground's commercial areas are located in CARAs, which might restrict the development of some uses that landowners and tenants wish to develop. However, sufficient commercial land has been provided in areas that don't have critical areas protections to accommodate these uses.

- Frequently Flooded Areas - New construction within floodplains should be regulated to make property more resistant to flood damage and to prevent the loss of life and property. Additionally, new development and land alternations (fill, removal, etc.) should be prevented from occurring within floodways, which includes the main channel of the water-body.

- Geologic Hazards - Development should be controlled in geologic hazard areas, including but not limited to the implementation of restrictions of highly sensitive uses (i.e. critical public facilities, schools etc.), protective buffers, and other measures.

- Fish and Wildlife Habitat - Land divisions and new construction should avoid, reduce, or mitigate impacts to critical habitat and buffer areas. Regulatory incentives to protect or enhance habitat areas, such as transfer of density and riparian habitat buffer averaging are ways to create flexible regulations. This may limit the development of certain types of land uses, but would still allow economic development to occur thereby balancing development and ecological protection.

- Wetlands - Due to the preliminary nature of the City's wetlands mapping, development applicants should delineate wetlands if their site contains hydric soils, wetlands identified on the National Wetland Inventory, or wetlands identified through other information. The use of a ranking system for assessing the functions and values that delineated wetlands provide is an appropriate means to establish protection. Valuable wetlands are protected through the establishment of protective buffers, where development impacts must be avoided, or mitigated. If landowners wish to pursue development in protected wetlands areas, it may be possible, though not preferred, to replace wetlands off-site in lieu of preserving these areas locally or for

landowners to pay fees to an established wetlands bank for the creation and preservation of intact wetlands areas.

Protection of critical areas must be balanced with the need for economic development. Critical area buffers and other limitations were established with the intent of minimizing the adverse effects that such protections would cause to Battle Ground's economic vitality. Although some potential types of development are limited in critical areas, other types may still be allowed that provide alternative investment opportunities. Protection can provide the quality of life and environment that promotes further development and investment in the Battle Ground community.

The City has analyzed the degree to which new development will create pressure on sensitive natural resources during the coming years. The locations of critical wetlands, floodplains, and riparian corridor habitat were compared to the location of vacant and buildable land. It was found that approximately 13 percent of vacant land contains these critical areas, which must be developed in such a way that environmental impacts are avoided, minimized, and/or mitigated. These calculations do not include land that may be required for buffers to protect critical areas resources, nor do they include critical areas that have not been mapped. It is projected that critical areas protections will have a minimal effect on economic development within the City, while preserving some of its finest resources.

Findings:

Battle Ground has a wide variety of critical areas that require protection according to state and federal requirements. The City has mapped its critical areas as required by the state and has analyzed the needed protections for each. Implementations of these requirements will not only help the City preserve its natural heritage; it will also help to protect threatened and endangered species. The protection of critical areas within the City and its UGA has been balanced against the need for continued economic development and growth. An appropriate balance has been found between these two competing goals. In addition, the City will strive to protect its natural heritage through the implementation of goals found in other elements found within this Plan, including the Transportation, Parks and Recreation and Capital Facilities elements.

Chapter 7 - Economic Development

Introduction

The purpose of the Economic Development Element is to outline a long-term strategy for maximizing commercial and industrial land development, to create economic stimulus for Battle Ground and to encourage creation of additional living wage jobs for it residents.

Regulatory Context

The Economic Development Element is required under the 1990 GMA for all communities except those wishing to have a residential focus. This is a new requirement in response to the changing economy of Washington and the United States. GMA requires that the Element include a summary of the local economy such as population, employment, payroll, employment sectors, business, sales, and other information as appropriate. In addition the Element should include a summary of the strengths and weaknesses of the local economy including any supporting factors such as land use, transportation, utilities, education, work force, housing, and natural/cultural resources. Finally, the Element should identify policies, programs and projects to foster economic growth and development and to address future needs. The 1990 State GMA established the following economic development goal:

- Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, and encourage growth, all within the capacities of the state's natural resources, public services, and public facilities.

County-Wide Economic Development Policies

Clark County has goals and policies that will direct economic development policy within the county. The Economic Development Element and other Elements of Battle Ground's plan are consistent with the following countywide economic development policies:

- Encourage a balance of job and housing opportunities in each urban center. Provide sufficient land for business as well as homes. Businesses within the community should provide a range of job types.
- Encourage industrial uses in major urban centers, small towns and community centers.
- Revise commercial and industrial development standards to allow for mixed use developments and ensure compatibility with nearby residential and public land uses.
- Encourage businesses which pay a family wage to locate in Clark County.
- Encourage appropriate commercial development in neighborhoods and rural centers that support the surrounding community.
- Establish incentives for the long-term holding of prime industrial land.

- Encourage local jurisdictions and special districts to hold prime industrial land for future development

Economic Development Element Goals and Objectives

Economic Development Goal 1:

The City encourages a strong, independent and broad based economy in the city.

Objectives

EDO1.1 The City will work to remain the economic activity center for central Clark County.

EDO1.2 Battle Ground will encourage the development of industries that pay at least a family wage job.

EDO1.3 The City will encourage the creation of appropriate incentives and strategies to attract new businesses and retain existing businesses.

EDO1.4 The City will encourage the redevelopment of key commercial and industrial sites.

EDO1.5 The City will identify and plan economic development target areas.

EDO1.6 Battle Ground will encourage strategic placement of services to allow equal access for the whole community.

EDO1.7 The City will work to achieve a significant financial return on resources used for economic development purposes.

EDO1.8 The City will support an organization that promotes the downtown district.

Economic Development Goal 2:

Provide a sufficient amount of land for commercial and business uses, through a supportive Land Use Plan and development regulations.

Objectives

EDO2.1 Maintain and update the City's land use, transportation and utility plans on a regular basis to guide the future of the City's major commercial areas and help them respond to change.

EDO2.2 Provide a mix of uses that allows for the daily needs of resident to be met within Battle Ground.

Economic Development Goal 3:

The City encourages regional and local economic development strategies.

Objectives

EDO3.1 The City will coordinate with Clark County, the Columbia River Economic Development Council (CREDC), and others to preserve land outside of the Battle Ground city limits for the purpose of economic development.

EDO3.2 Continue to participate with and support the Columbia River Economic Development Council (CREDC) as a resource to provide advice on economic development needs, the potential for retaining and expanding existing industries, and attracting new job opportunities.

EDO3.3 Partner with the Battle Ground Chamber of Commerce and Old Town Battle Ground Association to promote and market the City's retail establishments. Assist the Chamber and Old Town Battle Ground in development of community marketing materials.

Existing Conditions

This section provides an analysis of current trends in population and employment. The purpose of this analysis is to establish a baseline understanding of the character and direction of Battle Ground's economy, including demographic trends, spending patterns, labor force composition, and industries in which Battle Ground holds a competitive advantage. All of these features vied together provide a broad overview of Battle Ground's economy, upon which policies and programs related to economic development should be based.

Current Trends in Population

It is clear form recent demographic change that Battle Ground's growth is historically unprecedented. Battle Ground has emerged as a bedroom community for Portland and Vancouver, with strong retail uses along SR 502 and SR 503 driven by the wider market area. It is anticipated that about 17,572 new residents in 6,606 households will locate in Battle Ground between 2016 and 2035. During this period, 128,586 new residents in almost 48,340 households are expected to locate in Clark County. Battle Ground is projected to capture about 14 percent of all county population growth.

Household income groups range from less than $15,000 per year to more than $200,000 per year. The income of the greatest concentrations of households is around the $50,000 to $74,999 income range, with a median income of approximately $57, 347 (see Table 7-1).

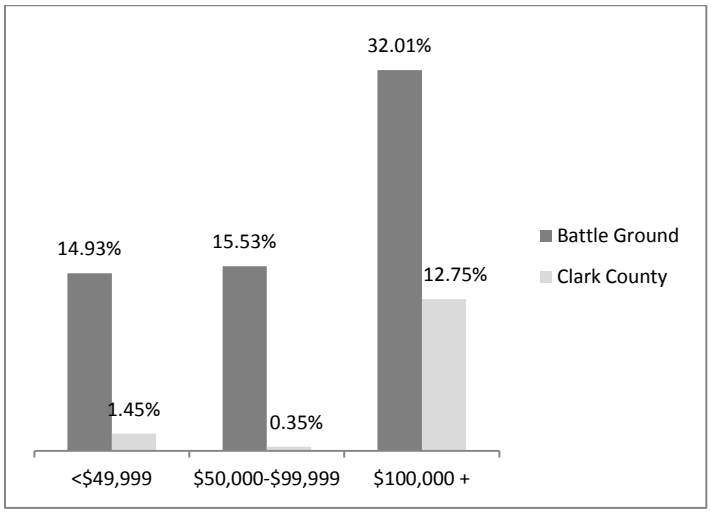
Table 7-1: Households by Income

Income Range	2008		2014		2008-2014
	Number	Percent	Number	Percent	Percent Increase
< $15,000	372	8.90%	572	9.70%	53.76%
$15,000 - $24,999	403	9.60%	430	7.30%	6.69%
$25,000 - $34,999	370	8.80%	468	7.9%	26.48%
$35,000 - $49,999	690	16.50%	969	16.40%	40.43%
$50,000 - $74,999	1,119	26.80%	1,458	27.70%	30.29%
$75,000 - $99,999	462	11.00%	899	15.20%	94.58%
$100,000 - $149,999	616	14.70%	793	13.40%	28.73%
$150,000 - $199,000	107	2.60%	149	2.50%	39.25%
$200,000 +	44	1.10%	163	2.80%	270.45%
Median Household Income	$54,033		$57,347		6.13%
Average Household Income	$63,249		$68,682		8.58%
Per Capita Income	$21,232		$22,720		7.00%

Source: United States Census

Income distribution projections for 2014 reveal that while median household income of Battle Ground does not increase significantly, the income groups that have experience the highest rate of growth are in the range from $100,000 to $200,000 or more (see Figure 7-1). The Battle Ground Trade Area is the residential area surrounding Battle Ground from which Battle Ground businesses draw their customer base (see Figure 7-3). The median income for Clark County is $59,551, which is where the majority of the Battle Grounds trade area resides.

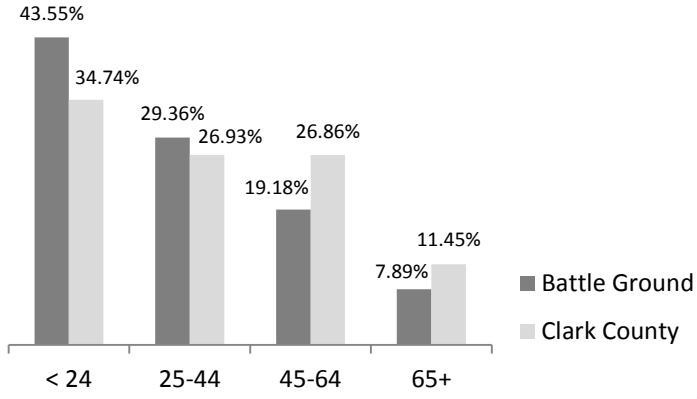
Figure 7-1: Change in Household Income (2010-2014)



Source: US Census
Overall household increase was 18% for Battle Ground and 3.5% for Clark County

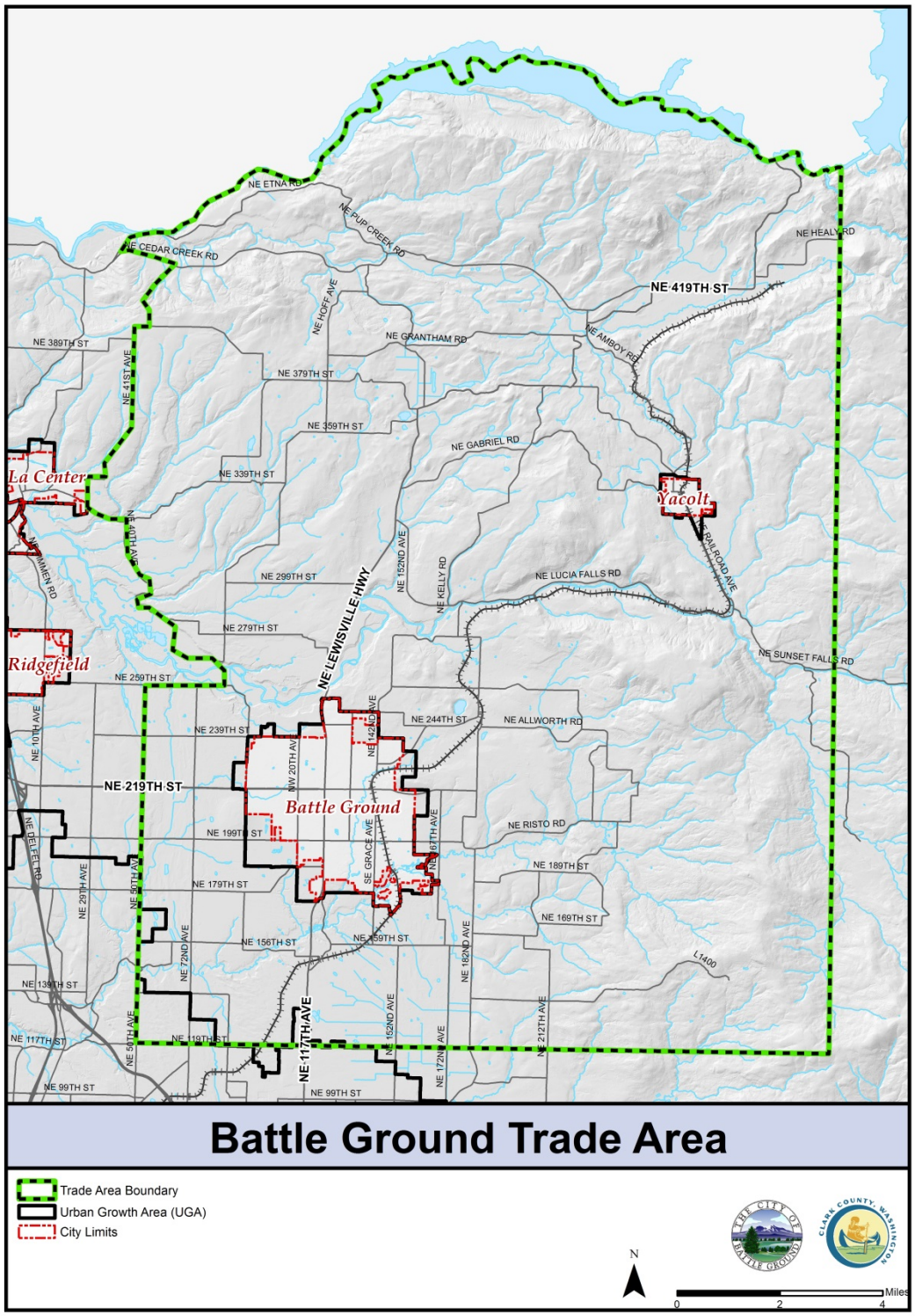
Change in Battle Ground's age distribution indicate that more established, higher income, families are locating in the areas surrounding Battle Ground, while Battle Ground has more young families moving in (see Figure 7-2)

Figure 7-2 Change in Age Groups (2010-2014)



Source: US Census

Figure 7-3 Battle Ground Trade Area

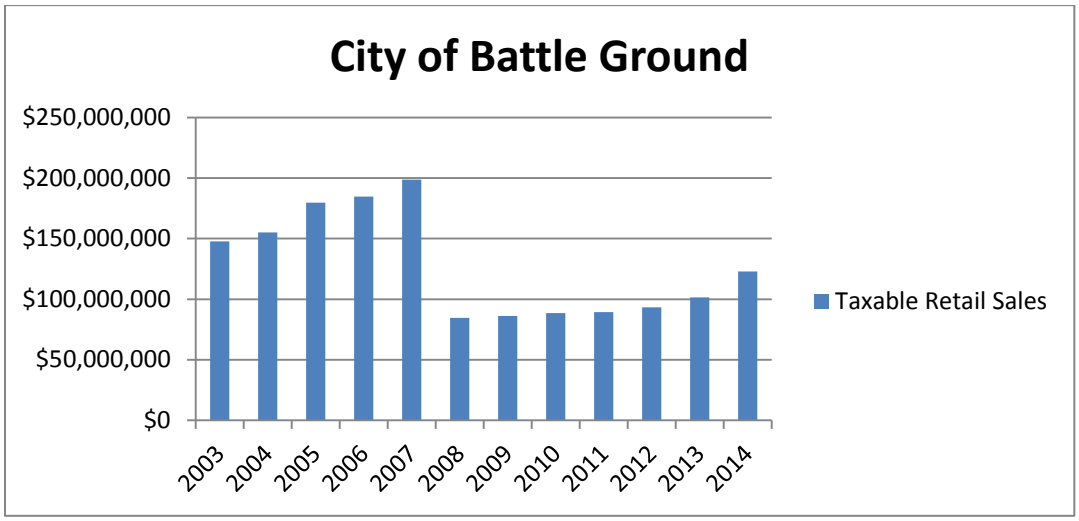


Retail and Services in Battle Ground

Provision of space for retail and services for consumers is a vital part of this Plan. At the same time, it is desirable to balance land uses so that retail space does not preclude other employment, institutional needs, or housing opportunities.

Battle ground serves as a retail center for a trade area extending beyond the city limits. In 2014 the latest full year of available data, taxable retail sales in Battle ground were over $120 million. Figure 7-4 shows that, even though we are down in sales from 2007 ($198 million) we are coming out of the big crash of 2009-2011 and sales are steadily increasing.

Figure 7-4: Taxable Retail Sales (2003-2014)



Source: Washington State Department of Revenue.

Employment

Clark County's employment market has become increasingly diversified compared to its historical concentration in agricultural and resource-based industries. Construction trades, retail trade, and health care and social assistance make up 46 percent of the counties employment market.

Battle Ground is following a similar pattern with high percentages in construction trade, retail trade, and accommodations and food care services coming in third, making up 38 percent of the employment market. See table 7-2. Battle ground grew very rapidly in the 1990's but has slowed through the downturn, as other incorporated cities in Clark County have actually lost employment. Battle Ground has continued to add retail trade employment at a higher rate than other incorporated cities.

Table 7-2: Employment by Industry

Industry	Battle Ground	Clark County
Construction	12%	15%
Manufacturing	6%	7%
Wholesale Trade	1%	6%
Retail Trade	15%	16%
Transportation & Warehousing	*	2%
Information Services	1%	1%
Finance & Insurance	*	2%
Real Estate, Rental & Leasing	0%	2%
Professional Services	2%	5%
Corporate Offices	0%	1%
Business Services	2%	7%
Private Education	0%	1%
Health Care & Social Assistance	8%	15%
Arts, Entertainment & Recreation	1%	2%
Accommodation & Food Services	11%	8%
Other Services	3%	4%
Government	*	4%
All Other	40%	2%
Total	100%	100%
All Other includes agriculture, mining, utilities, and any industry marked (*)		

Source: Employment Security Department/LMPA

Battle Ground continued to add jobs through the downturn in the economy. Retail trade, health care, and manufacturing account for most new jobs in recent years. The City of Battle Ground will regularly review confidential Washington State employment data to assess which businesses and industries are growing within the city. The changing income demographics of the city and the surrounding area indicate a shift to high-income households that are not employed in lower wage industrial, retail, or service jobs. This gives the indication that most high level income residents do not work within the City of Battle Ground.

Most businesses in Clark County and Battle Ground currently would be considered small businesses, which are defined by the Small Business Administration as a firm with receipt of less than $10 million annually. Small business is the trend of economic development throughout Clark County; therefore Battle Ground should plan for space for small business to continue increasing economic development. However, Battle Ground should also focuses on preserving land for larger economic users in order to move away from the stigma of a bedroom community, and provide higher income level jobs within the City.

Employment Clusters

Another factor to consider when allocating space for employment are the types of firms that are likely to form clusters in Clark County. Clark County has several employment clusters, meaning industries that have a higher share of employment per capita than the national average. The largest employment cluster is construction. Manufacturing clusters include industries such as paper and wood products, industrial machinery manufacturing, and electronic component manufacturing. In service, the largest employment cluster is in health care, followed by other miscellaneous services. In planning for future employment, many of the industrial employment clusters can be for businesses needing flexible, multi-purpose spaces. Professional services include engineers and scientific users, who can also utilize flexible space.

An examination Battle Ground's existing businesses and Clark County's employment clusters shows that there are many industries that are not dependent upon either a freeway or a "downtown" location. In planning for employment space, the clusters identified can be used as a starting point in developing the City's short-range economic development strategy and zoning code.

Analysis and Projections

The trends in household income and age have implications for housing and employment space needs. While income change may indicate the need for upper income housing, Battle Ground will also need inexpensive housing for younger families. Many of the households moving to the unincorporated Battle Ground Urban Growth Area in the 45 to 64 age group will have equity as well as income with which to purchase housing and will be able to afford larger lots with larger homes. If development occurs based on current market demands without considering the long term impacts, the residential land supply may not accommodate larger lot development and the traffic impacts of high density development could significantly impact economic development.

Trends in household income and age may also have implications for the provision of employment space. Executives making company location decisions often choose areas near their residences. This is especially true when the locale as a high proportion of amenities that cater to employees and owners. Locales where high-income executives or business owners choose to locate potentially stimulate the development of employment space. Since Battle Ground is gaining both high-income households and retail and services development, increased employment may follow.

Table 7-3 outlines the employment and populations estimates for the 20-year planning period based on the Clark County Vacant Buildable Lands Model (VBLM).

Table 7-3: Population and Employment Projections

Battle Ground	
January 1, 2015 Population estimates	20,871
Total allocation from VBLM	17,572
2035 estimated population	38,443
VBLM employment capacity	10,060

Source: VBLM 2015 .

Findings:

Increase Market Capture

Battle Ground has the capacity to increase its market capture rate within the broader Battle Ground Trade Area because of its location, and growing prominences as a retail center. Battle ground should continually work to increase its retail market capture rate by identifying and targeting businesses that help establish the city as a unique center of commerce within central Clark County. As a center Battle Ground is able to stimulate economic development that creates a unique retail experience not found elsewhere in Clark County, and could provide a special draw for consumers. For example, specialty stores could be developed in Old Town taking advantage of its main street ambiance.

Battle Ground also has the capacity to increase its labor force by focusing on flexible employment space for future employment opportunities.

Designate Sufficient Land

The strength of Battle Ground's economy will partly depend on whether adequate land is available. Land is needed for businesses to expand operations and develop new facilities. Projecting the demand for employment generating land uses is hampered by many uncertain variables. In reviewing the current availability of vacant land in the Urban Growth Area, it was found that the amount of land designated for commercial uses, including retail and commercial development, meets the highest projected level of market demand. The availability of land designated for industrial uses is anticipated to meet higher projected demand levels. Furthermore, the land designated for residential development exceeds the highest level demand, this allows vacant land designated as Mixed Use Employment and Mixed Use Residential to be altered to fit the development trends and allow for up zoning if needed to meet market and housing needs. The City should continually monitor the demand for industrial and commercial development to ensure that zone and Plan designations take advantage of current and future economic development opportunities while not precluding other essential uses.

Sub-Area Planning

The Land Use chapter identifies planning districts throughout the City such as the Sand Hill District, West Main Street District, Central Main Street District, and Old Town District. Some of these areas have been historic to the City, such as Old Town; however they lack direction and planning for capturing an evolving market. The City needs to start focusing planning efforts on these districts, determining what they should look like and provide for in the future.

For example Old Town contains existing building stock that could be used by small businesses looking for main street ambiance. However, the cost of upgrading commercial and retail space in this area might be higher than creating new space in other areas and may discourage development. The City of Battle ground should work to make Old Town more competitive and attractive for investment. By providing incentives to invest in Old Town, the City will stimulate revitalization of the area's retail, commercial, historic and civic assets, as well as preserve other commercial land for larger clusters and new employers.

Using Market Position and Demographics

Battle Ground has an unusual market position, as it is becoming a residential haven for those in income brackets likely to have a voice in company location decisions. The City should acquaint this population with the advantages it can offer business. Because the City does not have prime site for distribution, it

needs to market a mix of other uses such as information services, electronics manufacturing, business services and repairs, and outdoor based goods.

Chapter 8 - Parks

Introduction

The Parks, Recreation and Open Space Element establishes goals and objectives for the acquisition, development and maintenance of parks within the city of Battle Ground. The Parks, Recreation, and Open Space Element sets a long-term direction for the City's parks infrastructure, while the Comprehensive Parks, Recreation and Open Space Plan (Parks Plan) is the City of Battle Ground's short term blueprint for acquiring and improving parks.

Growth Management Act

In compliance with the GMA, the City of Battle Ground addresses parks and open space policy in an optional element of the Plan. The GMA established the following parks and open space goal:

- Encourage the retention of open space and development of recreational opportunities, to conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.

County-Wide Parks Policies

Clark County has developed goals and policies that will direct parks and open space policy and development within the County. The Parks, Recreation, and Open Space Element for this Plan is consistent with the following countywide parks and open space goals:

- Encourage cities to provide urban parks, open space, and recreational opportunities within urban growth areas, while ensuring that existing County-owned urban parks in unincorporated areas are properly managed and that future urban park opportunities, including greenbelt and open space areas, are preserved.

- Maximize the quality of life in Clark County by providing regional open space, trails, parks and recreational opportunities and facilities, and planning to acquire, restore, enhance, preserve, develop and manage these facilities and natural resources in such a manner as to afford the maximum benefit to the community.

- Develop a network of trails and bikeways throughout the County that will interconnect population centers, community facilities, work places, neighborhoods, recreational opportunities and natural green spaces.

- Preserve, conserve, restore, and enhance fish and wildlife conservation areas and open space lands and raise public awareness about the importance of these resources.

Comprehensive Parks, Recreation & Open Space Plan

The City of Battle Ground adopted the Parks Plan concurrently with this Plan.

The Parks Plan provides:

- a history of parks planning
- a description of the planning effort's physical, social, and economic context

- an inventory of existing facilities
- a framework for accomplishing plan implementation
- goals and objectives for the City's parks
- a quantification of the community's parks facilities needs
- an outline of financing, incentive and regulatory programs available to implement the plan
- strategies for matching financing programs with identified needs
- a six-year capital facilities plan

Parks, Recreation, and Open Space Element Goals and Objectives

Parks Goal 1:

The City will seek to provide and preserve open space in the community for present and future generations.

Objectives

PO1.1 Natural habitat areas will be preserved for passive recreation opportunities and wildlife values.

PO1.2 Open spaces will be integrated into the design of the community.

PO1.3 The City will encourage the inclusion of open space in new developments.

PO1.4 Open spaces will be maintained in an environmentally appropriate manner and public access and amenities should be kept in good condition.

Parks Goal 2:

The City will seek to provide parks to meet the diverse needs of the community.

Objectives

PO2.1 The City will strive to provide adequate neighborhood parks appropriate to the neighborhood.

PO2.2 The City will strive to provide adequate community parks.

PO2.3 The City will strive to provide adequate pocket parks.

PO2.4 The City will facilitate the creation of community gardens.

PO2.5 The City will ensure that all City parks are maintained in good condition.

PO2.6 The City will ensure that all City parks are maintained in a safe condition.

PO2.7 The City will investigate creating recreational opportunities through partnerships with the school district and other organizations.

PO2.8 The City will use neighborhood and city parks to meet local recreation needs.

Parks Goal 3:

The City will seek to provide a safe and accessible community-wide trail system.

Objectives

PO3.1 The City will work to provide trails that meet the recreation needs of Battle Ground residents.

PO3.2 The City will work to establish a trail system that connects parks, residential areas and commercial areas and that helps serve the transportation needs of the residents of Battle Ground.

Parks Goal 4:

The City encourages cooperative efforts to preserve and enhance open space, trails, parks and recreation opportunities in the community.

Objectives

PO4.1 The City will maintain and enhance working relationships with other jurisdictions.

PO4.2 The City will work in partnership with the residents of Battle Ground and organized groups to preserve and maintain parks, open spaces and trails and increase recreational opportunities.

Existing Conditions

This section identifies the various recreation sites and facilities that are located in or near Battle Ground. The City of Battle Ground's system of parks and open space is divided into several categories. Each category is composed of facilities that serve specific community functions. Pocket parks, neighborhood parks, community parks, regional parks and urban open spaces are based on a minimum service standard measured in acres per population for the acquisition and development of these facilities. The combined population based service standard for all of these facilities is a total of five acres of required parkland per 1,000 people. In addition to this combined population based standard, the City may require developer parties to develop and dedicate parks on a local basis to adequately serve neighborhoods. The need for conservation areas, greenways and trails is based on the characteristics of a specific resource, such as a river system or a sensitive habitat area, independent of population. Special facilities can be either population or resource based.

City Parks

The City of Battle Ground owns approximately 203 acres of parks and open space located on 36 parcels within the City limits. Approximately 66 acres of these lands consist of wetland areas and creek corridors. Several small open space parcels associated with subdivision developments are also included in City ownership.

Parks dedicated before 1997, approximately 17.17 acres:

- Central Park (.42 acres)
- Fairgrounds Park – Parcel 1 (5.59 acres)
- Fairgrounds Park – Parcel 2 (2.67 acres)
- Kiwanis Park (8.49 acres)

Parks dedicated after 1997, approximately 17.48 acres:

- Florence Robison Park (7.12 acres)
- Hidden Glen (4.20 acres)
- Cresap Park (2.3 acres)
- Parkview Trails Property (3.86 acres, portions dedicated)

Parks dedicated after 2003, approximately 38.82 acres:

- Mac McConnell Park (2 acres)
- Dublin Meadows (.20 acres)
- Horsethief Park (.32 acres)
- Savannah Park (.15 acres)
- Brook Haven Park Trail (2.2 acres)
- Cedar Trails (2.7 acres)
- BG Village (.64 acres)
- DNR Property (30 acres at Tukes Mtn.)
- Wingate Park (.61 acres)

Future Park Properties, currently undeveloped, approximately 129.38 acres:

- Triangle Park (1.17 acres)
- Gardner Oaks Park (12.98 acres)
- Copperleaf (.59 acres)
- Oak Meadows (.10 acres)
- Remy Property (79.61 acres)
- Durkee Property (34.93 acres)

While the City Park system currently provides a variety of passive recreational opportunities, existing needs for active recreation facilities are not satisfied. Passive recreation is leisure activities involving little physical exertion, such as picnicking, strolling, dog-walking, and wildlife observation.

Active recreation is leisure activities involving heightened physical exertion, such as basketball, rollerblading, skateboarding, and soccer. Gardner Oaks and the Remy Property are currently unimproved. An unimproved park is land designated for recreational uses that have not received capital investment, therefore resulting in few opportunities for recreational activities. Central, Fairgrounds, Florence Robison, Kiwanis, Hidden Glen, and Lindberg parks, and the Parkview Trails property are either improved or partially improved for active recreation uses. An improved park is land designated for recreational uses that have received capital investment resulting in opportunities for passive or active recreational activities. Parks improvements may include landscaping, playfields, furniture, pavilions, etc. In total, approximately six acres of Battle Ground's parks are improved for active uses. Additional upland areas were combined with the 2.4 acre Woodin Creek open space to create Hidden Glen Park. In addition to parks, the City also has an inventory of urban open space, conservation areas, and greenways to provide areas of passive recreation and wildlife habitat.

Regional Parks

Regional Parks include areas with natural or man- made qualities for outdoor recreation, or with unique qualities or historical significance. These parks serve several communities within a one-hour driving distance. They range in size from 100 to more than 325 acres; however, no minimum is recommended. Regional Parks are provided by a variety of county, state, and federal agencies.

Development typically includes: picnicking, play areas, boating, fishing, swimming, camping and trail uses, or other unique qualities. Examples of Regional parks include:

- Battle Ground Lake
- Paradise Point

- Wormald
- The Washington Department of Fish and Wildlife and public hunting areas
- Yacolt Multiple Use Area (YMUA)
- Caterpillar Island and the Woodland Special Campground for the Handicapped
- Gifford Pinchot National Forest
- Fort Vancouver National Historic Site
- Ridgefield National Wildlife Refuge
- Steigerwald Lake National Wildlife Refuge
- Lewisville Park
- Lucia Falls Park

Urban Open Space

Urban Open Space areas provide visual and psychological relief from human-made development within the urban area. Their size is based on resource values and intended uses. Public access for passive recreational opportunities are included where compatible with resource protection. When connected along stream corridors, open space areas provide valuable wildlife habitat.

These areas may or may not be improved, and can include trails, greenway corridors, farmed areas, buffers between land uses, and natural areas within community or neighborhood parks.

Battle Ground Urban Open Spaces include:

- Lewisville Meadows (0.14 acres), NW 3rd Way
- Winchester Ranch (0.56 acres), SW 24th Avenue
- Clover Meadows (0.47 acres), SE 13th Street

Conservation and Greenway Systems

Conservation and greenway systems are resource- based open spaces. They are acquired with the intent of performing little or no development.

Conservation areas may act as a buffer for an existing park, industrial or residential area, or may protect a sensitive natural area. Greenways are similar to conservation areas, but are typically long, relatively narrow lands that follow roads, creeks, ridges, ravines and other natural or transportation corridors. Conservation and greenway systems serve various functions, including protection of environmentally sensitive areas and wildlife habitat, wildlife viewing, environmental education and trails.

The Battle Ground Conservation and Greenway Areas include:

- Parkview Trails (21.02 acres), NW 20th Avenue and NW 29th Avenue
- Lewisville Meadows Areas (16.16 acres), NW 3rd Way
- Horsethief Canyon Areas (7.38 acres), SW 11th Street/SW 23rd Avenue
- Robyn Wood Areas (5.72 acres), SW 24th Avenue, SW 4th Street
- Crestwood Meadows Areas (4.63 acres) NW Onsdorff Boulevard
- Melrose Park Areas (4.18 acres) , NW Onsdorff Boulevard
- Quail Hollow Areas (2.89 acres), SE Rasmussen Boulevard
- Hidden Creek Area (2.48 acres), SE 5th Circle
- Woodin Run Area (1.35 acres), SE 18th Street

- Creekview Pointe Area (0.57 acres), SE 2nd Avenue

Trails

Clark County has completed a comprehensive trails and bikeway system plan that identifies hiking and biking trails within Battle Ground and its UGA. According to the inventory, trails are any "path, route, way, right-of-way, or corridor posted, signed or designated as open for (non-motorized) travel or passage by the general public." Trails may be a separate facility or part of a larger park development. Surfaces vary with location and use.

Acquired in 1985, the Lewis and Clark Railroad right-of-way extends diagonally through Clark County from Vancouver Lake to Chelatchie Prairie, extending through the City of Battle Ground on the east side and borders Fairgrounds Park. Identified as one of the five top priority "natural corridor" trails in Clark County, it was acquired both for commercial transportation uses and as a trail corridor. The corridor connects Battle Ground Lake State Park, Lucia Falls Park, Moulton Falls Park, and many other major recreation sites.

Community Schools and Centers

Community schools and centers are recreational facilities designed and operated jointly between the school district and the City. School facilities become available for recreation programs and services during non-school hours through joint-use agreements. Community schools and centers are strategically located within the service area. When used in combination with a full-service recreation center located in the same service area, community schools and centers provide an effective mechanism for the delivery of recreation services and programs at the community and neighborhood level.

The Battle Ground School District campuses provide a variety of recreation opportunities for area residents. Facilities include play courts, soccer fields, baseball fields, football stadium and track, open play meadows, and children's play equipment. The general public can utilize school-based recreation facilities during non-school hours. In addition, the Battle Ground School Board has adopted policies that allow organizations to reserve and rent school buildings, playgrounds, and athletic fields. Currently, both youth soccer and baseball groups utilize the rental/reservation opportunity. Schools have been identified as possible partners in increasing the available recreation and open space opportunities for the community.

Battle Ground Schools Main Campus facilities include:

- Captain Strong Elementary
- Chief Umtuch Elementary
- Lewisville Middle School
- Battle Ground High School
- Battle Ground Senior Center

Special Areas and Facilities

Special areas and facilities generally serve a single focused activity or user group. Special areas are locations that generally have a particular theme or purpose, such as Officers' Row in Vancouver. Special facilities are amenities that reside within a park, such as a boat launch. Recreation facilities are large activity centers, such as the Battle Ground Senior Center. They have no minimum or maximum size. Support facilities may be included in park development, such as restrooms or parking. These facilities

may stand alone—such as the senior center—or they may be recreational amenities that reside within an existing park or special area, such as a tennis court or ball-field complex. Special areas readily available to Battle Ground residents include:

- Daybreak Special Facility
- Durkee Environmental/ Recreation Area
- Cedars Golf Course (privately owned)
- Prairie Field Complex

Analysis and Projections

The City established a population-based parks service standard that requires acquisition and development of five acres of parks and open space for every 1,000 persons. This standard is based on guidelines from the National Park and Recreation Association (NRPA). However, population-based standards do not apply to some facility types such as Special Areas and Facilities.

The Table below depicts the City's past, existing, and projected populations compared to the neighborhood, community parks and urban open space acreages. This analysis indicates that the City's overall land base of parks exceeds the combined population-based service standard. An emphasis should be placed on improvement of existing parks, particularly with active uses due to the growing number of families with children settling in Battle Ground. There is a need for acquisition and development of neighborhood parks in proximity to residential areas in some of the Neighborhood Service Areas. Both active and passive recreation improvements are needed in these areas. It will be necessary to acquire and improve neighborhood and pocket parks concurrently with new development to serve local recreation and open space needs. Close partnership between the City and development parties will help to ensure that these needs are met.

Table 8-1: Neighborhood and Community Park and Urban Open Space Analysis

Year	Population	Acres Needed at Standard*	Actual School Acres**	Actual Park Acres***	Total Acres
1996	5,015	25.00	30.00	19.26	**49.26**
2002	12,000	60.00	120.00	184.00*	**304.00**
2009	17,150	85.75	129.00	200.62*	**329.62**
2015	20,871	104.36	129.00	225.00*	**354.00**
2035 20-Year	38,443	192.00	--	--	--

** Standard is 5 acres per 1000 population.*

*** School Acres based on land available for community use.*

**** Actual park acres equal all parks and open space acres.*

Neighborhood Parks

Neighborhood parks serve a crucial function of providing a nearby location for enjoying leisure and exercise and helping to foster neighborhood identity. Future parks and recreation needs were identified based on previous parks planning exercises, and a projection of where new residential development will occur. New neighborhood parks will need to be acquired and improved with active and passive

recreation uses as new residential development and, to a lesser extent, commercial development occurs. On-going acquisition and development of neighborhood parks is consistent with the findings of the Livability Element, because they support strong and cohesive neighborhoods.

The Battle Ground Future Urban Growth Area is divided into 21 Neighborhood Service Areas (NSA) and three special study areas (see Figure 8-1). These include a maximum service area radius of 1/2 mile and service area boundaries that provide for residents to visit parks without having to cross major roads, highways, or other impediments. The projected need for neighborhood parks is based on how much residential development is expected in each NSA compared to the existing availability of

Table 8-2: Neighborhood Service Area Parks and Recreation Needs

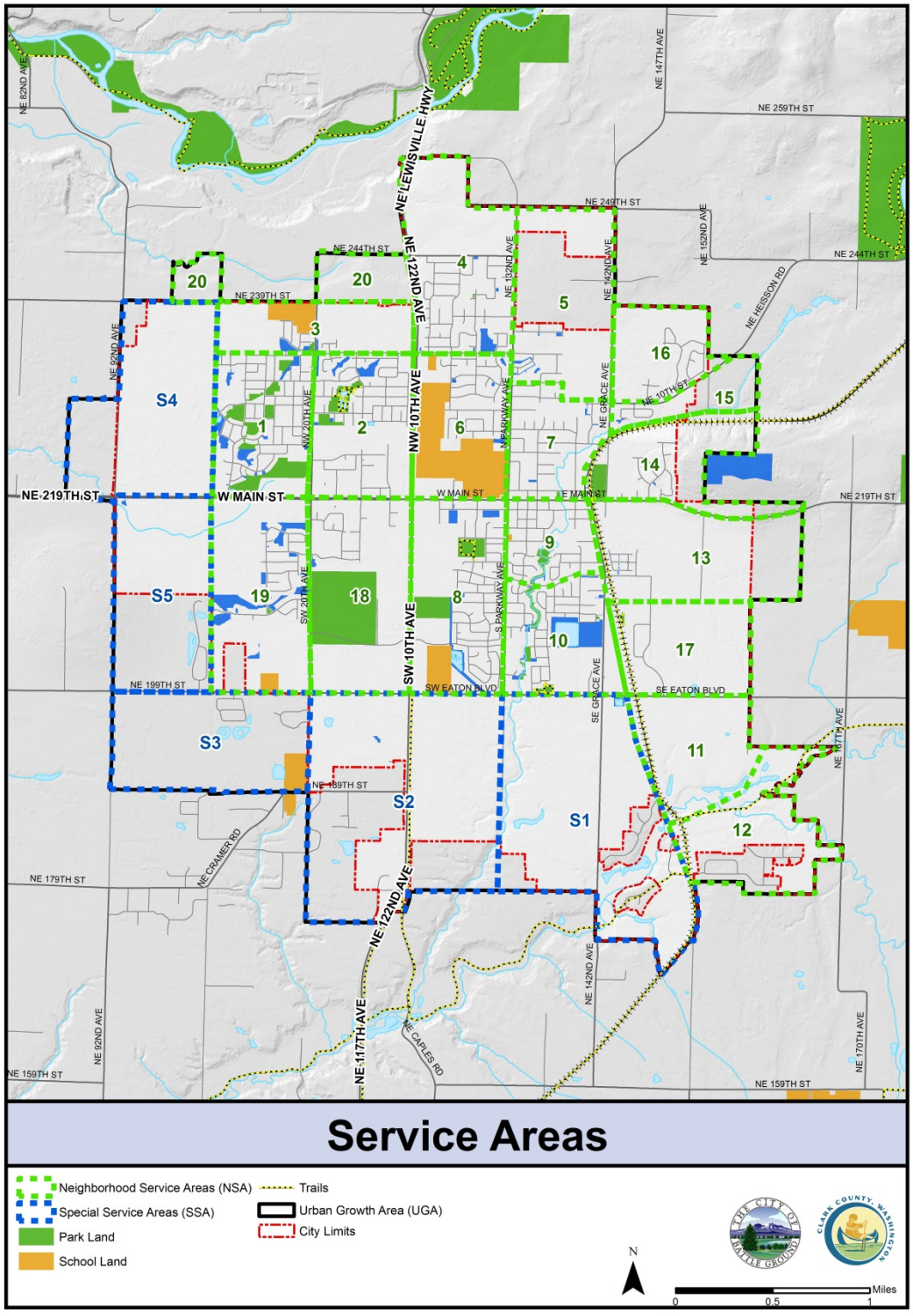
NSA #	Growth Projection	Active1	Passive2	Additional Land Needed
1.	High	Yes	Yes	3-5 acres
2.	Low	Yes	Yes	None
3.	High	Yes	Yes	3-5 acres
4.	Low	Yes	Yes	3-5 acres
5.	Low	Yes	Yes	3-5 acres
6.	Medium	Yes	No	None
7.	Medium	Yes	Yes	3-5 Acres
8.	Medium	Yes	Yes	None
9.	Medium	Yes	Yes	None
10.	Low	None	None	None
11.	High	Yes	Yes	3-5 acres
12.	High	Yes	Yes	3-5 Acres
13.	Medium	Yes	Yes	3-5 Acres
14.	Medium	None	None	None
15.	Medium	Yes	Yes	3-5 Acres
16.	Low	No	No	None
17.	Medium	Yes	Yes	3-5 Acres
18.	Low	Yes	Yes	3-5 Acres
19.	Medium	Yes	Yes	3-5 Acres
S1	Medium	Yes	Yes	3-5 Acres
S2	Medium	Yes	Yes	3-5 Acres
S3	High	Yes	Yes	3-5 Acres
S5	High	Yes	Yes	3-5 Acres
S6	Medium	Yes	Yes	3-5 Acres
			Total	54-90 Acres

1) Active recreation improvements are uses that provide opportunities for physical activity, such as basketball courts, running tracks, and swimming pools.

2) Passive recreation improvements are uses that provide opportunities for leisurely recreation such as pavilion shelters, site lighting, and park benches.

Sources: OTAK, Parametrix, ClarkView

Figure 8-1: Neighborhood Service Areas



Community Parks

The Community Park Service Area for the City of Battle Ground has the same boundaries as the Battle Ground UGA. There are three major community parks: Fairgrounds Park, Gardner Oaks Park and the Remy property. Existing community parkland is expected to meet the anticipated demand for future community parks, therefore it is not expected that additional community parks will be needed during the 20-year planning horizon. However, continued emphasis will need to be placed on improvement of existing park sites. It is anticipated that there will be a expanding need for active recreation improvements due to the growing number of families with children that are projected for Battle Ground.

Fairgrounds Park

Fairgrounds Park is located in Neighborhood Service Area 15. The 8.26-acre park is a hub of intensive activity in the older part of Battle Ground. It is viewed as a gathering place for the community and is a major resource where all kinds of activities take place throughout the year. Improvements at the Fairground Parks site should accommodate diverse recreational needs, including:

- gathering spaces
- exercise facilitates for children and adults
- leisure spaces
- live entertainment facilities
- multi-purpose spaces for public and private events.

Gardner Oaks Park

Since the City recently acquired Gardner Oaks Park, it this site has not yet been developed for public use. This 12.89-acre park is located in Neighborhood Service Area 9 on SR 503 (10th). An old grove of oak trees exists on site, which is locally significant as designated by the Critical Areas Ordinance. This enabled its purchase through funding from the Conservation Futures grant program. Gardner Oaks also provides an important opportunity for a link to the planned citywide trail system. Improvements at the Gardner Oaks Park site should accommodate passive and active recreational needs, including:
trails or similar facilities leisure spaces environmental education enhancements.

Remy Property Purchase

The City recently purchased a 79.48-acre farm called the Remy Property, located on SE 20th Avenue. About 50 percent of the site is designated wetlands. However, the remaining buildable land on the site was identified as an appropriate location to accommodate the growing need of youth sports field complexes and community park amenities.

As the largest park site in Battle Ground, the Remy property can accommodate many of the community's recreation needs, including:

- flexible play spaces
- special purpose exercise facilities (i.e. Challenger fields, skatepark, etc.)
- exercise facilitates for children and adults
- trails and environmental education enhancements
- wetland enhancement or banking opportunities

Regional Parks

The City of Battle Ground and its UGA are well served by regional parks and regional special facilities provided by Clark County and the Washington State Department of Parks and Recreation. These include Daybreak Park, Battle Ground Lake State Park, Lewisville Park, and Moulton/Lucia Falls Park.

Urban Open Space

High quality areas of urban open space are found throughout the Battle Ground UGA. These areas provide multiple open space benefits, including wildlife habitat, wetlands, drainage, water quality, and, where appropriate, community gardens and other low-impact recreational opportunities. The highest priority urban open space areas within the Battle Ground UGA include Woodin Creek and its associated flood plain, Mill Creek and its associated flood plain, Salmon Creek and its associated flood plain, and critical wetlands and habitat.

The Economic Development and Environment Elements state that the City should explore development of a wetland mitigation bank. Establishing a wetland mitigation bank could also provide cultural and recreational benefits to Battle Ground residents.

Conservation and Greenway Systems

While the City contains extensive open space areas providing a variety natural resource functions, there are some specific areas that provide exceptional value to Battle Ground. The City has identified four priority Conservation and Greenway Systems:

- Woodin Creek and its associated flood plain
- Salmon Creek and its associated flood plain
- Tukes Mountain covering 120 acres of forested uplands and open fields
- DNR's Heisson Road ownership covering 120 acres of forest lands and open fields

Trails

The City places a high priority on acquiring and developing an interconnected system of multi-use trails within the City limits and adjoining urban growth area. Various factors support an increased need for acquisition and development of regional trail systems, including bicycle and pedestrian mobility. The Transportation Element provides additional information on the need for trails with Battle Ground. The City will continue to coordinate with Clark County, the Washington State Department of Transportation and other service providers to help actively seek acquisition and development of a unified and interconnected trail system.

Special Areas and Facilities

The special facilities category covers a wide range of single-purpose or specialized activities and facility types that may be located within larger park settings or separately. In the 2004 Parks Plan update, new special facility objectives and actions were added to address these upcoming needs within the Battle Ground community. These give the City the ability to begin working toward the goal of providing these special facilities for the growing population for the twenty-year vision. The special facility types that have been identified as a high priority by the City are:

- "challenger" sports field complex (facilities for physically handicapped youth)
- youth sports complex
- swimming pool

- Lewis and Clark Railroad site

The acquisition and development of a youth sports fields complex, including baseball, softball, soccer, and a “challenger” field are the City’s highest priorities.

Findings:
Since existing City Parks, school facilities, and open space areas exceed the acreage required by the combined population-based service standard projections, there will now be an emphasis on development of these parks, with active uses as part of the six-year Capital Facilities Plan and beyond. In addition, the City will need to work with developers to ensure that locally serving neighborhood parks and recreation spaces are available as new subdivisions are created.

Many options exist for raising funds to make capital improvements to community parks, though the most promising opportunity for raising funds is through bond levies. For the purposes of funding capital projects, such as land acquisitions or facility construction, cities and counties have the authority to borrow money by selling bonds. Three general types of bonds may be sold: voter-approved general obligation bonds, agency-approved or councilmanic bonds, and revenue bonds. In order to make significant improvements to the City’s parks and open space infrastructure, bond levies must be explored. Other funding opportunities such as impact fees, development requirements, and grants should be explored to make smaller incremental improvements to the City’s park system.

Chapter 9 – Transportation

Introduction

The Transportation Element establishes the City's goals and policies for developing the transportation system within the Battle Ground Urban Growth Area (UGA). It is intended to serve as a guide for making transportation decisions to address both short and long term needs. The Transportation Element discusses roadway mobility and accessibility needs, identifies improvements to enhance safety, non-motorized travel (bicycles and pedestrians), and public transit, and addresses the impacts of future land development activity. The Transportation Element summarizes the City of Battle Ground Transportation System Plan (TSP).

Along with the other elements of the Comprehensive Plan, the Transportation Element establishes a flexible policy framework for making decisions consistent with this vision, and describes a strategy for accomplishing the vision over a 20-year period.

Policy and Regulatory Context

Growth Management Act

The 1990 Growth Management Act (GMA) requires that a Transportation Element be included in the City of Battle Ground's Comprehensive Plan. The GMA contains one goal that addresses transportation planning:

- Encourage efficient multi-modal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans

This Transportation Element is developed in accordance with the GMA's requirements for transportation system planning, including:

- Establishes consistency with county-wide policies
- Establishes consistency with the land use plan
- Estimates traffic impacts on state-owned facilities
- Provides an inventory of existing transportation services
- Provide a financing plan for new improvements

In addition to mandating that a capital facilities chapter be included in comprehensive plans, the GMA also establishes a requirement of "concurrency." This mandates that adequate and necessary public services and facilities are available concurrent with new development to accommodate the impacts posed by it, or be programmed to be provided within a specified time or concurrent with a particular threshold being met.

Concurrency has two levels of applicability. The first is at the planning level and refers to all services and facilities, over the long term, and at the citywide scale. This Element identifies the relationship between needed services and identifies adequate funding sources for the proper timing of those services. If the necessary revenues were not available, then the City would take appropriate action. Those actions include lowering the level of service standards, raising taxes, restricting growth, or a combination of

these actions. This Element satisfies the planning level concurrency requirement as outlined in the GMA.

Regional Coordination and Consistency

Battle Ground's Transportation Element is generally consistent and coordinated with regional transportation plans. Regional partnerships are maintained with Clark County, the Southwest Washington Regional Transportation Council (RTC), C-TRAN, WSDOT, and other cities in Clark County. The City of Battle Ground participates in the RTC, which serves as the area's federally designated Metropolitan Planning Organization and state-designated Regional Transportation Planning Organization (RTPO). RTC maintains and runs traffic models for all jurisdictions within Clark County based on Clark County's Comprehensive Plan Map. As a result, each jurisdiction within Clark County land use and transportation plans are consistent with other jurisdictions.

The City of Battle Ground's Transportation Element is consistent with the applicable Countywide Planning Policies. The Transportation Element of the Clark County Comprehensive Plan contains several goals with supporting policies and implementation strategies intended to promote a shift from a transportation system based on single-occupant autos to a multi-modal network. Clark County's goals include:

- Develop a multi-modal transportation system
- A safe transportation system
- Develop a balanced finance program, which ensures that new development pays the costs of its impacts and that adequate public financing is pursued and available

Battle Ground Transportation System plan

The Transportation Element establishes a *Transportation System Plan (TSP)* for the City, which ensures that the transportation system is safe, efficient, balanced, environmentally sustainable, and improves livability. This Transportation Element summarizes the City of Battle Ground's Transportation System Plan (TSP). The TSP includes:

- Goals and objectives
- Existing conditions
- Community growth and future transportation system demand
- Street plan including freight mobility
- Public transit plan including transportation demand management
- Non-motorized transportation plan
- Air transportation plan
- Plan implementation and funding

The TSP should be consulted for more information about Battle Ground's existing and planned transportation system and how it relates to regional systems. The Transportation System Plan has been adopted concurrent with the Comprehensive Plan by reference.

Transportation Element goals and objectives

The City of Battle Ground has developed Comprehensive Plan goals and objectives that establish transportation planning and programming policy. A list of these goals and objectives follows.

Transportation Goal 1:
The City will encourage the construction of a transportation system that enhances the City's livability.

Objectives
TO1.1 The City will use transportation improvements to help implement the Comprehensive Land Use Plan.

TO1.2 The City will work to preserve the gateways identified in the 50-year Vision through transportation improvements.

TO1.3 The City will consider a system of arterials and collectors that provide both transportation and open space.

TO1.4 The City will strive to build a transportation system that supports the City's design objectives.

TO1.5 The City will strive to build a transportation system that supports the City's livability design objectives.

TO1.6 Where possible, the City will build a transportation system that will also provide recreation opportunities for the residents of Battle Ground.

TO1.7 The City will strive to create a transportation system that includes right-of-way areas as public gathering spaces.

Transportation Goal 2:
A transportation system that is safe.

Objectives
TO2.1 The City will work to enhance the safety of the pedestrian system.

TO2.2 The City will work to enhance the safety of the bicycle system.

TO2.3 The City will work to enhance the safety of the motor vehicle system.

Transportation Goal 3:
A transportation system *with a variety of transportation options.*

Objectives
TO3.1 The City will strive to provide increasing amounts of transit service.

TO3.2 The City will work to provide a complete pedestrian network.

TO3.3 The City will work to provide a complete bicycle network.

TO3.4 The City will strive to develop a transportation demand management program to reduce the number of single occupancy vehicles.

TO3.5 The City will seek alternative means of meeting travel demand.

Transportation Goal 4:
A transportation system that provides for the efficient movement of goods and services.

Objectives

TO4.1 The City will work to improve the freeway access to the City.

TO4.2 The City will work to improve industrial and employment access in the City.

TO4.3 The City will work to balance parking and loading needs with other City goals.

TO4.4 The City will work with property owners surrounding the airstrip and with the appropriate state and federal agencies to develop a plan for the airstrip area.

TO4.5 The City will work to implement the transportation system improvements identified in the Transportation System Plan.

Transportation Goal 5:
A transportation system that balances accessibility and mobility.

Objectives

TO5.1 The City will work to reduce the negative impacts of transportation improvements on the community.

TO5.2 The City will strive to improve circulation throughout the City.

TO5.3 The City will strive to give access priority to schools and other civic uses.

TO5.4 The City will work to improve access management along major City streets to improve mobility.

TO5.5 The City will work to protect future transportation routes.

TO5.6 The City will strive to minimize travel time between Battle Ground and the I-5 freeway.

TO5.7 The City will work to decrease intersection conflicts that increase travel time and prohibit accessibility.

TO5.8 The City will seek to balance motor vehicle mobility with pedestrian, bicycle and transit accessibility.

Transportation Goal 6:
A transportation system that is affordable and durable.

Objectives

TO6.1 The City will work to improve the durability of transportation improvements.

TO6.2 The City will work to identify multiple funding sources for new projects and maintenance.
TO6.3 The City will strive to provide an equitable balance of funding for transportation improvements.

Transportation Goal 7:
The concurrent provision of transportation facilities.

Objectives
TO7.1 The City will strive to establish a transportation concurrency system that is equitable and maintains the City's ability to grow.

Transportation Goal 8:
A sustainable transportation system to minimize adverse environmental impacts and encourage environmentally appropriate design and practices.

Objectives
TO8.1 The City will strive to reduce the impacts of the transportation system on water quality and quantity.

TO8.2 The City will strive to reduce the impacts of the transportation system on wildlife and aquatic habitat.

TO8.3 The City will strive to reduce air quality impacts caused by the transportation system.

TO8.4 The City will strive to reduce the energy consumed in the transportation system.

TO8.5 The City will strive to reduce noise impacts caused by the transportation system.

Existing Conditions

Motor Vehicles
Increasing congestion has become a concern for the city as a result of additional retail establishments and employment opportunities within the Battle Ground city limits and continuing growth of rural residential land uses to the north and east of the city. Many of the schools in the Battle Ground School District (one of the largest districts in Washington State), are located in the city center just north of East Main Street. The city experiences three peak travel periods during most of the year, including the typical AM and PM commuter peak hours, as well as a school peak at mid-afternoon during the school year. Schools buses, parent pick-up and drop-off and cars driven by high school students combine on these weekday afternoons to cause a steady stream of traffic along E. Main Street extending from roughly the school driveway off North Parkway Avenue to SR 503. Battle Ground also serves as the center for employment and shopping in northeastern Clark County with trips coming from far outside the city limits to businesses located within the city limits.

Functional Classification
In general, roadways serve two functions, to provide mobility and to provide access, with the design of a roadway emphasizing one function over the other to various degrees. Higher speeds and fewer intersections are preferred for mobility, while lower speeds and more frequent intersections support access. Roadways are classified by agencies depending on what role the facility plays in the agencies' overall transportation system. Functional classifications typically include arterials, collectors, and local roadways. Arterials function to provide mobility, local roadways provide access, and collectors provide a combination of the two.

The primary streets in the study area are described below and illustrated in Figure 9-1. Each street has been given a relevant functional classification according to its intended function and role in the overall transportation system of the area. The City of Battle Ground and Clark County have adopted classifications for the roadways under their jurisdiction.

Level of Service

Level of Service (LOS) quantifies and normalizes the degree of comfort that a driver feels when traveling through an intersection or along a roadway segment to allow easy comparison among facilities where volumes of traffic or roadway features may differ substantially. Level of Service assessments take into account traffic volumes during a given period of time, mix of vehicle types including trucks, vehicle speed, number of stops, total amount of delay, impediments caused by other vehicles and/or pedestrians, and other factors.

Levels of service are expressed in grades ranging from A (free-flowing operational conditions) to F (operational breakdown). LOS B through E denote conditions of increasing platooning (or collecting of vehicles into a steady stream of traffic), decreasing speeds and increasing delay.

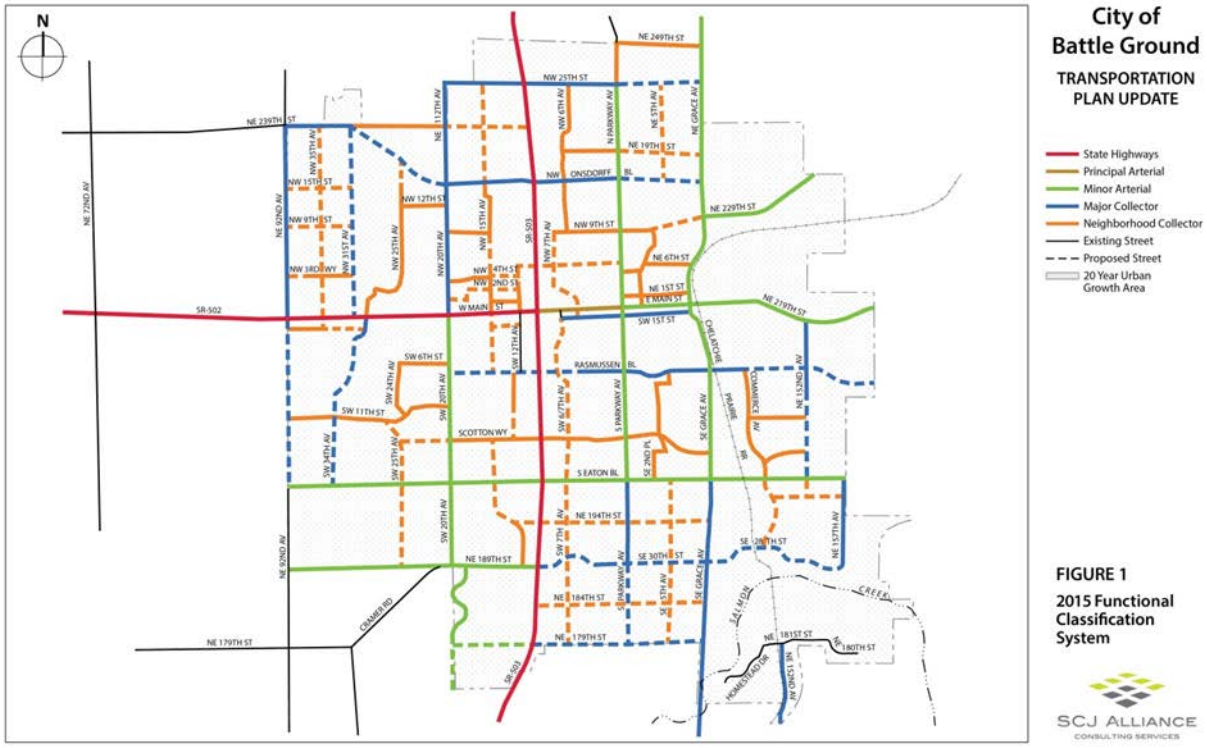
Under Washington State's Growth Management Act (GMA), local communities are required to develop level of service standards to identify the maximum level of congestion acceptable to the community and the threshold to determine transportation system deficiencies and improvement needs. The level of service standards required by the GMA is implemented through local concurrency ordinances and procedures.

The concept of concurrency relates to the timing of demand for certain public services and the availability of these services to meet demand. For the transportation system, this means that adequate roadway facilities must be in place at the same time as traffic impacts associated when land development occurs.

The City of Battle Ground implements the concurrency requirements of GMA through the land development review process. Level of service thresholds currently used by the City (to identify where and when adequate transportation facilities exist to serve development) include level of service (LOS) D or better operations for signalized intersections, and LOS E or better for side street movements at unsignalized intersections, provided that the intersection doesn't meet signal warrants.

Of the 12 unsignalized intersections in the study area, all currently operate with side street movements better than the LOS E standard. Three signalized intersections and one unsignalized intersection do not meet LOS standards with in-process trips and approved project trips added. Battle Ground currently has funding to improve one intersection so that it meets LOS standards when these trips are added. Battle Ground is collecting concurrency mitigation fees for the other three intersections so that improvements can be made so that they will meet LOS standards when the extra trips are added.

Figure 9-1: Functional Classification

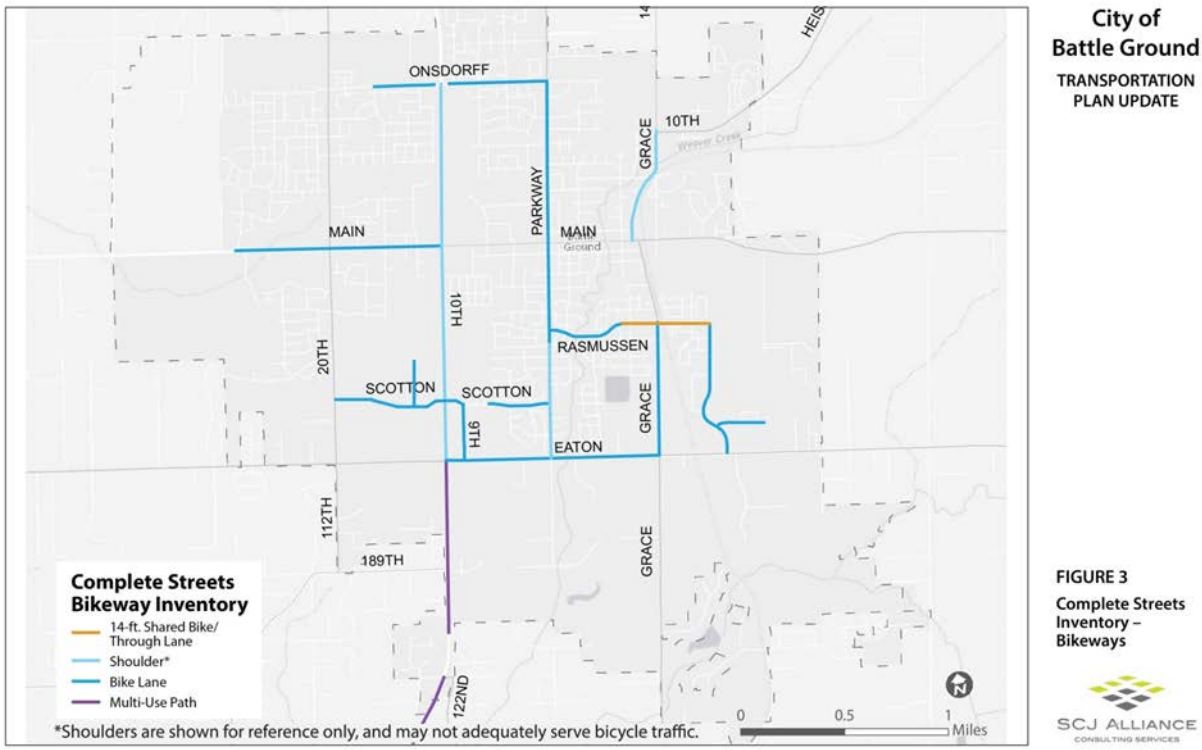


Non-Motorized Transportation

Existing Bicycle Facilities

The inventory of existing bicycle facilities in the Battle Ground urban area is shown in Figure 9-2. Over the last several years, a number of the community's arterial and collector streets have been expanded to include bicycle facilities, corresponding with frontage improvements required with new residential and commercial development, as well as the completion of several capital improvement projects. Figure 9-2 identifies various types of bikeways including: roadway shoulders, bike lanes, and multi-use paths (i.e., along SR 503). As indicated in the graphic, most bikeways in the city consist of widened roadway shoulder with bike lanes limited to portions of N/S Parkway Avenue, NE Grace Avenue, SW/SE Eaton Boulevard and SW Scotton Way.

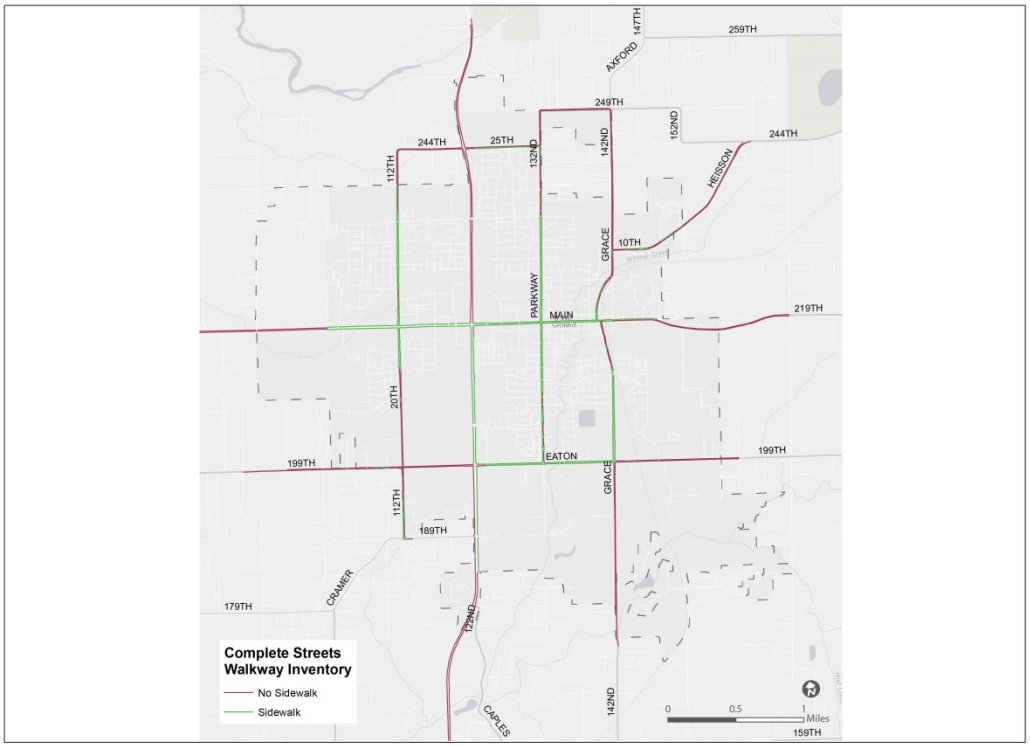
Figure 9-2: Bicycle Map



Existing Pedestrian Facility

As indicated in Figure 9-3, most arterial streets within the core area of the city currently have sidewalks. This includes W Main Street between approximately NW 30th and NE Grace Avenues, portions of SW 20th Avenue, N Parkway Avenue, SW Eaton Boulevard, and SE Grace Avenue, and a multiuse path along SR 503 between W Main Street and south of NE 189th Street. Locations along the key roadway system that currently lack sidewalks can also be seen in the graphic.

Figure 9-3: Pedestrian Map



Freight

Truck Routes

A key component of the transportation system is the provision of adequate mobility for the movement of freight. To minimize adverse impacts of truck traffic on local streets, a system of truck routes has been designated for the streets and roads within the study area. Figure 9-4 illustrates the adopted truck route plan for the Battle Ground UGA (urban routes) and routes in the vicinity of Battle Ground but outside of the UGA (rural routes). As indicated in the graphic urban routing for through truck movement is typically focused on the city's arterial street system including: SR 503, SR 502/W Main Street, NE 92nd Avenue, NE 239th Street, NW 25th Street, NE 249th Street, NE/SE Grace Avenue, SW/SE Eaton Boulevard and SE Rasmussen Boulevard/Commerce Avenue though existing industrial development east of SE Grace Avenue. The rural truck routes shown in the figure largely include extensions of the urban system outside of the UGA.

Freight Rail

The Chelatchie Prairie Railroad line runs through the City of Battle Ground east of and generally along the alignment of Grace Avenue. Clark County owns and maintains the rail line, which is leased to the Spirit of Washington/Columbia Basin Railway. The Spirit of Washington/Columbia Basin Railway runs for 33 miles from its intersection with the Burlington Northern Santa Fe railway line in Vancouver to its termination north and east of Battle Ground in Chelatchie Prairie.

The southern segment of the rail line runs from the existing train station on the south side of East Main

Street at South Grace Avenue in Battle Ground to the Vancouver rail yards. This segment provides rail access to the City's industrial lands east of SE Grace Avenue, and improved rail service could provide a needed stimulus for industrial development.

Transit

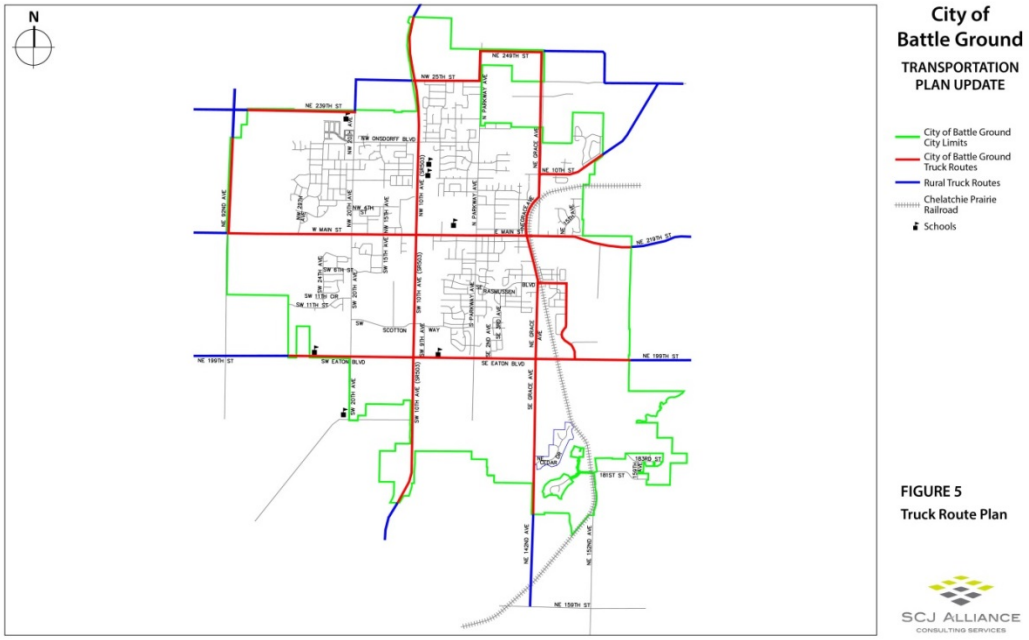
Battle Ground is linked to Vancouver and the Portland Metropolitan area by the public transit services provided by the countywide transit agency, C-TRAN. C-TRAN currently provides weekday and weekend fixed route service to the City of Battle Ground connecting to a small park-and-ride lot located on the north side of East Main Street just east of South Grace Avenue. C-TRAN also operates a paratransit service, called C-VAN, for those who are unable to use the fixed route C-TRAN service. All C-TRAN buses are also equipped with bike racks. Two fixed routes serve the City of Battle Ground, Battle Ground #7 and Battle Ground Limited #47.

Air

The privately owned, public access, North Cedars Airpark is a general aviation facility located adjacent to the southern edge of the city limits of Battle Ground, just south of NE 199th Street between NE 149th Avenue and NE 157th Avenue. Access to the airpark is via NE 157th Avenue. This airpark is owned by the Cedars Homeowner Association and currently has 10 based aircraft. This airpark has a turf runway that is 2000 feet long by 100 feet wide, with a windsock wind indicator. This airport is used solely for general aviation and recreational purposes.

Regularly scheduled air passenger transportation service is provided at the Portland International Airport, located approximately 20 miles to the south of the Battle Ground urban area on the south side of the Columbia River in the State of Oregon. This airport is important to the movement of people and

Figure 9-4: Truck Routes Map



goods by air in Battle Ground and the remainder of Clark County in that it is the only facility with regularly scheduled air passenger service and long-distance air cargo service in the north Willamette

Valley and Southwest Washington.

Analysis and Projections

Existing Transportation System Needs and Deficiencies

This section summarizes existing transportation system needs and deficiencies for Battle Ground. As use of the transportation system typically knows no jurisdictional boundaries, these opportunities and constraints apply for both the study area within the city limits and the urban growth area.

Access to I-5

Lack of direct freeway access hinders the ability to develop the industrial area in the southeast area of the City. WSDOT is underway with construction of the SR 502 widening from I-5 to Battle Ground Project. The project widens SR 502 from two to four lands from I-5 east into the City of Battle Ground. Median barrier will also be installed to help reduce the severity of collisions along the corridor. Additionally, crews will construct 10-foot –wide shoulder for pedestrian and bicyclist along both side of SR 503 for the entire length of the corridor. Construction is expected to continue through 2017. Direct Freeway access could encourage economic development in the City.

Congestion and Traffic Safety

An analysis shows that four intersections (three signalized and one unsignalized) will operate below the City's LOS standards when in process growth is added to them. The City currently has funding to complete the improvements to the intersection of SR 503/SR 502, which will bring the intersection up to acceptable LOS standards. Additionally, the City is collecting mitigation funds for the other three intersections, which are SR 503/SW Eaton Boulevard, SW 20th Avenue/SW Eaton Boulevard, and SR 503/NW Onsdorff Boulevard. These funds will be used to make improvements that will raise the LOS at these intersections to an acceptable level. All other intersections operate at an acceptable LOS.

No intersections in the City UGA have accident rates greater than 1.0 accidents per million entering vehicles. The City will continue to monitor the situation and will address any issues if they were to arise.

Lack of Bicycle/Pedestrian System Connectivity

Battle Ground's bicycle and pedestrian network provides enhanced north-south connectivity, but east-west routes have fewer connections. In spite of the numerous improvements and system additions that have been made, the bicycle and pedestrian transportation system remains relatively fragmented. On several streets, bicycle lanes and sidewalks exist only on one side, and some street segments have gaps between locations where facilities are in place. Additionally, few access ways are in place in locations where bicycle and pedestrian traffic is circuitous. Facilities for non-motorized travelers are mostly located in the central portions of the city while facilities on the outer portions are sparsely located and are generally found only near new residential and commercial development.

Right-of-Way Limitations

Narrow public rights-of-way limit the ability to improve existing roadways without the purchase of additional right-of-way in much of the City, particularly the Old Town area in the east end of town.

Lack of Local Street System Connectivity

Many local streets in the City are dead ends, terminating in cul-de-sacs or at barricades pending further residential development. In a few locations connections are provided for pedestrian and bicycle traffic. There may be opportunities to increase local street connectivity in residential subdivisions where additional phases will be built through the design review process, and proposed implementation code

changes are likely to include requirements for increased connectivity, both for vehicular and non-motorized travel. Over the long-term, implementation of provisions in the City's Legacy Street Standards should help to improve street connectivity.

Freight Mobility

Freight mobility issues in the study area include heavy truck traffic created by the operation of several manufacturing plants and a dairy. Truck traffic conflicts with vehicle and pedestrian traffic to and from the schools and commercial uses along East Main Street. Another freight mobility issue concern is truck traffic along NE Eaton Boulevard between SE Grace Avenue and SR 503. Almost all the land within the City east of SE Grace Avenue is zoned for industrial use, including portion already developed. NE Eaton Boulevard connects this industrial area with SR 503 for regional access to Vancouver Urban Area and to I-5. Truck traffic could create potential conflicts with traffic to and from schools and residential neighborhoods.

Future Transportation Needs and Deficiencies

Transportation Demand

Battle Ground will experience increased traffic congestion over the next twenty years resulting from population growth and urban expansion. A variety of transportation improvements and programs are recommended by the Transportation System Plan to ensure that transportation needs are met, and mobility, connectivity and access are improved.

Street System Deficiencies

The analysis of future street system deficiencies is based on traffic growth anticipated in the Battle Ground UGA as well as growth in traffic passing through the City of Battle Ground.

Based on the baseline of the 2035 traffic projections conducted in the Transportation System Plan Update the following improvements are recommended for enhancing a "backbone" transportation system in southeast Battle Ground. First street extensions, consistent with federal guidelines on the spacing of arterial and major collector streets in developing areas of a community, it is recommended that both NE 189th/SW30th Street and NE 179th/SW 40th Street be extended eastward from SR503 to at least SE Grace Avenue. It is also recommended that NE 189th Street be extended further eastward to connect with a future recommended extension of NE 152nd Avenue. Second is intersections, it is recommended that the intersection improvement be made to accommodate growth traffic volumes along SR 503 at both W Main Street/SR502, and SW Eaton Boulevard. It is also recommended that, with the NE 179th Street is extended that improvements are made to the intersection with SR 503 to accommodate the increased traffic activity associated with the extension.

In addition to addressing street system deficiencies that result from anticipated increases in traffic congestion, the street system will also require a wide variety of improvements to provide the full amenities expected in urban areas (including curbs, gutters, storm drainage, sidewalks, bike lanes, street lighting and other features). These improvements are a necessary part of incorporating a rural county road into a more urban environment. Increasing urbanization will also require the extension or new construction of numerous major and neighborhood collector streets to provide both property access and localized traffic circulation.

Transportation System Recommendations

Recommended Functional Classification

Functional classification provides a systematic basis for determining future right-of-way and improvement needs, and can also be used to provide general guidance to appropriate or desired vehicular street design characteristics. A street's functional classification is based on the relative priority of traffic mobility and access functions that are served by the street. At one end of the spectrum of mobility and access are freeways, which emphasize moving high volumes of traffic, allowing only highly controlled access points. At the other end of the spectrum are residential cul-de-sac streets, which provide access only to parcels with direct frontage and allow no through traffic. Between the ends of this spectrum are local streets, collectors and arterials, each with an increasingly greater emphasis on mobility. Classifications can be further stratified into major and minor arterials and collectors.

When developing a functionally classified roadway system, several factors must be taken into considerationsincluding:

- The spacing of different street classifications. Typically principal arterials are designated every one to five miles depending on residential or employment density. Minor arterials can be designated on 1/2 mile spacing with collector roads filling in between to link neighborhoods with the arterial road system.
- Existing street classification. Predictability and long-term stability of a community's plans for growth and development is an asset to the local economy and to the quality of life in neighborhoods. Changes to existing street classifications should be carefully evaluated to ensure that change is warranted (e.g., changes in volumes or the type of traffic a street is carrying, etc.).
- Consistency with the plans and classifications of surrounding jurisdictions – Consistency in functional classifications is important to ensure that traffic crossing a jurisdictional boundary does not encounter a radically different roadway cross-section or that through traffic in one jurisdiction is not directed onto a minor street in another.
- Current patterns of traffic and use of the street – Existing levels of traffic and the types of trips served (including trip length and destinations) are evaluated to ensure that the street classification is consistent. For example, a roadway that serves longer- distance, higher speed through trips would appropriately be classified as an arterial. A street that serves to connect a residential subdivision to a shopping center may be more appropriately classified as a collector.

Recommended Level of Service Standards

Based on the assessment of future land use and its associated growth in traffic congestion and roadway improvement requirements, it is recommended that the City endorse Level of Service (LOS) D as the operating standard for signalized intersections and Level of Service E for stop-controlled side streets at unsignalized intersections.

Recommended Transportation System Improvements

The City of Battle Ground will need to construct many improvements to the motor vehicle, freight, bicycle, and pedestrian transportation systems to accommodate growth during the next twenty years. Recommended improvements include projects, services and programs and are described below.

Street System Recommendations

The Transportation Element includes street improvements that address the congestion problems that were identified by the 2035 intersection traffic operations analysis; projects that expand upon or improve existing streets; and recommended new street construction to provide access and circulation in the portions of the UGA that are expected to be developed over the next 20 years. Projects to address

existing high accident locations are also identified, along with recommendations for on-going monitoring of accidents and prioritization of future improvement projects based on accident experience. Recommended street system improvements are categorized by short, medium and long term improvements and are explained and depicted in the Transportation System Update Plan.

In addition to physical street improvements, the Transportation Element also recommends that the City implement a formal traffic calming program based on the requirements and measures described in the Municipal Code with the objectives of lowering vehicular speeds, providing a human-scale environment, facilitating pedestrian crossings and minimizing adverse impacts on the character and livability of neighborhoods and business districts while still allowing for emergency vehicle access.
This program should be comprised on two primary elements:

- Identify and provide for traffic calming street improvements focused on non-arterial or collector streets to achieve program objectives.
- Utilize design techniques for local streets, such as reduced widths and lengths, curb extension and other traffic calming measures to achieve the objectives identified above.

Freight Mobility Recommendation

To minimize adverse impacts of truck traffic on local streets, a system of truck routes has been designated for the streets and roads within the study area. This system was shown earlier in this section in Figure 9-4.

Public Transportation Recommendations

Public transportation services are provided in the Battle Ground UGA by C-TRAN, with intercity services provided through Vancouver by Greyhound and Amtrak. The Transportation Element recommends that the City work closely with C-TRAN, Clark County, the City of Vancouver and the Regional Transportation Planning Commission to explore a variety of transit service options that could enhance this travel mode to/from and within the Battle Ground UGA. This coordination effort must be on-going with a regular assessment of actual and latent travel demand in the UGA that could be attracted to both intercity and local transit services.

It is recommended that Battle Ground continue with its current efforts to coordinate review of land development activity under SEPA with C-TRAN to ensure that opportunities to build transit-accessible development are maximized. Transit accessibility can be measured both in terms of building and site orientation to provide easy access to buildings for transit riders and in terms of providing the necessary bike lane and sidewalk facilities to ensure that access to transit service is safe and convenient.

It is further recommended that the City promote the use of alternative commute options to reduce motor vehicle travel generated by residents and employment sites in cooperation with regional efforts as administered by C-TRAN or other jurisdictions.

Bicycle and Pedestrian System Recommendations

Recommended improvements for Battle Ground's bicycle and pedestrian network are focused on arterial and collector streets as well as off-street trails. An ideal bicycling environment would include some type of bicycle facilities on all arterial and collector streets. An ideal pedestrian environment would include facilities for foot traffic on all streets. Off-street trails would serve both modes, as these facilities can be located where street connections cannot be made, as well as where street

connections are not planned. Recommendations include the addition of sidewalks and bike lanes along existing or new streets, and the development of various off-street trail projects that would connect multiple destinations in the UGA.

Air Transportation Recommendations

The City should consider developing specific ordinances consistent with state and FAA guidelines and regulations to protect navigable airspace surrounding the airpark when this area is annexed to the city. The ordinance should include specific height restrictions and specify slope protection.

The City should also consider where future residential, educational facilities, hospitals or other similar land uses might be permitted under current and proposed zoning within areas subject to aircraft noise or accidents.

Plan Implementation

The Transportation System Plan Update has broken down the needed projects for the future improvements into three categories that reflect short term improvements (2015-2020), medium term improvements (2021-2025), and long-term improvements (2026-2035). Table 9-1 summarizes the cost of the needed improvement by short term, medium term, and long term categories.

Table 9-1: Future Improvement Costs

Category	Cost
Short-Term Improvements (2015-2020)	$26,667,800
Medium-Term Improvements (2021-2025)	$102,531,000
Long-Term Improvements (2026-2035)	$224,213,300

Funding:

The 20-year projection of transportation revenues expected to be available to the City of Battle Ground is largely based on an extrapolation of funding received from existing sources. In general, eligible expenditures for these revenues (e.g., operations, maintenance and/or capital improvements) are fixed by revenue type. For example, fees collected for system enhancements to address traffic impacts associated with land development cannot be used for street maintenance. State gas tax revenues are able to be used for capital improvements, operations and maintenance, and bond payments. State Transportation Improvement Board (TIB) and federal Surface Transportation Program (STP) funds are competitive and must be used for capital improvements. Community Development Block Grants are available only for improvements in lower income portions of a community and are typically used by the city for sidewalkimprovements.

Findings:

The Transportation Element and the Transportation System Plan (TSP) will establish a balanced transportation system that will meet the city's growing transportation demands during the next twenty years. The TSP provides a financially constrained and prioritized project list that will facilitate continued urban expansion in accordance with the Land Use Element through increased mobility, access, options and efficiency. Additionally the TSP will generally maintain existing Levels of Service and provide for increased connectivity for bicycle and pedestrian modes.

Battle Ground's TSP is generally consistent with the Regional Transportation Council's adopted Metropolitan Transportation Plan (MTP).

Chapter 10 - Capital Facilities

Introduction

The Capital Facilities Element addresses the infrastructure the City envisions to meet the needs of its citizens. This Element coordinates and provides consistency among the many City plans for capital and service improvements. It ensures the timely and efficient provision of adequate public facilities that support planned growth and existing uses. Future services and facilities, and levels of service, are coordinated with the planned population and growth patterns established by the comprehensive plan's Land Use and Growth Management Elements. Proposed major capital expenditures planned throughout the city are identified, and six-year financing strategies and requirements are addressed for all major City capital programs.

Emphasis throughout this Element is placed on those services provided by the City of Battle Ground and, in particular, water, storm drainage, and sewer services, mandated by the GMA for direct concurrency requirements. Capital facilities plans for transportation services, which are also mandated by the GMA, are provided separately within the Transportation Element. City park facilities are summarized within this document but additional parks and recreation planning information is included in the Parks Element. School and fire services information is also provided in this Element.

Regulatory Context

Growth Management Act

This Capital Facilities Element is developed in accordance with the GMA's requirements for public facility planning and programming in support of comprehensive plans. The following are required under RCW 36.70A.070:

- An inventory of existing capital facilities owned by public entities, showing the locations and capacities of the capital facilities
- a forecast of the future needs for such capital facilities
- the proposed locations and capacities of expanded or new capital facilities
- at least a six-year plan that will finance such capital facilities within projected funding capacities and clearly identifies sources of public money for such purposes
- a requirement to reassess the land use element if probable funding falls short of meeting existing needs and to ensure that the land use element, capital facilities plan element, and financing plan within the capital facilities plan element are coordinated and consistent
- Park and recreation facilities shall be included in the capital facilities plan element

The City of Battle Ground is responsible for providing facilities including, but not limited to, municipal facilities, police and fire protection, parks and recreation, streets, water and sanitary sewer services, and storm drainage services. The GMA requires growth to occur first in developed areas already served by public services and utilities, and then in undeveloped areas needing new services as identified in the Land Use Element.

The GMA established the following public facilities and services goal:

- Ensure that those public facilities and services necessary to support development shall be

adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

County-wide Planning Policies

This Capital Facilities Element was developed to be consistent with Clark County's Countywide Planning Policies and all elements of the County Comprehensive Plan including several relevant Countywide Planning Policies related to capital facilities. Generally, the County capital facilities policies address the need for cooperation between service providers and among jurisdictions in the provision and siting of public services, coordinated City-County urban growth planning related to the provision of services, concurrency between growing service needs and the provision of services, and limiting service extensions prior to annexation. A complete listing of the County's capital facility policies can be found in the Capital Facilities Element of the Clark County Comprehensive Plan.

City of Battle Ground Comprehensive Plan Objectives

The City of Battle Ground has developed comprehensive plan goals and objectives that direct capital facility planning and programming policy. A list of these goals and objectives follows:

Capital Facilities Goal 1:

The concurrent provision of capital facilities.

Objective

CFO.1 The City will require the provision of capital facilities concurrently with development.

City of Battle Ground Facility Plans

The following facility plans, as amended, are adopted by reference within this *Plan*. These individual plans should be consulted for additional detail on existing conditions, future needs and costs, and financing methods.

- City of Battle Ground Water System Master Plan, May 5, 2014
- City of Battle Ground General Sewer Master Plan, December 2, 2015
- City of Battle Ground Comprehensive Parks, Recreation and Open Space Plan, April 2016
- City of Battle Ground Stormwater Management Plan, October 21, 2015
- City of Battle Ground Fire Capital Facilities Plan, August 2014
- City of Battle Ground Transportation System Plan, December 2, 2015
- Battle Ground School District Capital Facilities Plan, May 26, 2015

Existing Conditions

The detailed individual facility plans identified above are summarized in the discussion below. Each plan summary includes descriptions of the existing services and facilities, level of service standards, and future needs.

Water Services and Facilities

The City provides water services to its residents and to a limited area adjacent to the city limits. The Battle Ground Water System Plan documents the City's water system infrastructure and evaluates

the system's physical and financial adequacy to provide water to existing customers and projected growth within the water service area. The plan includes an inventory of existing facilities, development of criteria for water system analysis, a hydraulic analysis of water system performance, a capital improvement program (CIP) based on hydraulic analysis and a financial plan to fund the proposed CIP and assess existing revenue and expenses. This plan also includes an assessment of the City's groundwater resources, water rights, operations and water use efficiency program.

The City's primary water supply comes from eight groundwater wells with on-site chemical treatment and filtration. Additional emergency resources are available from Clark Public Utilities (CPU). The City has six storage reservoirs with a total capacity of approximately 3.54 million gallons. The distribution system consists of two booster pump stations and approximately 75 miles of transmission and distribution mains. The City of Battle ground adopted the Battle Ground Wellhead Protection Plan in 2000 and updated it in 2012.

Figure 10-1 shows the major water service facilities.

Level of Service Standards

Equivalent residential units (ERUs) are a method of summarizing water demands from all water customers to provide a single value for system capacity evaluation. The Battle Ground Water System Plan uses an ADD of 195 gallons per day/ERU to project future city water needs. This is 20 percent less than the ADD calculated in 2010 at 235 gallons per day/ERU. This is an indication of the success of the City's Water Use Efficiency (WUE) program, meeting their goal of a 1 percent reduction over six years.

Future Needs

The City depends on groundwater for its source of supply. Existing water rights are sufficient to support projected water maximum day demand (MDD) through 2018. If the City is able to drill additional wells and transfer the location of existing water rights there will still be a need for wholesale supply over the 20-year planning period. The City is currently coordinating with Clark Public Utilities (CPU) to participate in the development of regional water supply and transmission facilities to serve the north Clark County area.

The Water System Plan includes a capital improvement plan identifying the timing and costs of prioritized projects to meet supply, treatment, and distribution needs over the next six-year and twenty-year periods. Additional sources of available funding include a combination of increased system development charges and monthly user rates. Using these sources, the *Plan* estimates adequate funding for the required projects through the six-year and twenty-year planning periods. Projected six-year and twenty-year water system capital improvements are shown in Table 10-1. The city water utility is projected to have sufficient cash to fund the total CIP as planned without borrowing, due to significant existing cash reserves, policy for ongoing rate-funding for system reinvestment and SDC revenue collections.

Figure: 10-1 Water System Map

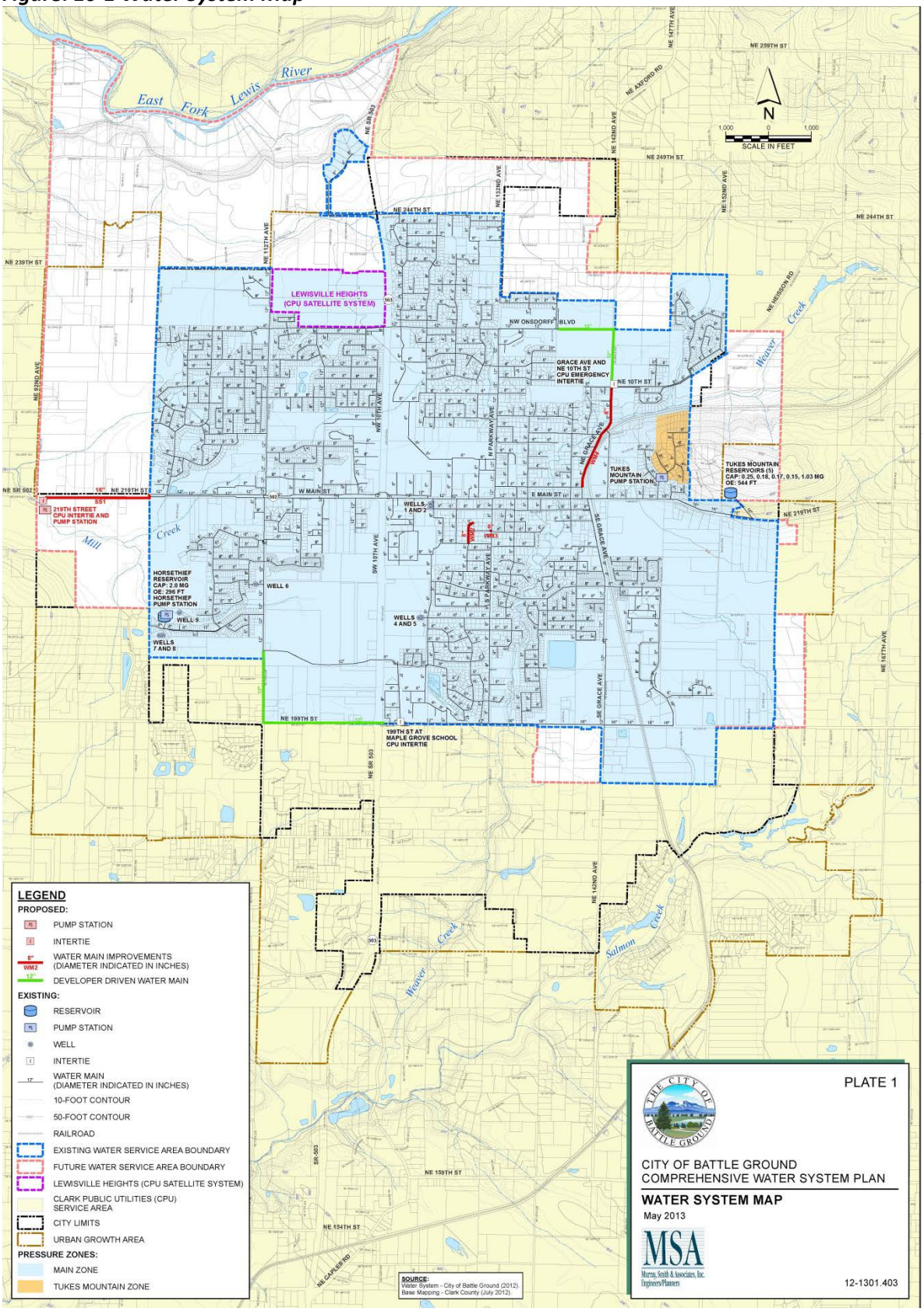


Table 10-1: Six-year and Twenty-year Water System Capital Improvement Summary

Category	CIP No.	Project Description / Location	CIP Schedule and Project Cost Summary (2012 dollars)							Estimated Project Cost [1,2]
			2013	2014	2015	2016	2017	2018	2019-2032	
Supply System Improvements	SS1	New Intertie/Pump Station on NE 219th	$ 1,360,000							$ 1,360,000
	SS2	NE 219th Intertie/Pump Station Upgrade (2021)							$ 140,000	$ 140,000
	SS3	Regional Source and Transmission Development			$ 1,375,000	$ 675,000	$ 675,000	$ 675,000	$ 9,450,000	$ 12,850,000
		Well Replacement			$ 800,000					$ 800,000
		Sub-Total	*$ 1,360,000*	*$ -*	*$ 2,175,000*	*$ 675,000*	*$ 675,000*	*$ 675,000*	*$ 9,590,000*	*$ 15,150,000*
Storage Improvements	ST1	New 1.4 MG Reservoir (2023)							$ 1,800,000	$ 1,800,000
		Sub-Total	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ 1,800,000*	*$ 1,800,000*
Water Main Improvements	WM1	Annual Water Main Replacement Program	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 1,400,000	$ 1,700,000
	WM2	SW 2nd Court 8-inch Main							$ 105,000	$ 105,000
	WM3	SW 3rd Street 8-inch Main to Hydrant							$ 10,000	$ 10,000
	WM4	NE Grace Avenue 8-inch Main							$ 475,000	$ 475,000
		SW 20th Avenue 12-inch Transmission						$ 565,000		$ 565,000
		Sub-Total	*$ 50,000*	*$ 50,000*	*$ 50,000*	*$ 50,000*	*$ 50,000*	*$ 615,000*	*$ 1,990,000*	*$ 2,855,000*
Capital Improvement Program (CIP) Total			**$ 1,410,000**	**$ 50,000**	**$ 2,225,000**	**$ 725,000**	**$ 725,000**	**$ 1,290,000**	**$ 13,380,000**	**$ 19,805,000**

[1] Cost estimates are based on an Engineering (ENR) construction cost index of 9418 for Seattle, Washington (October 2012).

[2] Cost Estimates are in current dollars. (October 2012)

6 Year Total
$6,425,000
Annual Avg
$1,070,833

20 Year Total
$19,805,000
Annual Avg
$990,250

Sewer Services and Facilities

The Battle Ground General Sewer Plan addresses the City's existing sewer facilities and services and identifies projected system upgrades to meet estimated growth through 2035. The existing sewage collection system is owned and operated by the City. The City maintains over 60 miles of sanitary sewer collection lines and mains. The system consists of 11 sewerage pumping stations and force mains. The City discharges all of its wastewater through the Transmission pump Station to Clark County's Salmon Creek Interceptor. Interceptor flow is pumped to the Salmon Creek Wastewater Treatment Plant, which is owned and operated by Clark County.

Level of service Standards

The Sewer Plan uses standard textbook design criteria, along with the guidelines presented in the Orange book for conceptual design of the facilities presented in the plan. The sewer is sized to accommodate a 50-year development basin assuming current zoning within the Urban Growth Area (UGA) and assumes five residential units per acres for all areas outside the UGA. Sewers are sized for 80 percent of peak discharge assuming no surcharge. The sizing of pump station and force main capacity is based on 20-year flow projection.

The Sewer Plan does not address wastewater treatment and disposal. Currently, all of Battle Ground wastewater discharges to the Salmon Creek wastewater management system, which discharges to the Salmon Creek Wastewater Treatment Plan (SCWTP) for treatment and disposal. The City has an interlocal agreement with the Alliance for treatment of sewage by the SCWTP.

Future Needs

Facilities recommended within the Sanitary Sewer Plan include main extension, repairs, and pump station replacement to accommodate estimated flows in the Battle Ground UGA as shown in Figure 10-2. Table 10-2 presents the six-year capital improvements listed by construction year as identified in the sewer plan. Table 10-3 summarizes the costs related to the improvement which are tied to SDC's alone. Between new SDC revenue and existing sewer rates, the sewer budget should be sufficient to complete the improvements needed to maintain level of service.

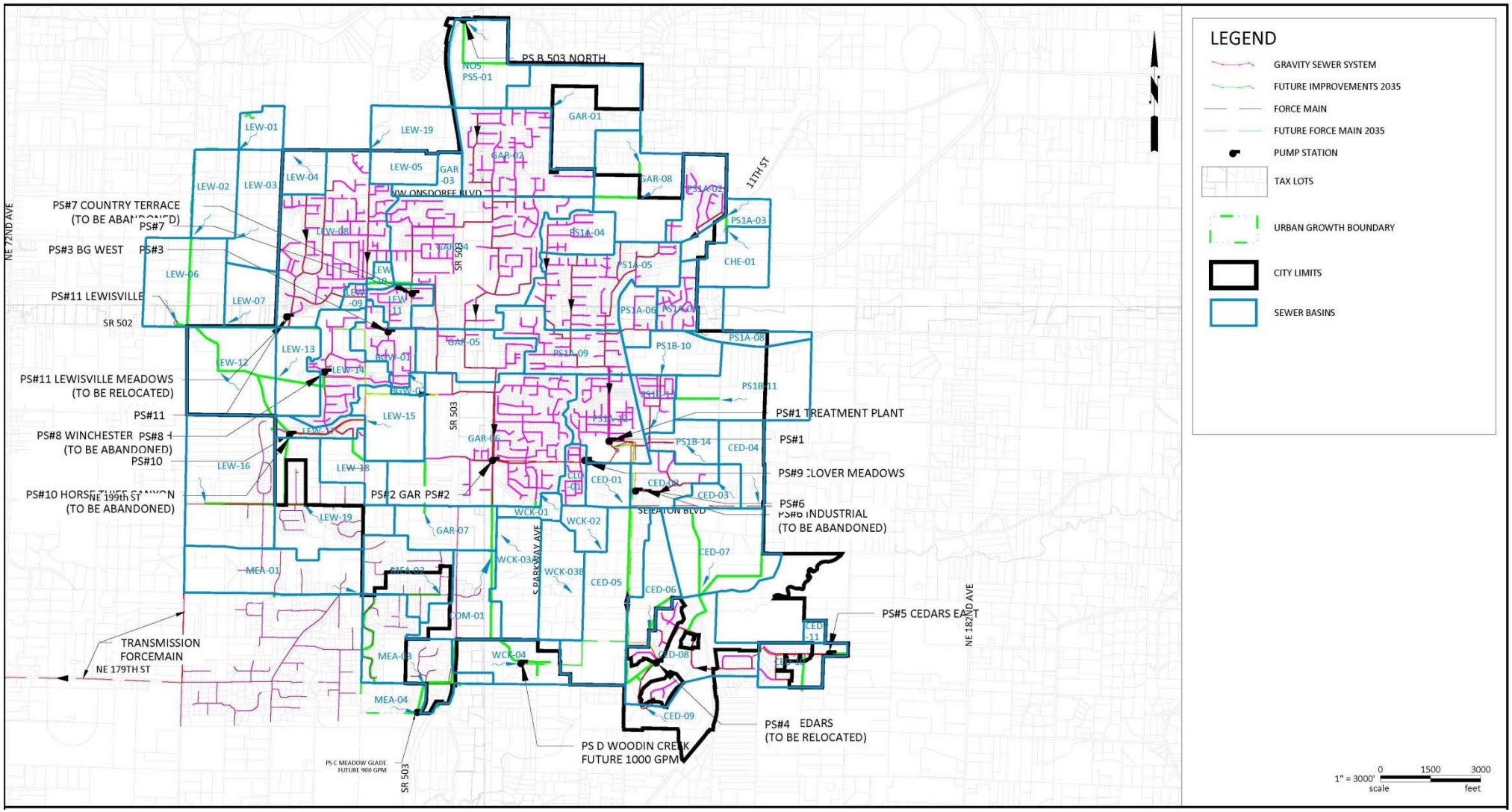
Table 10-2: Sewer Six -year Capital Improvement Plan

Year	Project Name	Description	Project Construction Costs (2015 Dollars)
Annual	CAP - 1	Sewer Main Oversizing	$ 70,000 / Yr
	R & R – 1	Small Project Allowance	$ 25,000 / Yr
2016	R & R – 2	Pump Station #8 Winchester Ranch Rehabilitation	$ 300,000
	CAP – 2	South Parkway Sewer Main Extension	$ 75,000
	I & I – 1	Manhole Repair	$ 20,000
2017	R & R – 3	Pump Station #9 Clover Meadows Rails & Pump Replacement	$ 50,000
	I & I – 2	Mainline Repair	$ 250,000
2018	I & I – 3	Mainline Repair	$ 250,000
2019	I & I – 4	Mainline Repair	$ 250,000
	CAP – 3	Equalization Basin – Phase ?	$ 250,000
2020	CAP – 4	Equalization Basin – Phase ?	$ 250,000
	I & I – 5	Mainline Repair	$ 250,000
2021	I & I – 6	Mainline Repair	$ 250,000
		Total	$ 2,290,000

Table 10-3: Sewer SDC Related Project Summary

Project Name	Description	Project Construction Costs (2015 Dollars)
PS-A	Pump Station A – Chelatchie Pump Station, 167 gpm	$ 250,000
FM-A	Pump Station A Force Main – 790 LF 4" diameter force main	$ 160,000
PS-B	Pump Station B – 503 North Pump Station, 47 gpm	$ 200,000
FM-B	Pump Station B Force Main – 3,586 LF 4" diameter force main	$ 690,000
PS-C	Pump Station C – Meadow Glade Pump Station, 900 gpm	$ 350,000
FM-C	Pump Station C Force Main – 3,036 LF 12" diameter force main	$ 580,000
PS-D	Pump Station D – Woodin Creek, 1,000 gpm	$ 750,000
FM-D	Pump Station D Force Main – 3,909 LF 12" diameter force main	$ 1,290,000
PS #4	Pump Station #4 – Cedars Pump Station, 1,500 gpm	$ 900,000
FM-#4	Pump Station #4 Force Main – 5,320 LF 14" diameter force main	$ 1,870,000
PS #7	Pump Station #7 – Country Terrace Pump Station Abandonment	$ 50,000
PS #8	Pump Station #8 – Winchester Pump Station; 400 gpm	$ 300,000
PS #8	Pump Station #8 – Winchester Pump Station Abandonment	$ 50,000
PS #10	Pump Station #10 – Horsethief Canyon Pump Station Abandonment	$ 50,000
PS #11	Pump Station #11 – Lewisville Pump Station, 2,500 gpm	$ 1,250,000
FM #11-1	Pump Station #11 Force Main – 3,380 LF 18" diameter force main to be replaced/relocated	$ 1,530,000
FM #11-2	6,328 LF 18" force main	$ 2,850,000
Transmission Station 5.0	Equalization Basin Upgrade to 5.0 mgd & Pump Capacity Upgrade to 8.0 mgd	$ 5,750,000
Transmission Expansion	Design and permitting of new Transmission System Expansion	$ 300,000
Total		**$ 19,170,000**

Figure 10-2: Sewer Facility Map



Stormwater Services and Facilities

The Battle Ground drainage system discharges the runoff it carries to local streams, primarily Woodin Creek and Mill Creek, as well as both tributaries of Salmon Creek. The Battle Ground Stormwater Management Plan addresses the improvements of existing and construction of new facilities to meet projected stormwater related flows. Local concern for flooding and water quality is the primary motivation for the City's stormwater CIP, which increases capacity of the storm drainage system and provides water quality upgrades.

Level of Service Standards

The Stormwater Management Plan bases its recommended system improvements on federal regulations including Clean Water Act, the Endangered Species Act, and the Safe Drinking Water Act. Of these, the greatest impact on the City's stormwater program is the Clean Water Act. The clean Water Act's National Pollutant Discharge Elimination System (NPDES) municipal stormwater permitting program requires permittees, such as the City of Battle Ground to control pollutants discharging into and from its municipal drainage systems. These standards are based on design criteria and best management practices intended to help the City meet future federal water quality requirements.

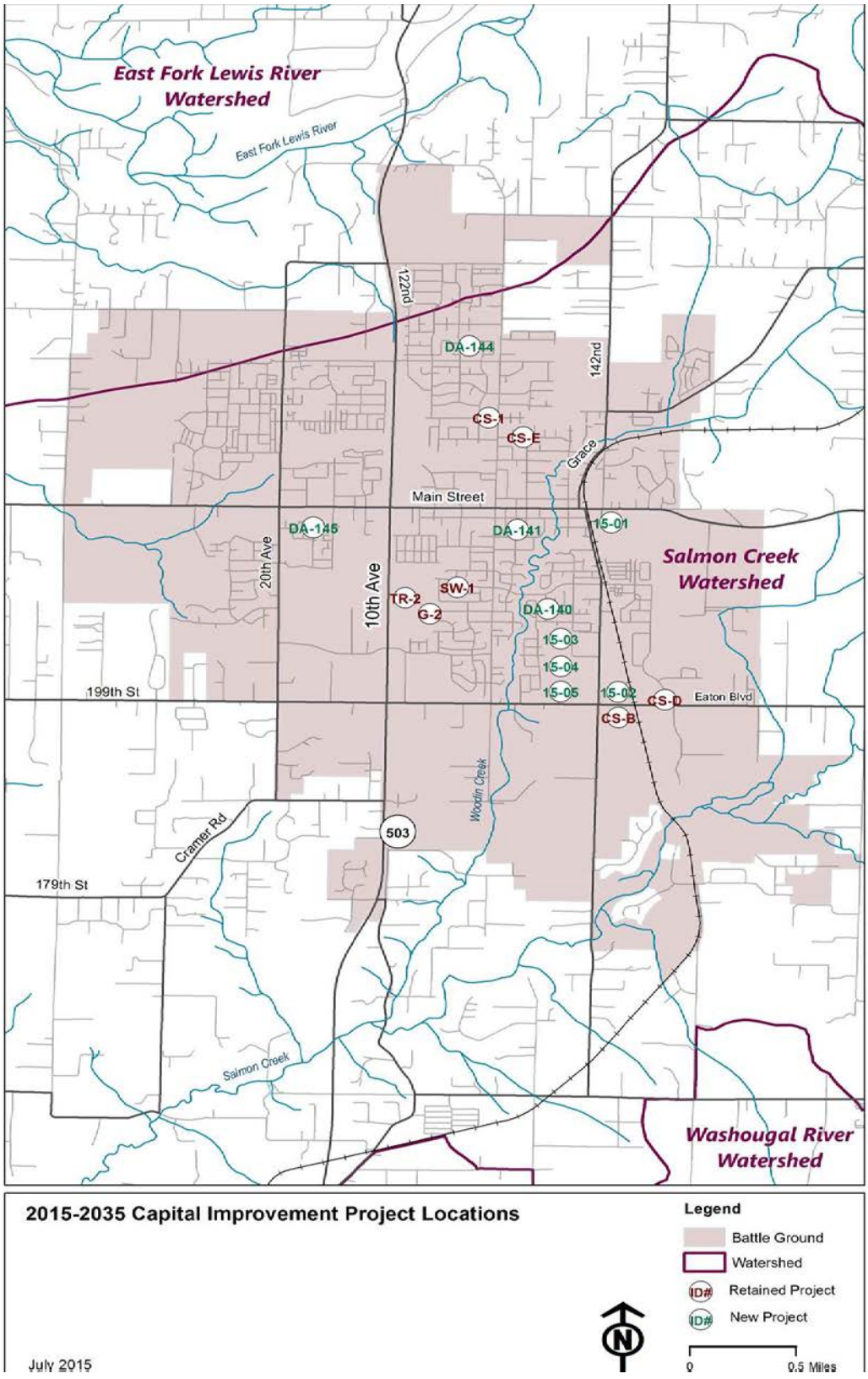
Future Needs

Drainage improvements, structural source controls and a water quality treatment plant are recommended to adequately handle projected stormwater flows through 2035. The Stormwater Management plan includes a capital improvement plan to identifying the timing and cost of prioritized projects over the planning period of 2015-2035. Table 10-4 shows the proposed 2015-2035 CIP, including the design and construction schedule. The plan does not identify specific funding sources; however, it is project that sufficient financial strategies can be developed to fund growth-related improvement through the planning period. Available capital funding sources include state and federal grant/loan programs, and a combination of system development charges and monthly user rates.

Table 10-4: Proposed Stormwater CIP Design and Construction Schedule

ID	Status	Project	Design	Construction	Total	Design Year	Construction Year	Notes
CS-B	Retained	Railroad Ditch Stormwater Facility	$106,000	$1,401,594	$1,507,594	2019	2020-2021	Partial design completed
CS-D	Retained	SE Eaton Blvd Ditch Elimination	$-	$348,008	$348,008		2018	Design is complete.
CS-E	Retained	View Meadows Storm	$282,889	$1,131,555	$1,414,444	2027-2028	2029	
G-2	Retained	West Terminus of SW 10th Street Storm	$308,229	$1,232,915	$1,541,143	2025-2026	2027	
TR-2	Retained	SR 503 Crossing Storm	$68,455	$273,818	$342,273	2024	2025	
CS-1	Retained	Jewel Creek Bypass Drainage	$-	$169,738	$169,738		2015	Design is complete.
SW-1	Reinstated	Parkway Estates Storm	$130,526	$522,105	$652,631	2022-2023	2024	Includes former SW-2 and CS-2; Removed in 2008 - reinstated
DA-140	New	Edgebrook Subdivision Storm	$169,007	$676,028	$845,034	2031-2032	2033	
DA-141	New	Nowak Addition Drainage	$206,884	$827,537	$1,034,421	2033-2034	2036	
DA-144	New	Pipe Project	$14,077	$56,308	$70,385	2018	2019	
DA-145	New	Battle Ground West Subdivision Drainage	$203,179	$812,715	$1,015,894	2029-2030	2031	
15-01	New	Chelatchie Rails with Trails (Storm)	$66,000	$633,823	$699,823	2015	2016	
15-02	New	Railroad Ditch Maintenance & Regrading	$15,997	$63,989	$79,986	2016	2017	
15-03	New	Decant Facility Upgrade	$7,379	$9,839	$17,218	2016	2017	
15-04	New	Ops Wash Bay	$25,975	$103,901	$129,877	2017	2018	
15-05	New	Wood Recycling Facility (Storm)	$95,585	$382,340	$477,925	2018	2019	
			$ 1,700,182	**$ 8,646,214**	**$ 10,346,396**			

Figure 10-3: Existing and Proposed Stormwater Facilities



Parks, Recreation and Open Space Services and Facilities

The Battle Ground Comprehensive Parks, Recreation, and Open Space Plan addresses existing and needed improvements to the City's park and recreation facilities as related to estimated growth patterns through 2035. The *Plan* identifies the various recreation sites, land and facilities, that are located in or near the Battle Ground area. The City of Battle Ground owns approximately 203 acres of parkland located on 36 parcels within the UGA. Approximately 66 acres of these lands consist of wetland areas and creek corridors. Several small open space parcels associated with subdivision developments are also included in City ownership. The park sites listed in Table 10-5 and in Figure 10-4 make up the remaining acres of the City's parkland, and these include several new parks that have been added to the inventory since 2003.

Table 10-5: Existing Parks and Parkland

Park Name	Acres
Central Park	.42
Fairgrounds Park	8.26
Kiwanis Park	8.49
Florence Robison Park	7.12
Hidden Glen	4.2
Cresap Park	2.3
Parkview Trails Property	3.86
MacMcConnel Park	2.0
Dublin Meadows	.20
Horsethief Park	.32
Savannah Park	.15
Brook Haven Park Trail	2.2
Cedar Trails	2.7
BG Village	.64
DNR Property	30
Wingate Park	.61
Total	73.47

Level of Service Standards

For the categories of pocket, neighborhood and community parks, and urban open space, definition-based and population-based standards are used to facilitate the planning process. Definition-based standards are applied first to determine desired service levels. Definition-based standards identify physical characteristics of the park type including size, service areas, location and other features. Next, existing recreation facilities are evaluated to determine which needs are already being met. Unmet needs are then identified and incorporated into the parks plan. Once this definition-based process has been completed, the same process is conducted using population-based standards. The City established a combined population-based service standard of five acres/1,000 population for the acquisition and development of neighborhood parks, community parks, and urban open space. This population-based standard is based on guidelines for the NRPA. Population based standards do not apply to some facility types.

Future Needs

Table 10-6 below depicts the City's past, existing, and projected populations compared to the neighborhood, community parks and urban open space acreages. This analysis indicates that the City's overall land base of parks exceeds the combined population-based service standard. An emphasis

should be placed on improvement of existing parks, particularly with active uses due to the growing number of families with children settling in Battle Ground. There is a need for acquisition and development of neighborhood parks in proximity to residential areas in some of the Neighborhood Service Areas. Both active and passive recreation improvements are needed in these areas. It will be necessary to acquire and improve neighborhood and pocket parks concurrently with new development to serve local recreation and open space needs. Planned neighborhood service areas, park service boundaries, and special study areas are shown in Figure 10-4 Close partnership between the City and development parties will help to ensure that these needs are met.

Table 10-6: Neighborhood and Community Park and Urban Open Space Analysis

Year	Population	Acres Needed at Standard*	Actual School Acres**	Actual Park Acres***	Total Acres
1996	5,015	25.00	30.00	19.26	**49.26**
2002	12,000	60.00	120.00	184.00*	**304.00**
2009	17,150	85.75	129.00	200.62*	**329.62**
2015	20,871	104.36	129.00	225.00*	**354.00**
2035 20-Year	38,443	192.00	--	--	--

** Standard is 5 acres per 1000 population.*
*** School Acres based on land available for community use.*
**** Actual park acres equals all parks and open space acres.*

Schools Services and Facilities

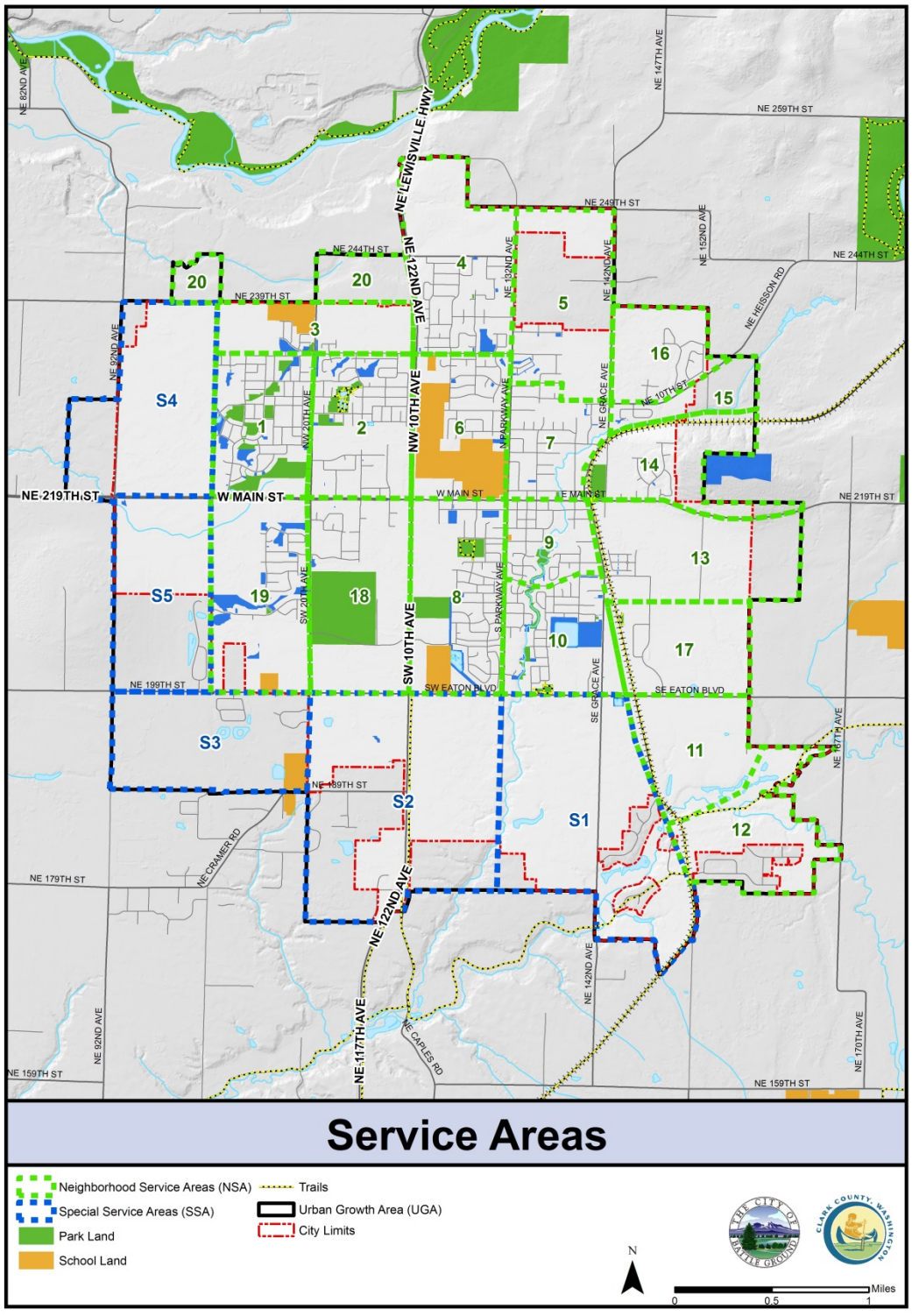
The Battle Ground School District is responsible for providing public school facilities and services within the Battle Ground area. Figure 10-7 shows the location of all schools within the UGA. Although the City is not directly responsible for providing these services, it does work with the School District to establish and assess appropriate school impact fees to be commensurate with planned growth. The District's instructional facilities are listed in Table 10-7.

Table 10-7: Battle Ground School District Current Instructional Facilities

School Type	Total Building Sq. ft.	Enrollment	Capacity	Number of Portable Classrooms
Elementary	403,432	4,427	3,935	78
Middle	450,190	3,938	3,593	50
High School	500,281	4,087	4,174	5
Totals	1,097,837	11,038	4,070	21

2015 Battle Ground School District Capital Facilities Plan
Enrollment as of October 2014

Figure 10-4: Parks Map



Level of Service Standards

The Battle Ground School District has established a standard of service, similar to a level of service standard which it calls "program capacity." The District's program capacity is based on: 1) the number of students per classroom; 2) the number of classrooms per school; 3) the number of classes that can be held in each classroom per day; and 4) other operational conditions.

Future Needs

The District prepared a six-year financing plan to address estimated future student enrollment and facility needs. Projections are detailed by District, facility improvement, and grade level totals. Special populations such as vocational students, special education students, and English as Second Language students are also included in the forecast. A summary of the District needs is included in Table 10-9.

Fire Services and Facilities

The City has recently entered into a contract for fire protection and suppression with Clark County Fire District No.3. The provision of a fire station facility is the responsibility of the City. Equipment used by the District can be used outside of the City. The current fire station, located at 505 SW 1st Street, serves the entire City with office and living quarters, and two pumper trucks.

Level of Service Standards

To determine the need for future facilities, the Fire Capital Facilities Plan established service levels based on maintaining a minimum Insurance Services Organization (ISO) rating of 4. The ISO rating system is based on a scale of 1 to 10, with 1 being the highest rating for fire safety services, and 10 the lowest.

Future Needs

The Fire plan includes a financial resources and improvement plan to address required new facilities over the six year period from 2014 to 2020. The plan estimates needed capital facilities based upon anticipated growth in both residential and non-residential land uses. The required new capital facilities include a larger fire station and living quarters, ladder truck, pumper truck, and small response vehicle for EMS response. Required funding and funding sources can be seen in Table 10-9.

Other Facilities and Services

The City owns several community and municipal facilities including the Senior Center, City Hall, the Police and Fire Complex, the Community Center, the Public Works Building, and the Flex Building as identified in Table 10-8.

Table 10-8: Existing Community and Municipal Facilities

Name	Location	Type of Property	Acres
Senior Center	116 NE 3rd Ave	Meeting building	0.28
City Hall	505 SW 1st Street	Municipal Office	2.0
Police/Fire Complex	SW 1st Street	Municipal	1.71
Public Works Dept.	1308 SE Grace Ave	Office Bldg. and Maintenance Yard	9.69

Flex Use Building	1308 SE Grace Ave	Meeting space	9.69*
BG Community Center	912 E Main St.	Meeting and Office Bldg.	2.67

*Flex building is located on the same parcel as public works department

Note: Additional City-owned properties including parks, open space, sewer, water, and stormwater facilities are identified separately in individual City facility plans.

Level of Service Standards

Specific level of service standards for community and municipal facilities are established by the individual demands for meeting rooms, office space, or equipment yards as determined by adopted City performance standards, staffing levels and population served. City staffing and facilities are evaluated annually as part of the budgeting process and are a function of available funding to meet desired services. Fire service facilities are addressed separately in a previous section.

Future Needs

The majority of the City's municipal offices and functions are housed in the City Hall building with space for future expansion. The City will continue to have ongoing community and municipal facilities improvement needs to meet expected population growth. The City will focus on maintenance and upkeep of its existing facilities and only has one project planned for the distance future, operations center phase II construction estimated at $4.3 million. The City's annual budget process identifies new or ongoing needs for additional community and municipal facilities consistent with, but separately from planned long-range capital facility improvements. Because the actual demand and funding for these services and facilities are addressed primarily on an annual basis, a separate needs estimate is not provided here.

Analysis and Projections

This section summarizes the City's revenue and funding programming and planning for its projected capital facility's needs.

Capital Facilities Revenue and Sources

The City prepares a Comprehensive Annual Financial Report to address actual revenue, funding needs and funding sources. The City's Six Year Capital Improvement Plan (CIP) provides specific detail on longer-range revenue and funding. These reports are available for review through City Hall and the Library. The City's Six Year CIP is adopted by reference as part of the Comprehensive Plan.

Summary of Capital Facility Costs

Table 10-9 identifies and summarizes prioritized capital facility improvement costs from the individual facility categories above.

Capital Facilities Revenue and Sources

A wide range of revenue sources is available to the City of Battle Ground for use in funding capital facilities. Targeted funding sources are identified in Table 10-9, and discussed in detail in the individual facility plans. This section provides a summary of the various funding sources available to the City for capital facilities.

Table 10-9: Six-Year Summary of Major Capital Facility Costs and Funding 2014-2020

Facility Type	6-Year Costs[1]	Primary Funding Sources	Percent of Funding
Water	$6,425,000	System Development Charges State and Federal Grant/loan Programs Rate Revenue Bonds Rate Fees	90 - - 10
			Funding Gap: 0
Sewer [2]	$2,290,000	System Development Charges Regional Facility Charges Local Improvement District Rate Revenue Bonds State Loans Developer Financing State and Federal Programs	90 - (Meadow Glade) - - 10 -
			Funding Gap: 0
Storm Drainage[3]	$10,346,396	System Development Charges Local Improvement District Rate Revenue Bonds State Loans Developer Financing, Rate Fees	20 - - - 30 50
			Funding Gap: 0
Parks, Recreation, and Open Space	$11,931,913	Impact Fees Real Estate Excise Tax Development Dedications General Obligation Bonds State and Federal Grants User Fees	20 20 5 50 5 -
			Funding Gap: 0
Schools [4]	$97,547,500	Impact Fees General Obligation Bonds State Matching Grants	10 65 25
			Funding Gap: 0
Transportation	$26,667,800	Impact Fees State and Federal Sources General Fund Developer Contributions	21 25 4 50
			Funding Gap: 0
Fire	$1,766,000	Impact Fees Revenue Bonds General Obligation Bonds	100 - -
			Funding Gap: 0
Total	**$80,686,613**		

Note:
1. All funding approximate for planning purposes, final funding levels will be determined by the City Council
2. Sewer costs include $18 million for the City's estimated share of improvements to the Salmon Creek Treatment Plant
3. Battle Ground Stormwater Capital Facilities Plan estimates through 2035 (no six-year breakdown)
4. Battle Ground School District Capital Facilities Plan estimates capital facilities costs through 2021

Sources: City of Battle Ground Water System Master Plan, August 2015; General Sewer Master Plan, November 2015; City of Battle Ground Comprehensive Parks, Recreation and Open Space Plan, November 2015; City of Battle Ground Stormwater Management Plan, August 2015; City of Battle Ground Fire Service Plan, Draft 2014; Battle Ground School District Capital Facilities Plan, 2015-2021.

Table 10-10: Twenty-Year Summary of Major Capital Facility Costs 2015-2035[1]

Facility Type	*20-Year Cost*
Water	$19,805,000
Sewer[2]	$19,170,000
Storm Drainage	$10,346,396
Parks, Recreation and Open Spaces	$21,064,355
Schools[3]	$97,547,500
Transportation	$53,713,815
Fire[4]	$1,766,000
Community and Municipal Facilities	$4,524,125

Notes: 1. All funding approximate for planning purposes, final funding levels will be determined by the City Council
2. Sewer costs include $18 million for the City's estimated share of improvements to the Salmon Creek Treatment Plant
3. Battle Ground School District Capital Facilities Plan estimates capital facilities costs through 2021 only
4. Battle Ground Fire Service Plan estimates capital facilities cost through 2020 only

Sources: City of Battle Ground Water System Master Plan, August 2015; General Sewer Master Plan, November 2015; City of Battle Ground Comprehensive Parks, Recreation and Open Space Plan, November 2015; City of Battle Ground Stormwater Management Plan, August 2015; City of Battle Ground Fire Service Plan, Draft 2014; Battle Ground School District Capital Facilities Plan, 2015-2021.

There are three types of revenue sources for capital facilities as described below: multi-use, single use, and, less commonly, general funds.

1. **Multi-use** - taxes, fees, loans, and grants which may be used for virtually any type of capital facility (but which may become restricted if and when adopted for a specific type of capital facility.)
2. **Single use** - taxes, fees, loans, and grants which may be used only for a particular type of capital facility.
3. **General fund** - these monies are typically used for operations, rather than capital improvements.

Multi-Use Revenue Sources

Property Tax

Property tax levies are most often used by local governments for operating and maintenance costs. They are not commonly used for capital improvements.

The 2016 property tax rate in Battle Ground is currently $1.75 per $1,000 of assessed value (AV). The maximum rate allowed by state law is $5.90 per $1,000 AV. The City has the option to set its rate at any level up to the maximum but has consistently strived to reduce this tax rate.

The 2016 budget reflects a City levy increase of one percent. With the passing of Initiative 747, the maximum amount by which a taxing District's levy can increase, without a vote of the people, is the lesser of one percent or the rate of inflation as measured by the increase in the personal consumption

expenditures (PCE).

General Obligation Bonds & Lease-Purchase (Property Tax Excess Levy)

There are two types of General Obligation (GO) bonds: voter-approved and Council manic.

Voter-approved bonds increase the property tax rate, with increased revenues dedicated to paying principal and interest on the bonds. Local governments are authorized in "excess levies" to repay voter-approved bonds. Excess levies are increased in the regular property tax levy above statutory limits. Approval requires a 60 percent majority vote in favor and a turn-out of at least 40 percent of the voters from the preceding general election.

Council manic bonds are authorized by a jurisdiction's legislative body without the need for voter approval. Principal and interest payments for Council manic bonds come from general government revenues, without a corresponding increase in property taxes. Therefore, this method of bond approval does not utilize a dedicated funding source for repaying the bond holders. Lease-purchase arrangements are also authorized by vote of the legislative body and do not require voter approval.

The amount of the local government debt allowable for GO bonds is restricted by law to 7.5 percent of the taxable value of the property within the City limits. This may be divided as follows:

- General Purpose Bonds 2.5 percent
- Utility Bonds 2.5 percent
- Open Space and Park Facilities 2.5 percent

Of the 2.5 percent for General Purpose Bonds, the City may issue up to 1.5 percent in the form of Council manic bonds.

If bonds were used to fund capital facilities, the impact on the individual taxpayer would vary widely depending upon the amount and term of the bonds.

Real Estate Excise Tax

Revised Code of Washington (RCW) 82.46 authorizes local governments to collect a real estate excise tax levy of 0.25 percent of the purchase price of real estate within the city limits. The GMA authorizes collection of another 0.25 percent. Both the first and second 0.25 percent is required to be used for financing capital facilities specified in local governments' capital facilities plans. In fiscal year 2004, the City budgeted $769,260 in real estate excise tax expenditures.

Business and Occupation Tax

RCW 35.102 authorizes cities to collect this tax on the gross or net income of businesses, not to exceed a rate of 0.2 percent. Revenue may be used for capital facilities acquisition, construction, maintenance, and operations. Voter approval is required to initiate the tax or increase the tax rate. The City has not utilized this revenue source.

Local Option Sales Tax (Retail)

Local governments may collect a tax on retail sales of up to 1.0 percent. Voter approval is required for all local option sales tax increases.

Business License Fees

The City currently requires all businesses operating within the city limits to have a business license. The cost is $41 per year with an initial $24 filing fee. Business having less than $2,000 gross revenue per year and 501(C)(3) corporations can obtain a business license at no cost.

State Retail Sales Tax

In 2004, Battle Ground budgeted $1,529,112 in retail sales and use taxes to be expended on maintenance, operating, and capital costs.

Utility Tax

State law authorizes cities to collect a tax on gross receipts of electrical, gas, garbage, telephone, cable television, water, sanitary sewer, and stormwater management providers. Service users pay the tax as part of their utility bill.

State law limits the utility tax to 6 percent of the total receipts for, electricity, gas, steam (not applicable to Battle Ground), and telephone services, unless a majority of the voters approved a higher rate. There are no restrictions on the tax rates for cable television, or for City-owned sewer, water, solid waste, and stormwater services. Revenue can be used for capital facilities acquisition, construction, and maintenance.

Community Development Block Grants

Approximately $8.5 million in community development block grant (CDBG) funding is available annually statewide through the federal Department of Housing and Urban Development for public facilities, economic development, and housing projects which benefit low- and moderate- income households. Funds may not be used for maintenance and operations

Public Works Trust Fund Grants and Loans (PWTF)

The Washington Department of Community, Trade, and Economic Development provides low- interest loans for capital facilities planning, emergency planning, and construction of bridges, roads, domestic water, sanitary sewer, and storm sewer. Applicants must have a capital facilities plan in place and must be levying the original 0.25 percent real estate sales tax (see real estate excise tax, above). Construction and emergency planning projects must be for reconstruction of existing capital facilities only. Capital improvement planning projects are limited to planning for streets and utilities.

Loans for construction projects require a local match generated only from local revenues or state-shared entitlement (gas tax) revenues. The required local match is 10 percent of a 3 percent loan, 20 percent for a 2 percent loan, and 30 percent for a 1 percent loan.

Emergency planning loans are available at a 5 percent interest rate. If state or federal disaster funds are received, they must be applied to the loan for the life of the project (20 years). Future PWTF funding cannot be reliably forecast.

Storm Drain Utility Fee

The state authorizes cities and counties to charge a fee to support storm drain capital improvements. The fee is usually a flat rate per residential equivalency. Residential equivalencies are based on average

amount of impervious surface. Commercial property is commonly assessed a rate based on a fixed number of residential equivalencies.

Single-Use Revenue Sources

Cultural Arts, Stadium/Conventional Facilities.

Special-Purpose Districts

RCW 67.38.130 authorizes cultural arts, stadium/ convention special purpose districts with independent taxing authority to finance capital facilities. A district requires a majority voter approval for formation, and has a funding limit of $0.25 per $1,000 of assessed valuation (AV).

Fire Protection and Emergency Medical Services

EMS Levy

The state authorizes a $0.50 per $1,000 AV property tax levy which may be enacted by fire and hospital districts, cities and towns, and counties.

Fire Impact Fees

RCW 82.02.050-090 authorizes a charge (impact fee) to be paid by new development for its "fair share" of the cost of fire protection and emergency medical facilities required to serve the development. Impact fees must be used for capital facilities necessitated by growth, and not to correct existing deficiencies in levels of service. Impact fees cannot be used for operating expenses. A fire impact fee for the City of Battle Ground can be generated by multiplying the current level of service by the cost of related capital facilities to determine the cost per capita, then multiplying by the number of persons per dwelling unit to determine the cost per dwelling unit. In fiscal year 2002, the City collected $50,846 in fire impact fees.

Centennial Clean Water Fund (CCWF)

The Department of Ecology (DOE) issues grants and loans for the design, acquisition, construction, and improvement of water pollution control facilities and related activities to meet state and federal requirements to protect water quality.

Chapter 11 – Private Utilities

Introduction

The Private Utilities element is intended to ensure that the Plan is coordinated with the expansion plans of private utility providers.

Policy and Regulatory Context

Growth Management Act

The GMA requires that Battle Ground's Plan include a Private Utilities Element to ensure that provision of private utilities services is coordinated with City plans. The GMA requires that the Private Utilities Element describes the general and proposed locations, and capacities of all existing and proposed utilities. This includes, but not limited to electrical lines, telecommunications lines, and natural gas lines. GMA also requires that Battle Ground coordinate with non-municipal service providers and share information regarding existing and projected facilities and services. One statewide planning goal established by the GMA relevant to the Private Utilities Element follows:

- Public facilities and services - Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

Countywide Planning Policies

The Clark County Comprehensive Growth Management Plan establishes one goal related to the Private Utilities Element:

- Facilitate the provision of electricity, natural gas and other services to the residents of Clark County.

Private Utilities Goals and Objectives

Private Utilities Goal 1:

The adequate, appropriate and timely provision of private utilities.

Objectives

PUO1.1 The City will work with electric utilities to ensure the adequate, appropriate and timely provision of electricity.

PUO1.2 The City will work with gas utilities to ensure the adequate, appropriate and timely provision of gas.

PUO1.3 The City will work with telecommunications utilities to ensure the adequate, appropriate and timely provision of telecommunications.

PUO1.4 The City will work with garbage and recycling haulers to ensure the adequate, appropriate and timely provision of waste and recycling removal services.

PU01.5 The City will work with cellular telecommunications providers to promote improved visual and aesthetic qualities of cellular towers through co-location and design that blends with the surrounding context.

Private Utilities Goal 2:
Good stewardship of rights-of-way.

Objectives
PUO2.1 The City will issue franchises for use of the public right-of-way when appropriate.

PUO2.2 The City will encourage private utilities to bury underground any infrastructure located in public right-of-ways to promote improvement of visual and aesthetic qualities and reliability

Existing Conditions
Several private and quasi-public utility companies provide service to Battle Ground residents and businesses. Public right-of-way is used extensively in siting utility infrastructure. The City of Battle Ground currently makes every effort to inform utility providers when changes to right-of-way are made or before new development is finalized, in order to ensure that utility providers are able to install infrastructure cost effectively and with little disruption to residents. The City of Battle Ground currently has the right to exact franchise fees from utility providers for the use of public rights-of-way in the city.

It must be noted that the utility providers discussed in this element are subject to change, and other companies or entities may provide utility service to Battle Ground in the future.

Electricity
Clark Public Utilities (CPU) is a customer-owned public utility district providing electric service to Battle Ground and the rest of Clark County. About half of the power that the utility sells to its customers is generated at the River Road Generating Plant, a natural gas power plant. CPU also purchases power, from the Bonneville Power Administration.

Clark Public Utilities operates four electric substations: the Heisson, Heye Meyer, Battle Ground, and Axford substations. These substations have excess existing capacity to serve most areas of the Battle Ground UGA. Transmission facilities are located throughout the city, including in public rights-of-way.

Telecommunications
Telecommunications infrastructure is provided to Battle Ground residents by Qwest Communications. Recent changes in federal telecommunication regulations require telecommunications infrastructure providers to allow third-party companies to access their facilities, and provide service to customers. These regulations have resulted in increasing competition between providers, and innovation in the industry. Battle Ground residents can now receive a broad array of telecommunications services including telephone, and Internet services through a Digital Subscriber Line (DSL), T1, or an Integrated Services Digital Network (ISDN) line. Digital cellular telephone network service is also available in Battle Ground.

Qwest Communications operates copper and fiber optic cables to provide service to Battle Ground consumers. Several electronic cabinets are used to switch digital and analog telephone traffic, which are

located in the rural areas surrounding Battle Ground. Qwest Communications currently plans to install new switching cabinets to provide additional service to rural areas near Battle Ground. Transmission facilities are located throughout the city, including in public rights-of-way.

Cable Television

The Comcast Corporation provides cable television and other telecommunications services in Battle Ground. Comcast currently offers analog cable television, digital cable television, digital telephone service, Internet service, and movies-on-demand in Battle Ground. Comcast operates coaxial and fiber optic cable infrastructure throughout the city.

Garbage and Recycling

Solid waste management within Battle Ground is handled by Waste Connections, a private contractor. Battle Ground deferred contracting authority for garbage and recycling services to the Washington Utilities and Transportation Commission (WUTC), which, in turn, contracted with Waste Connections. Waste Connections hauls solid waste to the Central Transfer and Recycling Center of the West Van Materials Recovery Center (West Van) in Clark County for further processing and recovery of recyclable materials. Non-recyclable waste is transported to the Finely Buttes Landfill in Morrow County, Oregon for final disposal. The Columbia Resource Center (CRC) operates the transfer facilities, landfill, and transportation of solid waste.

Natural Gas

NW Natural is the sole provider of natural gas services within Battle Ground, and the rest of Clark County. NW Natural's customer base has grown rapidly over the past 10 years, reflecting the increases in Battle Ground's residential population, and an apparently strong preference by builders for providing natural gas space and hot water heating in new homes. NW Natural operates the Battle Ground Gate Station, which is located at NW 199th Avenue and SR 503. The Battle Ground Gate Station feeds gas into Battle Ground from the Williams Pipeline. NW Natural also operates a line connected to the North Vancouver Gate Station, which is tied into the Battle Ground system.

Transmission facilities are located throughout the city, including in public right-of-ways. Williams Pipeline transports gas to NW Natural's Battle Ground system. Williams Pipeline operates a facility that traverses the western area of Battle Ground diagonally from northwest to southeast.

Analysis and Projections

This section provides an analysis of current utility providers' ability to accommodate future development within Battle Ground.

Electricity

CPU recently analyzed its ability to supply anticipated residential, industrial, and commercial development with the existing infrastructure. The utility found that there was room to grow in most areas, with the exception of industrial and residential areas in the southwest corner of the city. CPU can add additional capacity in Battle Ground, and will levy System Development Charges (SDCs) to help fund the expansion of the electric system. For any new substation or feeder development, CPU will require secure funding commitments from future customers and/or developers.

CPU routinely monitors Battle Ground development plans to assess infrastructure expansion needs. CPU is required by state law to provide electricity to all who request it. Additional distribution lines and ancillary infrastructure will be constructed on an as-needed basis in accordance with local, state, and federal regulations and codes.

Telecommunications

Qwest Communications will continually update its two-year and five-year telecommunications infrastructure plans for Battle Ground. Qwest Communications will develop additional fiber optic and copper cable infrastructure on an as-needed basis. Furthermore, Qwest Communications will increase the availability of DSL services to meet growing demands for high-speed Internet services. It is anticipated that additional cellular towers will be installed in the future as demand for service increases and as new technologies are developed.

Providing for tower co-location and improved aesthetic design will become increasingly important to maintain Battle Ground's visual and aesthetic qualities.

Cable Television

The Comcast Corporation will provide additional coaxial and fiber optic cable infrastructure on an as-needed basis.

Garbage and Recycling

Waste Connections will provide additional solid waste collection routes on an as-needed basis.

Natural Gas

NW Natural anticipates strong growth in residential service additions as the population increases in Battle Ground, and is planning for future infrastructure construction and maintenance to serve that expected need. NW Natural routinely monitors Battle Ground development plans to assess infrastructure expansion needs. Additional distribution lines and ancillary infrastructure will be constructed on an as-needed basis in accordance with local, state, and federal regulations and codes covering land use and safety issues.

Findings:

Private utility operators will continue to expand their infrastructure systems to service new development on an as-needed basis. Battle Ground will routinely provide up-to-date information on development plans, including plans for public infrastructure expansion. Good communication between the City and private utility operators will ensure that new development receives adequate services in a cost-effective manner. The City of Battle Ground will exact franchise fees from private and quasi-public utility providers for the use of public right-of-way, as appropriate. The City of Battle Ground should work with owners of cellular towers to encourage co-location and improved aesthetic design of infrastructure.

References

The following documents are referenced by this plan:

Battle Ground School district Capital Facilities Plan 2015

City of Battle Ground Critical Areas Ordinance 2004

Clark County Comprehensive Plan 2015

City of Battle Ground Comprehensive Parks, Recreation and Open Space Plan 2016

City of Battle Ground Water System Master Plan 2014

City of Battle Ground General Sewer Master Plan 2015

City of Battle Ground Stormwater Management Plan 2015

City of Battle Ground Fire Capital Facilities Plan 2014

City of Battle Ground Transportation System Plan 2015

Washington State, Revised Code of Washington

Washington State, Washington Administrative Code

Key Terms

1995 Plan	Battle Ground Comprehensive Plan (1995)
Acre	A measure of land area containing 43,560 square feet
Acre, net	An acre of land calculated excluding all unusable spaces (e.g., roads, infrastructure, environmentally sensitive areas)
ADA	American Disabilities Act of 1990
ADD	Average Daily Demand
Affordable housing	Housing is considered affordable for a household if it costs no more than 30 percent of the gross monthly income for rent or mortgage payments, or up to three times annual income for purchasing a home. This is the standard used by the federal and state governments, and the majority of lending institutions.
Arterial	A major street carrying the traffic of local and collector streets to and from freeways and other major streets. Arterials generally have traffic signals at intersections, and may have limits on driveway spacing and street intersection spacing
AV	Assessed Value
Average Daily Traffic	The weighted 24-hour total of all vehicle trips to and from a site Monday through Friday.
Best Available Science	Information that is based on existing professional peer-reviewed scientific research and applicable to local conditions. See WAS 365-195-90off
Capital Facilities Program	A local government program that schedules permanent capital improvements for six years into the future to fit the projected fiscal capability of the jurisdiction. The program is generally reviewed annually, for conformance to and consistency with the adopted Comprehensive Plan
Capital Facilities	Permanent physical infrastructure, such as roads, sewer and water lines, police and fire stations, schools, parks, and government buildings

Capital Improvement Plan A local government program that schedules permanent capital facilities, usually for six years in the future to fit the projected fiscal capability of the jurisdiction. The program is generally reviewed annually for conformance to, and consistency with, the adopted Comprehensive Plan

CARA	Critical Aquifer Recharge Areas

CCWF	Centennial Clean Water Fund
CDBG	Community Development Block Grant
CERB	Community Economic Revitalization Board
CFP	Capital Facilities Program
CIP	Capital Improvement Plan
CPI	Consumer Price Index
Collector	A street for traffic moving between major or arterial streets and local streets. Collectors generally provide direct access to properties, although they may have limitations on driveway spacing
Concurrency	Requirement that proposed land uses be tested to ensure that public facilities and services necessary to maintain locally adopted minimum service levels are provided before or at the time of development
CPU	Clark Public Utilities
CRC	Columbia Resource Center
Critical areas	Defined by the Growth Management Act (RCW 36.70A.030[5]) to include wetlands, sensitive fish and wildlife habitat areas, critical recharge areas for groundwater aquifers, and geologically hazardous areas (such as landslide areas, earthquake fault zones, and steep slopes), and floodplains
CVC	Community Visioning Committee
CWA	Clean Water Act
Density	For residential development, density means the number of housing units per acre. For population, density means the number of people per acre or square mile
DOE	Department of Ecology
DSL	Digital Subscriber Line
Ecology	Washington Department of Ecology
EDA	Economic Development Administration
EDO	Economic Development Objectives

EO	Environmental Objective
ERU	Equivalent Residential Units
ESA	Endangered Species Act of 1973
FAR	Floor Area Ratio
Flood hazard area	Lowland or relatively flat area adjoining inland or coastal waters that is subject to a one percent chance of flooding in any given year. Also known as the 100-year floodplain
Floodplain	See "flood hazard area."
Floodway	The channel of a river or other watercourse, and the adjacent land areas, that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot
FUGA	Future Urban Growth Area
GIS	Geographic Information System
GMA	State of Washington Growth Management Act of 1990
GMO	Growth Management Objective
GO	Government Obligation
Groundwater	Water that exists beneath a land surface or beneath the bed of any stream, lake, reservoir or other body of surface water. It is water in a geological formation or structure that stands, flows, percolates or otherwise moves
HAC	High Accident Corridors
HAI	Housing Affordability Index
HAL	High Accident Locations
Household	All persons living in a dwelling unit, whether or not they are related. Both a single person living in an apartment and a family in a house are considered a "household."
Household Income	The total of all the incomes of all the people living in a household
Human scale	Development that encourages human use, interaction, and pedestrian activity through size, spacing, orientation or other features

Impact Fee	Fee levied on the developer of a project by a city, county or special district as compensation for the expected effects of that development. The Growth Management Act authorizes imposition of traffic, school, and park impact fees on new development, and sets the conditions under which they may be imposed
Implementation measure	Action, procedure program, regulation, or technique that carries out comprehensive plan policy
Infrastructure	Physical systems and services that support development and people including, but not limited to, streets and highways, transit services, water and sewer systems, storm drainage systems, and airports
IRA	Industrial Reserve Areas
ISDN	Integrated Services Digital Network
ISO	Insurance Services Organization
Level of Service (LOS)	Method of measuring and defining the type and quality of a particular public service, such as transportation, fire protection, library service, schools/ education, etc. Transportation levels of service are designated "A" through "F," from best to worst. LOS A describes free flowing conditions; LOS E describes conditions approaching and at capacity; LOS F describes system failure or gridlock
LO	Livability Objectives
LOS	Level of service
Low-income household	Households earning between 51 percent and 80 percent of the countywide median income
LUO	Land Use Objectives
Median income	Midpoint of all the reported household incomes; half the household have higher incomes, and half have lower incomes than the mid-point
MDD	Maximum day demand
MG	Million gallons
MGD	Millions of gallons per day
MPO	Metropolitan Planning Organization

MTP	Metropolitan Transportation Plan
MXE	Mixed Use Employment
MXR	Mixed Use Residential
NOAA	National Oceanic and Atmospheric Administration
Non-MotorizedTravel	Pedestrian or bicycle modes of transportation
NPDES	National Pollutant Discharge Elimination System
NRPA	National Park and Recreation Association
NSA	Neighborhood Service Areas
OCD	Office of Community Development
Open space	Any parcel or area of land or water that is essentially unimproved, and provides passive recreational opportunities compatible with resource protection
Parks Plan	Comprehensive Parks, Recreation and Open Space Plan
PCE	Personal Consumption Expenditures
Plan	Battle Ground Comprehensive and Transportation Plan
Poverty level	An income-based threshold set by the Census Bureau to define who is poor
PUO	Public Utilities Objectives
PWTF	Public Works Trust Fund Grants and Loans
RCW	Revised Code of Washington
RTC	Regional Transportation Council
RTPO	Regional Transportation Planning Organization
SDC	System Development Charges
SEPA	State Environmental Policy Act (RCW 41.23C), as amended
Stormwater	Any flow occurring during or following any form of natural precipitation, and resulting from such precipitation, including snowmelt
STP	Surface Transportation Program

TAZ	Transportation Analysis Zone
TBD	to be determined
The Corps	U.S. Army Corps of Engineers
T, E & S	Threatened, Endangered and Sensitive Species
TIB	Transportation Improvement Board
TIF	Transportation Impact Fee
TIP	Transportation Improvement Program
TSP	Transportation System Plan
Urban Growth Areas (UGA)	Areas designated by a county pursuant to RCW 36.70A.110 where urban growth will be encouraged
UGB	Urban Growth Boundary
URA	Urban Reserve Areas
USFWS	U.S. Fish and Wildlife
Vehicle miles traveled	Average number of miles traveled by a vehicle in a given area. This is both a measure of trip length, and of dependency on private vehicles
Very low income	Households earning less than 50 percent of the countywide median income
WAC	Washington Administrative Code
West Van	West Van Materials Recovery Center
WSDOT	Washington State Department of Transportation
WUTC	Washington Utilities and Transportation Commission
YMUA	Yacolt Multiple Use Area