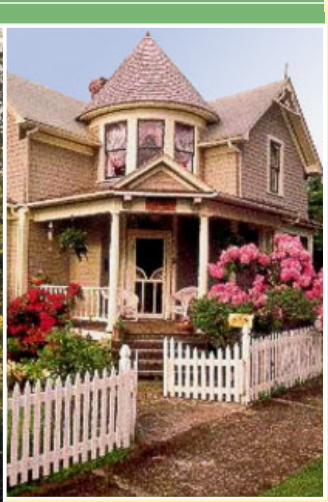
Final Environmental Impact Statement

for the

Comprehensive Growth Management Plans

of

Clark County,
Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal, and Yacolt



Volume 1: EIS Summary and Analysis of Proposed Alternative

September 10, 2003

FACT SHEET

Title	Clark County Comprehensive Growth Management Plan City of Battle Ground Comprehensive Growth Management Plan City of Camas Comprehensive Plan City of La Center Comprehensive Growth Management Plan City of Ridgefield Comprehensive Plan Vancouver Comprehensive Plan, 2003-2023 City of Washougal Comprehensive Plan for Growth Management Act Compliance Town of Yacolt Comprehensive Growth Management Plan
Purpose:	Adopt revised comprehensive plans which meet the requirements of RCW 36.70A regarding growth management.
Proponents:	Clark County Department of Community Development City of Camas City of La Center City of Ridgefield City of Vancouver Washougal Public Works Department Town of Yacolt
Lead Agency:	Clark County, Washington
Responsible Official:	Patrick T. Lee, Long Range Planning Manager Clark County Department of Community Development P.O. Box 9810 1300 Franklin Street, Floor 3 Vancouver, Washington 98668-9810
Licenses Required:	Adoption by each city council and the Board of County Commissioners
Author/Principal Contributors:	Gillian Zacharias, Richard Friday, Alex Dupey, of David Evans and Associates, Inc. 2100 SW River Parkway Portland, Oregon 97201 Chuck Green and Tyler Deke of Parsons Brinckerhoff Quade & Douglas 400 SW Sixth Avenue, Suite 802 Portland, Oregon 97204 Derek T. Chisholm, Patrick Lee, Jose Alvarez, Bob Higbie, Oliver Orjiako, Evan Dust, Elise Scolnick, Sandra Towne, Gordon Euler, Lianne Forney, Mike Mabrey, Ken Pearrow, Barbara Hatman, of Clark County; Laura Hudson, Bryan Snodgrass, Phil Wuest, and Greg Newkirk of the City of Vancouver; Marty Snell of the City of Camas; Monty Anderson of the City of Washougal; Dennis Osborn of the City of Battle Ground; Eric Eisemann of E2 Land Use Planning Services, LLC, representing the cities of La Center and Ridgefield; and Rod Orlando of Technical Writing and Planning Services representing the Town of Yacolt. Lynda David, Dean Lookingbill, Mark Harrington, and Shinwon Kim of the Southwest Washington Regional Transportation Council. Marnie Allen of Preston Gates Ellis LLP representing the Schools Consortium.
Final EIS Date of Issue:	September 10, 2003

Hearings:

The first hearing on adoption of the Proposed Alternative and the FEIS will be before the Clark County Planning Commission on September 25, 2003. The County Board of Commissioners will consider the Planning Commission's recommendation and public comment on the Proposed Alternative at a hearing on November 25, 2003. All hearings will occur in the Hearing Room on the sixth floor of the new County Public Services Center at 1300 Franklin Street, Vancouver, Washington.

Hearings will be held to consider the cities' comprehensive plans before the City of Battle Ground Planning Commission and City Council, City of Camas Planning Commission and City Council, City of La Center Planning Commission and City Council, City of Ridgefield Planning Commission and City Council, City of Vancouver Planning Commission and City Council, City of Washougal Planning Commission and City Council; and Town of Yacolt Planning Commission and Town Council at times and places to be announced later.

Anticipated Date of Final Action:

December 2003

Nature of Final Action:

Adoption of comprehensive plans and related programs

Type and Timing of any Subsequent Environmental Review:

December 2003

Documents Incorporated by Reference:

1) Resource Document (1993), Clark County Community Development Department
2) Buildable Lands Report (2001), Clark County Department of Community Development
3) Metropolitan Transportation Plan (2002), Southwest Washington Regional Transportation Council
4) Focused Public Investment Plan, Infrastructure Cost Report (April 28, 2003), Clark County Community Development Department, Parsons Brinckerhoff Quade & Douglas, Henderson, Young and Company, and David Evans and Associates, Inc.
5) Green Mountain Project EIS (May 1994), Coastal Management Group.

These documents are available for review at the Clark County Community Development Department, 1300 Franklin Street, Vancouver, Washington.

Cost per Copy:

Cost of reproduction

Final Environmental Impact Statement

for the

Growth Management Plans of

Clark County,
Battle Ground, Camas, La Center, Ridgefield,
Vancouver, Washougal, and Yacolt

Volume 1: Summary and Analysis of the Proposed Alternative

Volume 2: Responses to Comments

Volume 3: Amended Draft Environmental Impact Statement

(Each volume is separately bound.)

VOLUME 1: SUMMARY AND ANALYSIS OF PROPOSED ALTERNATIVE

CONTENTS

SUMMARY **1**

I. PURPOSE OF AND NEED FOR THE PROJECT 1

II. PURPOSE OF NON-PROJECT EIS 1

III. DEIS AND FEIS 1

IV. SUMMARY OF ALTERNATIVES 2

A. Development of DEIS Alternatives and Proposed Alternative 2

B. Proposed Alternative 5

C. No Action Alternatives 1 and 3 5

D. Action Alternatives 2, 4, and 5 5

V. SUMMARY OF IMPACTS AND MITIGATION 6

VI. UNAVOIDABLE ADVERSE IMPACTS AND IRRETRIEVABLE COMMITMENT OF RESOURCES 15

A. Soils 15

B. Geology & Topography 15

C. Climate 15

D. Air Quality 16

E. Surface Waters 16

F. Groundwater 17

G. Fish, Wildlife, and Migratory Species Habitat 17

H. Threatened & Endangered (T&E) Species 17

I. Wetlands 17

J. Energy 18

K. Scenic Resources 18

L. Noise 18

M. Land Use, Rural and Resource Lands 18

N. Economy 19

O. Historic and Cultural Resources 19

P. Transportation 19

Q. Fire and Police Protection Services 19

R. Schools 19

S. Parks and Recreation 19

T. Libraries 19

U. General Government Facilities 20

V. Solid Waste 20

W. Sanitary Sewer 20

X. Public Water System 20

Y. Electricity 20
VII. SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY 20
VIII. AREAS OF CONTROVERSY 20
A. How Much Growth Should Be Planned For? 21
B. How Should We Accommodate Growth? 22

PROJECT DESCRIPTION 24
I. BACKGROUND 24
A. Environmental Review 24
B. Proponents 24
C. Location 25
II. SCHEDULE 25
III. DESCRIPTION OF PUBLIC INVOLVEMENT 25
IV. PLANNING AND ANALYSIS FRAMEWORK 26
V. ALTERNATIVES 27
A. Alternatives Development: Population and Employment Forecasts 27
B. Description of the Proposed Alternative 28
C. Cities' Visions for Implementation 29

EXISTING CONDITIONS, SIGNIFICANT IMPACTS, AND MITIGATION MEASURES ... 31
I. METHODOLOGY OF DETERMINING IMPACTS 32
II. EARTH 33
A. Soils 33
B. Geology and Topography 35
III. AIR 36
A. Climate 36
B. Air Quality 38
IV. WATER 38
A. Surface Waters 38
B. Groundwater and Aquifer Recharge Areas 43
V. FISH AND WILDLIFE HABITAT 46
A. Habitat 46
B. Threatened and Endangered Species 48
C. Migratory Species/Migration Routes 50
D. Wetlands 52
VI. ENERGY AND NATURAL RESOURCES 53
A. Renewable and Non-Renewable Energy Sources 53
B. Scenic Resources 53
VII. ENVIRONMENTAL HEALTH 55
A. Noise 55

VIII. LAND USE 56
A. Population, Housing, and Land Use 56
B. Rural Lands 73
C. Economy 74
D. Resource Lands 79
E. Historic and Cultural Resources 81
IX. TRANSPORTATION 82
A. Roadway Network 83
B. Transit 83
C. Non-Motorized Modes 87
D. Airports 87
E. Rail Facilities 87
F. Ports 87
X. PUBLIC FACILITIES AND UTILITIES 103
A. Fire Protection 103
B. Police Protection 105
C. Public Schools 106
D. Parks and Recreation 110
E. Libraries 111
F. General Government Facilities 112
G. Solid Waste 112
H. Sanitary Sewer 113
I. Public Water Systems 116
J. Electrical system 119
XI. CONFORMANCE WITH THE GROWTH MANAGEMENT ACT 119
A. Setting 119
B. Conformance with the GMA Requirements and Countywide Planning Policies 120
C. Concurrency 145
D. Fiscal Impacts 146
E. Annexation and Incorporation 150

REFERENCES 151

GLOSSARY 151

FIGURES 157

TABLES

Table 1. Summary of Alternatives 4
Table 2. Summary of Impacts 7
Table 3. Summary of Mitigation Measures and Intent of Mitigation by Environmental Element 12
Table 4. Comparison of 1994 Plan Assumptions and Observed Experience 22
Table 5. Schedule for Clark County Planning 25
Table 6. Total Acreage Added to City UGAs by Alternative and Plan Designation 31
Table 7. Acres within Geological Hazard Areas under Proposed Alternative 36
Table 8. Miles of Streams Added to UGAs under the Proposed Alternative 40
Table 9. Impacts on Floodplains and Shoreline Environments under the Proposed Alternative 40
Table 10. Impacts from Impervious Surfaces under the Proposed Alternative 40
Table 11. Percentage of Watersheds Covered by Impervious Surfaces and Acres of Impervious Surfaces within New UGAs by Watershed 41
Table 12. Acres of New Impervious Surface under the Proposed Alternative 45
Table 13. Acres of Wellhead Protection Areas within New UGAs of Proposed Alternative 45
Table 14. Projected Population and Dwelling Units for the Proposed Alternative 57
Table 15. Projected Rural Population and Dwelling Units for the Proposed Alternative 58
Table 16. Comparison of Assumptions 59
Table 17. Total Acreage Added to City UGAs by Plan Designation 60
Table 18. Summary of Site-Specific Redesignation Requests in Unincorporated Clark County 65
Table 19. Summary of Proposed Private Requests for Changes to Land Use Designations 66
Table 20. Site-Specific Requests in the Vancouver UGA: Gains and Losses 67
Table 21.List of Site-specific Requests in the City of Vancouver 69
Table 22. Site-specific Requests in Vancouver: Gains and Losses 70
Table 23. Acres of Rural Land Added to UGAs under Proposed Alternative 73
Table 24. Comparison of Assumptions 75
Table 25. Projected Job Creation by Employment Sector for the Proposed Alternative 77
Table 26. Job Capacity for the Proposed Alternative by City 78
Table 27. Acres of Designated Resource Land within Clark County 80
Table 28. Acres of Resource Land Added to UGAs under the Proposed Alternative 80
Table 29. C-TRAN Capital Funding, 2003-2009 84
Table 30. C-TRAN Operating Hours, 2003-2009 85
Table 31. Performance Indicators for C-TRAN 86
Table 32. Summary of Impacts (Based on Performance Measures) 88
Table 33. Major Transportation Corridors: Resulting Highway Level-of-Service Scenario 89
Table 34. C-TRAN Performance Indicators 92
Table 35. Capital Project Needs by Alternative 101
Table 36. Additional Urban Land to be Served by Fire Districts under the Proposed Alternative 104
Table 37. Additional Law Enforcement Needed under Proposed Alternative 105

Table 38. Expected Growth in Single-Family and Multi-Family Households *106*
Table 39. Total Additional Schools and Students under the Proposed Alternative *107*
Table 40. Additional Students by Individual District under the Proposed Alternative *107*
Table 41. Summary of Additional Students Generated by the Proposed Alternative *108*
Table 42. Supply of Vacant, Built and Underutilized Residential, Commercial and Industrial Land *109*
Table 43. Summary of Total Average Assessed Value per Pupil *109*
Table 44. Summary of Average Assessed Value of Residential Land per Pupil *109*
Table 45. Summary of Average Assessed Value of Commercial Plus Industrial Land per Pupil *109*
Table 46. Impacts on Urban Parks and Open Space Land Needs under the Proposed Alternative *110*
Table 47. Additional Sewage Generated Under the Proposed Alternative (gallons per day) *114*
Table 48. Water Supply in Clark County by Provider *116*
Table 49. Public Water Demand under Proposed Alternative (gallons per day) *117*
Table 50. Conformance with Land Use Element Requirements of the GMA *121*
Table 51. Conformance with Land Use Element Requirements of the Countywide Planning Policies *122*
Table 52. Conformance with Housing Element Requirements of the GMA *123*
Table 53. Conformance with Housing Element Requirements of the Countywide Planning Policies *124*
Table 54. Conformance with Utilities Element Requirements of the GMA *125*
Table 55. Conformance with Utilities Element Requirements of the Countywide Planning Policies *126*
Table 56. Conformance with Capital Facilities Element Requirements of the GMA *127*
Table 57. Conformance with Capital Facilities Element Requirements of the Countywide Planning Policies *128*
Table 58. Conformance with Transportation Elements Requirements of the GMA *129*
Table 59. Conformance with Transportation Element Requirements of the Countywide Policies *130*
Table 60. Conformance with Critical Areas Requirements of the GMA *131*
Table 61. Conformance with the Critical Areas Requirements of the Countywide Planning Policies *132*
Table 62. Conformance with Rural Element Requirements of the GMA *133*
Table 63. Conformance with Rural Element Requirements of the Countywide Planning Policies *134*
Table 64. Conformance with Resource Lands Element Requirements of the GMA *135*
Table 65. Conformance with Resource Lands Element Requirements of the Countywide Planning Policies *136*
Table 66. Projected Transportation Costs *149*

FIGURES

Figure 1. Regional Location

Figure 2. All Alternatives

Figure 3. Alternative 1

Figure 4. Alternative 2

Figure 5. Alternative 3

Figure 6. Alternative 4

Figure 7. Alternative 5

Figure 8. Proposed Alternative

Figure 9. Transportation Facilities at Critical Volume to Capacity Ratios, Existing—2003 Peak Hour

Figure 10. Transportation Facilities at Critical Volume to Capacity Ratios, Proposed Alternative—2023 Peak Hour

SUMMARY

I. PURPOSE OF AND NEED FOR THE PROJECT[1]

The Growth Management Act (GMA) (RCW 36.70A) requires rapidly growing counties and cities in the state to plan to manage growth in a way that allows for the efficient use of land and resources. Counties and cities planning under the GMA must adopt comprehensive plans that address land use, housing, public facilities and services, utilities, rural development, and transportation. Clark County and local cities adopted their current plans in 1994. Figure 1, Regional Location, shows Clark County and its cities in relationship to other counties in Washington State.

The GMA requires review and update of comprehensive plans every seven years to ensure that the plan and regulations still comply. Any changes that are made to a comprehensive plan during the review process must be consistent with the GMA, including any amendments that have been made since the adoption of the comprehensive plan. Each county that designates urban growth areas (UGA) is required to review those areas at least every ten years to ensure that there is an adequate amount of land to accommodate the 20-year growth projections for population, jobs, and housing.

Clark County (the County) and local cities chose to review both their plans and UGAs for the full 20-year planning horizon. The County identified five alternatives for accommodating growth from 2003 to 2023, four of which called for UGA expansions. Using Washington's State Environmental Policy Act (SEPA) review process to solicit public and agency input on the five alternatives, the County evaluated the five alternatives and out of them created a sixth Proposed Alternative. Under SEPA, actions such as the adoption or revision of plans, programs, policies, and plan maps are known as non-project or programmatic actions, as distinguished from project-level or site-specific actions. The following section discusses how comprehensive plans are evaluated under SEPA. This Final Environmental Impact Statement (FEIS) assesses the potential environmental impacts of the Proposed Alternative.

II. PURPOSE OF NON-PROJECT EIS

The review of the comprehensive plans of Clark County and its cities is a programmatic action under SEPA. Clark County determined that the revision of the 1994 comprehensive plan and the UGA could have a significant impact on the environment. That determination of significance automatically requires that an Environmental Impact Statement (EIS) be prepared to assess the possible impacts of different alternatives. Since programmatic actions are broader and less specific than project actions, analysis of their environmental impacts under SEPA is also broader and is framed as a discussion of the alternative courses of action that can accomplish a stated objective.

SEPA states that an EIS discussion of alternatives for comprehensive plans should be limited to a general discussion of the impacts of alternative policies. The lead agency is not required to examine all conceivable policies, designations, or implementation measures but should cover a range of topics (WAC 197-11-442).

III. DEIS AND FEIS

The Draft EIS (DEIS) issued on March 19, 2003 analyzed the environmental impacts of the five alternative concepts that were developed for managing growth over the next twenty years for Clark County and its cities. The five alternatives (shown together on Figure 2, All Alternatives and described in detail in the DEIS) consist of two No Action Alternatives and three Action Alternatives. Each alternative would have

[1] *The Draft Environmental Impact Statement (DEIS) provides a more detailed summary of GMA and its requirements for updating comprehensive plans. This is an abbreviated version of that summary.*

different potential beneficial and adverse impacts on the natural environment, community infrastructure, public services, and public health. Figures 3 through 7 illustrate each alternative.

The process for determining a Proposed Alternative for long-term growth required that the public and public officials consider a very broad and complex range of issues, such as the balance between jobs and housing and the coordination of land use and transportation. As part of identifying the trade-offs between different choices, the DEIS identified policies and related implementation actions that can be used to mitigate adverse environmental impacts or that result in beneficial impacts.

The DEIS had a 45-day comment period, ending on May 5, 2003. Comment letters or electronic correspondences were received from 71 respondents. Comments on DEISs are used to stimulate discussion on how to change or condition the proposal to protect the environment or to better achieve the purpose and objectives of the proposal. Comments on the DEIS can be used to improve the completeness, accuracy and objectivity of the analysis. In addition, comments may result in a change to the proposal, in this case, the creation of a new alternative, the Proposed Alternative (shown on Figure 8). Where the process results in a significant change to an alternative, or creation of a new alternative, the FEIS describes and evaluates the potential environmental impacts, similar to the analysis in the DEIS for the original alternatives.

The FEIS also contains the record of comments on the DEIS, bound separately, and the lead agency's responses to those comments. The lead agency, Clark County, must consider the comments received and respond to them in the FEIS (WAC 197-11-560). Responses to comments generally aim to:

- Identify the new Proposed Alternative as it was created from the other alternatives;
- Explain how the analysis is supplemented, improved, or modified in the FEIS or amended DEIS;
- Make factual corrections to the DEIS; or
- Explain why the comment does not warrant further agency response.

Some comments resulted in changes to language in the DEIS. An amended version of the DEIS is included in the FEIS as a separate volume, issued online and available on CD in PDF format.

IV. SUMMARY OF ALTERNATIVES

Clark County has identified six alternative ways that growth could be accommodated over the next 20 years. The Proposed Alternative in terms of the location of new UGAs most resembles Alternatives 2 and 4. However, land uses proposed are different. Consequently, the Proposed Alternative is considered a new alternative, with attendant potential environmental impacts, proposed mitigation measures, and unavoidable adverse impacts.

A. Development of DEIS Alternatives and Proposed Alternative

To comply with the GMA, Clark County and the cities of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal and Yacolt must update their comprehensive plans to accommodate 20 years of growth in population, households, and employment, as well as the infrastructure—roads, schools, and parks—to support this growth. The County selects from a range of population projections provided by the Office of Financial Management (OFM) (RCW 36.70A.070). OFM only prepares forecasts of population growth, and each county planning under the GMA must select an employment forecast of their own. The County also determines other parameters used to size the UGAs (such as household size, housing and employment density) but these should be based on the results of monitoring development trends under RCW 36.70A.215.

In 2000, OFM indicated that Clark County could expect to reach a population of 465,591 to 600,693 over the next 20 years. In 2001, the BOCC considered historic growth trends in the county and region, other locally approved growth assumptions, and the condition of the regional economy and decided to plan for an average annual population growth rate of 1.5 percent and an average household size of 2.66 persons per single-family household and 1.9 persons per multi-family household.

Following public comment on the five alternatives evaluated in the DEIS, the BOCC elected to plan for an average annual population growth rate of 1.83 percent (similar to the growth rate under Alternative 1) and an average household size of 2.69 persons per household. Projecting from OFM's End of Year 2002 Population estimate for the county of 370,463, a 1.83 percent growth rate means 163,728 new people (60,866 new households) over the next 20 years. (The Population, Housing and Land Use section of the DEIS discusses historic and projected growth trends in the county and cities.) The total population of 534,191 is slightly above the OFM medium forecast of 530,962 which OFM considers most likely for Clark County.

Employment growth forecasts were developed with the help of the Washington Employment Security Department (ESD) and the Columbia River Economic Development Council (CREDC). To reduce traffic congestion in the region and improve the county tax base, the BOCC decided that the County should plan to increase the ratio of jobs to population within the county and bring the jobs-to-population ratio more in line with the regional Portland-Vancouver ratio. Currently, the jobs-to-population ratio in Clark County is 1 to 2.9; the jobs-to-population ratio in the Portland Vancouver Metropolitan area is about 1 to 2. The Proposed Alternative would result in a jobs-to-population ratio of 1 to 1.75 for the anticipated increment of growth over the next 20 years in order to reach a goal of 1:2 at full build-out.

The amount of land needed to accommodate projected growth in housing and employment depends on the gross density at which development occurs, that is, the number of housing units or jobs per acre. Gross density includes estimates of the percent of land used for roads and other infrastructure needs and how much is unlikely to develop for other reasons (e.g., environmental constraints). The alternatives under consideration reflected a range of assumptions about residential, commercial, and industrial development, as well as the locations where it would most likely occur. The assumptions for the Proposed Alternative reflect the result of the DEIS public process. This FEIS focuses on a summary and description of the Proposed Alternative, its potential impacts and proposed mitigation.

The GMA plans adopted by the County and cities in 1994 provided land within the UGAs sufficient to accommodate 20 years of growth plus a margin of extra land to accommodate development market uncertainties. Although seven years have passed since the adoption of the plans, a substantial amount of vacant and underutilized land remains within UGAs. Regardless of the alternative selected, the majority of growth over the next 20 years is expected to occur within currently designated UGA boundaries.

Table 1 compares the alternatives and Figures 2 through 8 illustrate them. A more detailed discussion of Alternatives 1 through 5 is presented in Chapter 1 of the DEIS. This FEIS primarily evaluates potential impacts of the Proposed Alternative (Figure 8) compared to the other five alternatives.

Table 1. Summary of Alternatives

	Proposed Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Alternative 4**	**Alternative 5**
Total population in 2002: 370,463 Planned population growth (2002 to 2023):	163,728	160,499	115,762	115,762	115,762	115,762
	Rural: 16,373	Rural: 30,495	Rural: 21,995	Rural: 21,995	Rural: 21,995	Rural: 21,995
	Urban: 147,355	Urban: 130,004	Urban: 93,767	Urban: 93,767	Urban: 93,767	Urban: 93,767
Total number of jobs in 2001: 118,000 Planned job growth (2002 to 2023):	84,203	54,882	44,615	44,615	70,000	70,000
Land added for new homes (acres)	4,450**	23,271	7,276	0	2,387	6,970
Target areas for new development	Inside existing and expanded UGAs focusing on Vancouver, Battle Ground, and Camas	Expanded UGAs, especially around Vancouver and Battle Ground	Inside existing and expanded UGAs focusing on Vancouver and Battle Ground	Vacant or underused land within current UGA	Expanded UGA mostly in Battle Ground UGA with some around Camas and Vancouver	North Vancouver to southwest Battle Ground
Land added for new jobs (acres)	5,011**	6,903 (1,328 rezoned acres inside UGAs)*	3,670 (1,196 rezoned acres inside UGAs)	0 (901 rezoned acres inside UGAs)	10,167	5,333
Target areas for new development	Inside existing and expanded UGAs focusing on Vancouver, Battle Ground, and Camas	Expanded UGAs especially around Vancouver, Battle Ground, and La Center/I-5	Inside existing and expanded UGAs focusing on Vancouver and Battle Ground	Vacant or underused land within current UGAs	Expanded UGAs mostly between Vancouver and Battle Ground with some around Camas	I-5 corridor from Salmon Creek to La Center
Total UGA expansion (acres)	9,461**	28,845	9,749	0	12,554	12,303
Key differences from other alternatives	• Uses 1994 growth rate of 1.83% versus 1.5%. • Lowest amount of UGA expansion in total acreage. • Most aggressive approach to planning for jobs. • Higher assumption for number of persons per household: 2.69 versus 2.12 to 2.43. • No residential market factor.	• Higher growth rate of 1.83% versus 1.5%. • Current employment patterns continue. • New housing consists of 60% single-family and 40% multi-family. Other alternatives reflect 75/25% target. • Average density of 8 homes per acre, compared with about 7.5 in other alternatives • Uses 1994 growth assumptions	• Growth assumptions similar to Alternatives 5, but planning for jobs is more reflective of current patterns. • Reflects policy and growth direction from BOCC.	• Focuses on land already targeted for urban development. • Includes the "trigger" but not the "market factor." Other alternatives include a 25% "market factor" to increase the supply of land for development. They also include a "trigger" to consider urban area expansion when 75% of commercial or residential, or 50% of industrial land, is developed.	• Second most aggressive approach to planning for jobs after Proposed Alternative, equal to Alternative 5. • New jobs concentrated in expanded urban areas noted above. • Uses cities' growth proposals.	• Second most aggressive approach to planning for jobs after Proposed Alternative, equal to Alternative 4. • New jobs mostly concentrated along I-5 corridor.

** Alternatives 1 and 2: rezoned land is currently within the UGA mainly industrial land rezoned to Office/Business Park; Alternative 3: industrial land rezoned to Office/Business Park*
***Includes existing rights-of-way.*

B. Proposed Alternative

The Proposed Alternative combines several aspects of the five alternatives in the DEIS. The growth rate is similar to that proposed under Alternative 1 while the total additional acreage proposed is slightly less than that proposed under Alternative 2. Significant urban growth boundary expansions are proposed for the unincorporated area between the cities of Camas and Vancouver; the east side of 162nd Avenue north of 39th Street in east Vancouver; the south side of 119th Street between Curtin Creek and 152nd Avenue in the Orchards area; north of 119th Street between 50th and 72nd avenues in the Pleasant Valley area; the Fairgrounds area; and south and west of Battle Ground. The key aspects are:

- Use of an annual average growth rate of 1.83 percent over the next 20 years, resulting in 163,728 additional residents (16,373 rural residents and 147,355 urban residents). The total population would be 534,191 in 2023.
- Expansion of UGAs by 9,461 acres.
- Use of an employment growth rate higher than historical rates in Clark County, which would create 84,203 new jobs at an employment density of nine employees per acre for industrial development and 20 employees per acre for business park and commercial development.
- Assumption of 2.69 persons per household based on 2000 Census data; higher than any DEIS alternative; 60,866 new households would be created over the next 20 years.
- Use of varying density targets for residential development in the cities: Camas, Ridgefield, Washougal, and Battle Ground—a target of 6 residential dwelling units per acre; La Center—4 units per acre; and Vancouver—8 units per acre. (No density target was set for Yacolt, due to its lack of a public wastewater treatment system.) The Proposed Alternative has an average density target for UGAs of about 7 units per acre.
- Use of a market factor of 25 percent for commercial and business park land and 50 percent for industrial land. No market factor for residential land.
- Use of an infrastructure factor of 25 percent for commercial and industrial development, and 27.5 percent for residential development, similar to observed experience.
- Planning to accommodate 90% of the growth in urban areas (54,779 households) and 10% in rural areas (6,087) households.

C. No Action Alternatives 1 and 3

The No Action Alternatives under consideration in the DEIS are Alternatives 1 and 3. (SEPA requires that the implications of not changing the comprehensive plan be considered.) Under Alternative 1 the policies and growth assumptions contained in the *20-Year Clark County Comprehensive Growth Management Plan* would remain in effect and UGAs would be expanded. Alternative 1 uses a growth rate of 1.83 percent. Under Alternative 3, the UGAs as proposed in the 1994 plan (with a growth rate of 1.5 percent) would remain in effect and no expansion would occur.

D. Action Alternatives 2, 4, and 5

Alternatives 2, 4, and 5 assumed an annual average growth rate of 1.5 percent over the next 20 years. Alternative 2 reflects the GMA planning decisions made by the BOCC in April 2001. Alternative 4 represented a composite of the preliminary proposals from the cities of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal, and Yacolt for how they want to manage their growth. Alternative 5 reflected economic development strategies proposed by the Columbia River Economic Development Council (CREDC) to make large tracts of land available for employment development along I-5.

V. SUMMARY OF IMPACTS AND MITIGATION

Alternatives 1 through 5 are presented in the summary and Chapter 1 of the DEIS. Table 2 presents a summary of the impacts of each alternative. Table 3 is a summary of proposed mitigation measures.

Table 2. Summary of Impacts

	Proposed Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Earth						
Soils and Geology Criteria: acres of ag or forest soil converted	2,758 acres of ag land 0 acres forest land	8,648 acres of ag land 145 acres of forest land	2,207 acres of ag land	No conversion of ag or forest land	3,178 acres of ag land 68 acres of forest land	3,589 acres of ag land
Topography Criteria: Earthquake zone A: highest hazard Acres of land over 40% slope Acres of landslide hazard areas	105 acres in Zone A 1.6 acres steep slopes 177 acres of landslide hazard	214 acres in Zone A 194 acres of steep slopes 1410 acres of landslide hazard	88 ac in Zone A 46 acres of steep slopes 469 acres of landslide hazard	No changes to existing lands designated for development.	149 acres in Zone A 75 acres of steep slopes 483 acres of landslide hazard	54 acres of Zone A 11 acres of steep slopes 329 acres of landslide hazard
Air						
Climate & air quality	All alternatives have the potential to affect the air quality and climate. Impacts can be related to the balance between emissions from automobile use (vehicle miles traveled or VMT), emissions from unregulated private sources (e.g. gas lawnmowers), federal regulations through the Clean Air Act, and conversion of rural and resource land to urban land with less vegetative cover. For differences in VMT (full build-out capacity, not planned growth) see Transportation Impacts. For conversion of rural to urban land see the Rural and Resource land impacts.					
Water						
Surface waters Criteria: miles of streams added to UGAs	20 miles of streams Creeks: Fifth Plain, Gee, Lacamas, Mill, Spring Branch, Weaver, Whipple	100 miles of streams Creeks: Gee, Lacamas, Whipple, Salmon, Mill & Fifth Plain	28 miles of streams Creeks: Gee, Whipple, Weaver, Salmon, & Mill	No additional miles of streams	33 miles of streams Creeks: Lacamas, Gee, Curtin, Mill, Salmon, Weaver, and Whipple	32 miles of streams Creeks: Gee, Mill, Salmon and Whipple
Stormwater Criteria: new impervious surface	3,076 acres of new impervious surface	7,800 acres of new impervious surface	3,200 acres of new impervious surface	No additional acres	3,098 acres of new impervious surface	3,355 acres of new impervious surface
Shorelines Criteria: acres of environment affected	244 acres of shorelines	737 acres of shorelines	191 acres of shorelines	No additional acres	480 acres of shorelines	119 acres of shorelines
Floodplains Criteria: flood fringe area added to UGAs	638 acres of floodway fringe	1,385 acres of floodway fringe	269 acres of floodway fringe	No additional acres	589 acres of floodway fringe	230 acres of floodway fringe
Groundwater & Aquifer Recharge						
Criteria: New impervious surface in new UGAs	3,076 acres of new impervious surface	7,800 acres of new impervious surface	3,200 acres of new impervious surface	No additional acres	3,098 acres of new impervious surface	3,355 acres of new impervious surface
Acres of wellhead protection areas in new UGAs	9,467 acres of wellhead protection area	28,841 acres of wellhead protection area	9,745 acres of wellhead protection areas	No additional acres	12,552 acres of wellhead protection areas	12,300 acres of wellhead protection areas

	Proposed Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Plants and Animals						
Habitat Criteria: Identification of priority habitat within expansion areas and miles of priority habitat creeks added to UGAs (does not include all affected creeks)	Habitats identified: riparian zones, oak woodlands, urban natural open space, and wetlands; associated with Gee, Lacamas, Weaver, Whipple, Mill creeks -3.5 miles of Lacamas Creek, 1.0 miles of Gee Creek added	Habitats identified: riparian zones, oak woodlands, urban natural open space, and wetlands; associated with Salmon, Mill, Gee, Woodin, Weaver, and Lacamas creeks, Columbia River shoreline, Lacamas Lake, and the East Fork Lewis River - 3.8 miles of Salmon Creek, 4.7 miles of Gee Creek, 4.1 miles of Lacamas Creek added	Habitats identified: riparian zones, oak woodlands, urban natural open space, and wetlands associated with Gee & Salmon creeks and Columbia River shoreline - 1.2 miles of Salmon Creek and 1.8 miles of Gee Creek added	No UGA expansion; no new habitat areas added to UGAs	Habitats identified: riparian zones, urban natural open space, wetlands, caves, and oak woodlands; associated with Salmon, Lacamas, Mill, and Gee creeks, Lacamas Lake, the Columbia River shoreline, and the Green Mountain Cave - 5.1 miles of Salmon Creek and 2.2 miles of Lacamas Creek added	Habitat identified: riparian zones, urban natural open space, wetlands, and oak woodlands; associated with Salmon, Gee, and Mill creeks - 2.8 miles of Gee Creek, and 2.2 miles of Mill Creek added
Sensitive, Threatened and Endangered Species (includes migration routes) Criteria: Miles of stream supporting anadromous salmon to be brought into new UGAs	3.2 miles of salmon-supporting streams	34 miles of salmon-supporting streams	23 miles of salmon-supporting streams	0 miles of salmon-supporting streams	34 miles of salmon-supporting streams	8 miles of salmon-supporting streams
Species found in new UGAs	7 species: Bald eagle (federal threatened) Purple martin (state candidate) Reticulate sculpin (state monitor) Sand roller (state monitor) Coho salmon, steelhead, chinook, and chum salmon (federal threatened)	7 species: Bald eagle (federal threatened) Purple martin (state candidate) Reticulate sculpin (state monitor) Coho salmon, steelhead, chinook, and chum salmon (federal threatened)	5 species: Purple martin Osprey (state monitor) Sand roller (state monitor) Coho salmon and steelhead	No new habitat added to UGAs.	3 species: Purple martin Osprey Sand roller (Industrial development within 500 feet of East Fork Lewis River could impact habitat for steelhead, coho, chinook, and chum salmon)	3 species: Bald eagle Coho salmon and steelhead
Wetlands Criteria: New acres of wetland added to UGAs	447 acres of wetlands	1,195 acres of wetlands	329 acres of wetlands	0 acres of wetlands	749 acres of wetlands	729 acres of wetlands

	Proposed Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Energy	Impacts on energy and natural resources are not quantitatively comparable. Energy use will increase as the number of people and jobs in the county increases. The pattern of growth will affect the amount of energy used by each household and business. Compact development tends to reduce VMT and therefore energy use. However, the total population growth has the potential to increase VMT as well. Alternative 1 and the Proposed Alternative project the most population growth. Assessing impacts based on planned growth can underestimate potential impacts. Growth based on capacity for new households would be greatest under Alternative 1, followed by Alternatives 5, 2, Proposed, 4, , and 3]. Impacts from VMT on energy (petroleum) use based on capacity for growth (full build-out) can be found in Transportation Impacts.					
Scenic resources Criteria: Conversion of rural land to urban land	All alternatives except Alternative 3 would convert rural and resource land to urban uses. Alternative 1 would convert most acres (28,845), followed by Alternative 4 (12,554), Alternative 5 (12,303), Alternative 2 (9,749), and the Proposed Alternative (5,900).					
Noise	Impacts from noise not quantitatively compared. Higher noise impacts expected from increased traffic (see Transportation), from expansion of diverse urban uses into formerly rural areas (see Land Use, and Rural and Resource land comparisons).					
Land Use, Population, and Housing						
Criteria: Urban residential land capacity[1] (Difference between the number of planned households and number of households at build-out; actual land capacity)	Planned # of households would occupy **96%** of actual land capacity Households: build-out capacity: 56,925 planned: 54,779	Planned # of households would occupy **68%** of actual land capacity Households: build-out capacity: 90,155 planned: 61,323	Planned # of households would occupy **68%** of actual land capacity Households: build-out capacity: 57,048 planned: 38,587	Planned # of households would occupy **87%** of actual land capacity Households: build-out capacity: 44,933 planned: 39,070	Planned # of households would occupy **80%** of actual land capacity Households: build-out capacity: 48,536 planned: 38,587	Planned # of households would occupy **68%** of actual land capacity Households: build-out capacity: 57,103 planned: 38,587
Rural residential land capacity[1] (Difference between the number of planned households and number of households at build-out; actual land capacity)	Planned # of households would occupy **50%** of actual rural land capacity Households: build-out capacity: 12,093 planned: 6,087	Planned # of households would occupy **130%** of actual rural land capacity (shortfall) Households: build-out capacity: 11,056 planned: 14,384	Planned # of households would occupy **72%** of actual rural land capacity Households: build-out capacity: 12,379 planned: 9,051	Planned # of rural households would occupy **69%** of actual land capacity Households: build-out capacity: 13,299 planned: 9,164	Planned # of rural households would occupy **75%** of actual land capacity Households: build-out capacity: 11,996 planned: 9,051	Planned # of rural households would occupy **75%** of actual land capacity Households: build-out capacity: 12,056 planned: 9,051
Rural Lands Criteria: Acres of rural land brought into new UGAs	2,913 rural acres converted to urban	12,088 rural acres converted to urban	2,106 rural acres converted to urban	0 rural acres converted to urban	4,775 rural acres converted to urban	4,046 rural acres converted to urban
Resource Lands Criteria: Total into new UGAs	2,953 acres of resource land converted	9,168 acres of resource land converted	2,493 acres of resource land converted	0 acres of resource land converted	3,435 acres of resource land converted	3,778 acres of resource land converted
Agricultural land	2,758 acres of ag land	8,648 acres of ag land	2,207 acres of ag land	0 acres of ag land	3,178 acres of ag land	3,589 acres of ag land
Forest land	0 acres of forest land	145 acres of forest land	0 acres of forest land	0 acres of forest land	68 acres of forest land	0 acres of forest land
Mineral land	195 acres of mineral land	375 acres of mineral land	286 acres of mineral land	0 acres of mineral land	189 acres of mineral land	189 acres of mineral land

	Proposed Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Economy						
Criteria: Average jobs to population ratio:[2] Planned jobs to population Actual capacity for jobs to actual capacity for population	1 to 1.75 1 to 1.87	1 to 2.4 1 to 2.1	1 to 2.1 1 to 1.8	1 to 2.1 1 to 1.6	1 to 1.3 1 to 0.91	1 to 1.3 1 to 1.4
New industrial land	677 acres	1,550 acres	0 acres	0 acres	4,773 acres	603 acres
New Office/Bus. Park	2,265 acres	2,458 acres	3,581 acres	901 acres	197 acres	3,353 acres
New commercial land	105 acres	2,403 acres	88 acres	0 acres	2,816 acres	897 acres
Employment capacity[1] (% of land used for planned jobs)	103% planned new jobs: 84,203 potential new jobs: 81,706	59% planned new jobs: 54,882 potential new jobs: 93,075 (based on actual land capacity)	61% planned new jobs: 44,615 potential new jobs: 78,579 (based on actual land capacity)	72% planned new jobs: 44,615 potential new jobs: 66,502 (based on actual land capacity)	73% planned new jobs: 70,000 potential new jobs: 100,549 (based on actual land capacity)	74% planned new jobs: 70,000 potential new jobs: 99,078 (based on actual land capacity)
FPIAs[3]	All of 13 and portions of 3	All of 14 and portions of 2	All of 11 and portions of 3	All or a portion of 11	All of 11 and portions of 4	All of 12 and portions of 4
Historic and Cultural Resources	Much of the county has been identified as having a high probability for archaeological resources, in part because of the area's rich history and its importance as a settlement location. Many of the high probability areas are located along streams, rivers, and other water bodies. (See stream miles, above.) Each of the action alternatives would include areas identified as having a high probability for archaeological resources. Only Alternative 3, which accommodates growth within existing UGAs, would not increase the likelihood of impacts on high probability areas.					
Transportation						
Criteria: Vehicle hours of delay	5,052 hours of delay	9,510 hours of delay	2,838 hours of delay	2,024 hours of delay	2,208 hours of delay	2,065 hours of delay
Lane miles at LOS E/F	149 lane miles at LOS E/F	273 lane miles at LOS E/F	127 lane miles at LOS E/F	85 lane miles at LOS E/F	124 lane miles at LOS E/F	105 lane miles at LOS E/F
Total project mitigation costs to maintain LOS D	$2.6 billion	$2.3 billion	$2.1 billion	$1.8 billion	$2.2 billion	$2.2 billion
Public Facilities & Utilities						
Fire Protection Criteria: Acres in new UGAs to be served FD most affected	9,461 additional acres to be served FD 5, 11, 3	28,845 additional acres to be served FD 11, 5, 12	9,749 additional acres to be served FD 11, 5, 6	0 acres	12,554 additional acres to be served FD 11, 5, 3	12,303 additional acres to be served FD 11, 5, 12
Police Protection Criteria: Additional law enforcement needed	231 officers	323 officers	237 officers	184 officers	209 officers	239 officers

	Proposed Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Public Schools Criteria: Total additional students New schools needed	20,038 new students 30 new schools	33,424 new students 49 new schools	22,500 new students 34 new schools	16,132 new students 24 new schools	18,234 new students 27 new schools	
Parks and Recreational Facilities Criteria: New park land needed	1,804 acres of additional parks	2,524 acres for additional parks	1,926 acres for additional parks	1,590 acres for additional parks	1,612 acres for additional parks	1,932 acres for additional parks
Libraries	Demand for library services increases with population growth and access to facilities is affected by the location of the growth. Proposed Alternative 1 would have greatest population growth but less total area added than the other alternatives. Urban/rural split under Proposed Alternative; may result in higher than anticipated rural level of service and lower level of service for urban areas than currently planned by FVRLD.					
Sewer Criteria: Additional demand at build-out	22,065,413 gallons per day	30,833,259 gallons per day	27,797,653 gallons per day	14,639,207 gallons per day	17,835,751 gallons per day	32,288,115 gallons per day
Cost to upgrade facilities	$96.7 million	$106 million	$64.5 million	$33.3 million	$64.7 million	$127.5 million
Solid waste	Facilities have capacity to handle growth beyond 20-year plan period.					
Public water supplies Criteria: Additional water demand at capacity build-out	24,278,333 gallons per day	30,833,259 gallons per day	27,797,653 gallons per day	14,639,207 gallons per day	17,835,751 gallons per day	32,288,115 gallons per day
Cost to build facilities to meet demand	$28.4 million	$60.7 million	$31.9 million	$22.4 million	$34.6 million	$42.3 million
Other Public Buildings/Facilities	Alternatives 1, 4, and 5 and the Proposed could require additional government building space for the City of Battle Ground. The cities of Camas and Washougal will expand or remodel existing facilities to accommodate growth under all alternatives.					
Electricity	Electrical service is a "pay as you go" service and system upgrades are paid for by new development directly (in the form of system connection fees) and by utility rates paid by CPU customers. Clark Public Utilities expects to be able to expand the electrical system to serve development, regardless of alternative. Availability of electricity is not expected to be a limiting factor for new development.					

Notes to Table 2:

1. GMA requires sufficient land to be available to accommodate projected population and employment. Having insufficient land to accommodate projected population or employment would not be consistent with the requirements of GMA. Having a large amount of urban land that exceeds the amount needed to accommodate projected urban population and employment would not be consistent with the intent of GMA to limit inappropriate conversion of rural land to urban land and to prevent inefficient land use patterns.

2. Having a good balance of jobs to population is one of the goals adopted by the Board of County Commissioners. There are two numbers because the projected or planned population and job numbers are lower than the number of people and jobs that could actually be accommodated by the land capacity under each alternative (full build-out).

3. Focused Public Investment Areas. These areas are targeted for public investment based on cost-effectiveness of the investment in potentially attracting new employers (see text of Economy section of DEIS for explanation).

Table 3. Summary of Mitigation Measures and Intent of Mitigation by Environmental Element

Element	Mitigation Measures
Soils	Intent of mitigation is to limit development on unsuitable soils, protect resource lands by excluding from UGAs. Comprehensive plan policies and ordinances of Clark County and the cities protect resource land soils and restrict development where there are soil limitations. (The La Center comprehensive plan does not specifically address soil limitations on construction.)
Geology and Topography	Intent of mitigation is to exclude development from geologically hazardous areas. Comprehensive plans of Clark County and the cities have policies for regulating development within geologically hazardous areas, which are implemented through local geological hazard ordinances.
Climate	Mitigation is indirect through slowing the increase in fossil fuel emissions by promoting alternative forms of transportation and preserving vegetative cover. Clark County and the cities do not have policies that directly relate to the mitigation of those parameters that contribute to climate change. Climate change is indirectly addressed and mitigated through air quality and environmental regulations.
Air Quality	Intent of mitigation is to preserve or improve air quality in general and keep maintenance area status under EPA regulations. Protection of air quality occurs through federal and state regulations on automobiles, fireplaces, and wood stoves. Most comprehensive plans recognize the link between air quality, traffic congestion, and vehicle emissions and establish policies in their Transportation, Economic Development, and/or Environmental Element to mitigate impacts to air quality from vehicle use. Reducing traffic congestion and promoting multiple-occupancy vehicle use can mitigate air impacts. Policies note the importance of maintaining air quality for future economic development.
Surface Water	Intent of mitigation is to comply with GMA and ESA regulations and prevent further degradation of surface water quality and stream habitats by new development. Comprehensive plan policies and development regulations provide for the protection of surface water quality throughout the county. Generally, mitigation consists of the identification and protection of critical areas and floodplains through local ordinances, protection of shorelines through Shoreline Master Programs, and through stormwater management ordinances.
Groundwater and Aquifer Recharge Areas	Intent of mitigation is to comply with GMA regulations, prevent contamination of groundwater sources and ensure groundwater recharge. As required by the GMA, the county and each city have identified critical environmental areas, including critical aquifer recharge areas. Protection of groundwater resources is addressed in critical areas ordinances (CAOs) that regulate development within recharge areas and in the regulation of septic systems.
Fish and Wildlife Habitat	Intent of mitigation is to comply with GMA and to protect loss and degradation of existing habitat from development impacts. The protection of fish and wildlife Habitat Conservation Areas is addressed in comprehensive plan policies and implemented through local ordinances. The County and each city have identified critical environmental areas, which include fish and wildlife habitat conservation areas. CAOs, stormwater management programs and regulations, erosion control regulations, and tree protection ordinances are the mechanisms for mitigating adverse impacts to these areas.
Sensitive, Threatened, and Endangered (STE) Species	Intent of mitigation is to comply with ESA and GMA and restore and protect habitat for listed species. Mitigation of impacts to STE species is the same as for fish and wildlife habitat, above. Clark County, Battle Ground, Camas, and Vancouver are updating their CAOs, in part to provide greater protection for ESA-listed salmon and steelhead.
Migratory Species/Migration Routes	Intent of mitigation is the same as for fish and wildlife habitat. Mitigation for impacts to migratory species and habitat is the same as for fish and wildlife habitat, above.

Element	Mitigation Measures
Wetlands	Intent of mitigation is to comply with CWA and minimize loss of wetlands and compensate for filling through wetland creation or enhancement. The protection of wetlands is accomplished primarily by federal Clean Water Act, Section 404 regulations. State regulations that provide for the mitigation of impacts to wetlands include the Shoreline Management Act, Hydraulic Project Approval, State Environmental Policy Act, and The Floodplain Management Program. The County and the cities have adopted wetland protection ordinances.
Renewable and Non-Renewable Energy Sources	Intent of mitigation is to promote energy conservation by protecting access to solar energy collection and reducing vehicle miles traveled. The primary energy conservation measure available to local jurisdictions is to adopt a compact urban form that supports alternative, energy efficient transportation. Most comprehensive plans and local ordinances do not directly address energy conservation, but some have provisions for protecting access to solar energy.
Scenic Resources	Intent of mitigation is to comply with federal regulations for the Columbia Gorge National Scenic Area and further explore how scenic views can be protected. Clark County has designated 2 scenic routes and implements the provisions of the Columbia River Gorge National Scenic Area Act in its code requirements. Battle Ground has adopted interim policies to protect and promote significant views. Camas' municipal code also allows for the protection of scenic resources. Other local codes do not directly address scenic resources.
Noise	Intent of mitigation is to preserve livability by regulating noise impacts. Federal and state regulations that limit noise exposure in different classes of land use provide for some mitigation of noise impacts. Noise impacts are also considered in SEPA environmental review. Vancouver proposes to adopt a modification of the state noise ordinance.
Land Use, Population, and Housing	Primary mitigation would be the selection of an alternative that minimizes adverse impacts by using land efficiently. Alternatives can be modified by changing assumptions to reduce projected impacts.
Rural Lands	Intent of mitigation is to comply with GMA and prevent unplanned conversion of rural lands to urban uses. Clark County's comprehensive plan has policies that protect rural lands. Development on rural lands is also regulated by the county's zoning code, which establishes rural districts and permitted uses.
Resource Lands	Intent of mitigation is to comply with GMA and prevent unplanned conversion of resource lands to urban uses. Clark County's comprehensive plan policies protect resource lands from incompatible uses and from conversion to urban land. The zoning code regulates the intensity and nature of development that can occur on and adjacent to resource lands. City comprehensive plans contain policies that direct development away from productive forest and farm land.
Historic and Cultural Resources	Intent of mitigation is to protect historic and cultural resources from disturbance or destruction. Clark County and the cities of Battle Ground, Camas, La Center, Ridgefield, and Vancouver have policies and/or ordinances that require these jurisdictions to identify and protect historic and cultural resources. Washougal's comprehensive plan does not directly discuss historic and cultural resources.

Element	Mitigation Measures
Transportation	Intent of mitigation is to comply with GMA with respect to concurrency LOS and CFP funding requirements. All alternatives would require significant transportation improvements to reduce congestion and achieve a system-wide level-of-service D. Other mitigation could consist of : Seeking out local option transportation funding and increased funding through the state legislature or referenda. Lowering the LOS standards on corridors where appropriate funding levels are not available or where multimodal transportation use is to be encouraged. Reducing the amount of UGA expansion or the intensity of growth in outlying urban growth areas. Amending the County's comprehensive plan to allow rural major collectors to become multi-lane, non-state highways on specific routes that connect urban areas. Implementing a regional traffic impact fee structure whereby rural and outlying urban area development contributes toward the cost of rural corridor capacity improvements.
Emergency Services and Fire Protection	Intent of mitigation is to maintain adopted levels of service. Alternative 4 would require additional facilities in Battle Ground. Alternatives 1 and 5 would need expanded emergency services facilities in the Ridgefield area. No additional facilities needed (excepting possible upgrades to existing) for Camas, La Center, Vancouver, and Washougal.
Police Protection	Intent of mitigation is to maintain adopted levels of service. To maintain standards for minimum officers per 1,000 population, population growth will require additional staff under each alternative. Each jurisdiction (except Camas and Washougal) has identified a need for expanded police facilities.
Public Schools	Intent of mitigation is to provide sufficient funding for schools as population of school age children grows. Local jurisdictions have adopted school impact fees on new development. Local comprehensive plan policies address the siting of new school facilities. Balancing land uses within school districts helps to ensure adequate tax base for schools. Battle Ground anticipates expanding school facilities. La Center and Vancouver will expand facilities as needed.
Parks and Recreation	Intent of mitigation is to achieve adopted levels of service. Clark County and its cities have established policies for the provision of parks and open space to accommodate new development and enhance the quality of life in urban areas. Mitigation in the form of additional parks would be expected in Battle Ground, Camas, and Vancouver.
Libraries	Intent of mitigation is to maintain adopted levels of service. Mitigation measures to meet additional demand for library services consists of upgrading old or establishing new facilities where needed, purchase of materials, and increasing staff and other services.
General Government	No mitigation needed.
Solid Waste	No mitigation needed.
Sanitary Sewer	Intent of mitigation is to comply with GMA with respect to concurrency LOS and CFP funding requirements. Concurrency requirements extend to sanitary sewer provision. Each jurisdiction has established policies for providing sanitary sewer service concurrent with new development.
Public Water Systems	Intent of mitigation is to comply with GMA with respect to concurrency LOS and CFP funding requirements. Concurrency requirements extend to water provision. Each jurisdiction has established policies for the provision of public water concurrent with new development.

VI. UNAVOIDABLE ADVERSE IMPACTS AND IRRETRIEVABLE COMMITMENT OF RESOURCES

RCW 43.21C.030(2)(c)(I) requires local governments to include a discussion of any adverse environmental effects that cannot be avoided should a proposal be implemented, the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented. The following discussion summarizes unavoidable adverse impacts and whether they are expected to be significant. Irreversible and irretrievable commitments of resources are discussed where applicable. At the end of this section is a brief discussion of the trade-offs between short-term and long-term environmental costs and benefits to productivity.

A. Soils

Health department regulations govern construction of septic systems and require specific engineering geared to soil types so public health and environmental impacts are generally avoided or mitigated at the construction stage. Consequently, the issue of soils not supporting septic systems is less of an issue than conversion of resource lands and soils that offer only weak support for foundations Conversion of prime agricultural land to urban uses under all alternatives except Alternative 3 is an unavoidable impact; however, it is discussed more under Resource Lands.

B. Geology & Topography

In areas susceptible to landslides, activities such as septic system construction, the watering of lawns, and the redirection of stormwater runoff as a result of development could lead to the saturation of otherwise stable soils and may cause the loss of internal slope stability, resulting in landslides. These could be significant impacts. Most jurisdictions in Clark County have adopted ordinances to require geotechnical studies prior to development in areas where slopes exceed 15%. If the potential for slope failure exists, the recommendations of the geotechnical report are incorporated in the design of the development.

Nothing can be done to control the magnitude or location of earthquakes. However, local jurisdictions can control the type of development that occurs in areas where earthquake damage is likely to be severe (unconsolidated fill and soils subject to liquefaction, for example). Development that is not designed to withstand the seismic event projected for the region can result in unavoidable impacts to the environment. For example, in urbanized areas, the greatest earthquake-related damage is often caused by secondary events, such as fires that result from ruptured natural gas lines or flooding caused by ruptured water lines or storage tanks, or spills of hazardous materials from damaged containers. This can be considered a significant adverse impact. However, no new fuel lines are proposed with this EIS and new development would be required to meet building code standards for seismic safety. The greatest risk is from older buildings that do not meet current seismic safety codes. Sanitary sewer line ruptures could create significant adverse impacts on surface water quality.

C. Climate

The amount of land that is urbanized, the extent to which resource, rural, and open space areas are preserved, and the efficiency of the transportation system reflected in the number of vehicle miles traveled have the potential to make an incremental contribution to climate change on a larger scale over a longer period of time. In this respect, compact development patterns are less likely to increase VMT and more likely to support travel by alternative modes (transit, bicycle, walking). It is likely that any growth in consumption and emissions is likely to result in unavoidable impacts on climate, although the

relationships between the many variables that affect climate change are so complex that the degree of change cannot be estimated.

D. Air Quality

Regulatory controls on point sources and mobile emissions have improved air quality in the last decades. However, pending administrative rule changes may release new firms from upgrading facilities to limit new impacts on air quality. Relaxed regulatory controls combined with industrial growth in the region could adversely affect air quality. In addition, the fastest growing source of pollution is expected to be non-road mobile sources such as gas-powered lawn mowers, tractors, leaf blowers, etc. Because those sources are currently uncontrolled, development patterns that result in an increase in use of non-road mobile sources (that is, sprawling rural and suburban development) could increase adverse impacts on air quality. It is unlikely that growth in the short-term will produce significant impacts. Beyond the short-term the potential significance is unknown.

E. Surface Waters

Most of the problems that lead to listing a stream as water quality limited are due to human activity or development in the drainage area of the stream. While impacts from accelerated runoff and erosion, loading of chemical and organic contaminants into surface waters, increased flood peaks, and decreased groundwater recharge can be mitigated by regulations to detain, treat, and infiltrate runoff on a site-by-site basis, regulations do not mitigate impacts on a drainage basin from cumulative changes to the hydrology of streams or other surface waters as a result of development. These changes inevitably occur as a result of the creation of impervious surfaces and removal of canopy cover.

Increased temperature in streams can result from withdrawing water to the point that drawdown causes more solar heating and from the removal of trees and vegetation that shade the stream. Increased impervious area also decreases stormwater infiltration and thus the amount of cold groundwater-feeding streams, which is a cumulative and unavoidable impact. Rural activities also have the potential to impact surface waters. Fecal coliform bacteria come from malfunctioning septic systems and animal waste from wild and domestic animals.

Not all ordinances designed to protect surface waters have been updated recently. The County has updated stormwater, erosion control, water quality and wetland ordinances to be compliant with the Puget Sound Manual in July 2000. However, the technical standards in the County's wetland ordinance have not been substantially reviewed in approximately 12 years and the Shoreline Management Master Program has not been effectively updated since it was adopted in 1974 (though updates may be pending soon). Consequently, these ordinances may not be consistent with Best Available Science (BAS). GMA requires that local jurisdictions apply BAS to the definition of critical areas and the development of measures to protect them. The County and its cities are in the process of reviewing those ordinances to meet the statutory deadline for compliance of December 2004. While mitigation in the form of local regulation of impacts is expected to be the most effective available following adoption of the BAS, not all impacts from urbanization can realistically be eliminated. Compact urban development that emphasizes infill, redevelopment and reuse of existing urban land is the best way to mitigate these impacts.

While Vancouver has an inspection system in place to monitor the functioning of septic systems and help replace damaged ones or connect the property to public sewer, failures continue to occur and there are insufficient county-wide programs to inspect and monitor the safe functioning of septic systems. Often a weak link in the regulatory system is enforcement. These ordinances rely on residents and property owners to ensure that their septic systems are functioning properly. Unavoidable adverse impacts can

occur from violations of the ordinances. Penalties may be not be large enough to protect against willful violations.

F. Groundwater

Clark County's nearly exclusive source of drinking water comes from underground aquifers. Protection of groundwater depends on comprehensive plan policies and local ordinances that place a priority on protecting groundwater quality from contamination and that require on-site infiltration to recharge aquifers. The ordinances must be compliant in demonstrating BAS measures for protecting groundwater by December 2004. As jurisdictions update their CAOs as needed to comply with the GMA requirement, groundwater quality will also be more protected. However, until that occurs interim development could increase the risk of impacts on groundwater. The impacts include more impervious surfaces in critical recharge areas and greater risk of contamination. More rural residential development increases the eventual risk septic system failures that can contaminate private well water and public water sources.

G. Fish, Wildlife, and Migratory Species Habitat

Requirements for protecting critical habitats are found in the GMA, ESA, and the SMA. All Clark County jurisdictions have implemented requirements to protect critical areas, which include fish and wildlife habitat, but most are out of date. GMA requires that they be updated by December 2004. As jurisdictions update their CAOs to comply with GMA requirements to apply BAS, critical fish and wildlife habitats will be more protected. There is little mitigation available, however, for the general loss of fish and wildlife habitat to development. Native plants and animals are displaced by development. As with the potential unavoidable impacts on surface and ground water, mitigation in the form of local regulation of impacts is expected to be the most effective available following adoption of the BAS, but not all impacts from urbanization can realistically be eliminated. Alternatives that propose less land expansion (e.g., Alternatives 2 and 3 and the Proposed Alternative) have the potential to reduce impacts.

H. Threatened & Endangered (T&E) Species

Species listed as threatened and endangered under the federal Endangered Species Act or as threatened, endangered or sensitive species by the State of Washington are protected under CAO developed by each local jurisdiction. These ordinances are being updated to comply with the GMA requirement to incorporate best available science in the mapping and protection of critical fish and wildlife habitat. However, protecting habitat and T&E species from new development does not restore habitat lost to previous development or reduce the unavoidable conversion of native vegetation to urban use that occurs with development.

I. Wetlands

All alternatives except Alternative 3 propose inclusion of additional wetlands within expansion areas. The filling of wetlands is regulated at the federal and local levels. Unavoidable adverse impacts on wetlands occur if mitigation proposed to offset the loss of wetland area and function does not produce the intended results. Therefore, unavoidable adverse impacts have the potential to occur both with conversion of rural land to urban uses, inclusion of wetlands in UGAs and with potential lapses in long-term monitoring and enforcement to ensure compliance with the permit conditions. Due to the current strength of state regulations that will result in adoption of Best Available Science in local ordinances, these potential adverse impacts are not considered to be significant.

J. Energy

Any population growth (assumed under all alternatives) results in some increased energy consumption. Creation of electrical energy from hydropower, the main source for Clark County, has unavoidable adverse impacts on fish populations and other surface-water dependent wildlife. Any consumption of fossil fuels negatively affects air quality to some extent and results in the irretrievable conversion of that resource. Conservation measures help mitigate the impacts, but cannot prevent impacts altogether, particularly since promoting conservation is largely a voluntary task by local jurisdictions. The less compact the land use pattern, the greater the potential impact. Although the impact of incremental development to accommodate growth is not considered to be a significant impact, the cumulative impact of continued growth and consumption of nonrenewable fossil fuels could be significant on a statewide, national or global level.

K. Scenic Resources

Development tends to adversely affect the scenic values that most citizens associate with undeveloped natural areas and rural landscapes, unless it is well designed. Scenic resources have not been recognized as a critical or sensitive resource that should be inventoried and protected, except in designated scenic areas, like the Columbia River Gorge National Scenic Area. Unavoidable adverse impacts to views are more likely to occur from conversion to urban uses. Without programs to inventory the views from major public routes, public facilities, and viewpoints, those views are more susceptible to being lost. Once development blocks or impairs views, they are difficult to restore without displacement and often are permanently lost. Since there is no inventory of significant views, it is not possible to determine whether they will be affected.

L. Noise

Noise impacts will occur with development and growth. State and federal regulations only limit noise above certain levels from specific sources. They do not regulate the cumulative impacts of noise as it increases with urban activities. Few jurisdictions have development standards designed to limit noise, except in the case of airports and amphitheaters. Some require additional insulation in areas impacted by noise from Portland International Airport. Regulations that involve limitations on the actions or households or businesses instead of buffering are difficult to enforce because noise leaves no imprint once it ceases. Some noise impacts will unavoidably occur with growth, primarily from increased traffic and additional industrial and more intense mixed uses. These are not considered to be significant impacts.

M. Land Use, Rural and Resource Lands

With any expansion of UGAs, there will be conversion of rural land to urban uses. This can be considered to be an irreversible commitment of some rural resources to urban uses. There would be conversion of agricultural and mineral resource lands, although zoning and plan designations protect mineral lands from conversion before the resource is commercially exhausted. Agricultural land is not similarly protected and some loss of prime agricultural soils to urban development will occur with the action alternatives. This is considered a significant impact and also an irretrievable commitment of resources to urban uses.

When UGAs are expanded unnecessarily (i.e., there is significant excess capacity or vacant land), leap-frog type development can result, increasing the costs to provide urban services to those areas. Expansive UGAs also undermine current redevelopment efforts by cities within their existing boundaries, resulting in impacts to public finances as well as land use impacts.

N. Economy

Policies of no net loss of industrial land protect the conversion of industrial land to other non-industrial uses. To the extent that the health of the local economy is dependent on an adequate supply of vacant industrial land, the impact of conversion of industrial land could be significant. However, under certain circumstances, such rezoning requests can be approved through a public hearing process, so some conversion is possible and would result in permanent loss of industrial land.

O. Historic and Cultural Resources

Each of the action alternatives would include areas identified as having a high probability for archaeological resources. Local, state and federal regulations protect cultural resources from disturbance; however, the likelihood of encountering such resources increases with addition of undeveloped areas to urban uses. Many programs to protect historic resources exempt individual property owners or allow voluntary registration. Regulations cannot protect against deliberate violations that result in disturbance of historic or cultural resources, although they penalize the perpetrator.

P. Transportation

The major unavoidable adverse impact of growth in the region would be increased congestion unless additional capacity is provided. Additional capacity could be provided by transit as well as road improvements. If additional capacity is not available, the resulting congestion could significantly, unavoidably, and adversely affect air quality.

A policy to allow 4-lane rural collectors may alter the rural quality of the areas in those corridors.

Q. Fire and Police Protection Services

Inevitably population and employment growth would result in increased demand for EMS and fire protection. Unavoidable adverse impacts are related to the expenditure of resources to serve that growth. To the extent that one growth pattern uses resources less efficiently than another and increased revenue is not an option, those resources must be funded at the expense of other services or programs. This is not considered a significant impact providing the economy stays at current growth rates or better.

R. Schools

If revenue-generating uses are not distributed equitably among the school districts, school districts with a smaller tax base can experience unavoidable adverse funding impacts from having to serve their enrollments with less revenue.

S. Parks and Recreation

Current deficits in acreages of developed urban parks and of regional parks would continue under all alternatives due to population growth and funding constraints.

T. Libraries

If the proposed expansion of library space does not occur as planned, the level of service would drop and adversely affect the quantity of materials, and quality of library services on a per capita basis. This would occur no matter how the region grows.

U. General Government Facilities

None.

V. Solid Waste

None.

W. Sanitary Sewer

Inevitably population and employment growth would result in increased generation of waste water. Unavoidable adverse impacts are related to the expenditure of resources to serve that growth. To the extent that one growth pattern uses resources less efficiently than another and increased revenues are not an option, those resources must be funded at the expense of other services or programs. This is not considered a significant impact providing the economy stays at current growth rates or better and development continues to pay a fair portion of the costs.

X. Public Water System

Growth of population and employment would create additional demands on the public water supply. Finding reliable sources for public wells that produce consistently has been difficult. If growth continues and the water supply becomes constrained by a lack of new sources, the regulatory environment, or diminishing water quality, water shortages may occur. In addition, the growth pattern will affect the costs of providing water to all residents and businesses in the UGAs. To the extent that one growth pattern uses resources less efficiently than another and increased revenues are not an option, those resources must be funded at the expense of other services or programs. This is not considered a significant impact providing the economy stays at current growth rates or better and development continues to pay a fair portion of the costs.

Y. Electricity

Growth of population and employment would create additional demands on the supply of electricity. Alternatives that emphasize industrial growth will result in an irretrievable commitment of energy resources (whether from gas-fueled turbines or hydropower), which is a heavier consumer of electricity than other types of uses.

VII. SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

SEPA requires a discussion of short-term environmental gains and long-term gains and the extent to which the proposed action forecloses future options. Proposed UGA expansions result in the long-term commitment of rural areas to future urban uses. It is so extremely unlikely that those areas would ever revert back to rural uses that they would be considered permanently converted and some resources within them (such as agricultural or cultural resources) may be irretrievably lost. UGA expansion forecloses future rural use or open space (unless zoned for open space). The anticipated gain is the ability to house and employ residents in the County and its cities.

VIII. AREAS OF CONTROVERSY

During the process of developing the proposed plans for Clark County and each of the cities, the major areas of controversy have been

- How much growth to plan for, and
- How to accommodate that growth.

A. How Much Growth Should Be Planned For?

1. Growth Rate

Clark County grew rapidly during the 1990's (averaging approximately 3% annually). This was higher than the Portland-Vancouver metropolitan region as a whole, and one of the fastest growth rates in Washington. Proponents of continuing to plan for a higher rate of growth than the average forecast by OFM (that is, 2% per year or greater) argue that failure to plan for growth that can realistically be expected to occur will result in a scarcity of housing to meet demand and therefore, higher prices (home prices that are not affordable by the majority of Clark County residents). Also, major capital facilities (such as sewage treatment plants and water supply facilities) could be planned and built too small to accommodate all the growth that in fact would occur.

Those who advocate for planning for a low to moderate growth rate (1.5 to 1.9%) point to the overall growth rate for the Portland-Vancouver region (1.8%) for the past 20 years and several events that are not likely to be repeated (e.g., completion of the I-205 bridge opening access to east Clark County for people working in Portland). They also argue that the rapid growth in Clark County in the 1990's was mostly due to policies in the Oregon part of the region designed to capture the majority of employment growth (which generally generates more in tax revenue than it costs to serve) but not the majority of population growth (which generally generates more demand for services than is covered by tax revenue). They also point out that, although the plans are designed to accommodate 20 years of growth, state law requires local jurisdictions to update them every 10 years, effectively giving a 50% margin of error and making it unlikely that land supply would ever become so constrained that it would affect housing prices.

2. Market Factor

The overall amount of land available for development is only one factor affecting whether development occurs and what type it is. Equally important is the demand (who is buying what) in relation to what is actually for sale at any given time. If the land that is available does not meet the requirements of the buyer (including size, location, price or availability of infrastructure, etc.), then the development will not occur. And just because a piece of land is "vacant", does not mean that it is available for development. Parcels that are included in the inventory of land available for development include those that are used (e.g., as a pasture for a favorite horse, or a cherished garden), as well as those not for sale for a variety of reasons.

In recognition of these facts, and in order to avoid creating an artificial scarcity of land that would inhibit the ability of the region to attract businesses, the BOCC included a market factor in the calculation of land needed to accommodate growth in the 1994 Plan. The market factors were 25% for residential and commercial land and 50% for industrial land. This factor was challenged, and the Western Washington Growth Management Hearings Board (WWGMHB) agreed that the market factor could simply be a way to avoid meeting the intent of GMA. They were particularly concerned that the industrial market factor was so large. In order to satisfy the WWGMHB, Clark County adopted a no-net-loss-of-industrial-land policy.

Those who oppose the use of market factors (including the City of Vancouver) point out that, although the plan must provide room for 20 years of forecasted growth, they are updated every 10 years, effectively providing a 50% margin of error. They are also concerned that the law requires local jurisdictions to use consistent assumptions for planning. This is difficult to do when the planned growth used to generate revenues is different than the actual capacity of the land. With the changes in local government financing

capability over the past decade, it is also difficult to demonstrate that they have the capacity to finance the needed improvements for the whole UGA at adopted levels of service.

Several of the cities have not used market factors in calculating their capacity to accommodate growth and in developing their proposals for UGA expansion. The Proposed Alternative includes a 25% market factor for commercial land and a 50% market factor for industrial land.

B. How Should We Accommodate Growth?

1. Assumptions Used to Determine the Size of the Urban Growth Area

The amount of land needed to accommodate expected growth depends on a number of factors:

- Average household size (number of people per household)
- Average employees per acre for different types of businesses (retail, office, industrial, government)
- Average number of units of housing built per acre for single and multi-family housing
- Amount of land that must be set aside for public facilities and services (roads, parks, utility easements, schools, etc.) in every new development
- Degree to which redevelopment will occur, that is growth will be accommodated by replacing existing buildings that do not represent the maximum allowed by law
- Degree to which development will occur on land that has environmental constraints (wetlands, steep slopes, etc.)

In 1994, when the first GMA plan was prepared, none of the local jurisdictions had been monitoring development patterns carefully and there was little information on which to base forecasts of future development trends. Planners used what information was available and the experience of jurisdictions in other parts of the country. Since then, state law has mandated that Clark County and its cities monitor growth patterns and use the information from that monitoring to plan for future growth (RCW 36.70A.215). Table 4 shows the assumptions used in the 1994 plan and the factors observed in the Plan Monitoring Report (2002).

Table 4. Comparison of 1994 Plan Assumptions and Observed Experience

Factor	1994 Plan	Actual
Persons/household	2.12	2.69
Average housing density	8	7
Avg. employment density		
Office/commercial	12	29
industrial	9	13
Percent infrastructure	38%	27.5%
Development on critical lands	(reduced density by half)	10%
Redevelopment	5%	**

** *There are no good countywide data on the role of redevelopment in accommodating growth, however, in the City of Vancouver between 1996 and 1999, 40% of employment growth resulted from redevelopment.*

Some have argued that past trends are not a very accurate predictor of future development patterns. Others argue that they are the most reasonable basis for prediction, since development patterns do not change rapidly and the plan will be updated within 10 years. Besides, state law mandates using the results of monitoring as the basis for planning under GMA.

2. Redevelopment and Infill vs. Development at the Fringes

Given constrained local finances, most cities would rather see growth occur in areas that are already provided with urban infrastructure and services. They have made an investment in roads, water and sewer lines, parks, etc. and they would like to see these used efficiently rather than shoulder the obligation to fund and build new facilities while existing facilities have remaining capacity. This infrastructure was sized to support locally developed comprehensive plans, and the cities would like to see the plans fully implemented.

Also, some facilities and services require a certain level of development in order to operate efficiently: for example, transit service. If development patterns are lower density or intensity than planned, then there are not enough users to support them. Vancouver is planning for high capacity transit (extension of light rail from Portland or an internal streetcar system) as well as continued C-TRAN service to provide mobility and accessibility to the community. This requires a compact development pattern, not large-lot residential development or auto-dependent shopping centers.

The City of Vancouver has been pursuing an active program of encouraging redevelopment and infill in Downtown Vancouver. The downtown is well served by roads, water, sewer, parks and other facilities and services. The redevelopment program has been very successful, and the city would like to continue its success and expand to other underutilized or rundown areas. Similar revitalization efforts are underway in Camas and in the unincorporated community of Hazel Dell.

However, redevelopment and infill are more of a hassle and can be more expensive for the developer because of the need to remove existing structures and work within a constrained area. That is why cities typically provide incentives for infill and redevelopment. In order to have the funding to pursue this strategy, local government cannot afford to take on the obligation to extend service to large new areas. Expanding the urban growth areas, particularly to include a large market factor, will compete for developers and for public funding with efforts to revitalize Downtown Vancouver, Hazel Dell and downtown Camas. That is why most cities requested small or modest UGA expansion. (Battle Ground is the exception.) The UGA expansion requested by Vancouver is much less than that shown in the preferred alternative.

However, much of this controversy does not have to do with facts, but with preferences. Advocates for redevelopment and infill prefer a city to look compact and have a mix of uses within easy walking distance. They prefer a clear distinction between urban and rural areas. Those who advocate developing new businesses and homes at the fringes of the existing UGA prefer lower density campus-style development and the freedom of access and mobility granted by personal automobiles. Unfortunately, these two preferences are in conflict, given that demand is finite and there are limited resources to provide services to support development.

PROJECT DESCRIPTION

I. BACKGROUND

The Draft Environmental Impact Statement (DEIS) for the Comprehensive Growth Management Plans for Clark County and the cities and towns of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal, and Yacolt (the GMA plans) evaluated alternatives for growth management in Clark County and its cities in accordance with the regulations of the SEPA. The proposed revised GMA plans have been prepared to comply with the requirements of the GMA. Under the GMA, as discussed in the previous chapter, counties and cities must plan for the expected 20-year population growth as forecast by the OFM. The plans for the cities and the county must be consistent and must address, at a minimum, land use, transportation, housing, capital facilities, utilities, critical areas, and resource lands. The County must also include policies guiding the future use and development of rural lands and annexation. In addition, several cities and the County have elected to prepare plan elements covering economic development, historic preservation, community design, annexation, and parks and open space.

A. Environmental Review

Clark County determined that the revision of the 1994 comprehensive plan and the UGA could have a significant impact on the environment. That determination of significance automatically requires that an EIS be prepared to assess the possible impacts of different alternatives. SEPA states that an EIS discussion of alternatives for comprehensive plans should be limited to a general discussion of the impacts of alternative policies. The lead agency is not required to examine all conceivable policies, designations, or implementation measures but should cover a range of topics (WAC 197-11-442).

The County identified five alternatives for accommodating growth from 2003 to 2023, four of which called for UGA expansions. Using Washington's State Environmental Policy Act (SEPA) review process to solicit public and agency input on the five alternatives, the County evaluated their potential impacts on the environment in a Draft Environmental Impact Statement (DEIS). The five alternatives considered in the DEIS are described in that document. They include two No Action Alternatives and three Action Alternatives. Out of that process, the County created a sixth alternative, the Proposed Alternative. This Final Environmental Impact Statement (FEIS) will be the lead agency's legal record for compliance with SEPA. The FEIS evaluates the potential impacts of the Proposed Alternative on the environmental and responds to comments on the DEIS. Factual corrections as suggested by public comment on the DEIS can be found in an amended version provided as an appendix to the FEIS (available online or on compact disk in a portable document format [PDF]).

B. Proponents

The draft GMA plans evaluated in this DEIS were prepared by Clark County and the cities of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal, and the town of Yacolt, working in cooperation with each other and the special districts and state agencies required to coordinate their actions under the GMA. The final plans will be reviewed by the Planning Commissions of each jurisdiction and adopted by their respective City or Town Councils or BOCC. In addition, the BOCC must review the adopted plans of the cities and towns for consistency with each other and the adopted County plan and relay their findings to the state's Office of Community Development. In light of the requirement for consistency among the plans, the County, cities, and towns have elected to join together to prepare this DEIS.

C. Location

Clark County is located at the southern edge of Washington State on the Columbia River. Figure 1 shows the regional location of the county and the cities and towns. Clark County is the northernmost county in the four-county Portland-Vancouver Consolidated Metropolitan Statistical Area, and its economy, transportation system, and cultural life are affected by this larger region. The urban core of the Portland-Vancouver area lies near the confluence of the Columbia and Willamette Rivers, approximately 110 miles inland from the Pacific Ocean. This is the easternmost location of deep water ports on the Columbia River system, and it serves southern Washington, part of Idaho, and most of Oregon. It is the largest urban area on the west coast of the United States between Seattle and San Francisco.

II. SCHEDULE

To complete the planning for Clark County in conformance with the GMA (described above), the following schedule in Table 5 has been adopted by the County.

Table 5. Schedule for Clark County Planning

2000	Initiate public involvement efforts
2001	Review and decisions on fundamental policy issues.
2002	Develop Focused Public Investment Areas Initiate environmental review process
March 19, 2003	Distribute Draft Environmental Impact Statement
May 5, 2003	Deadline for comments on DEIS (45 days)
July 2003	BOCC Decision on Proposed Alternative
September 10, 2003	Issuance of Final EIS, Beginning of Public Open Houses
September 25, 2003	Planning Commission hearing on draft Clark County Comprehensive Plan and FEIS
November 25, 2003	Board of County Commissioners hearing on draft Clark County Comprehensive Plan and FEIS

III. DESCRIPTION OF PUBLIC INVOLVEMENT

From the outset of the comprehensive plan update process, Clark County and local cities have made a substantial effort to engage and involve the public in key decisions. The public involvement program for the comprehensive plan was divided into three phases. The publication of the DEIS occurred in Phase 3 of the program and is described in the DEIS with other major activities prior to Phase 3.

Since the distribution of the Draft Environmental Impact Statement (DEIS) in May 2003, several outreach tools were used to distribute the DEIS and gather comments on it. The DEIS was distributed broadly through the County's web site, public libraries, Sheriff's precincts, the Customer Service Center at the County's Public Service Building and the Battle Ground satellite office. It was available for purchase on CD-ROM for a minimal charge of $5.00 or in hard copy for $95.00 (cost of copying).

The County held open houses in the lobby of 1300 Franklin Street every Tuesday evening between March 24 and April 29, 2003, where staff were available for discussions on the comprehensive plan alternative presented in the DEIS.

The County web site is updated on at least a weekly basis with revised documents pertaining to the Comprehensive Plan update process and all substantive work on the update.

Beginning in May 2003 the Board of Commissioners and Planning Commission scheduled joint work sessions and two Board public hearings to hear public testimony and to select a preferred alternative. A

modified preferred alternative was selected and technical analysis began that then culminated in a proposed comprehensive land use plan and zoning map.

The Final Environmental Impact Statement (FEIS) completes analysis and responds to public comments on the DEIS. The FEIS document and map are to be similarly distributed and advertised widely. Suggested textual changes to the DEIS are reflected in an amended document that is an appendix of the FEIS, available online and on CD. A mailing to over 2,500 interested parties was sent to notify them of the pending release of the FEIS and public meetings being advertised and held to educate the public on the proposed alternative. Meetings are scheduled for public review of the proposed comprehensive plan on the following dates:

- Wednesday, September 10 - Clark County Public Service Center, 1300 Franklin Street, Vancouver.
- Thursday, September 11 - Old Camas High School, 1612 NE Garfield Street, Camas.
- Tuesday, September 16 - Battle Ground Senior Citizen Center, 116 NE 3rd Avenue, Battle Ground.

Informational mailings are sent on a regular basis to the GMA update mailing list. In addition, staff has been available to speak to any group requesting participation. The Fairgrounds Public Safety Complex open house will be attended on Saturday, September 20, 2003 by staff with a station set up to present the proposed comprehensive plan. Other presentations were made during the planning process to community groups. Hearings before the Planning Commission and BOCC will provide further opportunities for public comment.

IV. PLANNING AND ANALYSIS FRAMEWORK

Since the Clark County *20-year Comprehensive Growth Management Plan* was adopted in 1994, conditions in the county as well as state and federal laws have changed, requiring corresponding changes to the County's comprehensive plan. These changes include:

- A growth rate more rapid than anticipated. The 1994 plan projected that Clark County would have a population of approximately 290,000 in 2000. Upon remand, in 1996 this was increased to approximately 330,000. The actual 2000 population was 345,238, 4.6% higher than forecasted.
- Listing of Lower Columbia River runs of steelhead and chinook salmon as threatened under the Endangered Species Act, requiring special protection for their habitat in the streams of Clark County.
- Reductions in revenue affecting the funding of services and capital facilities.
- Changes in state law requirements for the comprehensive plan:
  - Analysis and policies to protect the operation of general aviation airports from encroachment by incompatible uses.
  - Protection of critical areas functions and values using "best available science" to develop policies and development regulations. Special consideration must be given to preserving or enhancing anadromous fisheries.
  - Shoreline Master Program as an element of the comprehensive plan.
  - Procedures for identification of and siting "transportation facilities of statewide or regional significance" as essential public facilities.
  - Procedures for siting "secure community transition facilities" as essential public facilities.
  - Assessment of the impacts of proposed land use patterns on the level of service on state highways.

A detailed description of the GMA and changes to state law and to the Countywide Planning Policies since 1994 are provided in Chapter 1 of the DEIS. They are not repeated here.

V. ALTERNATIVES

Working with the public in two series of public meetings and the Growth Management Steering Committee, which represents the incorporated cities, Clark County identified five alternative ways that growth could be accommodated over the next 20 years. The five alternatives were evaluated in the DEIS.

Following comments on the DEIS, the BOCC developed a new, Proposed Alternative that combined some elements of the five alternatives with new features. Table 6 identifies the features of the Proposed Alternative, using the same format as Table 6 of the DEIS, allowing comparison of the assumptions and features of all the alternatives considered in this EIS. Figure 8 illustrates the Proposed Alternative. Figures 2 through 7 illustrate the other alternatives.

A. Alternatives Development: Population and Employment Forecasts

To comply with the GMA, Clark County and the cities of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal and Yacolt must update their comprehensive plans to accommodate 20 years of growth in population, households, and employment, as well as the infrastructure—roads, schools, and parks—to support this growth. The County works with the statewide population projections provided by the OFM (RCW 36.70A.070). OFM only prepares forecasts of population growth, and each county planning under the GMA must decide what the average household size will be and how much employment will grow over the 20-year period.

In 2000, OFM indicated that Clark County could expect to grow at an annual rate between 1 percent and 2.5 percent, or 419,188 to 587,622 people over the next 20 years. The BOCC considered historic growth trends in the county and region, other locally approved growth assumptions, and the condition of the regional economy and decided to plan for an average annual population growth rate of 1.5 percent and an average household size of 2.66 persons per single-family household and 1.9 persons per multi-family household. Projecting from OFM's End of Year 2002 Population estimate for the county of 370,463, a 1.5 percent growth rate meant a total of 115,762 new people (38,587 new urban households) over the next 20 years. (The Population, Housing and Land Use section discusses historic and projected growth trends in the county and cities.)

Following public comment on the five alternatives evaluated in the DEIS, the BOCC elected to plan for an average annual population growth rate of 1.83 percent (similar to the growth rate under Alternative 1) and an average household size of 2.69 persons per household. Projecting from OFM's End of Year 2002 Population estimate for the county of 370,463, a 1.83 percent growth rate means 163,728 new people (54,779 new urban households over the next 20 years. (The Population, Housing and Land Use section of the DEIS discusses historic and projected growth trends in the county and cities.)

Employment growth forecasts were developed with the help of the Washington Employment Security Department (ESD) and the Columbia River Economic Development Council (CREDC). To reduce traffic congestion in the region and improve the county tax base, the BOCC decided that the County should plan to increase the ratio of jobs to population within the county and bring the jobs-to-population ratio more in line with what is found in the Portland-Vancouver metropolitan area. Currently, the jobs-to-population ratio in Clark County is 1 to 2.9; the jobs-to-population ratio in the Portland Vancouver Metropolitan area is about 1 to 2. The Proposed Alternative would result in a jobs-to-population ratio of 1 to 1.75 for the growth increment in order to achieve a ratio of 1:2 at full build-out.

The amount of land needed to accommodate projected growth in housing and employment depends on the gross density at which development occurs, that is, the number of housing units or jobs per acre. Gross density includes estimates of the percent of land used for roads and other infrastructure needs and how much is unlikely to develop for other reasons. The alternatives under consideration reflected a range of

assumptions about residential, commercial, and industrial development, as well as the locations where it is most likely to occur. The assumptions for the Proposed Alternative reflects the result of the DEIS public process. This FEIS focuses on a summary and description of the Proposed Alternative, its potential impacts and proposed mitigation.

The GMA plans adopted by the County and cities in 1994 provided land within the UGAs sufficient to accommodate 20 years of growth plus an amount to take into account the fluctuations of the real estate development market. Although seven years have passed since the adoption of the plans, a substantial amount of vacant and underutilized land remains within UGA. Regardless of the alternative selected, the majority of growth over the next 20 years is expected to occur within currently designated UGA boundaries.

B. Description of the Proposed Alternative

The Proposed Alternative reflects a change in policy direction from the assumptions recommended by the BOCC in April 2001. One change was using a population projection that is slightly higher than the intermediate OFM projection, and which equates to an average annual growth rate of 1.83 percent . The growth rate is the same as the growth assumption of the 1994 plan, greater than the 1.6 percent used by Metro in its regional planning and greater than the 1.5 percent embraced by the BOCC earlier in the process. Over the next 20 years, 163,728 additional residents would be added: 16,373 rural residents and 147,355 urban residents. The total population would be 534,191 in 2023. Another policy change was to plan for 2.69 persons per household, rather than the 2.43 that was assumed in 2001. As a result, 54,779 new urban households and 6,087 new rural households would be created over the next 20 years, but less land would be required to accommodate them because fewer units are required to house the same population.

Market factors were also changed for the Proposed Alternative to determine the size of urban growth areas. The BOCC directed staff to retain the use of market factors for commercial (25 percent) and industrial land (50 percent), but eliminate the market factor for residential land.

Another policy decision relevant to the comprehensive planning process was adoption of new average density targets. Different density targets are being used for Vancouver's UGA (eight dwelling units per acre), La Center (four units per acre), and all other cities (six units per acre). The Proposed Alternative has an overall average density target for UGAs of approximately 7 units per acre. This number is true if the County had maintained the 1994 distribution of new residents to jurisdictions. However, the emphasis of growth in Battle Ground alters the average density to 6.8 units per acre.

In 2001, the BOCC directed that the current policy guideline that 81 percent of growth should occur in urban areas should be used as a measurement tool rather than as a mandate. The Proposed Alternative directs 10 percent of growth to rural areas and 90 percent to urban areas.

The total UGA expansion under the Proposed Alternative would be 9,461 acres which is slightly less than Alternative 2, substantially less than Alternative 1, and about 75 percent of Alternatives 4 and 5. Approximately 80 percent of urban growth would be located in existing UGAs, while 20 percent would occur in expanded UGAs, primarily around Vancouver and Battle Ground.

The Proposed Alternative plans for at least 84,203 new jobs. Employment density under this alternative would be 9 employees per acre for industrial development, 20 employees per acre for business park development, and 20 employees per acre for commercial development.

This Alternative also assumes that new residential development within the county should be a mix of types with no more than 75 percent of any single type.

A final assumption in the land use calculation is the infrastructure factor. The factor takes into account that a certain percentage of land has to be built in streets, or other public facilities, thus removing that land from potential development. This alternative assumes that the average amount of land required for infrastructure by new residential development is 27.5 percent and by industrial and commercial development is 25 percent. These factors are close to observed experience in Clark County.

C. Cities' Visions for Implementation

The Proposed Alternative establishes the planned uses for the rural and unincorporated urban areas of Clark County. The cities' plans also contain the planned uses within their UGAs in addition to uses within city limits. Below are descriptions of how the cities envision implementing their plans and accommodating growth over the next 20 years.

1. Camas

The City of Camas proposal is the result of nearly three years' work by citizens, technical and professional advisors, and an engaged public. It is consistent with the BOCC's population growth rate, the Camas share of new growth at around 7,000 residents, an average of 6 residential units per acre and the policy of limiting new single family residences to not more than 75% of new housing stock.

In a larger context the draft proposal is aimed to accomplish the following:

- Encourage mixed-uses;
- Disperse new multi-family throughout the city, and in areas where adequate infrastructure exists or is planned;
- Provide for a gradual transition between different housing densities;
- Ensure new development is compatible with existing neighborhoods;
- Provide modest opportunities for commercial/retail services on the west side of Camas; and
- Provide a mechanism for conversion of environmentally-constrained secondary and tertiary light industrial lands to other employment producing designations.

2. La Center

The La Center vision is for a pedestrian friendly small town atmosphere. La Center will continue to strive to meet the housing needs of all residents in all age and economic levels with a variety of housing types. La Center is planning for a small but active downtown commercial node with some neighborhood commercial areas. La Center has an opportunity to develop a commercial node on the west side of the East Fork of the Lewis River on the south side of the intersection of La Center Road and Timmens Road. Development of the Timmens Road interchange could provide a new base for job opportunities for La Center residents and create a visual gateway into the city. In addition, the Planning Commission supports the development of the Industrial Reserve lands at the I-5 Junction and recommends that the city aggressively pursue discussions between the City of La Center and Clark County with regard to revenue sharing and other inter-local agreements.

3. Ridgefield

The Ridgefield comprehensive plan is based upon four cornerstones. The first is development of the I-5 Junction area as a regional employment center with urban services provided by the City. The second cornerstone is maintaining the existing residential neighborhood quality and developing new neighborhoods with grid street systems, no building on the steep slopes around Gee Creek, and no walled subdivisions or cul-de-sac patterns. Well designed multiple family development along transit corridors and in the Downtown will be allowed. The third cornerstone is protection of stream corridors and

vegetated slopes and wetlands as "ribbons of open space". Finally, development must pay for its share of infrastructure improvements. Public services are to be provided concentrically from two locations – from the Downtown outward towards the Junction and from the Junction towards Downtown.

4. Vancouver

Implementation of the Vancouver Comprehensive Plan will focus on areas in or near urban centers and the corridors that connect them. These areas are expected to contain a mixture of employment, housing, and cultural opportunities. The type and intensity of activities and development at each will vary depending on local circumstances but are intended to be community focal points, building on the unique characteristics of individual districts. The areas also provide opportunities to focus some economic development into locations where services can be provided more efficiently. The City will involve local citizens and businesses in developing focused subarea plans as the Comprehensive Plan is implemented.

Potential centers and corridors within Vancouver's city limits include:

- Burnt Bridge Creek East area
- Burton Road/28th Street area
- Downtown Vancouver
- Vancouver Historic Reserve
- Evergreen Airport and surrounding area
- Fourth Plain Boulevard from I-5 to 117th Avenue
- 1st Street/Section 30 area
- Mill Plain Boulevard/I-205 area
- 164th Avenue south
- 192nd Avenue from 15th to 34th Avenue
- 192nd Avenue at SR-14
- St. Johns Road corridor
- SW Washington Medical Center area
- Port of Vancouver
- Columbia Shores

5. Town of Yacolt

The purpose of Yacolt's comprehensive plan is to provide a framework for a compact, orderly pattern of development within the town's UGA, and to insure adequate urban services to protect public health and welfare and enhance the quality of life within the community. The Land Use Element provides policies for efficient and cohesive patterns of development. The basic goals and policies of the 1994 plan remain applicable and will continue to guide development, given the projected population for the next 20-years. Development in the community will continue to be limited until the town has a public sewer system.

Table 6. Total Acreage Added to City UGAs by Alternative and Plan Designation

Rural Land → **Urban Land**

Existing County Comprehensive Plan Designations

	County	Battle Ground	Camas	La Center	Ridgefield	Vancouver	Washougal
Existing Land Use Designation	Acres of existing Comprehensive Plan designations added to UGAs	County acreage dedicated to City					
Residential	2,913	75%	7%	1%		17%	
Urban Reserve	3,189	12%	10%			78%	
Commercial	14	100%					
Office Park/Business Park							
Industrial	26	32%	8%			60%	
Industrial Urban Reserve	238		100%				
Mining Lands	195					100%	
Agriculture	2,758	24%	8%	1%	2%	65%	
Forest land	1			100%			
Other	79	2%	26%			72%	
Parks/Open Space	1					100%	
Public Facility	46			1%		99%	
Water	1		100%				
Total Acres	9,461	34%	11%	1%	Less than 1%	54%	

2023 Projected Population	534,191	Planned New Jobs	84,328

New Land Use Designations

	County	Battle Ground	Camas	La Center	Ridgefield	Vancouver	Washougal
New Land Use Designation	Proposed urban land use designations added to UGAs	County acreage dedicated to City					
Residential	3,555	38%	11%	2%		49%	
Mixed Use Resid.-Battle Ground	895	100%					
Total Residential Acreage	4,450	51%	9%	1%		39%	
Mixed Use Empl.-Battle Ground	259	100%					
Mixed Use	1,192					100%	
Commercial	105					100%	
Business Park	2,265	2%	16%			82%	
Industrial	677	70%				30%	
Public Facilities	182	22%	53%		25%		
Parks/Open Space	331	48%	52%				
Total Employment Acreage	5,011	19%	12%		1%	68%	
Total Acreage	9,461	34%	11%	1%	Less than 1%	54%	

Source: Clark County Planning Department; Clark County Department of Assessment and GIS. 2003.

EXISTING CONDITIONS, SIGNIFICANT IMPACTS, AND MITIGATION MEASURES

This FEIS evaluates the potential environmental impacts of proposed changes to the comprehensive plans and UGAs of Clark County and the cities of Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal, and the Town of Yacolt. As noted in previous sections, the County and its cities must demonstrate compliance with the provisions of the GMA and provide sufficient land in designated UGAs to accommodate growth over the next 20 years.

The key decision to be made by county and city officials as a result of the EIS analysis is the best means of accommodating growth and providing services, while protecting the natural environment and the lifestyle valued by residents. The plans must also be consistent with the Countywide Planning Policies (adopted in July 1992) and the Community Framework Plan (adopted in May 1993). In 2000, the Countywide Planning Policies were amended to implement buildable lands legislation and to require annual monitoring of development and a buildable lands report every five years that details growth, development, capacity, needs, and consistency between comprehensive plan goals and actual densities for Clark County and the municipalities within it.

I. METHODOLOGY OF DETERMINING IMPACTS

Since the county cannot stop growing, it is impossible to entirely avoid the adverse impacts associated with growth. These impacts will occur across many aspects of the environment. Each of the major elements of the environment listed in SEPA has been analyzed in this EIS—the five alternatives in the DEIS and the Proposed Alternative in this FEIS. The difference in impacts between the alternatives is based primarily on the location and size of UGAs proposed to accommodate the residential, commercial, and industrial growth.

In the case of the natural environment, determining the relative impacts depended on knowing where the natural resources are and how much of them would be impacted by each proposed expansion area. Analysis therefore relied on GIS mapping to establish the location and size of the natural resources, such as streams, wetlands, shorelines, or mineral and agricultural resource land. Each UGA was overlaid on those resources, and the GIS system was able to calculate how much of the resource would be converted to urban use. For example, the number of miles of streams and the number of acres of wetlands that currently are in rural areas and would be added to expanded UGAs under each alternative was calculated.

With respect to the built environment, acreages of land converted from one type of rural or resource designation to an urban designation was calculated for each UGA under each alternative. The same type of analysis was used to determine the expanded urban areas that would need to be served by each type of urban facility and service. Whether each service provider would be able to accommodate the additional UGA was also determined from the capital facilities plans or conversations with the providers.

It is important to note that the impacts analysis asks what total capacity the proposed UGA expansions would provide, rather than whether the expansions would accommodate the housing and jobs projections. The population and jobs are targets established by policy. The BOCC made decisions to accommodate growth using assumptions and assigning land uses that are specific to the Proposed Alternative. By establishing an expected average growth rate, population and jobs can be accommodated in various locations and to different densities and types of uses. However, the BOCC also directed that extra commercial and industrial land should be included for a market "cushion." As a result, the total capacity of the UGAs is larger than the minimum required to accommodate growth.

Here is an example. If a city decides it will accommodate 500 more households and decides it wants those households to live at a density of five units per acre, it would need 100 more acres of land for that growth.

However, if it also decides that infrastructure takes 25 percent of developed land and that a 50 percent market factor makes the real estate market more fluid, then it would need to add 75 more acres to a proposed UGA expansion. Now the expansion is 175 acres and the city has to plan to provide services to the entire 175 acres. If full build-out were to occur, even with 25 percent in infrastructure, the impact is that 131 acres (1.75 x 0.75) have houses, and at five per acre, that is 655 households, not 500 and the impacts from that development are 175 acres of build-out, not 100. Therefore, assessing impacts must be on the total capacity of the land, not just the planned-for growth target.

In this EIS, assessment of impacts is based on the total geographical expansion of UGAs and the total capacity, since that will determine both the impacts and the cost of mitigation. Since Yacolt is not proposing any expansion of its UGA, no impacts or mitigation measures are discussed. The Town is proposing new policies addressing historic preservation and capital facilities to update its 1994 comprehensive plan. The recommended policy update to capital facilities would require level of service standards to look at water distribution, and in particular, fire flow. Policy 8-14 would seek funding assistance to establish and advance a wastewater management program for the town, including the design and construction of a public sanitary sewer system.

Mitigation measures that were suggested in comments on the DEIS are added in separate subsections titled "Suggested Mitigation Measures". The lead agency has not made any evaluation of these suggested mitigation measures.

II. EARTH

A. Soils

1. Setting

Soils can pose limitations to the construction of building foundations. Soils without the strength to support foundations can require special engineering to remedy problems. Some soils are also unsuitable for septic systems and regulations require alternative engineering or connection to a public sewer if soil on an individual lot does not allow percolation to occur at an acceptable rate. Consequently, the issue of soils not supporting septic systems is less of an issue than the conversion of resource lands and weak support for foundations.

2. Impacts

As with geologic features, the evaluation of soil-related impacts primarily involves assessing the suitability of soils to support a proposed activity or project, or the suitability of the proposed project or action given the soil characteristics of the location.

This impact analysis looks at soils that underlie the expanded UGAs of the Proposed Alternative and to what extent these soils place limitations on the construction of building foundations and septic systems. It also looks at the extent to which soils that can support agriculture or timber production are found within these areas. A more complete assessment of impacts to agriculture and forest lands is found in the Resource Lands section of this document. Under the GMA, resource lands (lands designated for agricultural, forest, or mineral resource uses) are not to be included within UGAs. They are, by definition, inconsistent with urban development. The size of the UGA will therefore affect the amount of prime agricultural and forest soils that are preserved.

The Proposed Alternative would see UGAs expand by a total of 9,461 acres, with most of that expansion occurring around Vancouver (5,097 acres), Battle Ground (3,223 acres), and Camas (1,029 acres). La

Center and Ridgefield would see much smaller expansions of their UGAs, 66 acres and 45 acres, respectively.

Those areas that would be brought into Vancouver's UGA display a range of soil limitations to foundations. However, most of this land, including the area north of the existing UGA and the area between Vancouver and Battle Ground, has moderate or severe soil limitations to foundations, with severe limitation areas generally located near waterways. There are also limited areas of expansion, primarily around Fourth Plain Boulevard east of the city, that have slight soil limitations to foundations.

The expansion of Vancouver's UGA east of the city's current UGA would also include soils with moderate or severe limitations to foundations. However, the area around Lacamas Creek and land adjacent to the Columbia River is notable for soils with severe limitations to foundations.

The expansion of Battle Ground's UGA in the Meadow Glade area would occur mostly on lands with moderate soil limitations to foundations, although there is also much of this expansion area that includes soils with severe limitations to foundations. None of the land that would be brought into Battle Ground's UGA is classified as having slight soil limitations to foundations. The area east of Lacamas Lake that would be brought into Camas' UGA includes predominately soils with severe limitations to foundations. The area that would be brought into Ridgefield's UGA contains soils with both severe and moderate limitations to foundations.

Soil limitations to septic systems within Vancouver's new UGAs under the Proposed Alternative are predominately moderate and severe. Expansion areas east of the city's current UGA in the Fisher Swale and quarry area are classified as having severe soil limitations to septic systems. Battle Ground's new UGAs under this alternative are classified as having severe soil limitations to septic systems, due to the presence of hydric soils. Similarly, those areas that would be brought into Camas' new UGA have severe soil limitations to septic systems. The 45 acres that would be added to Ridgefield's UGA have both moderate and severe soil limitations to septic systems.

The Proposed Alternative would add 2,758 acres of agricultural land to UGAs, with most of this land being located in the area between Vancouver and Battle Ground. This represents slightly less than one-third the amount of agricultural land that would be added to UGAs under Alternative 1 (8,648 acres). It is also less than what would be added under Alternative 4 (3,178 acres) and Alternative 5 (3,589 acres), but is more than would be added under Alternative 2 (2,207 acres) and Alternative 3 (0 acres). Alternatives 2, 3, and 5 do not add any forest land to UGAs, while Alternative 1 adds 145 acres and Alternative 4 adds 68 acres.

3. Mitigation

For a discussion of Clark County and local jurisdictions' policies and regulations that relate to the protection of soils and resource land, please refer to the DEIS.

The Proposed Alternative would involve the unavoidable conversion of some resource lands to urban uses in order to accommodate projected population and employment growth over the next 20 years. The incremental loss of farmland impacts the continued viability of farming, making it more difficult to sustain the important role this sector plays within the life of Clark County. It also inevitably impacts the character of the County and those other values that are associated with farm land, including open space and scenic values.

B. Geology and Topography

1. Setting

Geological hazard areas are those that, because of their susceptibility to erosion, sliding, earthquakes, or other geological events, are not suited to siting residential, commercial, or industrial development. Potential geologic hazards in Clark County include landslides—often in steep-sloped areas around stream corridors—ground settling, flooding related to volcanic activity, and earthquakes. Please refer to the corresponding section of the DEIS for a discussion of existing conditions within Clark County as they relate to geology and topography.

2. Impacts

In considering the impacts of different growth alternatives on the geology of the region, the evaluation is essentially one of land use compatibility. The area for proposed urban area expansion is overlaid on the relevant geologic data, most often geologically hazardous areas, to determine the compatibility of development with the existing features of the geology.

Under the Proposed Alternative, Clark County and its cities would limit development in geologically hazardous areas, consistent with the requirements of the GMA and each jurisdiction's critical areas ordinance. These regulated areas include those with steep slopes—generally more than 40 percent—landslide hazard areas, and seismic hazard areas.

Under the Proposed Alternative, around 105 acres of land classified as Zone A—areas with the greatest earthquake hazard—would be included within new UGAs. By contrast, Alternative 1 would include 214 acres of Zone A land, Alternative 2 would include 88 acres, Alternative 4 would include 149 acres, and Alternative 5 would include 54 acres. Alternative 3 would not include any new Zone A land, since it does not expand existing UGAs. Of the 9,461 acres that would be added to new UGAs under the Proposed Alternative, 1,701 acres are Zone B and 526 acres are Zone C, zones that represent less of an earthquake hazard than Zone A. Around 321 acres are classified as Zone D, which represents the least earthquake hazard.

The Proposed Alternative would include around 1.6 acres of land with slopes greater than 40 percent. This is considerably less than Alternative 1 (194 acres), Alternative 2 (46 acres), Alternative 4 (75 acres), and Alternative 5 (54 acres). Alternative 3 would not expand existing UGAs and would therefore not include any new lands with slopes 40 percent or greater. The Proposed Alternative would also include around 203 acres of land with slopes between 25 and 40 percent within expanded UGAs. These areas tend to be located near waterways, such as East Fork Lewis River, Salmon Creek, and Lacamas Creek.

Under the Proposed Alternative, approximately 177 acres of areas with potentially unstable slopes would be included within new UGAs. This is less than Alternative 1 (1,410 acres), Alternative 2 (469 acres), Alternative 4 (482 acres), and Alternative 5 (329 acres). Under this alternative, no areas classified as having either active unstable slopes or historical unstable slopes would be added to UGAs.

Table 7 lists acres of geological hazard areas that would be included within new UGAs under the Proposed Alternative.

Table 7. Acres within Geological Hazard Areas under Proposed Alternative

	Proposed Alternative
Earthquake Hazard Areas :	
Zone A (greatest hazard)	105
Zone B	1,701
Zone C	526
Zone D (least hazard)	321
Steep Slope Areas (³ 40%)	1.6
Landslide Hazard Areas	177

Source: Clark County Department of Assessment and GIS

3. Mitigation

To be consistent with the GMA, Clark County and its cities have developed policies that identify geologic hazardous areas and that ensure development within these areas will minimize risk to life and property. The discussion in the DEIS outlines these policies, which show considerable overlap, and additional mitigation measures that could be adopted to protect geologically hazardous areas from unsafe development.

There are some unavoidable adverse impacts that relate to geology and topography. In areas susceptible to landslides, activities such as septic system construction, the watering of lawns, and the redirection of stormwater runoff could lead to the saturation of otherwise stable soils and may cause the loss of internal slope stability, resulting in landslides.

Nothing can be done to control the magnitude or location of earthquakes. However, structures can be properly sited away from areas of greatest risk and designed to withstand shaking and settlement. Areas of greatest risk (those immediately adjacent to fault lines or on unstable slopes) should not be intensely developed. The greatest potential for earthquake damage in Clark County exists in areas of unconsolidated sediment. Such soils are found along the Columbia River, at Steigerwald Wildlife Refuge and in the Vancouver Lake Lowlands. In urbanized areas, the greatest earthquake-related damage is often caused by secondary events, such as fires that result from ruptured natural gas lines or flooding caused by ruptured water lines or storage tanks.

III. AIR

A. Climate

1. Setting

For a description of the climate of Clark County and a discussion of how climate change could affect the region, please refer to the Climate section of the DEIS.

2. Impacts

The Proposed Alternative would not have a direct impact on the climate of the region in the short-term. It envisions an accommodation of population growth over a 20-year period, and the changes it would bring about in land use, transportation, the environment, and the economy would take place gradually over that period. It is possible that, over time, this alternative, like the other alternatives, could impact microclimates, at least in terms of temperature. Because urban areas generally have slightly higher temperatures and each alternative involves a greater level of urbanization, either within existing or

expanded UGAs, it is possible that temperatures could increase somewhat in these areas, although any increase in temperature would be slight.

The growth management decisions reflected in the Proposed Alternative—the amount of land that is urbanized, the extent to which resource, rural, and open space areas are preserved, the efficiency of the transportation system reflected in the number of vehicle miles traveled and miles of congested lanes—do have the potential to make an incremental contribution to climate change on a larger scale over a longer period of time.

The Proposed Alternative would expand UGAs by 9,461 acres, which is about one-third the size of the expansion that would take place under Alternative 1, is about 75 percent of the expansion that would occur under Alternatives 4 and 5, and is slightly less than what would occur under Alternative 2. Of the 9,461 acres that would be urbanized, around 2,800 acres are agricultural land. This is about one-third the amount of agricultural land that would be added to UGAs under Alternative 1 and it is somewhat less than what would be added under Alternative 4 (3,128 acres) and Alternative 5 (3,584 acres).

Similarly, the Proposed Alternative would have less impact on rural lands than the other alternatives, with the exception of Alternatives 2 and 3. It would add 2,913 acres of rural lands to UGAs, whereas Alternative 1 would add 12,088 acres, Alternative 2 would add 2,106 acres, Alternative 4 would add 4,775 acres, and Alternative 5 would add 4,046 acres. Alternative 3, since it does not expand UGAs, would not convert any rural lands to urban uses.

Preserving agricultural, forest, and rural lands will allow biota—soils and plants—to continue to function to some degree as sinks for carbon dioxide. Removing vegetation and covering soils with impervious surface prevents this process from occurring. The Proposed Alternative would convert less agricultural, forest, and rural land to urban uses than Alternative 1, 4, and 5.

Moreover, the Proposed Alternative would result in 1,041,155 vehicle miles traveled (VMT), which is about the same as Alternative 1 (1,076,674 miles). It is, however, somewhat fewer miles than Alternative 2 (963,370 miles), Alternative 3 (923,120 miles), Alternative 4 (974,498 miles), and Alternative 5 (975,643 miles). The Proposed Alternative would see around 149 miles of congested lanes, which is about half of what would occur under Alternative 1 (273 miles) and is about the same as Alternative 4 (124 miles) and Alternative 5 (105 miles). Alternative 3 would result in the fewest miles of congested lanes within the County—85 miles.

To fully assess how the vehicle travel patterns of the Proposed Alternative could potentially contribute to an increase in greenhouse gases, other factors would need to be considered. The numbers above suggest that the Proposed Alternative, because it involves more vehicle miles traveled and additional congested lane miles, could result in greater emissions of carbon dioxide than Alternatives 2, 3, 4, and 5. However, the overall impacts cannot be stated with any certainty because of the complexity of factors that contribute to climate change over time.

3. Mitigation

In general, the plans and ordinances of Clark County and the cities do not deal specifically with preventing impacts to climate, except in the context of protecting air quality. For suggested mitigation measures, please refer to the Climate section of the DEIS.

B. Air Quality

1. Setting

Clark County is located in an airshed that is bounded on the south by Eugene, Oregon, on the north by Chehalis, Washington, on the west by the Coast Range, and on the east by the Cascade Mountains. For a complete discussion of this airshed setting and some of the air quality issues within it, refer to the Air Quality section of the DEIS.

2. Impacts

Air quality modeling was not performed for this plan level of analysis. The implications of the Proposed Alternative for air quality are assessed by measuring vehicle miles traveled (VMT), vehicle hours traveled (VHT), vehicle hours of delay (VHD), congestion on regional facilities (in lane miles), and by looking at potential "hot spot" areas where the high level of congestion may carry with it a potential for violation of ambient air quality standards.

The Proposed Alternative would result in 1,041,155 VMT, which is about the same as Alternative 1 (1,076,674 miles), but is higher than Alternative 2 (963,370 miles), Alternative 3 (923,120 miles), Alternative 4 (974,498 miles), and Alternative 5 (975,643 miles). In terms of VHT, the Proposed Alternative would result in 31,957 hours, whereas under Alternative 1 this figure is 37,500 hours. Under Alternative 2, VHT would be somewhat less at 27,494 hours. Alternative 3, which would accommodate growth within existing UGAs, would result in about three-fourths the amount of VHT as the Proposed Alternative. Compared to the Proposed Alternative, Alternatives 4 and 5 would see somewhat of a reduction in VHT, with 27,250 and 27,110 VHT, respectively.

The Proposed Alternative would have the second highest VHD (5,052 hours), but still half the VHD as under Alternative 1 (9,510 hours). VHD under the other alternatives is about half of VHD under the Proposed Alternative. Further, the Proposed Alternative has the second highest number of congested lane miles, around 149. This contrasts with Alternative 1 (273 miles), Alternative 2 (127 miles), Alternative 3 (85 miles), Alternative 4 (124 miles), and Alternative 5 (105 miles). Those areas that would experience especially significant congestion and delays under the Proposed Alternative include I-5 and I-205, from 134th Street to the Columbia River; Mill Plain, from I-205 to 164th; SR 503, from 119th to SR 500; and Burton Road, from Andresen to 86th.

The non-motorized mode share at 6.4 percent is better under the Proposed Alternative than under all other alternatives. Transit share is equal to or better than under all other Alternatives except Alternative 3a.

3. Mitigation

For a discussion of County and city policies, plans, and regulations that relate to the preservation of air quality, please refer to the Air Quality section of the DEIS.

IV. WATER

A. Surface Waters

1. Setting

Clark County is bounded on the south and west by the Columbia River and on the north by the Lewis River. The Columbia River is the most important river in the county. It controls the movement of surface water, all surface streams ultimately discharge into the Columbia, and groundwater that leaves the county does so by discharging into the river or its tributaries. The major tributaries of the Columbia River in

Clark County are the Lewis River, Washougal River, and Lake River. Important streams that are tributaries to these rivers are Siouxon Creek, Canyon Creek, Cedar Creek, East Fork Lewis River, Little Washougal River, Salmon Creek, and Burnt Bridge Creek. Major lakes in the county include Vancouver Lake and Battle Ground Lake, which are naturally occurring lakes, and Lacamas Lake, Lake Merwin, and Yale Lake, which are man-made. For a complete discussion of surface waters, shorelines, stormwater, and floodplains, refer to the Surface Waters section and Figure 18 of the DEIS.

2. Impacts

General impacts to surface waters are discussed in the DEIS. It cannot be known what the exact magnitude of impacts to surface and groundwater would be under the Proposed Alternative without complicated and expensive hydrologic modeling. Clark County does not have the resources to study such potential impacts from growth in land uses under each alternative in this EIS. However, a calculation of stream miles, floodplains, and shoreline environments that would be included within expanded UGAs will allow for a comparison of general impacts absent the other data. Calculations of the amount of impervious surface that would be included within expanded UGAs under the Proposed Alternative can also provide valuable information in a comparison of alternatives.[2]

Table 8 lists the miles of streams that would be included within new UGAs under the Proposed Alternative. Table 9 shows the amount of floodplain area (floodway and flood fringe), and Table 10 shows the amount of impervious surface area that would be added to new UGAs upon build-out. Table 11 shows the percentage of watersheds that are covered by impervious surfaces under the Proposed Alternative and the acres of impervious surface within new UGAs by watershed. Generally, the health of surface waters within a watershed is related to the percentage of that watershed that is covered by impervious surfaces. The greater the percentage of impervious surface coverage, the more likely it is that surface water quality will be degraded and the more difficult it becomes to implement watershed recovery plans.

The Proposed Alternative, like the other action alternatives, would bring urban development to rural agricultural areas, with an accompanying increase in runoff from new development. Under the Proposed Alternative, new development would be subject to federal, state, and local laws and regulations that are meant to protect surface water quality. This includes local stormwater and erosion control ordinances, as well as critical area ordinances that provide some protection to flood hazard and riparian areas.

Under the Proposed Alternative, approximately 20 miles of streams would be included within new UGAs, 11.7 of which are unnamed streams and tributaries. Other than Alternative 3, this alternative would have the least impact on surface waters, based on miles of surface streams that would be added to UGAs. The Proposed Alternative includes about one-fifth the amount of stream length as Alternative 1 (100 miles of streams) and includes somewhat fewer stream miles than Alternative 2 (28 miles of streams), Alternative 4 (33 miles of streams), and Alternative 5 (32 miles of streams). Under this alternative, the most significant single addition of stream length to a UGA would occur with Lacamas Creek. Around 3.4 miles of this stream would be added to Vancouver's UGA, as the city expands east of its current UGA.

[2] *WAC 197-11-080 provides for situations where there are gaps in information. Agencies are required to state that information is not available and would be cost prohibitive to produce. Agencies may proceed in the absence of information if the information is unknown and the costs of obtaining it are exorbitant. The costs of determining the revenues from all 5 alternatives and the Proposed Alternative would be prohibitive.*

Table 8. Miles of Streams Added to UGAs under the Proposed Alternative

Miles of Streams Added to Urban Areas	Proposed Alternative
(NO NAME)	11.7
Allen Creek	
Brezee Creek	
Campen Creek	
Columbia River	
Curtin Creek	0.2
East Fork Lewis River	
Fifth Plain Creek	0.9
Flume Creek	
Gee Creek	1.0
Lacamas Creek	3.4
McCormick Creek	
Mill Creek	0.5
Packard Creek	
Salmon Creek	
Shanghai Creek	
Spring Branch	0.8
Weaver Creek	0.7
Whipple Creek	0.8
Total	**20.0**

Table 9. Impacts on Floodplains and Shoreline Environments under the Proposed Alternative

Acres of Floodplain and Shoreline Areas Added to new UGAs:	Proposed Alternative
Floodway fringe (acres)	638
Floodway (acres)	228
Shorelines (acres)	244

Table 10. Impacts from Impervious Surfaces under the Proposed Alternative

Impervious Surfaces:	Proposed Alternative
In proposed new UGAs	3,076
In existing UGAs	9,604
Total acres of impervious surface:	12,680

Source: Impervious surface estimates based on vacant lands analysis: representing the amount of potential impervious surface that would be created if the expanded UGAs were fully developed at a similar pattern as today.

Table 11. Percentage of Watersheds Covered by Impervious Surfaces and Acres of Impervious Surfaces within New UGAs by Watershed

Watershed	Proposed Alternative	
	Percentage	**Acres**
Allen Canyon Creek	7.7	
Burnt Bridge Creek	10.8	
Camas	6.1	
East Fork Lewis River	3.2	191
Flume Creek	1.6	
Gee Creek	5.2	74
Gibbons Creek	1.3	
Lacamas Creek	5.7	1,082
Lakeshore	12.3	
Salmon Creek	6.4	1,234
Vancouver Lake	1.0	
Vancouver South Slope	7.2	121
Washougal River	1.2	
Whipple Creek	6.8	127

Source: DEA calculations from Clark County Department of Assessment and GIS data, 2003.

The Proposed Alternative would add around 4,508 acres of the Salmon Creek watershed to the UGAs of Vancouver and Battle Ground. Unlike under Alternatives 1, 2, 4, and 5, Salmon Creek itself would not be added to UGAs. Preliminary analysis of observational data using the Clark County Watershed Template has been completed for the Salmon Creek watershed. This preliminary analysis shows that the Salmon Creek system has likely stabilized at a degraded state, particularly in the urban area, when compared to estimates of historical conditions. Because of this stabilization, it is reasonable to assume that additional development within and adjacent to the current urban area would have little additional negative effect on the lower stream system, if properly mitigated.

The Proposed Alternative would add around 2,758 acres of the Lacamas Creek watershed to the UGAs of Camas and Vancouver, and 396 acres of the East Fork Lewis River watershed would be included within the expanded UGAs of Battle Ground and La Center. Around 406 acres of the Gee Creek watershed would be brought into the UGAs of Ridgefield and Vancouver. Just over 690 acres of the Whipple Creek watershed would be included within the UGA of Vancouver. Water quality within the East Fork Lewis River, Gee Creek, and Whipple Creek is especially important to the recovery of listed anadromous fish, as the East Fork Lewis River supports bull trout, steelhead, and chinook and coho salmon; Gee Creek and Whipple Creek both support listed coho salmon and steelhead.

The Proposed Alternative would also include around 866 acres of floodplain within expanded UGAs. This is greater than the floodplain area included under Alternative 2 (764 acres), Alternative 5 (265 acres), and Alternative 3 (no floodplain acreage added to UGAs), but is less than Alternative 1 (2,012 acres) and Alternative 4 (1,000 acres).

Around 3,076 acres of impervious surface would be added to UGAs under the Proposed Alternative, assuming that these areas develop in a way similar to other residential, commercial, and industrial areas at build-out. Other than Alternative 3, which would not include additional impervious surface from urbanization outside of existing UGAs, this alternative would add the least amount of impervious surface. It includes about 40 percent of the amount of impervious surface that would be added under Alternative 1 (7,730 acres), and is about the same as Alternative 2 (3,190 acres), Alternative 4 (3,098 acres), and Alternative 5 (3,355 acres). Forty-three percent of the additional impervious surface added to UGAs

under the Proposed Alternative would come from residential development in Vancouver, Camas, Battle Ground, and La Center (1,337 acres). Around four percent of additional impervious surface area would come from commercial development within the new UGAs of Vancouver and Battle Ground (110 acres). Around 52 percent of the 3,076 acres of impervious surface within UGAs under the Proposed Alternative would come from industrial development within the new UGAs of Vancouver, Camas, and Battle Ground (1,627 acres).

Surface waters within Clark County could also potentially be impacted by domestic wells in rural areas that capture surface water by groundwater withdrawals. The extent to which surface water is captured by domestic wells is dependent on numerous factors, including, most fundamentally, the existence of hydraulic continuity between surface waters and groundwater through geologic materials. Other important factors are the distance between the well and the surface water body; the geometry and hydraulic properties of aquifers between the well and the surface water body; patterns of groundwater flow and recharge; and the type and intensity of development that is drawing from the aquifer. Other studies have shown that in some cases there can be a net contribution to surface waters when deeper aquifers are drawn upon and water is discharged to shallower aquifers that feed into surface water systems. Whether wells cause net drawdowns or contributions depends heavily on site-specific characteristics.

It is difficult to assess the exact impact that rural population growth and new domestic wells would have on surface water flows within Clark County. Any population growth in rural areas of the county could increase the potential for surface water flows to be reduced from groundwater withdrawals from new private domestic wells. If flows are reduced, it can have important consequences for compliance with the Clean Water Act, Endangered Species Act, and regulations that are meant to maintain minimum flow levels. Reduced stream flows could adversely impact water quality and make meeting water quality standards more difficult. Similarly, reduced flows that raise water temperature make the recovery of listed salmon and steelhead less likely.

3. Mitigation

A full discussion of policies, plans, and ordinances that protect surface waters within Clark County is found in the Surface Waters section of the DEIS.

Most of the problems that lead to listing a stream as water quality limited are due to human activity or development in the drainage area of the stream. While impacts from accelerated runoff and erosion, loading of chemical and organic contaminants into surface waters, increased flood peaks, and decreased groundwater recharge can be mitigated by regulations to detain, treat, and infiltrate runoff on a site-by-site basis, regulations do not mitigate impacts on a drainage basin from cumulative changes to the hydrology of streams or other surface waters as the result of development. These changes inevitably occur as a result of the creation of impervious surfaces and the removal of canopy cover.

Increased temperature in streams can result from withdrawing water to the point that drawdown causes more solar heating and from the removal of trees and vegetation that shade the stream. Increased impervious area also decreases stormwater infiltration and thus the amount of cold groundwater feeding streams, which is a cumulative and unavoidable impact.

Current ordinances designed to protect surface waters, such as those for clearing, erosion control, floodplain protection, wetlands, and shorelines are being reviewed for compliance with recent changes to the GMA. GMA requires that local jurisdictions apply Best Available Science (BAS) to the definition of critical areas and to the development of measures to protect them. The County and its cities are in the process of reviewing those ordinances to meet the statutory deadline of December 2004. While mitigation in the form of local regulations is expected to be the most effective available following

adoption of the BAS, not all impacts from urbanization can realistically be eliminated. Compact urban development that emphasizes infill, redevelopment, and reuse of existing urban land is the best way to mitigate these impacts.

Suggested Mitigation Measures

Other mitigation measures suggested by comments on the DEIS are:

- Limit creation of impervious surfaces and require use of pervious materials to minimize runoff.
- Development of low-impact development standards for critical areas, particularly along streams.

B. Groundwater and Aquifer Recharge Areas

1. Setting

For a discussion of groundwater and aquifer recharge area resources within Clark County, please refer to the Groundwater and Aquifer Recharge Area section of the DEIS.

2. Impacts

The Proposed Alternative would accommodate projected population growth over the next 20 years. Growth and development will increase the demand for water from existing groundwater sources and new wells will be needed. Development patterns established by the Proposed Alternative will influence where new wells are located, how much and where new impervious surfaces will restrict recharge, and the particular groundwater sources that are drawn upon. The state Department of Ecology has directed Clark Public Utilities not to add any additional wells in the Salmon Creek watershed because the shallowest layer of water is dropping and subsurface contamination exists. While this area is one of the fastest developing areas in the country, Clark County as a whole has a heavy demand for water and the pace of growth within the county is outstripping nature's ability to recharge wells. In recent years, shallow aquifers have not met demand, forcing deeper aquifers to be tapped. The City of Vancouver and Clark Public Utilities are now investigating development of new wells near Vancouver Lake.

As of 2002, 64,536 people lived within rural areas of Clark County, and this figure is projected to increase by 16,373 residents by 2023. Between 1995 and 2000, about 19 percent of new housing development occurred in rural areas of the county. The Proposed Alternative, compared to other alternatives evaluated, assumes that a lower percentage of growth (10 percent) would occur as more residential development is directed toward urban areas.

Still, the projected increase in rural population over the next 20 years raises several important issues for both groundwater and surface water management within the county. These issues relate particularly to environmental impacts on surface water flows from domestic wells that draw upon aquifers and to groundwater from contamination by septic systems.

It is difficult to assess the exact impact that rural population growth and new domestic wells to serve that growth would have on surface water flows within the county; assessments should be done on a case-by-case basis to reflect accurately any potential impacts. However, because the rural population within Clark County is projected to increase by 16,373 residents, there will at least be an increased potential for impacts to surface streams from the capture of surface water by groundwater withdrawals.

The extent to which surface water is captured by domestic wells is dependent on numerous factors, including, most fundamentally, the existence of hydraulic continuity between surface waters and groundwater through geologic materials. Other important factors are the distance between the well and

the surface water body; the geometry and hydraulic properties of aquifers between the well and the surface water body; patterns of groundwater flow and recharge; and the type and level of development that is drawing from an aquifer. Calculations of how surface water flow is impacted must also consider return flows, that is, water that is not consumed but returned to the groundwater system. A report issued by USGS in 1988 for Island County, Washington, concluded that return flows equal 70 percent of well withdrawal and that consumptive use equals 30 percent of the withdrawn amount. However, a study by the Pacific Groundwater Group entitled *Effects of Exempt Wells on Baseflow, Washougal River Watershed* from July 2003 showed that in some cases there can be a net contribution to surface waters when deeper aquifers are drawn upon and water is discharged to shallower aquifers that feed into surface water systems. Whether wells cause net drawdowns or contributions depends heavily on site-specific characteristics so a generalized assessment of potential environmental impacts is difficult to make.

Any significant reduction in the flow of surface waters has important implications for compliance with the Clean Water Act, Endangered Species Act, and regulations that relate to maintaining minimum flow levels. Reduced stream flows could adversely impact water quality and make meeting water quality standards more difficult. Similarly, reduced stream flows that raise water temperature could negatively impact listed salmonids and make their recovery less likely.

The construction of domestic wells is regulated by RCW 18.104, which also enables local health departments to administer the regulations found in this code. The Clark County Health Department administers the permitting of new domestic wells and performs a Water Availability Verification Evaluation for new wells. This evaluation involves a site inspection, a review to make sure the well has been properly constructed, sampling for pollutants such as nitrates, coliform, and arsenic that may be in the water, and a determination of the output of the well in relation to groundwater availability.

As the population in rural areas increases, there is also an increased potential for contamination (nitrates and bacteria) of groundwater used by domestic wells from septic systems that have been improperly constructed, poorly maintained, or abandoned. There are currently 30,000-50,000 septic systems in Clark County and 350-400 new septic systems are added each year. It is estimated that approximately two to five percent of these systems fail annually, putting groundwater at risk. On-site sewage systems are the most prevalent sources of groundwater contamination and contribute the greatest volume of wastewater to groundwater. Septic systems fail for a variety of reasons, including a high water table, lack of maintenance, clogging of the soil absorption system, physical damage to pipelines and compacted soil in the leach field, and poor design and installation.

Septic systems within Clark County are regulated by the Clark County Health Department through its Liquid Waste Program. This program issues septic system permits, evaluates sites for proposed septic systems, inspects and approves septic system construction, enforces state and local regulations, and investigates failing systems. The increase in the number of rural residents and septic systems within the County will increase the need for administrative oversight of these systems to assure that they are properly permitted, constructed, and maintained.

This assessment of impacts to groundwater resources in Clark County looks primarily at the amount of impervious surface area that would be added to new UGAs under the Proposed Alternative (Table 12), the occurrence of existing wellhead protection areas within new UGAs (Table 13), and the type of development that is proposed for the new UGAs, since different land uses involve different contaminant loading potentials. All new UGAs would eventually develop as planned and most land proposed for conversion to urban uses is currently in rural residential, agriculture, or urban reserve uses (low densities with low to medium contaminant ratings). Consequently, the ratings for contaminant loading potential under the Proposed Alternative would generally be from low or medium ratings to medium to high ratings based on proposed urban residential, industrial, commercial, and transportation uses.

Potential impacts of the Proposed Alternative on the public water supply are discussed in the Public Facilities and Services section.

Table 12. Acres of New Impervious Surface under the Proposed Alternative

	Proposed Alternative
Residential	
Vancouver	499
Camas	80
Battle Ground	744
Washougal	
Ridgefield	
La Center	15
Industrial	
Vancouver	1,151
Camas	314
Battle Ground	163
Washougal	
Ridgefield	
La Center	
Commercial	
Vancouver	77
Camas	
Battle Ground	33
Washougal	
Ridgefield	
La Center	
Total acres impervious surface	**3,076**

Source: Clark County Department of Assessment and GIS

Table 13. Acres of Wellhead Protection Areas within New UGAs of Proposed Alternative

	Proposed Alternative
Battle Ground	3,223
Camas	1,036
La Center	66
Ridgefield	45
Vancouver	5,097
Washougal	0
Total acres wellhead protection areas	**9,467**

Source: Clark County Department of Assessment and GIS

Under the Proposed Alternative, the projected population for Clark County in 2023 is 534,191, an increase of 163,728 residents. This alternative would add 9,461 acres to UGAs, which is just under one-third the area added under Alternative 1 (28,845 acres), is less than Alternative 4 (12,554 acres) and Alternative 5 (12,303 acres), and is about the same as Alternative 2 (9,749 acres). Under this alternative, development in new UGAs would primarily be residential (3,555 acres), business park (2,265 acres), and mixed use development (1,192 acres). The Proposed Alternative would include around 9,467 acres of wellhead protection areas within expanded UGAs. This is about three-fourths the acreage of Alternatives 4 and 5, is about one-third the acreage of Alternative 1, and is about the same amount of acreage as Alternative 2. Since it does not expand UGAs, Alternative 3 would not impact any wellhead protection areas outside of existing UGAs.

Other than Alternative 3, the Proposed Alternative would add the least amount of impervious surface to new UGAs. It would add around 3,076 acres to UGAs, whereas Alternative 1 would add 7,730 acres, Alternative 2 would add 3,190 acres, Alternative 4 would add 3,098 acres, and Alternative 5 would add 3,355 acres. Because there would be less impervious surface under this alternative, there would be less polluted stormwater runoff from these surfaces that could potentially impact groundwater quality. Increasing the amount of pervious surface also improves the potential for groundwater recharge.

3. Mitigation

Mitigation for potential impacts to groundwater resources consists of local comprehensive plan policies and implementing ordinances that address groundwater protection. Refer to the DEIS for a full discussion of the policies, plans, and ordinances of Clark County and its jurisdictions as they relate to the protection of groundwater and aquifer resources.

Most jurisdictions within Clark County are in the process of updating their CAOs to comply with GMA requirements to incorporate the Best Available Science. The City of Vancouver adopted a groundwater protection ordinance in 2003 consistent with State best available science requirement. Until others also revise their ordinances, interim development based on existing regulations increases the risks of impacts to groundwater. Further, the failure of septic systems can negatively impact groundwater resources. While Vancouver has an inspection system in place to monitor the functioning of septic systems and help replace damaged ones or connect properties to public systems, failures continue to occur and there is no county-wide program to inspect and monitor the safe functioning of septic systems. Often, a weak link in the regulatory system is enforcement. Ordinances rely on residents and property owners to ensure that their septic systems are functioning properly. Unavoidable adverse impacts can occur from violations of the ordinances and penalties may not be large enough to protect against willful violations.

Suggested Mitigation Measures

Other mitigation measures suggested by comments on the DEIS are:

- Limit creation of impervious surfaces and require use of pervious materials to minimize runoff.
- Create a county-wide program to inspect and monitor the safe functioning of septic systems.

V. FISH AND WILDLIFE HABITAT

A. Habitat

1. Setting

Identified priority wildlife habitat and open space areas within Clark County include the Vancouver Lake Lowlands, Steigerwald Lake Lowlands, major stream and river systems, including the North Fork Lewis River, East Fork Lewis River, Washougal River, Salmon Creek, Lacamas Creek, and Burnt Bridge Creek systems, and big game winter range in the foothills of the Cascades. For a full discussion of wildlife habitat within the county, refer to the Fish and Wildlife Habitat section of the DEIS.

2. Impacts

Impacts to fish and wildlife habitat are related to the spatial distribution of growth within the county that the Proposed Alternative would implement. Generally, growth patterns that convert more land to urban uses are more likely to result in the loss and fragmentation of fish and wildlife habitat. Assessing impacts to fish and wildlife habitat primarily involves identifying priority habitat that occurs within the expanded

UGAs of the Proposed Alternative. Under this alternative, existing programs, policies, and regulations that provide protection to priority habitat and species would remain in place.

The Proposed Alternative would add 9,461 acres to the UGAs of Vancouver (5,097 acres), Battle Ground (3,223 acres), Camas (1,029 acres), La Center (66 acres), and Ridgefield (46 acres). This is considerably less than Alternative 1 (28,845 acres) and is about 75 percent of Alternative 4 (12,554 acres) and Alternative 5 (12,303 acres). It is just under the amount of land that would be urbanized under Alternative 2 (9,749 acres). Alternative 3 would not expand UGAs.

Under the Proposed Alternative, numerous priority habitats are found within new UGAs, including riparian areas along Gee Creek, Lacamas Creek, Whipple Creek, Curtin Creek, Fifth Plain Creek, Mill Creek, Spring Branch Creek, and Weaver Creek; wetlands, which are found throughout the new UGAs but tend to be found most significantly near Lacamas Lake, along Lacamas Creek, and in the Meadow Glade and Fisher Swale areas; urban natural open space; and oak woodlands.

The Proposed Alternative includes just over 400 acres of the Gee Creek watershed within the UGAs of Vancouver and Ridgefield. About one mile of Gee Creek would be included within these UGAs. This stream provides critical habitat for coho salmon and steelhead. The Proposed Alternative would also include around 691 acres of the Whipple Creek watershed within the expanded UGA of Vancouver. About one mile of this creek would be included within the new UGA of Vancouver. The creek provides critical habitat for coho salmon and steelhead.

Whereas Alternative 4 would have extended industrial development and the UGA of Battle Ground to within 500 feet of the East Fork Lewis River, which supports listed steelhead and chinook, chum, and coho salmon, the Proposed Alternative does not propose this. This alternative would add around 396 acres of the East Fork Lewis River watershed to the UGAs of Battle Ground and La Center (less than under Alternatives 1, 2 ,4, and 5), and it places mixed use/residential development approximately 3,000 feet from the East Fork Lewis River. This new mixed-use area would not extend the northern UGA of Battle Ground past its current location.

Further, Alternatives 1, 2, 4, and 5 would have included portions of Salmon Creek within the new UGAs of Vancouver and Battle Ground. Impacts of the Proposed Alternative on this stream would likely be less because it would add less of the Salmon Creek watershed (1,616 acres) to the UGAs of Vancouver and Battle Ground and because, unlike Alternative 1, 2, 4, and 5, it does not include Salmon Creek itself within new UGAs. Numerous priority habitats, both upland and riparian, that support significant wildlife populations are found along portions of this stream.

3. Mitigation

Mitigation for increased development in habitat areas consists primarily of the protection that is afforded by local regulations. Requirements for protecting critical habitats are found in the GMA, ESA, and the SMA. All Clark County jurisdictions have implemented requirements to protect critical areas, which include fish and wildlife habitat, but most are currently revising their ordinances to address the ESA listing of salmon and steelhead. For a more complete description of each jurisdiction's policies, plans, and regulations regarding the protection of fish and wildlife habitat, see the DEIS Fish and Wildlife Habitat mitigation section.

Because some city and county regulations have not been updated recently, their standards may not reflect the Best Available Science, which reduces their effectiveness and ability to mitigate impacts from new development. For instance, Clark County's wetland protection ordinance works well mechanically for major developments (i.e., land divisions and site plan reviews), but is not as strong for new construction

on residential lots. The technical standards in the ordinance have not been substantially reviewed in about 12 years and may not be consistent with the Best Available Science.

The County Shoreline Management Master Program has not been effectively updated since it was adopted in 1974, although Vancouver included the Vancouver UGA in its Shorelines Program update effective in 1997. Shoreline projects are reviewed for consistency with the Shoreline Management Master Program and Shoreline Management Act, which also may not reflect the Best Available Science.

Further, Clark County's Habitat Conservation Ordinance does a fairly good job of distinguishing between avoidable and unavoidable impacts and tailoring development to appropriate levels in critical areas. However, discretion is left primarily to those interpreting the intent of the code as to what activities are avoidable. Certain exempt activities may still generate a significant impact, yet no mitigation measures are codified that could reduce a project's impacts.

Vancouver has not yet adopted fish and wildlife habitat protections but staff is working with a committee of stakeholders to develop an ordinance meeting ESA and BAS requirements for adoption by December 2004.

Suggested Mitigation Measures

Other mitigation measures suggested by comments on the DEIS are:

- Increase buffer sizes along priority waterways.
- Limit the amount of impervious surfaces within a watershed and make sure impervious surfaces do not exceed 10 percent of the surface area in order not to interrupt natural groundwater infiltration and reduce runoff to surface waters.

B. Threatened and Endangered Species

1. Setting

Due to population growth and development within Clark County, the loss of habitat is particularly significant for some species, whose numbers have decreased precipitously during the past decade. For a complete list of plant and animal species within Clark County that are listed as threatened, endangered, candidate, or sensitive, please refer to the Threatened and Endangered Species section of the DEIS. Also see that section of the DEIS for a discussion of the ESA and the responses of Clark County and local jurisdictions to the listing of anadromous fish within the County.

2. Impacts

The primary impact to fish and wildlife, including sensitive, threatened, and endangered (STE) species, would result from the conversion of habitat to urban uses in order to accommodate anticipated growth. This impact assessment looks at those listed species that have been found within areas that would be added to existing UGAs under the Proposed Alternative. For this assessment the Wildlife Heritage (HRTG) and Priority Habitats and Species (PHS) databases were consulted.

The Proposed Alternative would add 9,461 acres to the UGAs of Vancouver (5,097 acres), Battle Ground (3,223 acres), Camas (1,029 acres), La Center (66 acres), and Ridgefield (46 acres). This is considerably less than Alternative 1 (28,845 acres) and is somewhat less than Alternative 4 (12,554 acres) and Alternative 5 (12,303 acres). It is just under the amount of land that would be urbanized under Alternative 2 (9,749 acres). Alternative 3 would not expand UGAs.

Because this alternative would urbanize less land than Alternatives 1, 2, 4, and 5, it would likely have less impact on the habitat of threatened and endangered species, although this is not to say that the increased level of urbanization that would result from the Proposed Alternative would have no impact on the habitat of these species. Urbanization within the county has already resulted in the fragmentation and degradation of habitat critical to the recovery of listed species, and further urbanization has the potential to result in the loss or degradation of more habitat. As development pressures increase, it will become even more critical to implement mitigation measures that effectively reduce impacts from new development and strategies that actively seek to restore habitat that supports threatened and endangered species.

Within the expanded UGAs of the Proposed Alternative, two priority species have been identified: bald eagles and purple martins. Bald eagles, a state and federal threatened species, were identified in the East Fork Lewis River and Salmon Creek areas. Purple martins, a state candidate species, were identified within the area that would accommodate Camas' expanded UGA.

Several state monitor species have been identified as occurring within the expanded UGAs of the Proposed Alternative. Reticulate sculpins have been identified in Lacamas Creek. Under this alternative, around three miles of Lacamas Creek would be added to the UGA of Vancouver. Osprey have been identified in areas that would be included within or adjacent to Vancouver's expanded UGA in the Fisher Swale and Lacamas Creek areas. Sand rollers, a small, range-restricted fish within the Columbia River system and some tributaries, have also been identified within areas proposed for urban expansion under the Proposed Alternative.

The Proposed Alternative includes additional areas of urban expansion around La Center (46 acres that will see eventual conversion to public facilities uses) and Battle Ground (148 acres) that will see eventual residential development) that were not evaluated in the DEIS. The Wildlife Heritage and Priority Habitats and Species databases do not identify any priority species within these areas.

Several streams and watersheds that support anadromous fish are found within the expanded UGAs of the Proposed Alternative, although generally this alternative includes less watershed area and fewer stream miles than Alternatives 1, 2, 4, and 5. Streams that support listed anadromous fish that would be included within new UGAs include Gee Creek (1.1 miles), Weaver Creek (0.7 miles), Mill Creek (0.5 miles), and Whipple Creek (0.8 miles), all of which support listed coho salmon and steelhead. The Proposed Alternative would include approximately 3.1 miles of streams that support listed anadromous fish. This is considerably less than Alternative 1 (34 miles), Alternative 2 (23 miles), Alternative 4 (34 miles), and Alternative 5 (8 miles). Only Alternative 3, which does not expand UGAs, would include fewer stream miles.

The Proposed Alternative would include approximately 4,500 acres of the Salmon Creek watershed within the expanded UGAs of Vancouver and Battle Ground. Preliminary analysis of observational data using the Clark County Watershed Template has been completed for the Salmon Creek watershed. This analysis shows that the Salmon Creek system has likely stabilized at a degraded state, particularly in the urban area, when compared to estimates of historical conditions. Because of this stabilization, it is reasonable to assume that additional development within and adjacent to the current urban area would have little additional negative effect on the lower stream system, if properly mitigated. This preliminary analysis has also concluded that it would take a substantial investment of time and money (largely in replacing malfunctioning septic systems and improving the function of private stormwater detention and cleaning facilities) to improve watershed processes so that probable future conditions are significantly better within the urban area. While Salmon Creek will be important to the recovery of salmon within the region, other systems, such as Cedar Creek, the Washougal River, and East Fork Lewis River, will be even more critical.

The Proposed Alternative also includes around 400 acres of the East Fork Lewis River watershed. This river supports listed chinook, coho, and chum salmon, as well as steelhead. Habitat values have been significantly harmed due to urbanization within the watershed. Alternative 4 would have seen a northern expansion of Battle Ground's UGA to include industrial land within 500 feet of the East Fork Lewis River. The Proposed Alternative does not advocate this expansion and instead places new mixed use development within approximately 3,000 feet of the East Fork Lewis River. Although this alternative places an expanded buffer between development and the river, the increased urbanization of this watershed will require effective mitigation to prevent any further degradation to water quality and habitat value from the cumulative impacts of new development.

The Proposed Alternative would include the further urbanization of other watersheds that are especially critical to supporting listed anadromous fish. These include the Gee Creek watershed (406 acres), the Whipple Creek watershed (691 acres), Columbia Slope (350 acres), and Burnt Bridge Creek (0.3 acre).

3. Mitigation

The Land Use Element of each jurisdiction's comprehensive plan contains policies to protect critical areas, including STE species. Plan policies and ordinances generally include STE species in their discussion of fish and wildlife habitat. Therefore, a discussion of mitigation measures for impacts to STE species is contained in the Fish and Wildlife Habitat section of the DEIS.

Suggested Mitigation Measures

Other mitigation measures suggested by comments on the DEIS are:

- Implement best management practices (such as different setbacks, buffer widths) following the results of the County's new groundwater and surface water studies to protect the more valuable habitat.
- Use the Priority Habitat and Species Map to designate locally important habitat (urban priority habitats, including upland areas) through the habitat conservation ordinance.
- Obtain public ownership of natural lands, including fee simple and conservation easements.
- Develop parks and other public lands, even urban parks, with care and with consideration of the needs of wildlife, such as refraining from using impervious material on all streamside trails and limiting their use elsewhere, leaving some understory trees and shrubs in native vegetation in all parks and using care in placing facilities.
- Encourage, through an educational program, homeowners and business owners to landscape for wildlife.
- Increase incentives for existing urban areas to hook up to sewers and decommission septic systems.

C. Migratory Species/Migration Routes

1. Setting

Clark County and the Lower Columbia region provide critical habitat for a variety of migratory fish and wildlife species. These include salmon and steelhead populations that have been listed or proposed for listing as threatened under the ESA, as well as some of the largest populations of migratory waterfowl, neotropical migrant birds, and shorebirds of the Pacific Northwest. For a complete discussion of habitat that supports migratory species, please refer to the Migratory Species/Migration Routes section of the DEIS.

2. Impacts

Direct impacts to migratory habitat and species from the Proposed Alternative would typically be those associated with the conversion of this habitat to urban uses. Those areas within the county that provide habitat suitable to migratory bird species are located primarily along the Columbia River, Steigerwald Lake National Wildlife Refuge, Vancouver Lake Lowlands, Shillapoo Bottoms, and Ridgefield National Wildlife Refuge. However, many other areas within the county also serve some habitat function for migratory bird species. These areas include rural and agricultural lands, parks and open space, and rural lands that birds use for resting. Waterways within the county that provide important migratory routes for anadromous fish include the Lewis River system, Columbia River, Washougal River, Salmon Creek, and various smaller tributaries.

This impact assessment looks at the extent to which expanded UGAs include land known to provide habitat to migratory bird species. It also looks at the extent to which the Proposed Alternative places development near waterways that serve as migration routes for salmonids. Development adjacent to streams and rivers can result in the degradation of water quality through erosion, sedimentation, accelerated stormwater runoff, and loss of riparian, wetland, or floodplain habitat. For this assessment, migratory habitat was identified using the Wildlife Heritage database.

The Proposed Alternative would not directly impact any of those areas that are most important to migratory bird species within Clark County—the Steigerwald Lake Wildlife Refuge, Vancouver Lake Lowlands, Shillapoo Bottoms, and the Ridgefield National Wildlife Refuge. However, numerous scattered waterfowl concentration areas are found throughout the county and in those areas that would be urbanized under this alternative. These are areas that provide suitable habitat to migratory bird species and that have served these species in this way over time.

Other than Alternative 3, which does not expand existing UGAs, the Proposed Alternative would involve the smallest expansion of UGAs of any of the other alternatives—9,461 acres. Because less land would be urbanized, it is likely that this alternative would preserve greater amounts of those areas that serve some function for migrating birds. It should be added, though, that increased urbanization would inevitably result in some level of disruption for these species, as their habitat becomes increasingly fragmented and scarcer within the County.

Moreover, the Proposed Alternative would add around 3.1 miles of streams that support anadromous fish, which is significantly less than Alternative 1 (34 miles), Alternative 2 (23 miles), and Alternative 4 (34 miles), and is somewhat less than Alternative 5 (8 miles). Streams that support these species that would be included within new UGAs under this alternative include Gee Creek (1.1 miles), Mill Creek (0.5 miles), Weaver Creek (0.7 miles), and Whipple Creek (0.8 miles). Unlike Alternatives 1, 2, 4, and 5, the Proposed Alternative would not include development immediately adjacent to Salmon Creek, which supports migrating coho salmon. While it would include around 4,500 acres of the Salmon Creek watershed, this is less than what would have been included under Alternatives 1, 2, 4, and 5. Preliminary analysis of observational data using the Clark County Watershed Template has been completed for the Salmon Creek watershed and indicates that the Salmon Creek system has stabilized at a degraded state, particularly in its urban reaches. The preliminary analysis also indicates that additional development within and adjacent to the current urban area would have little negative effect upon the lower stream system, if properly mitigated. While Salmon Creek will play a role in regional salmon recovery, other more critical systems will likely include Cedar Creek, East Fork Lewis River, and the Washougal River.

3. Mitigation

Mitigation for impacts to migration routes and migratory species is discussed in the Fish and Wildlife Habitat section of the DEIS, since areas that serve an important migratory function are included within habitat conservation areas.

Existing policies and regulations that protect water quality and critical environmental areas, which include habitat for migratory species, would remain in place under the Proposed Alternative. Many critical area ordinances are currently under review in order to provide greater protection for these areas. Nevertheless, the Proposed Alternative would likely result in some loss or degradation of habitat for migratory species. It is inevitable that as more land is converted to urban uses, habitat will become increasingly fragmented and migration routes to some degree affected.

D. Wetlands

1. Setting

The GMA requires counties and cities to identify environmentally critical areas, including wetlands. For a complete discussion of wetland areas within Clark County, please refer to the Fish and Wildlife Habitat section of the DEIS.

2. Impacts

The most common impact to wetlands is from filling or draining to make land available for other uses. Assessing impacts from programmatic actions primarily involves identifying wetlands that occur within new UGAs of the Proposed Alternative. Wetland areas were identified for this analysis using National Wetlands Inventory maps. These maps do not necessarily identify all wetlands within an area.

The Proposed Alternative would see around 447 acres of wetland areas added to UGAs. This is more than would be added under Alternative 2 (329 acres) and Alternative 3 (no wetland areas added to UGAs), but is significantly less than under Alternative 1 (1,195 acres) and Alternative 5 (729 acres). Vancouver would see the largest amount of wetland areas added to its UGA under the Proposed Alternative, around 254 acres. Many of these wetlands are located near Salmon Creek, tributaries of Whipple Creek, and Lacamas Creek. Under the Proposed Alternative, around 105 acres of wetlands would be included within the UGA of Camas. Battle Ground would have around 88 acres of wetlands added to its UGA, and less than an acre of wetland would be added to the UGA of Ridgefield in an area that has been designated for public facilities.

3. Mitigation

For a complete discussion of local policies and ordinances that protect wetland areas within the county, please refer to the Wetlands mitigation section of the DEIS.

Unavoidable adverse impacts on wetlands occur if mitigation proposed to offset the loss of wetland area and function does not produce the intended results. Although the CAOs of many jurisdictions are being revised to reflect the Best Available Science and will include new mitigation requirements for wetland areas, the goal of no net loss of wetlands within the County will be difficult as UGAs expand to include these areas.

VI. ENERGY AND NATURAL RESOURCES

A. Renewable and Non-Renewable Energy Sources

1. Setting

Clark County is not a major source of energy; it does not contain oil or natural gas reserves, or wind farms, although solar power and hydro-electric energy is available. Most of the discussion of energy consequently revolves around energy consumption. Refer to the DEIS for a more detailed discussion of existing conditions.

2. Impacts

The added people and businesses will require light and heating and energy to operate equipment. In that sense, the greater growth rate under the Proposed Alternative will have more impact than alternatives 2 through 5 with respect to residential growth. However, more industrial and business park land proposed under this alternative could result in greater impacts on non-renewable energy resources than alternatives that propose more residential users. Typical energy usage by industry in Clark County ranges from 100 kVa to 150 kVa per acre, while commercial and residential demand ranges from 20 to 35 kVa per acre.

Nevertheless, the more compact the urban form, generally the greater the efficiencies that can be gained in serving that form with urban services. Those impacts are discussed in the Public Facilities section of the DEIS. The impact on fossil fuel usage for transportation will also vary depending on the land use pattern adopted. Impacts of the proposed transportation systems for each alternative are discussed in the Transportation section.

3. Mitigation

Since none of the jurisdictions is an energy provider, promoting conservation is largely a voluntary task. Energy conserving measures available to local jurisdictions include adopting a compact urban form that supports alternative, energy efficient transportation, use of energy-efficient vehicles (such hybrid electric/gas fleet cars) and construction of buildings and other facilities that use “green” building techniques to use less energy. In general, most comprehensive plan goals do not directly address energy conservation and few raise energy conservation as an issue. Refer to the DEIS for additional discussion of plan policies.

B. Scenic Resources

1. Setting

Natural features are an integral part of what is often considered a scenic resource. Surface waters, vegetation, and topographic variations are natural features that are often elements of scenic resources. As an area’s population increases, there is often an associated deterioration, fragmentation, and loss of these natural features. Scenic resources can also include elements of the built environment, such as views and panoramas of city landscapes, bridges, and dams. These viewpoints are also at risk when an area’s population is increasing and development is intense. For a full discussion of scenic resources within Clark County, please refer to the Scenic Resources section of the DEIS.

2. Impacts

Assessing scenic values and determining visual impacts involves inventorying scenic resources, assessing the visual appeal of those resources, measuring public concern for scenic quality, and determining whether the resource is visible from travel routes or observation points. Assessing impacts from programmatic actions is difficult because specific development patterns are still unknown. This section

considers how the growth patterns of the Proposed Alternative would impact those areas frequently considered scenic—farmland, areas along streams and rivers, less developed rural land. Because scenic resources are often associated with natural resource areas, impacts to these resources are usually considered negative and result in the conversion of natural environments to non-natural ones; for instance, the conversion of an orchard to a residential subdivision.

The Proposed Alternative would result in the conversion of 9,461 acres of land to urban uses within new UGAs. This is significantly less than Alternative 1 (28,845 acres), Alternative 4 (12,554 acres), and Alternative 5 (12,303 acres). It is about the same as Alternative 2 (9,749 acres) and is more than Alternative 3, which would not expand UGAs. None of those areas within the County that are most clearly recognized as scenic would be impacted by the Proposed Alternative. These areas include the Columbia River Gorge National Scenic Area, Vancouver Lake Lowlands, Shillapoo Bottoms, Steigerwald Lake Wildlife Refuge, and Columbia River shoreline.

Of the 9,461 acres that would be brought into UGAs, around 2,900 acres are rural lands and 2,800 acres are agricultural land. Most of the land converted to urban uses would be residential (3,555 acres), business park development (2,264 acres), and mixed use development (1,192 acres). The conversion of rural lands to residential, mixed use, or business park uses would likely involve a negative impact to scenic values associated with these areas. Undeveloped rural lands and agricultural areas usually have higher scenic value than residential subdivisions and commercial areas, although ultimately a determination of what has scenic value is a subjective process.

In addition to the conversion of rural and agricultural land, the Proposed Alternative would also include segments of various streams and their associated riparian and upland areas. These areas often have a high scenic value. In this case, the Proposed Alternative would have less of an overall impact than Alternatives 1, 2, 4, and 5 because it would bring less stream miles into UGAs. Whereas the Proposed Alternative adds around 20 miles of streams to UGAs, Alternative 1 adds around 100 miles, Alternative 2 adds around 27 miles, Alternative 4 adds around 33 miles, and Alternative 5 adds about 32 miles. Including less stream miles and riparian habitat to UGAs reduces the likelihood that these areas would be negatively impacted by development and that their scenic values would remain intact.

3. Mitigation

For a discussion of those local plans, policies, and ordinances that relate to the protection of scenic resources, please refer to the Scenic Resources section of the DEIS.

Scenic resources have not been recognized as a critical or sensitive resource that should be inventoried and protected, except in designated scenic areas, like the Columbia River Gorge National Scenic Area. Unavoidable adverse impacts to views are more likely to occur from the conversion of land to urban uses. Without programs to inventory the views from major public routes, public facilities, and viewpoints, those views are more susceptible to being lost. Once development blocks or impairs views, these views are difficult to restore without displacement and are often permanently lost. Since there is no inventory of significant views, it is not possible to determine whether they will be affected.

Suggested Mitigation Measures

Other mitigation measures suggested by comments on the DEIS are:

- Conduct a county-wide inventory of scenic resources and views and establish specific policies for the protection of these resources.

VII. ENVIRONMENTAL HEALTH

A. Noise

1. Setting

Noise is a by-product of increased human activity. Section I of the *Perspectives Resource Document* contains a discussion of noise issues and regulations affecting Clark County. Primary noise sources in Clark County are: vehicular traffic; railroads, rock quarrying, industrial and commercial operations, airplanes and airport activity; construction equipment and activities; rural activities associated with farming and timber harvesting; residential equipment such as heat pumps and air conditioners; and human activity such as parties, sports and games, etc.

2. Impacts

The population and employment growth expected in Clark County will increase noise levels. It is difficult to predict noise impacts from the proposed land use development pattern at a plan level. In particular, as rural uses are converted to urban uses, the impression of increasing noise levels would be sharpest for rural residents at the edge of those converting land uses and along heavily traveled routes.

Less rural land would be converted under the Proposed Alternative than under other alternatives. Business park, residential housing and mixed uses are the main uses proposed. Business Park uses noise impacts tend to be related to traffic rather than the actual development. Mixed uses would also tend to elevate noise levels more than low density residential development. Because less rural land would be converted under the Proposed Alternative, the overall the impacts would be expected to be less than under all other alternative, except Alternative 3 that would have the least impact. Under the Proposed Alternative, increased traffic between employment and residential areas is anticipated, which will increases traffic noise through intervening rural areas.

Noise impacts would be related to more intensive development along I-5, between Camas and Vancouver, and west and south of Battle Ground. Since I-5 is already a noise generator, it is unlikely that the business park use itself would increase that level except to the extent that more traffic would be occurring in that corridor. Additional mixed uses would tend to be noisier overall than the areas planned for low density residential. As with Alternative 1, the more rural area between Battle Ground and Vancouver could experience considerable change in noise levels as traffic, industrial uses, and commercial uses increase.

3. Mitigation

Federal and state regulations limit the noise exposure in different classes of land use. When new developments are proposed, the noise standards are part of the approval process since noise is a factor considered in SEPA review. However, experience has shown that enforcement of noise regulations can be a problem if they involve limitations on actions instead of buffering. Noise conflicts can be reduced in all of the alternatives simply by assuring that policies and programs are implemented that would buffer noise between uses.

VIII. LAND USE

A. Population, Housing, and Land Use

1. Setting

a. Urban Growth Areas and Population

The purpose of this section is to evaluate the effects of the Proposed Alternative, which was developed after evaluating the impacts of five separate land use alternatives in the DEIS. Alternatives 1 through 5 are evaluated for their effects on land use patterns, housing population, and employment distribution. The potential impacts of the Proposed Alternative are evaluated using the same methodology.

As with the other alternatives, the Proposed Alternative assumes that the housing needs of the county are determined by the characteristics of its existing and projected population (household size, income, etc.), when compared to the characteristics of the existing and expected housing supply (total units, size, cost, etc.). The issue facing local governments is where to direct this growth given environmental constraints and the cost of providing public services, and how to ensure that a range of housing types and prices are available.

Population and housing trends in Clark County are discussed in the detail in the DEIS.

b. Projected Urban Population and Household Growth

The OFM develops a range of population projections for counties; the counties then select a target within that range based on local input about economic trends and planned development. For most of the alternatives evaluated in the DEIS (Alternatives 2 through 5), the County chose a 1.5 average annual growth rate that would produce a 2023 population of 486,225. One alternative (Alternative 1) assumed a higher growth rate of about 1.8 percent that is based on the growth assumptions in the adopted plan. The Proposed Alternative assumes a 1.83 percent average annual growth rate. Unlike Alternative 1, which assumed a relatively low average household size of 2.12 persons per household, the Proposed Alternative assumes an average household size of 2.69 persons, the same as reported in the 2000 Census. Table 14 shows the projected population and projected growth for the Proposed Alternative. The larger household size under the Proposed Alternative means that more people can be accommodated in fewer households, so while both alternatives assume a similar increase in population, the Proposed Alternative could accommodate the new residents in about 10 percent fewer households. The Proposed Alternative would need 54,779 (urban) additional households compared to 61,323 (urban) additional households under Alternative 1 by 2023.

The Proposed Alternative assumes a higher percentage of growth would occur in urban areas, approximately 90 percent, than under the other alternatives, which assumed 81 percent of growth would occur in urban areas and 19 percent would occur in rural areas.

While the County is required to plan for the population growth it agreed to, the County also evaluated the Proposed alternative for the actual capacity it could hold based on assumed residential designations. This analysis found that the total planned population under the Proposed Alternative would amount to 96 percent of the actual land capacity.

The total amount of land needed for housing depends on the overall densities achieved, amount of land devoted to infrastructure, presence of critical areas, and the percentage of housing devoted to single-family and multifamily uses. While foreseeing demand is not easy because housing markets can change quickly, the county currently has predominantly single family housing stock, potentially limiting its

attractiveness for retirees and other residents looking for varied housing choices. See the DEIS for additional housing information.

Table 14. Projected Population and Dwelling Units for the Proposed Alternative

	Proposed Alternative
2002 population	370,463
2023 population	534,191
2002-2023 population growth	163,728
Planned Urban Population	
Urban population growth *	147,355
Persons per household	2.69
Planned households	54,779 urban households (60,866 total urban and rural households)
Single-family+	75%
Multi-family	25%
Actual Capacity (assuming full build-out)	
Urban growth capacity*	153,129
Persons per household	2.69
Household capacity**	56,925
Single-family	56%
Multi-family	44%
Percent of capacity used	***96%***

Source: Clark County Planning Department; Clark County Department of Assessment and GIS, 2003
Note: Household capacity is based several factors including anticipated urban growth and plan designation, average household size, and housing split. Household capacity is also calculated for school districts, which shows slightly different results due to different assumptions and household size estimates.
+ Reflecting Clark County policy of no more than 75% of one type for new uses.
** 90 percent of population growth would be in urban areas*
*** According to the proposed zoning map*

c. Projected Rural Population and Household Growth

Increases in population would occur in urban and rural areas (outside of proposed UGAs). Between 1995 and 2000, about 19 percent of the new housing development occurred in rural areas within the county. The Proposed Alternative assumes a lower percentage of growth (10 percent) would occur as more residential development is directed toward urban areas. Table 15 shows the amount of population anticipated in rural areas for the Proposed Alternative and compares the actual capacity within the county for accommodating the projected population.

A comparison of the planned population and household increases for the Proposed Alternative to the actual capacity in rural areas based on existing residential designations showed that the Proposed Alternative could accommodate the planned rural population growth under current zoning densities, with the capacity to accommodate 50 percent more population. In comparison, Alternative 1 would only be able to accommodate about 15 percent of the County's total planned rural population, less than the 19 percent rural population growth assumed for rural areas. However, this analysis also found that for the total planned population and housing units under Alternatives 2, 3, 4 and 5, planned population increases are less than the actual capacity. For example, Alternative 2 has the capacity to accommodate an additional 28 percent in population, while Alternative 3 could accommodate 31 percent more population that what is planned. The additional capacity in rural areas under the Proposed Alternative is due in large part to two factors: the Proposed Alternative assumes only 10 percent of the population would live in

rural areas compared to 19 percent under the other alternatives, and with the exception of Alternative 3, affects less rural acreage than the other alternatives. See Section XVIII for impacts the planned rural growth would have on sewer and water.

Table 15. Projected Rural Population and Dwelling Units for the Proposed Alternative

	Proposed Alternative
2002 population	370,463
2023 population	534,191
2002-2023 population growth	163,728
Planned Population	
Rural population growth*	16,373
Persons per household	2.69
Planned households	6,087
Actual Rural Capacity (assuming full build-out)	
Rural population capacity	32,530
Persons per household	2.69
Household capacity	12,093
Percent of capacity used	*50%*

Source: Clark County Planning Department; Clark County Department of Assessment and GIS, 2003
**10 percent of planned population growth would be in rural areas*

2. Impacts

a. Introduction & Methodology

Based on the evaluation of the five alternatives in the DEIS, the County has developed the Proposed Alternative to meet the county's 20-year housing and employment needs. As with the other alternatives, the total acreage needed to meet the planning targets under the Proposed Alternative takes into account:

- The density and type of new development (housing units per acre or jobs per acre, mix of housing types, etc.);
- How much land will be needed for infrastructure;
- How much land is added as a market factor cushion to ensure that speculation does not drive up the cost of development unduly;
- How much land with sensitive natural resources will not be developed and how much land will be needed to mitigate impacts to sensitive resources on land that is developed;
- How much development will occur as in-fill on parcels within cities or as redevelopment of underutilized land (e.g., an equipment storage yard converted to an office building).

Assumptions were made about each of these issues in the plans adopted in 1994, although the Clark County *Plan Monitoring Report* (July 2000) showed that some of these assumptions were wrong. Table 16 compares the assumptions in the 1994 plans with the results of the Plan Monitoring Report and the Proposed Alternative. The key similarities/differences under the Proposed Alternative compared to the other alternatives are:

- The Proposed Alternative assumes a higher percentage of development on critical lands—10 percent compared to zero percent under Alternative 1 and five-percent under Alternatives 2, 3, 4 and 5;

- The Proposed Alternative assumes the same percentage of redevelopment (five percent) would occur as under the other Alternatives, except Alternative 1 that assumed no redevelopment;
- The Proposed Alternative assumes a slightly lower average residential density per net acre (7.1 units/ net acre) than under the other alternatives.
- The Proposed Alternative assumes the same single family/multifamily housing split as under Alternatives 2,4 and 5, although less than under Alternative 1 (60 percent single family/40 percent multifamily) or under Alternative 3 (71 percent single family/29 percent multifamily);
- The Proposed Alternative assumes the same percentage of land dedicated to residential infrastructure as Alternative 3, which is based on development patterns of the past decade. The percentage of land dedicated for commercial and industrial infrastructure is the same for all alternatives, including the Proposed Alternative; and
- The Proposed Alternative includes the same market factors are as Alternatives 1, 2, 4, and 5 (Alternative 3 does not include market factors) except for residential land. The Proposed Alternative does not include a market factor for residential development.

Table 16. Comparison of Assumptions

	1994 Plan	**Actual***	**Proposed Alternative**
% Critical Lands that develop	Reduced density (4 units/acre)	9-10%	10
% redevelopment	0	unknown	5
Average density per acre (within UGAs)			
Single-family	8.0	6.0	7.1
Multi-family			
% single/multi-family	60/40	71/29	75/25
% infrastructure	38%	27.5%	27.5%
Market factor			
Residential	25%	N/A	0%
Commercial	25%	N/A	25%
Industrial	50%	N/A	50%

Source for "Actual": Plan Monitoring Report, Clark County (July 2000) except for development of critical lands, which is based on City of Vancouver experience.

The market factor was added to the overall calculation of commercial and industrial acreage needed to accommodate growth under the Proposed Alternative. This market factor is a "cushion" to ensure there would be an adequate land supply to meet projected business needs and discourage artificial increases in land prices. For retail and office/business park lands, an additional 25 percent was added to the total acreage for that land use type. For industrial lands, the estimated amount of land needed was increased by a factor of 50 percent.

b. Direct Impacts

Direct impacts are shown in three tables. Tables 14 and 15 show the Proposed Alternative's capacity to accommodate both urban and rural growth. Table 17 shows the impact the Proposed Alternative would have to existing county zoning and how land within each expansion area would be allocated.

Table 17. Total Acreage Added to City UGAs by Plan Designation

Rural Land → **Urban Land**

	County	Battle Ground	Camas	La Center	Ridgefield	Vancouver	Washougal
Existing Land Use Designation	Acres of existing Comprehensive Plan designations added to UGAs	County acreage dedicated to City					
Residential	2,913	2,176	207	34	4	492	
Urban Reserve	3,189	372	334			2,483	
Commercial	14	14					
Office/Business Park							
Industrial	26	8	2			16	
Industrial Urban Reserve	238		237			1	
Mining Lands	195					195	
Agriculture	2,758	652	228	31	42	1,805	
Other	79	1	20			58	
Parks/Open Space	1					1	
Public Facility	46					46	
Water	1		1				
Total acres	9,461	3,223	1,029	66	46	5,097	

2023 Projected Population	534,191

Rural Land → **Urban Land**

	County	Battle Ground	Camas	La Center	Ridgefield	Vancouver	Washougal
New Land Use Designation	Proposed urban land use designations added to UGAs	County acreage dedicated to City					
Residential	3,555	1,357	404	66		1,728	
Mixed Use Resid.-Battle Ground	895	895					
Total Residential Acreage	**4,450**	**2,252**	**404**	**66**	**-**	**1,728**	
Mixed Use Empl.-Battle Ground	259	259	-	-	-	-	
Mixed Use	1,192	-	-	-	-	1,192	
Commercial	105	-	-	-	-	105	
Business Park	2,265	41	358	-	-	1,866	
Industrial	677	471	-	-	-	206	
Public Facilities	182	40	96	-	46	-	
Parks/Open Space	331	160	171	-	-	-	
Total Employment Acreage	**5,011**	**971**	**625**	**-**	**46**	**3,369**	
Total Acreage	**9,461**	**3,223**	**1,029**	**66**	**46**	**5,097**	

Source: Clark County Planning Department; Clark County Department of Assessment and GIS. 2003

The Proposed Alternative would not change the UGA or land use designations for Washougal, Yacolt or Woodland, which is slightly different than under Alternatives 1, 2, 4, and 5 that added some land to the Washougal UGA, primarily for residential and business park uses. Development within these communities would continue as in the past and the existing and proposed comprehensive plan policies and zoning ordinance would direct any anticipated growth.

The Clark County Department of Assessment and GIS calculated land use acreage for the Proposed Alternative. Acreage added to a city's UGA is generally rural in nature, but when annexed to a UGA, the intensity of use is expected to increase over time. This can have significant impacts on resource lands where development is sparse or has yet to occur. See Section B for a discussion about rural lands in Clark County; see Section C for a discussion about the potential impacts to resource lands.

The City of Vancouver comprehensive plan designates future urban activity centers corridors that will be implemented through preparation of more detailed subarea plans. These are intended to serve as focal points for future development and redevelopment. Each may emphasize different combinations of housing, employment, shopping, and other activities to reduce reliance on the automobile and encourage using mass transit. As a result, Vancouver expects to see more redevelopment and a higher average employment density than the county wide average.

Clark County: The Proposed Alternative projects the largest increase in population and housing units, but the smallest expansion of land to UGAs of any alternative. Countywide, the population is anticipated to increase by 163,728 residents by 2023, bringing the county's total population to 534,191 under this alternative. To accommodate the growing population, an additional 60,866 housing units would be required in urban and rural areas assuming no more than 75 percent of new units are single-family. About 90 percent, or 54,779 housing units, would occur in urban areas. While this is the largest population increase of any alternative, the number of housing units needed to accommodate the growth is lower than under Alternative 1 that projects nearly the same increase in population growth, but assumes a smaller average household size. The Proposed Alternative assumes that about 30 percent more housing units are needed than Alternatives 2, 3, 4 and 5, but also assumes about 30 percent more population growth.

The Proposed Alternative would added 9,461 acres to existing UGAs, slightly less than under Alternative 2, less than a third of the land added under Alternative 1, and about 75 percent as much as under Alternatives 4 and 5. Significant urban growth area expansions are proposed for the unincorporated areas between the cities of Camas and Vancouver including the south side of 119th Street between Curtain Creek and 152nd Avenue in the Orchards area, north of 119th Street between 50th and 72nd Avenues in the Pleasant Valley area and the Fairgrounds area. Expansion would also occur to the south and west of Battle Ground.

While the Ridgefield and La Center UGAs would expand under this alternative, most of the new growth would occur in the Vancouver and Battle Ground UGAs. Nearly half of the land added to UGAs would be for residential development, while most of the remaining acreage would be designated for business parks, mixed uses, and industrial uses.

Most land to be converted to urban uses is currently zoned as urban reserve (3,189 acres), rural residential (2,913 acres) and agricultural (2,758 acres) land. Overall, about 65 percent of the Proposed Alternative would affect land already designated for future urban uses, or designated for residential development. While the existing uses would not be required to increase in density, over time as the city expands to include these areas, rural residential development could be replaced with smaller lots and more units.

Approximately 10 percent of the overall population growth is planned to occur in rural areas, which is lower than the 19 percent assumed under the other alternatives in rural areas. Under the Proposed Alternative, planned rural population growth is assumed to be 16,373 new residents in 6,087 new

households. An analysis of actual capacity in rural areas outside of the new UGAs showed that the Proposed Alternative would have adequate capacity to accommodate the rural growth, as would Alternatives 2, 3, 4, and 5. Alternative 1 would not be able to accommodate the planned rural population growth.

As with any alternative that proposes UGA expansions, the possibility of "leapfrog" development, where parcels on the periphery develop before interior parcels, may occur under the Proposed Alternative. Leapfrog development is more likely to occur under the Proposed Alternative than with Alternative 3 that would not add any land to UGAs, although to less an extent than under other alternatives that proposed larger expansions. A development pattern that passes over interior vacant areas to develop at the fringe of city is typically more expensive to develop because infrastructure (roads, sewer, water) often must be constructed to serve these areas when infrastructure may already serve interior vacant or underdeveloped parcels. This type of development may also undermine current redevelopment efforts within the existing cities' limits. The County is proposing to place urban holding zoning on all new UGA areas, which will reduce the likelihood of premature development.

The County has designated land on the UGA peripheries as urban reserve, approximately 3,981 acres of urban reserve and 1,762 acres of industrial urban reserve land. All industrial urban reserve land and most urban reserve land is located north of Vancouver. Some urban reserve land is also located north of Washougal and in Ridgefield. Urban and industrial reserves are intended to protect areas from premature land division and limit leapfrog style development patterns. Reserve areas will likely become urbanized when development capacity is constrained within urban areas. These lands may be added to the urban area, as necessary, through amendments to the 20-year plan.

The Proposed Alternative would have less impact on agricultural land than under Alternatives 1, 4, and 5, although it would affect about 20 percent more agricultural land than Alternative 2. The Proposed Alternative would affect about 70 percent less agricultural land than Alternative 1, about 15 percent less than Alternative 4 and about one quarter less than Alternative 5.

Under the Proposed Alternative, the majority of residential land would continue to be used for residential development (3,555 acres), less than any other alternative except Alternative 3, which assumed no UGA expansion and Alternative 4 that focused mainly on acreage for employment. While less acreage is dedicated to residential uses than in Alternatives 1, 2, and 5, the Proposed Alternative can still accommodate a population larger than proposed under any other alternative, due in large part to the Proposed Alternative's higher assumed average household size, mixed residential densities that would allow medium and high density zones, and the prevalence of housing in mixed use areas in Vancouver and Battle Ground.

The Proposed Alternative designates about 25 percent more acres for employment than Alternative 2 and nearly the same acreage as under Alternative 5, however, only about 75 percent as much as Alternative 1 and about half as much as under Alternative 4. Overall, about half of the employment acres under the Proposed Alternative would be designated for business park (2,265 acres) uses with the remaining acres designated for mixed use (1,192 acres) and industrial uses (677 acres).

Approximately 195 acres is included in this alternative that was not a part of any alternative in the DEIS. These areas are found in Battle Ground and Ridgefield and are discussed in impacts to those cities.

Unlike the other alternatives, land designated for mixed uses in Battle Ground under the Proposed Alternative is split into two distinct mixed use categories. These are mixed use residential-Battle Ground and mixed use commercial-Battle Ground, accounting for 895 acres and 259 acres, respectively. These are discussed in more detail under Battle Ground specific impacts.

Higher density housing in the expansion areas would occur in mixed use areas as well as in areas designated on the proposed zoning map that would allow increased densities. However, while higher density housing is often less expensive, reliance on mixed uses for higher density housing as an affordable housing option is unlikely to meet the needs of the population needing less expensive housing. Mixed-use housing can be just as expensive as traditional single family housing because it attracts residents who wish, and can pay, to be near retail/commercial amenities. Affordable housing under this alternative would be found in higher density multifamily housing located in newly designated areas allowing those uses and within existing UGAs where demographic and zoning densities support these denser developments.

In general, mixed use areas (both in Vancouver and Battle Ground) tend to be located near newly designated employment centers, such as near industrial and business park developments. In addition to providing some housing, mixed use areas would also likely provide some employment in the retail and service employment sectors to support new residents.

Battle Ground: The Proposed Alternative would have less impact in total acreage than Alternatives 1, 4, and 5 but would include more land area than Alternatives 2 and 3. This alternative would add approximately 3,223 acres to the Battle Ground UGA, generally to the west and south of the existing UGA on land currently utilized for rural residential and agricultural uses. There are some small areas included in this alternative that were not part of any other alternative. They are generally located to the north and east of the city and account for 148 acres. With the exception of Alternative 4, more industrial development (471 acres) would occur within the expansion area under this alternative than any other alternative. The remaining employment areas would be dedicated to mixed use-employment (259 acres), a new land use designation created under this alternative specific to Battle Ground. Mixed use employment areas would develop with primarily office and retail uses, although some housing might to be found in more dense developments that mix various compatible uses. Other housing options would be found residential areas (1,357 acres) and a new mixed used residential designation specific to Battle Ground. Mixed use residential areas differ from mixed use employment areas in that mixed use residential areas are primarily residential, assuming that 95 percent of the development will be residential (12 units per acres or more) with the remaining five percent dedicated to commercial and retail services to support those residential uses.

Compared to the other alternatives, the Proposed Alternative would add more residential land than Alternatives 2, 3, and 4 in a mix of residential development densities. While some mixed use areas could develop at higher densities, affordable housing options would likely still be limited to higher density development on vacant or redevelopable areas within the existing city limits that permit higher densities and have the demographics to support those uses.

Camas: The Proposed Alternative would add 1,029 acres to the UGA, more than under any other alternative except Alternative 1. Under this alternative, all new land would be designated for low density uses (404 acres). The predominance of low density housing under this alternative would likely mean less affordable housing choices than a more compact development pattern utilizing less land. Affordable housing is more likely to occur within the existing city limits than in the expansion area.

The remaining land in the expansion area, accounting for about 60 percent, would be dedicated to business park uses, similar to the amount of land under Alternative 5. Overall, employment acreage under the Proposed Alternative is more than under Alternatives 2, 3, and 5, but only about a third as much as under Alternative 4 and about 20 less than under Alternative 1.

La Center: This alternative would add approximately 66 acres to the city's UGA, mostly land now used for agriculture and rural residences. All of the land added to the UGA would be for low density residential uses (66 acres), but since La Center has grown rapidly and absorbed most of the residential land, some

adjustment is needed. New residential development within the new UGA would likely continue to be composed of primarily single-family residential development on large lots.

This alternative would have a similar impact as Alternative 4 that would add nearly the same amount of land for low density residential uses. Compared to Alternative 1 and 5 that adds 1,102 acres and 470 acres, respectively, to the UGA, this alternative would have far less impact in terms of overall UGA expansion. The Proposed Alternative would only minimally affect the urban form of La Center, unlike alternatives adding significantly more land.

Ridgefield: The Proposed Alternative would add approximately 46 acres to the Ridgefield UGA, currently agricultural and rural residential land. The expansion area would be only for public facilities expansion. This area is not included in any other alternative. No new residential or employment areas are proposed. Some land west of 45th Street would be designated as urban reserve.

The land use impacts under this alternative would be similar to those under Alternatives 3 and 4, where no change would occur to the Ridgefield UGA. No upzoning would occur and development would continue as it has in the past. As population increases, some larger underutilized lots would likely be subdivided to increase the number of housing units. Residential impacts under this alternative would also be similar to those in Alternatives 4 and 5.

Vancouver: Vancouver would see the largest increase in total acreage of any city in Clark County under the Proposed Alternative, growing by 5,097 acres. This is about the same as Alternative 4, but only about 25 percent as much as Alternative 1, the largest proposed expansion for any alternative of the Vancouver UGA. The expansion areas are located all around the existing Vancouver UGA, despite the fact that the City of Vancouver asked that only areas east of the existing Vancouver UGA in Fisher Swale and along Lacamas Creek be added to the UGA at this time. The City asked that areas north of existing UGA in Orchards, Pleasant Valley and the Fairgrounds be designated urban reserve. Most of this growth would occur on rural residential, urban reserve and agricultural land. Overall, about a third of the total land (1,728 acres) would be dedicated to residential uses—lower than Alternatives 1,2 and 5 but higher than Alternatives 3 and 4. Some residential and commercial development would likely occur in mixed use areas (1,192 acres). Mixed-use areas are assumed to allow up to 70 percent of a single type a development within the designation

c. Site-Specific Requests for Changes to Land Use Designations in Clark County

In addition to the proposed comprehensive plan changes under the Proposed Alternative, individual property owners have submitted requests to the County or individual cities to change their property's comprehensive plan/zone designation. The requests fall into one of three situations:

- The property is within a proposed UGA and the proposed designation consistent with that of Proposed Alternative.
- The property is within a proposed UGA but the request is not consistent with the designation under the Proposed Alternative.
- The property is outside any proposed UGA, in which case the change is inconsistent with the Proposed Alternative.

In the first situation, the request can be considered as part of this SEPA analysis and may be approved if it is included as part of the BOCC decision on adoption of the Proposed Alternative. In the second situation, where proposed changes are within a proposed UGA, but the requested map designation is not consistent with the land use designation under the Proposed Alternative, the BOCC may elect to evaluate and approve or deny the application depending on whether the proposed change was re-evaluated and found

to be consistent with the final plan adopted by the BOCC. In the third situation, the BOCC may need to make a separate decision on the proposed change to deny or approve the application separate from the comprehensive plan update process.

Table 18 summarizes the requests, showing the number of requests in each scenario, and the acres requested to be changed.

Table 18. Summary of Site-Specific Redesignation Requests in Unincorporated Clark County

Redesignation requests under review	Proposed Alternative Requests	Acres
Total Redesignation requests	267	6,580
Outside of the Proposed UGAs	124	3,750
Within Existing UGAs	79	732
Within the Proposed UGAs	64	2,098
Consistent with proposed use	24	892
Not consistent with proposed use	42	1,206

Source: Clark County Department of Assessment and GIS, 2003

All current applications under County review, according to the Clark County Department of Assessment and GIS, would total approximately 6,580 acres within unincorporated Clark County. As is clear from the table, about two-thirds of the requests covering approximately 5,000 acres of land are either outside the proposed UGAs or are inside but are not consistent with the plan designation under the Proposed Alternative.

Table 19 summarizes the potential impact of these requests in terms of acreage converted by land use designation. The majority of requests are for changing resource land into rural or urban uses, totaling 4,276 acres. Approximately 35 percent of the acreage is proposed to change from agricultural or forest resource lands to rural residential use. Another 30 percent of the 6,580 acres propose changing from resource land to urban land uses.

The total expansion under the Proposed Alternative is 9,461 acres. Given that the site-specific requests outside of the proposed expansion equal nearly 4,000 acres, approval of those requests has the potential to effectively alter the Proposed Alternative to the point that additional SEPA analysis could be required. The size of the land area represented by the Resource-to-Urban and Rural-to-Urban categories in particular has the potential to essentially change the Proposed Alternative into a new alternative. However, this would depend on the magnitude of any change, including the types of new uses proposed, location (i.e., proximity to a proposed expansion area), and size of requested change (acres). If, through the hearings process to update the comprehensive plan, sufficient requests are approved to change the nature and scope of the Proposed Alternative, additional evaluation of the potential impacts of conversion of those uses on the environment and the changes' consistency with the GMA and Countywide Planning Policies should be considered.

Table 19. Summary of Proposed Private Requests for Changes to Land Use Designations

Proposed Change by Land Use Type	Acreage
Resource to Rural	2,029
Resource to Urban Reserve	248
Resource to Urban	1,999
Total Resource to Non-Resource	***4,276***
Rural to Urban Commercial, Business Park or Manufacturing	189
Rural to Urban Residential	716
Total Rural to Urban	***905***
Urban Reserve to Urban Residential	335
Urban Reserve to Urban Commercial	25
Urban Reserve to Urban Industrial	385
Total Urban Reserve to Urban	***745***
Urban Residential to Urban Commercial	170
Urban Residential to Urban Residential	8
Urban Residential to Manufacturing	53
Urban Residential to Airpark	88
Total Urban Residential to Other Urban	***319***
Urban Commercial to Urban Commercial	46
Urban Commercial to Urban Residential	14
Total Urban Commercial to Other Urban	***60***
Urban Manufacturing to Urban Commercial	167
Urban Manufacturing to Urban Residential	99
Total Urban Manufacturing to Other Urban	***266***
Urban Mixed Use to Urban Commercial	2
Urban Mixed Use to Urban Residential	5
Total Urban Mixed Use to Other Urban	***7***
Total Urban Office Park to Urban Residential	***2***
Total Acreage Proposed for Plan Designation Change*	***6,580***

Source: Clark County Departments of Assessment and GIS and Community Development, 2003
**Excludes land with surface mining overlay.*

d. Site-Specific Requests for Changes to Land Use Designations in the Vancouver UGA

Approximately 90 site-specific plan amendment requests, involving over 850 acres of land, received by the City of Vancouver are located within the proposed Vancouver UGA. These requests are being reviewed by Clark County. Almost half of the requests involve land located in areas Clark County proposes to add to the Vancouver UGA. Of these, only 12 requests east of the current Vancouver UGA are in areas that the City of Vancouver requested be included in an expanded urban growth area; four other requests further to the east of the current Vancouver UGA are not only beyond the expansion area requested by the City, but involve environmentally sensitive lands. Twenty-six of the requests are in areas to the north of the existing Vancouver UGA that the City requested be designated as urban reserve, and not included in the Vancouver UGA.

If all of these requests were approved, the greatest impacts would be: (a) a loss of approximately 266 acres of designated light industrial land already located within the existing Vancouver UGA; (b) conversion of approximately 277 acres of existing urban reserve lands north of the current Vancouver UGA to light industrial and low density residential designations; (c) an increase of more than 280 acres in commercially designated land in the Vancouver UGA.

Vancouver has expressed a strong preference for the County to maintain the existing land use designations and zoning, unless the applicant has clearly demonstrated that the change will cure an existing non-conformity or result in better consistency with surrounding land uses.

Although 244 acres of new light industrial land would be designated, over 80% (200 acres) of it would be in the proposed expansion of the Vancouver UGA into the urban reserve areas north of 179th Street along the east side of I-5. Even with the potential addition of 244 new acres, the result is still a net loss. Vancouver has demonstrated in its plan that there is sufficient land to accommodate employment growth targets within the existing Vancouver UGA. The designation of additional industrial land at the fringes of the urban area is not considered compensation for the loss of sites from the interior of the existing Vancouver UGA that have better access to services and potential employees. Considering proposed plan policies that call for increasing local employment opportunities, approval of the requests could have a negative impact on preservation and efficient use of existing light industrial lands within the existing Vancouver UGA.

Increasing the amount of commercially designated land at the fringes of the urban area could also conflict with Vancouver's efforts to encourage redevelopment and revitalization of the downtown and other existing commercial centers. Approving new commercial land uses in areas not consistent with Vancouver's planned land use patterns and transportation network could negatively affect the City's ability to implement its plan.

Properties within the expansion area of the Vancouver UGA could be zoned urban holding to ensure that development does not occur prematurely (leap frog development) and that the city and other special districts are able to serve any urban development efficiently and cost-effectively.

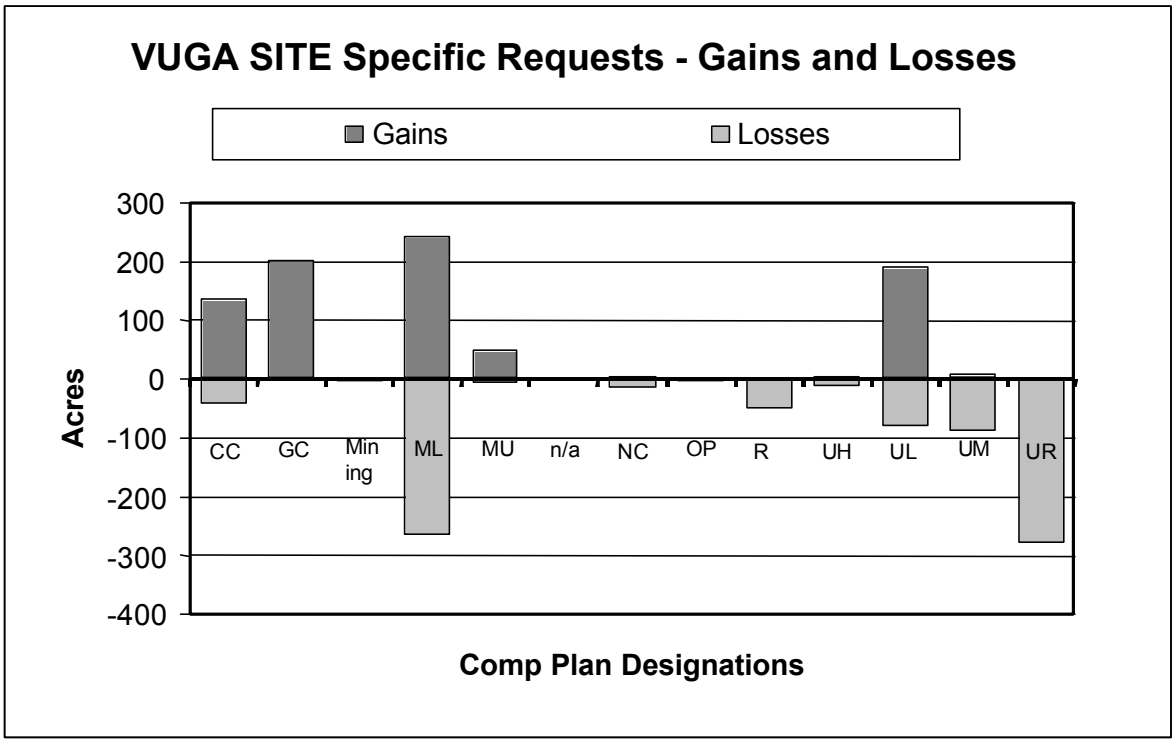
Table 20 below shows the "from-to" and "gain-loss" data for the 42 site-specific requests. Chart 1, below, graphically illustrates the gain-loss data by plan designation.

Table 20. Site-Specific Requests in the Vancouver UGA: Gains and Losses

Sum of Acres	**Comp Plan Designation Requested**										
Comp Plan Existing	CC	GC	ML	MU	n/a	NC	OP	UH	UL	UM	**Grand Total**
CC		29.78	0.88						8.16	5.54	**44.36**
GC		0.20									**0.20**
Mining			2.50								**2.50**
ML	62.87	104.51							99.00		**266.38**
MU		0.91				0.59			4.69		**6.19**
n/a					0						**0**
NC	17.13										**17.13**
OP									2.30		**2.30**
R				50.00							**50**
UH	0.50	10.50									**11.00**
UL	39.95	3.70	29.08			1.70		3.05		3.50	**80.98**
UM	17.05	54.24	12.1			0.91	1.20			1.00	**86.50**
UR			200			0.90			76.60		**277.50**
Grand Total	**137.50**	**203.84**	**244.56**	**50.00**	**0**	**4.10**	**1.20**	**3.05**	**190.75**	**10.04**	**845.04**

Source: City of Vancouver

Chart 1. Potential Acreage Gains and Losses in the Vancouver UGA from Site-Specific Requests



Source: City of Vancouver

e. Site-Specific Requests within the City of Vancouver

Forty-three site-specific requests being reviewed by the City of Vancouver are still active, involving a total of approximately 159.62 acres, and representing 0.61% of the area inside city limits. During the preliminary review process several requests have been corrected, withdrawn or modified in response to planning staff comments and concerns. Table 21 lists all site-specific requests within the City of Vancouver that are still active, including revisions to some acreage data and requested plan designations and/or zones, and 2 pending City initiated changes.

If all of these active requests were approved, the greatest impacts would be (a) a net gain of 18.40 acres of commercial land; (b) a net gain of 20.65 acres of business park and industrial land; (c) a net loss of 39.4 acres; (d) a gain of 56.81 acres of mixed use (commercial, industrial, residential) development when the time comes to redevelop the Evergreen Airport site; and (e) the addition of 14.6 acres of greenway open space. Three requests totaling 4.4 acres ask for a change from R1-20 to community commercial or higher density residential designations, which would slightly increase either commercial or residential acreage totals if approved. Three other requests totaling 4.89 acres are simply requesting that a higher density zone be applied within their existing low density residential designation. Table 22 shows the "from-to" and "gain-loss" data for the 43 site-specific requests. Chart 2 graphically illustrates the gain-loss data by plan designation.

Even if all the requests were approved, the total impact would be relatively insignificant in terms of City-wide land allocations. Their ultimate significance lies in how the individual changes would affect quality of life in the surrounding neighborhood and in the City as a whole.

Table 21.List of Site-specific Requests in the City of Vancouver

Case Number	Existing Plan Designation	Requested Plan Designation	Existing Zone	Requested Zoning	Size (acres)	Neighborhood
CPZ2000-00018	Urban Low Density Residential	Community Commercial	R1-6	CC	3.31	Countryside Woods
CPZ2000-00019	Urban High Density Residential	Community Commercial	R-30	CC	2.59	VanMall
CPZ2000-00021	Urban High Density Residential	Community Commercial	R-30	CC	1.10	North Image
CPZ2000-00022	Urban Low Density Residential	Community Commercial	R1-5	CC	0.86	Image
CPZ2000-00025	Urban Low Density Residential	Urban Medium Density Residential	R1-5	R-18	0.25	Harney Heights
CPZ2000-00027	Urban Low Density Residential	Urban Medium Density Residential	R1-5	R-12	0.33	Lincoln
CPZ2000-00028	Urban Medium Density Residential	Urban Medium Density Residential	R-12	R-18	2.54	Marrion
CPZ2000-00029	Urban Medium Density Residential	Community Commercial	R-18	CC	1.98	Northcrest
CPZ2000-00030	Urban Medium Density Residential	Community Commercial	R-22	CC	1.70	NA
CPZ2000-00032	Urban Medium Density Residential	Urban High Density Residential	R1-7.5	R-30	6.38	Kevanna Park
CPZ2000-00033	Urban Medium Density Residential	Community Commercial	OR-22	CC	0.16	Ellsworth Springs
CPZ2000-00034	Urban Low Density Residential	Urban Medium Density Residential	R1-5	R-12	0.80	Harney Heights
CPZ2000-00036	Urban Low Density Residential	Community Commercial	R1-7.5	CC	0.54	Ogden
CPZ2000-00037	Light Industrial	Urban High Density Residential	ML	R-30	1.12	Hudsons Bay
CPZ2000-00041	Light Industrial	Community Commercial	ML	CC	2.05	Meadow Homes
CPZ2000-00046	Urban Low Density Residential	Urban Medium Density Residential	R1-20	R-12	9.65	NA
CPZ2001-00009	Urban Low Density Residential	Community Commercial	R1-5	CC	0.10	Arnada
CPZ2001-00010	Urban Low Density Residential	Community Commercial	R1-5	CC	0.11	Arnada
CPZ2001-00013	Urban Low Density Residential	Community Commercial	R1-5	CC	1.80	Rosemere
CPZ2002-00012	Urban Low Density Residential	Urban Low Density Residential and/or Community Commercial	R1-20	R1-20/ CC/R1-10/ R1-7.5	2.40	NA
CPZ2002-00013	Urban Low Density Residential	Urban Medium Density Residential	R1-7.5	R-22	0.55	Oakbrook
CPZ2002-00014	Urban Low Density Residential	Urban Low Density Residential	R1-20	R1-7.5	0.46	Evergreen Highlands
CPZ2002-00016	Urban Low Density Residential	Office Park	R1-7.5	OC	1.08	Vancouver Heights
CPZ2002-00017	Urban Low Density Residential	Neighborhood Commercial	R1-10	NC	0.89	Burnt Bridge Creek
CPZ2002-00018	Urban Medium Density Residential	Community Commercial	R-22	CC	0.23	Shumway
CPZ2002-00019	Urban Low Density Residential	Urban Low Density Residential and/or Community Commercial	R1-20	CC/R1-7.5	1.08	NA
CPZ2002-00020	Urban Low Density Residential	Urban Low Density Residential and/or	R1-20	CC/R1-7.5	0.92	NA

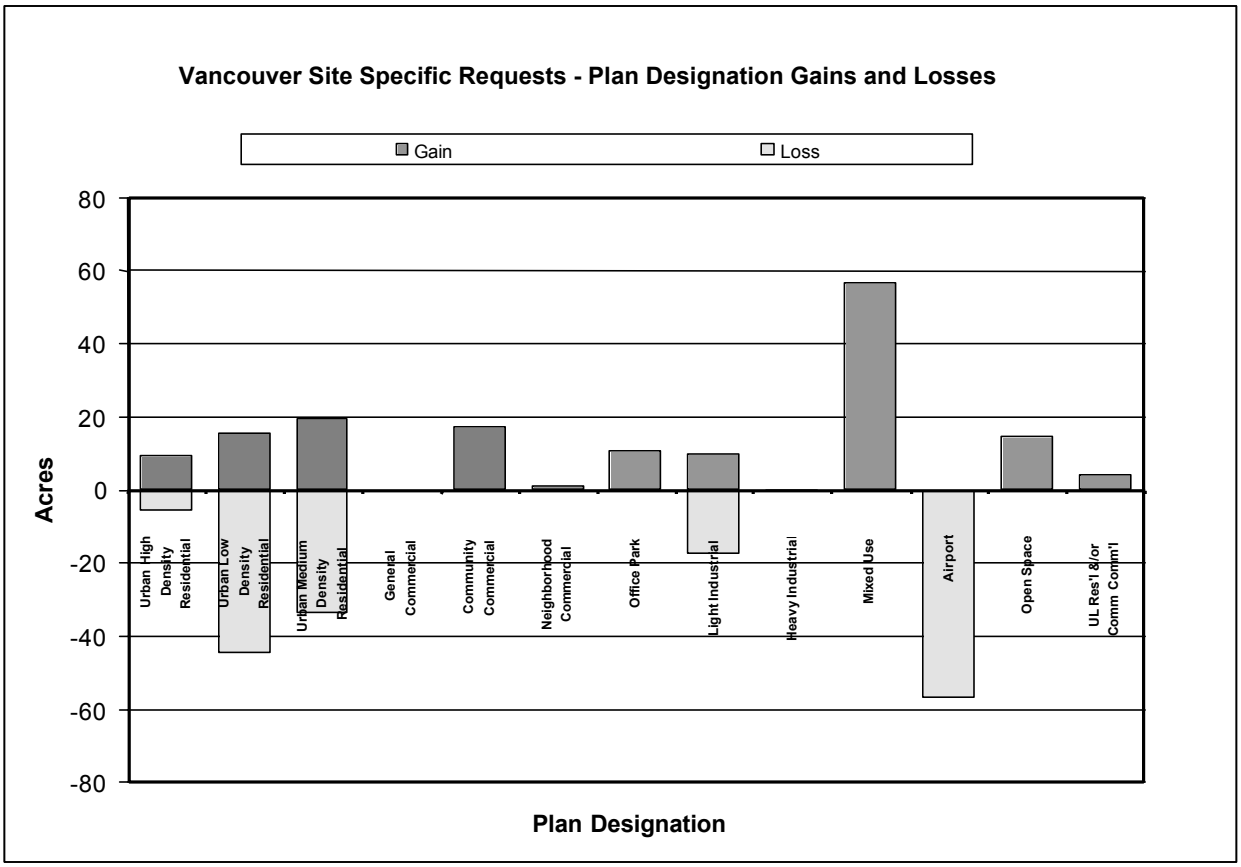
Case Number	Existing Plan Designation	Requested Plan Designation	Existing Zone	Requested Zoning	Size (acres)	Neighborhood
		Community Commercial				
CPZ2002-00021	Urban Low Density Residential	Urban Medium Density Residential	R1-6	R-22	4.79	Image
CPZ2002-00022	Urban High Density Residential	Urban High Density Residential	R-30	OR-30	1.97	VanMall
CPZ2002-00023	Urban Medium Density Residential	Community Commercial	R-18	CC	0.28	Edgewood Park
CPZ2002-00024	Urban Low Density Residential	Light Industrial	R1-6	ML	5.43	Burnt Bridge Creek
CPZ2002-00026	Urban Low Density Residential	Urban Medium Density Residential	R1-5	R-12	0.23	Lincoln
CPZ2002-00027	Urban Low Density Residential	Urban Low Density Residential	R1-10	R1-5	1.84	Image
CPZ2002-00028	Urban Medium Density Residential	Office Park	R-30/R-18/R-12	OC	9.83	North Garrison Heights
CPZ2002-00029	Urban Low Density Residential	Light Industrial	R1-6	ML	4.31	Burnt Bridge Creek
CPZ2002-00030	Urban Low Density Residential	Community Commercial	R1-5	CC	0.34	Hudsons Bay
CPZ2002-00031	Heavy Industrial	Urban Medium Density Residential	ML	R-12	0.25	Fruit Valley
CPZ2002-00032	Urban Low Density Residential	Urban Low Density Residential	R1-7.5	R1-5	2.59	Kevanna Park
CPZ2002-00033	Heavy Industrial	Urban Medium Density Residential	ML	R-12	0.40	Fruit Valley
CPZ2002-00034	Mixed Use	Community Commercial	MX	CC	0.23	Arnada
CPZ2003-00001	Urban Medium Density Residential	Urban Low Density Residential	R-18	R1-5	10.74	Oakbrook
Pending	Airport	Mixed Use	A	MX	56.81	NA
Pending	Light Manufacturing	Open Space	ML	G-LF	14.60	Northcrest
TOTAL					**159.62**	

Table 22. Site-specific Requests in Vancouver: Gains and Losses

Sum of Size (acres)	**Requested New Plan Designation**										
Existing Plan Designation	**Community Commercial**	**Light Industrial**	**Neighborhood Commercial**	**Office Park**	**Urban High Density Residential**	**Urban Low Density Residential**	**Urban Medium Density Residential**	**Urban Low Density Residential and/or Community Commercial**	**Mixed Use**	**Open Space**	Grand Total
Heavy Industrial							0.65				0.65
Light Industrial	2.05				1.12					14.60	17.77
Mixed Use	0.23										0.23
Urban High Density Res	3.69				1.97						5.66
Urban Low Density Residential	7.06	9.74	0.89	1.08		4.89	16.60	4.40			44.66
Urban Medium Density Res	4.35			9.83	6.38	10.74	2.54				33.84
Airport									56.81		56.81
Grand Total	17.38	9.74	0.89	10.91	9.47	15.63	19.79	4.40	56.81	14.60	159.62

Source: City of Vancouver

Chart 2. Potential Acreage Gains and Losses in Vancouver from Site-Specific Requests



Source: City of Vancouver

Criteria

Vancouver is reviewing the site-specific against Comprehensive Plan Policies, the Plan Amendment Criteria contained in Vancouver Municipal Code 18.05.050, and the Guiding Principles developed by the Vancouver Plan Oversight Committee. In addition, the following general guidelines were used by staff in reviewing each request:

- Treat similar properties/situations similarly.
- Refrain from changing designations when solutions are available through existing zoning codes, recognizing and considering changes that are pending in the Code Rewrite project.
- Refrain from changing designations on properties that have been considered and denied by the Planning Commission or City Council in the recent past unless there has been a material change in circumstances.
- Refrain from changing designations on properties where conditions of approval (concomitant rezone agreement) would be necessary for compatibility with existing development. The level of review required to effect such changes is inconsistent with the conceptual, policy-level review offered through the Comprehensive Plan Update process.
- Minimize or correct nonconforming uses wherever possible.
- Recognize existing conditions that are unlikely to change during the 20-year planning horizon.
- Consider each proposal in the context of its situation. Expand proposals to include neighboring properties in a similar situation where appropriate.

3. Mitigation Measures

The Proposed Alternative will affect, to a greater or lesser extent:

- the conversion of rural land to urban land;
- the distinction between rural and urban uses at the edge of urban development;
- the affordability of housing;
- the diversity of housing types;
- the cost of providing urban levels of services to residential development within UGAs;
- the balance between jobs and housing; and
- the ability to redevelop and infill under utilized lead within existing cities and UGAs.

The primary mitigation that would minimize the adverse impacts in the Proposed Alternative would be to reduce the overall acreage to bring capacity more in line with planned growth and focus on using land within the existing UGA efficiently prior to boundary expansions, similar to what was proposed in Alternative 3.

With respect to mitigating the overall impacts of the Proposed Alternative, changing the assumptions behind the designated UGA would have an impact. For example, reducing or eliminating the market factor would reduce the land need for commercial and industrial uses. Also, changing the number of jobs per acre to reflect actual experience of the past decade would reduce the amount of land needed to provide for those jobs. If less is included in the UGAs it will cost less to provide infrastructure at the edges and there will be more incentive to infill and redevelop.

Clark County is proposing several policies to mitigate the impacts of the Proposed Alternative. Policies 2.2.3, 2.3.2, 2.2.4, and 2.7.1 would be added to the Housing Element (Chapter 2). These new policies relate to inclusionary zoning and fair share housing as a means to provide affordable housing and support affordable housing programs. A new Policy (2.7.1) reflects a change for new development to occur in a housing type ratio of not more than 75 percent of any single type of housing in any jurisdiction. (e.g., single-family detached residential.)

The County would make minor changes to Chapter 3, Rural and Natural Resource Element to better clarify the element's existing goals and policies. The Economic Development Element (Chapter 9) would be completely revised, incorporating input from a series of economic conferences, the Columbia River Economic Development Council, representative business organizations, the Youth Commission, and other stakeholders. Key revisions include a vision statement, that emphasizes family wage jobs, knowledge-based industries, focused investment, regulatory change and inter-jurisdictional cooperation.

Policy 9.1.12 would be added to Chapter 9, which authorizes designation of rural industrial land banks pursuant to RCW 36.70A.365 – designation of Major industrial developments and RCW 36.70A.367-Master planned locations. Another new addition would be the proposed Action Plan – a stand alone document with strategies that calls for preparation of identified nodes of growth for economic development, regulatory barrier reduction, and an increase in the county's capacity to support and participate in economic development.

Additions to Chapter 12, Procedural Guidelines would discuss the application of urban holding to new areas brought into the urban growth areas. The County is also proposing a new County wide Planning Policy calling for no net loss of industrial and business park land.

Within Vancouver, a new goal and several policies support the "center concept" in the city's comprehensive plan by promoting unique identities for centers, planning for compact urban forms,

developing flexible standards, establishing connectivity, providing a range of transportation options and investing in public facilities and amenities to enhance livability. The City also proposes a "no net loss" policy for industrial land, in order to protect its ability to achieve a better jobs/housing balance.

Suggested Mitigation Measures

Other mitigation measures suggested by comments on the DEIS are:

- Development in expansion areas could conflict with established residential areas on the periphery of the existing UGAs. A mitigation measure to protect the livability of existing residential areas would be to ensure that future zoning in the expansion area is consistent, and complimentary, with areas that are already developed by limiting the intensity of uses adjacent to existing low density residential developments.
- Architectural and designs standards implemented through an "architectural review committee" would be another way to ensure that transitions between various land uses would be fluid and complimentary in design and intensity.
- Implement growth phasing or growth allocation plans to limit development in undeveloped areas.
- Require single building mixed-use zones.

B. Rural Lands

1. Setting

Rural lands are defined as areas that lie outside of UGAs and that are not reserved for agriculture, forest, or mineral resources (WAC 365-195-210(19)). The GMA's mandatory Rural Element (RCW 36.70A.070(5)) requires comprehensive plans to designate rural areas, provide for population growth with a variety of densities, identify rural services, and address rural character.

2. Impacts

The intent of the GMA is to protect rural lands from premature urban development, just as resource lands are protected. Existing policies and development regulations that protect rural lands would remain unchanged under the Proposed Alternative. Table 23 shows the acres of rural land proposed to be added to UGAs.

Table 23. Acres of Rural Land Added to UGAs under Proposed Alternative

	Proposed Alternative
Battle Ground	2,176
Camas	207
La Center	34
Ridgefield	4
Vancouver	492
Total rural lands:	**2,913**

Source: Clark County Department of Assessment and GIS

This alternative would bring land currently designated as rural into new UGAs. In doing so, it would contribute to redefining the rural landscape of the county.

The Proposed Alternative would expand UGAs by a total of 9,461 acres. Of this amount, around 2,913 acres are classified as rural lands, lands zoned Rural 5, Rural 10, or Rural Center Residential. There are

no lands zoned Rural 20 that would be brought into new UGAs. The Proposed Alternative would urbanize less rural land than Alternative 1 (12,088 acres), Alternative 4 (4,775 acres), and Alternative 5 (4,046 acres). However, it would urbanize more rural land than Alternative 2 (2,106 acres) and Alternative 3, which does not expand UGAs and so would not directly impact rural lands outside of UGAs.

Most of the rural land that would be urbanized would be included within Battle Ground's UGA (2,176 acres) on land currently zoned Rural Center Residential. Vancouver would add 492 acres of rural land to its UGA, while Camas would add 207 acres. La Center would add 34 acres of rural land to its UGA in an area that would see eventual residential development. Ridgefield would add four acres of rural land in an area south of its current UGA, an area that was not included in the DEIS. This area, which occupies around 46 acres, would see eventual development for public facilities.

There are currently 64,536 people living in unincorporated portions of Clark County, and this number is expected to increase by 16,373 residents over the next 20 years. Potential impacts associated with an increase in population in rural areas are reduced surface water flows from the capture of surface water by domestic wells that draw upon aquifers and the contamination of groundwater from septic systems. Rural areas are generally not served by public water or sewer systems, and new residents will be dependent on domestic wells and septic systems. These potential environmental impacts are discussed in greater detail in the Surface Waters and Groundwater and Aquifer Recharge Areas sections of this document.

3. Mitigation

For a discussion of the policies and regulations of Clark County as they relate to the protection of rural lands, please refer to the Rural Lands section of the DEIS.

The Proposed Alternative would expand the UGAs of Battle Ground, Camas, Vancouver, Ridgefield, and La Center in order to accommodate projected population and employment growth over the next 20 years. With any expansion of UGAs, there will be some inevitable loss of rural lands. This can be mitigated by drawing UGAs to avoid as much rural lands as possible and by making sure that UGAs do not expand unnecessarily, i.e., making sure existing UGAs do not have significant excess capacity or vacant land.

C. Economy

1. Setting

Clark County, the business community and the CREDC worked to devise a set of economic development strategies that leverage existing strengths into new economic power. The Economic Development Strategic Plan (EDSP) was provided to Clark County in 2002 to guide the update of the Growth Management Plan and is summarized in the DEIS.

2. Impacts

a. Introduction and Methodology

Like Alternatives 1 through 5, the Proposed Alternative assumes that new jobs created would be in a variety of categories. The Proposed Alternative uses the same assumptions as the Alternatives 1, 2, 4, and 5 except for retail jobs per acre, which increase under the Proposed Alternative from 12 to 20 jobs per acre. This is still lower than under Alternative 3, which assumed 29 retail jobs per acre and reflects the actual employment densities occurring in Clark County between 1995 and 2000. Table 24 compares the assumptions in the 1994 plans with Vancouver's experience and the Proposed Alternative assumptions.

Table 24. Comparison of Assumptions

	1994 Plan	Actual**	Proposed Alternative
Retail			
Jobs per acre	12	29	20
Percent infrastructure	40%	18%	25%
% redevelopment	0	10%	0
Market factor	25%	N/A	25%
Industrial			
Jobs per acre	9	13	9
Percent infrastructure	40%	20%	25%
% redevelopment	0	10%	0
Market factor	50%	N/A	50%
Business Park*			
Jobs per acre	12	20	20
Percent infrastructure	40%	20%	25%
% redevelopment	0	10%	0
Market factor	25%	N/A	25%

**Government employment was assumed to be the same as business park.*
***The actual percentage of land devoted to infrastructure and redevelopment is based on actual development within the City of Vancouver.*

The total number of jobs assumed under the Proposed Alternative was based on an assumed ratio of the proposed 2023 population to jobs, that is, for every 1.75 new urban residents, one job would be created. Jobs were then distributed by employment sector according to the assumed percentage for each job type.

b. Focused Public Investment Areas

As discussed in the DEIS, the County undertook an analysis of areas that have the potential to meet the needs of existing and new industry. The Focused Public Investment Study was designed to identify those areas where public investment in infrastructure to make sites "shovel ready" and attractive to businesses could then return that investment efficiently through tax revenue from the new industrial development. The report did not evaluate the potential revenue that might accrue from specific types of industrial development, but the results showed that some Focused Public Investment Areas (FPIAs) would be more costly to develop than others due to lack of existing infrastructure or environmental constraints. Some FPIAs are currently outside of the existing sewer and water provider service areas. FPIA areas are shown in DEIS Figure 33. FPIAs included under the Proposed Alternative are:

- **Vancouver:** Ten of the FPIAs and portions of two more are located within the existing Vancouver UGA. Portions of the Discovery Corridor and the WSU Industrial Park near I-5 are also within the existing UGA, although more would be added under the Proposed Alternative.
- **Battle Ground:** The entire city of Battle Ground and the proposed expansion area is designated as a FPIA and would be included under the Proposed Alternative.
- **Camas:** The Fisher Swale and Port of Camas/Washougal FPIAs are located within Camas and the City's UGA expansion area under the Proposed Alternative.
- **Ridgefield:** Only a limited UGA expansion is proposed (45 acres for public facilities) and does not include the urban reserve area included in the Proposed Alternative. The east side of Ridgefield (east of 45th) within the existing UGA boundary is proposed as part of the Ridgefield Junction FPIA.

Urbanized FPIAs often already have infrastructure located nearby and would generally be less expensive to develop as proposed. The FPIAs within the Vancouver UGA would be the least expensive to expand services except for the St. John's Corridor that would require significant environmental and stormwater mitigation as well as significant infrastructure and transportation improvements. FPIAs not already in an existing UGA or ones proposing a combination of residential and commercial/industrial uses would be more expensive than others because they generally do not have adequate, or any, public services in the expansion areas and existing services cannot accommodate the proposed residential and employment area growth. The Discovery Corridor and Battle Ground FPIAs would be the most expensive of any FPIA to upgrade to shovel ready status.

c. Employment Impacts under the Proposed Alternative

The planned job growth used to project the land need and resulting number of jobs for the Proposed Alternative is shown in Table 25. More jobs would be created under the Proposed Alternative than any other Alternative, adding 84,203 jobs, or about 20 percent more jobs than under Alternatives 4 and 5, about 50 percent more than planned jobs under Alternative 1, and nearly double the planned jobs under Alternatives 2 and 3. The new jobs to new population ratio ranged between one job for every 1.3 persons under Alternatives 4 and 5 to one job for every 2.4 persons under Alternative 1. The Proposed Alternative assumes a ratio of 1 job for every 1.75 persons, falling in between Alternatives 4 and 5 and Alternatives 2 and 3 (assumed a job to population ratio of 1 to 2.1).

The overall impacts on land use, that is, the amount of retail, industrial, and business park land added for job creation under the Proposed Alternative, is discussed in detail in the Population, Housing and Land Use. Table 25 compares the planned versus capacity for job growth. The Proposed Alternative would nearly accommodate the adopted employment growth target, as the actual capacity of the Proposed Alternative is very similar to the target. Assumed job growth under the Proposed Alternative would use 103 percent of the actual land capacity, based on existing vacant land within UGAs and jobs per acre. Assuming full build-out, the Proposed Alternative would have capacity for approximately 81,706 jobs, which is more than Alternatives 2 and 3, but less than under Alternatives 1, 4, and 5 that have more capacity. The Proposed Alternative has the most similar planned and capacity number of jobs of any alternative with only a three percent difference between the two. While the planned employment increases are slightly higher than capacity, it is difficult to determine how much additional capacity there may be in mixed use areas. If employment densities achieve more than what is assumed, the Proposed Alternative employment capacity would accommodate the planned employment. In contrast, Alternatives 1, 4, and 5 may have planned for fewer jobs, but each of those alternatives included more land than needed and exceeded employment capacity by at least 25 percent.

Planned job creation under the Proposed Alternative is higher than any other alternative and it assumes similar percentages of jobs for each sector as the other alternatives except for under Alternative 1. This alternative assumes commercial jobs would be 22 percent of total jobs compared to Alternative 1 that assumes 27 percent commercial, mainly to support the higher percentage of residential development. Commercial employment typically consists of lower skill retail and other service-related jobs that offer lower wages than jobs in industrial and business park developments, although some commercial sector employment would likely be family-wage jobs. Under the Proposed Alternative, commercial employment would be added to the fringe and in mixed-use areas in Vancouver and Battle Ground. Battle Ground may be the city most affected under this alternative because the majority of the job growth would occur in the commercial areas and retail/commercial development in mixed-use areas in the Battle Ground UGA.

Table 25. Projected Job Creation by Employment Sector for the Proposed Alternative

	Proposed Alternative
2002 population	370,463
Planned Population and Job Creation by Employment Sector	
2023 population	534,191
2002-2023 population growth	163,728
Urban population growth*	147,355
Average jobs to population ratio	1:1.75
Retail (percent of jobs)	*22%*
Employees per acre	20
Total retail jobs	18,525
Industrial (percent of jobs)	*29%*
Employees per acre	9
Total industrial jobs	24,419
Business park (percent of jobs)	*40%*
Employees per acre	20
Total business park jobs	33,681
Government (percent of jobs)	*9%*
Employees per acre (same as office)	20
Total government jobs	7,578
Target new Jobs (in urban areas)	*84,203*
Actual Capacity for Proposed Alternative (assuming full build-out)	
Urban population capacity	153,129
Average jobs to population ratio	*1:1.89*
Total new jobs (in urban areas)	*81,706*
Percent of land capacity used (for jobs)	***103%***

Source: Clark County Planning Department; Clark County Department of Assessment and GIS, 2003
**90 percent of total population growth.*

The Proposed Alternative, as with the other alternatives, would have no impact to the UGA, land use or projected population or employment growth, or land use designations for Washougal, Yacolt or Woodland. Development within these communities would continue as in the past and existing and proposed comprehensive plan policies would direct economic development. The additional capacity for employment creation would occur primarily in the Vancouver and Battle Ground UGAs where most expansion would occur, as shown in Table 26. Some of the additional capacity for jobs would also occur in Camas adjacent to the Vancouver UGA where land in the expansion area would be identified for business park development.

The City of Camas has developed several economic development strategies similar to those adopted by the Clark County as a part of its draft comprehensive plan. Camas is attempting to accomplish several goals to diversify the local economy from one based primarily on wood products to one that also includes technology and business sector opportunities. The city has also developed a series of strategies for attracting businesses. One way the city would like to accomplish this is to have large vacant parcels available with public services nearby to attract new business wanting to locate in the area.

Table 26. Job Capacity for the Proposed Alternative by City

City	Existing Job Capacity (2002)	Additional Job Capacity Added under the Proposed Alternative	Total Job Capacity Under the Proposed Alternative (2023)
Battle Ground	3,418	3,927	7,345
Camas	4,302	4,903	9,205
La Center	274	0	274
Ridgefield	3,843	0	3,843
Vancouver	39,296	20,585	59,881
Washougal	1,091	0	1,091
Yacolt	67	0	67
Total	***52,291***	***29,415***	***81,706***

Source: Clark County Planning Department; Clark County Department of Assessment and GIS, 2003

Vancouver's updated comprehensive plan will include general designations of future urban activity centers and nodes, to be implemented through application of zoning designations and other policy direction in future subarea plans. These are intended to serve as potential focal points for future development and redevelopment. Each may emphasize different combinations of housing, employment, shopping, and other activities to reduce reliance on the automobile and encourage using mass transit, as well as encouraging job growth.

While some development and job creation would likely occur within existing UGAs, most new jobs would likely be found on the north side of Vancouver, in Battle Ground, and between Vancouver and Camas. Battle Ground and Vancouver are the only jurisdictions under the Proposed Alternative that would add large tracts of land for mixed uses. Housing for new employees would be increased in Battle Ground in mixed-use areas along with lower density residential zones.

The Proposed Alternative would include large lots for business park development particularly between Vancouver and Camas, north of Vancouver, east of 164th, and along I-5 north of Vancouver, and in Battle Ground. 16 FPIAs would fall partly or entirely within the Proposed Alternative boundary where infrastructure, if built, could attract new businesses, However, improvements to some FPIAs, particularly those serving large areas or on the periphery of the expansion area, would be considerably more expensive than those already within existing UGAs. Two examples are the Discovery Corridor and Battle Ground FPIAs. These would be the most expensive to upgrade because there are currently no or limited services available. Additionally, while industrial uses may provide family-wage jobs, it is unclear whether jobs in the commercial and retail sector created mostly in mixed use areas under this alternative will provide high enough wages for employees to live in new housing near where they work. Clark County residents may still have to look for higher paying jobs in other areas, depending on the affordability of the new residential units in the mixed use areas. Often, mixed use housing is not an affordable housing option because the nearby services make it an attractive place to live for people making more money.

This Alternative would not establish as large an industrial land base as Alternatives 4 and 5, but would designate a significant amount of land for business park development. The Proposed Alternative would meet a County strategy for attracting new businesses and would meet the EDSP strategies for securing "knowledge based" businesses. The addition of large tracts of vacant business park land and to a lesser degree industrial land, particularly in Vancouver, Battle Ground and Camas, could enable targeted industries to cluster on large lots, which is an important part of the County's economic development strategy. However, public facilities would be expensive to expand to serve these new areas, and may not be financially feasible in the foreseeable future.

3. Mitigation Measures

The Proposed Alternative will affect, to a greater or lesser extent:

- The number of total new jobs created;
- The balance between jobs and housing;
- The number of FPIAs contained in the expansion areas;
- The diversity and types of industry sectors favored; and
- The cost of providing urban levels of services to commercial and industrial development within UGAs.

As with mitigation for land uses, the primary mitigation for economic impacts is to select a development alternative that would contain sufficient land to accommodate firms of varying sizes and sectors, minimize adverse impacts, and distribute commercial and industrial land equitably.

With respect to mitigating the impacts of the Proposed Alternative, there are few immediate remedies other than changing the assumptions behind the designated UGA. For example, changing the number of jobs per acre changes the amount of land needed to provide for those jobs. This is not mitigation of impacts, but changing the alternatives proposed.

Other mitigation measures to protect the existing and proposed industrial land supply are to implement policies and zoning regulations that protect industrial uses. For example, to achieve no net loss of industrial lands, the County's Policy 7.2.9 allows the consideration of comprehensive plan and zoning map changes from secondary and tertiary industrial lands to non-industrial uses only after a determination that (1) such lands cannot feasibly be improved to prime industrial status due to physical conditions, (2) a non-industrial designation and zoning is more appropriate, and (3) after other replacement sites within the existing UGA of equal or greater industrial potential have been designated and zoned industrial on the plan and zoning maps.

D. Resource Lands

1. Setting

The GMA requires all counties and cities to preserve agricultural, forest, and mineral resource lands of long-term commercial significance and to protect these areas from adjacent incompatible land uses that would interfere with their long-term commercial viability. Each county must designate resource lands of long-term commercial significance—that is, land with the physical characteristics to support a resource industry—and establish policies and development regulations that ensure the conservation of these lands for their economic, social, and environmental values. For a complete discussion of resource lands within Clark County, please refer to the Resource Lands section of the DEIS.

2. Impacts

Under the Proposed Alternative, county policies and regulations to protect resource lands and resource-related industries would remain unchanged. For agricultural land, this means the Agricultural-Wildlife District and the Agricultural District would continue to define permitted uses and development standards for these areas. For forest lands, the Forest and Agricultural District would continue to regulate uses and development within these areas. The Surface Mining Combining District would define uses for surface mining areas.

Table 27 shows the amount of resource land currently designated within the county and under the Proposed Alternative. Table 28 lists acres of resource land added to UGAs under the Proposed Alternative for each jurisdiction.

Table 27. Acres of Designated Resource Land within Clark County

Alternative	Agricultural	Forest	Mineral Resource
Currently designated	42,308	158,092	1,749
Proposed Alternative	39,550	158,091	1,554

Source: Clark County Department of Assessment and GIS

Table 28. Acres of Resource Land Added to UGAs under the Proposed Alternative

	Proposed Alternative
Battle Ground	
Agriculture	652
Forest	0
Mineral Resource	0
Camas	
Agriculture	228
Forest	0
Mineral Resource	0
La Center	
Agriculture	31
Forest	0
Mineral Resource	0
Ridgefield	
Agriculture	42
Forest	0
Mineral Resource	0
Vancouver	
Agriculture	1,805
Forest	0
Mineral Resource	195
Total resource lands:	**2,953**

Source: Clark County Department of Assessment and GIS

The Proposed Alternative, similar to Alternatives 1, 2, 4 and 5, would result in the loss of some farm land and prime agricultural soils within the county. Under the Proposed Alternative, around 2,061 acres of Class I and II prime agricultural soils would be brought into UGAs, while 3,493 acres of Class III prime agricultural soils would see eventual urbanization. Impacts from the loss of agricultural land and prime agricultural soils would not only affect the viability of farming within the county, it will also impact other values associated with this land, such as aesthetic and habitat values.

There are currently 42,308 acres designated as agricultural land within Clark County. Of the 9,461 acres that would be added to UGAs under the Proposed Alternative, 2,758 acres are agricultural land. This is less than Alternative 1, which adds 8,648 acres of agricultural land, Alternative 4, which adds 3,128 acres, and Alternative 5, which adds 3,589 acres. Alternative 3, which does not expand existing UGAs, would not impact any agricultural land. Most of the agricultural land that would be converted to urban uses is found in the area between Vancouver and Battle Ground. The expansion of Vancouver's UGA would see around 1,805 acres of agricultural land urbanized, while Battle Ground's expanded UGA would urbanize

about 652 acres of agricultural land. Smaller amounts of agricultural land would be added to the new UGAs of Camas (228 acres), Ridgefield (42 acres), and La Center (31 acres).

There are currently 158,092 acres designated as forest land within Clark County. Under the Proposed Alternative, neither Forest Tier I nor Forest Tier II land would be brought into new UGAs. By contrast, Alternative 1 would add around 145 acres of Tier II forest land to UGAs and Alternative 4 would add around 68 acres of Forest Tier II land to the UGA of Camas. Like the Proposed Alternative, Alternatives 2, 3, and 5 would not add any forest land to UGAs.

The Proposed Alternative would add around 195 acres of mining lands to the UGA of Vancouver. This is less than Alternative 1, which would have added up to 375 acres of mineral resource lands to the UGAs of Vancouver, La Center, Camas, and Washougal; is less than Alternative 2, which would have added up to 286 acres of mineral resource lands to the UGAs of Camas, Vancouver, and Washougal; and is about the same amount of mining land as Alternatives 4 and 5, which would have added up to 189 acres).

3. Mitigation

Once resource land is included within a UGA, it is assumed that the resource itself is no longer protected from conversion to urban uses and loss of the resource will eventually occur. However, the county's mineral resource overlay zone does provide some protection. While protecting resource lands is largely Clark County's responsibility, the cities can contribute by designing their UGA expansion areas to avoid resource lands. The mitigation section of the DEIS describes proposed county policies and suggest additional mitigation measures.

E. Historic and Cultural Resources

1. Setting

The GMA requires all local jurisdictions "to identify and encourage the preservation of lands, sites, and structures that have historical or archaeological significance."

2. Impacts

The Clark County Archaeological Predictive Model and associated probability maps were adopted by the county in 1994 and updated in 2001. These maps identify the likelihood of a particular area having archaeological resources and establish specific ranges of probability: low (1 to 20 percent), low-moderate (21-40 percent), moderate (41-60 percent), moderate-high (61-80 percent), and high (81 to 100 percent).

The Proposed Alternative would add 9,461 acres of land to the UGAs of Vancouver (5,097 acres), Battle Ground (3,223 acres), Camas (1,029 acres), Ridgefield (46 acres) and La Center (66 acres). This is less land than would be urbanized under Alternatives 1, 2, 4, and 5. The Proposed Alternative would add 2,913 acres of rural land to UGAs. By contrast, Alternative 1 adds 12,088 acres of rural land to UGAs, Alternative 2 adds 2,106 acres, Alternative 4 adds 4,775 acres, and Alternative 5 adds 4,046 acres of rural land. Alternative 3 would not add any rural land to existing UGAs. Because less rural land would be urbanized under the Proposed Alternative than under Alternatives 1, 4, and 5, it would likely have less overall impact on rural historic resources within the county.

Most of the areas proposed for expansion under the Proposed Alternative contain large areas with a high probability for archaeological resources. These areas tend to be located near waterways. However, this alternative would include significantly fewer stream miles than Alternatives 1, 2, 4, and 5, and would therefore have less potential to impact archaeological resources located adjacent to these streams. For instance, land adjacent to Salmon Creek is identified as having a high probability for archaeological

resources. Whereas Alternatives 1, 2, 4, and 5 would include Salmon Creek within new UGAs, the Proposed Alternative would not.

Much of the area south of Battle Ground in the Meadow Glade area is shown as having a high probability for archaeological resources. Those areas that would be added to the UGA of Battle Ground that were not considered in earlier alternatives show high, moderate-high, and low-moderate probabilities for archaeological resources. The area north of La Center's current UGA that would accommodate future residential development is shown as having primarily low-moderate and moderate probabilities for archaeological resources.

Those areas that would accommodate the expansion of Camas' UGA are classified as having a range of archaeological probabilities—low-moderate, moderate-high, and high. An FEIS was prepared for the Green Mountain Project, which envisions a variety of uses for a 310-acre area near Green Mountain that would be included within the expanded UGA of Camas. Although probability maps indicate a high potential for archaeological resources for areas around Lacamas Lake, the FEIS that was completed in 1994 included a complete archaeological field study of the 310-acre project site. No artifacts were found during the field survey or during subsequent construction.

Under the Proposed Alternative, fewer historical sites would be included within expanded UGAs than under Alternatives 1, 2, 4, and 5. Within Battle Ground's expanded UGA, there are two sites that are included in the local historic inventory. No sites that are listed on the NRHP or Clark County Heritage Register are located within these areas. Two historical sites are located adjacent to those areas of urban expansion that are northeast and southeast of the current UGA, areas that were not considered in other alternatives. There are no historical sites located within those areas of Camas, La Center, and Ridgefield that are proposed for urban expansion. Within Vancouver's expanded UGA there are four properties that are listed in the local historic inventory. There are no properties within the city's expanded UGA that are listed on either the NRHP or Clark County Heritage Register. Several historic properties are located adjacent to the expanded UGA and in areas that are designated as urban reserve. All of these properties are listed in the local inventory and are not on the NRHP or Clark County Heritage Register.

3. Mitigation

For a discussion of the policies and regulations of Clark County and local jurisdictions as they relate to the protection and preservation of historical resources, please refer to the DEIS.

Under the Proposed Alternative, new UGAs would include lands identified as having a high probability for archaeological resources. Although local, state and federal regulations protect cultural resources from disturbance, the likelihood of encountering such resources increases with addition of undeveloped areas to urban uses. Many programs to protect historic resources exempt individual property owners or allow voluntary registration. Regulations cannot protect against deliberate violations that result in disturbance of historic or cultural resources, although violators although they penalize the perpetrator.

IX. TRANSPORTATION

The GMA requires that local land use and transportation systems be balanced and that land use decisions consider transportation needs and impacts. The GMA also requires that local and regional plans be coordinated. Once the comprehensive plans are adopted, jurisdictions will only be able to approve developments that can demonstrate that adequate transportation facilities will be available at the time of development or be planned and funded to be complete within six years of development approval without reducing the level of service below that set in the plan.

The discussion in the DEIS summarizes information from the *Transportation Resource Document* prepared for Clark County by Parsons Brinckerhoff (2002) and updated as part of the Draft Environmental Impact Statement process (2003). More detailed information on all aspects of transportation planning and regulation within Clark County can be found in that document. A description of the basics of the transportation system can be found in the DEIS. This section focuses on the results of modeling the potential impacts for the Proposed Alternative, and potential mitigation for the deficiencies.

A. Roadway Network

1. Setting

The Southwest Washington Regional Transportation Council (RTC) is the designated Metropolitan Planning Organization (MPO) in Clark County and the Regional Transportation Planning Organizations (RTPOs) for the three-county area of Clark, Skamania, and Klickitat Counties

The Metropolitan Transportation Plan (MTP) for Clark County is the region's principal transportation planning document. The MTP must comply with the provisions of the federal Clean Air Act, which involves compliance with the mobile emissions budgets established in the Carbon Monoxide State Implementation Plan (SIP) Maintenance Plan (October 1996) and the Ozone SIP Maintenance Plan (April 1997), since the Vancouver area is designated as a maintenance area for carbon monoxide and ozone.

The 2002 MTP Update identifies future regional transportation system needs to 2023. It outlines plans and improvements necessary to maintain adequate mobility within and throughout Clark County. The MTP must be consistent with the area's comprehensive long-range land use plans, including the Clark County Community Framework Plan; urban development objectives; overall social, economic, and environmental system performance; and energy conservation goals and objectives. The MTP must also comply with the provisions set forth in the federal Americans with Disabilities Act and Title VI of the Civil Rights Act of 1964.

The Regional Transportation System has been designated by the Washington Regional Transportation Planning Program to include the four classifications of transportation facilities. The first category includes all state transportation facilities and services, including I-5, I-205, State Routes (SR) 14, 500, 501, 502 and 503. A second category of facility includes all local freeways, expressways, and principal arterials. The third type of regional transportation facility is high capacity transit (HCT) systems: any express-transit service operating on exclusive rights-of-way including high occupancy vehicle (HOV) lanes. The I-5, I-205, and SR-500 (I-5 to Orchards area) corridors are designated as HCT corridors. The extension of planning for light rail transit (LRT) from Portland to Clark County is a recommendation of the I-5 Trade and Transportation Partnership and is included in the MTP Strategic Plan.

The final category of regional facility includes all other transportation facilities and services considered necessary to complete the regional transportation plan. These include transit services and facilities, roadways, rail and truck facilities, airports, and marine transportation.

B. Transit

1. Setting

Transit supports the land use goals established in the GMA, which envision denser developments in growth centers and in primary transportation corridors. Within Clark County, local transit is provided by C-TRAN, a publicly funded transportation system, and intercity scheduled transit is provided by Greyhound and Amtrak. High capacity transit (HCT) has been extensively studied for the region.

A large majority of the county's population and employment, clustered within the established urban growth area, are within a reasonable walking distance (¼ mile) of C-TRAN fixed route bus lines. This includes 75 percent of the (residential and employment) population within the City of Vancouver as well as close-in areas within the county and other served cities (Camas, Washougal, Battle Ground, Ridgefield).less accessible to transit. Three C-TRAN transit centers serve multiple C-TRAN and connecting bi-state/intermodal services: 7th Street, Fishers Landing, and Vancouver Mall. A major park and ride is planned for 99th Street and I-5. Other park-and-ride facilities are located at Salmon Creek, Evergreen, BPA Ross Complex, Fisher's Landing, Vancouver Mall, Battle Ground, and Camas/Washougal. There is a park-and-ride lot in Ridgefield, but transit service to this lot was eliminated in May 2003.s in Clark County are primarily served by C-TRAN, a publicly funded transportation system.

The cutback in revenue in 1999 resulted in service reductions and fare increases. Current transit levels are partially funded out of C-TRAN's capital reserves. These service levels can only be sustained until 2006 at which time additional service cutbacks will be required, or additional revenue will be necessary to continue services at existing levels. It will be difficult to distribute reduced transit service hours in the future and be expected to serve planned population and employment levels. C-TRAN is embarking on a 20-year transit planning study to determine its strategic direction and public need

C-TRAN is currently undergoing development of a 20-year Transit Development Plan. There are five alternatives being considered, ranging from no new revenue (which would result in an approximate 40 percent service cutback from existing levels) to raising the sales tax levy by 0.6 percent to its maximum level.

C-TRAN's Transit Development Plan (draft 2003-2009) addresses system-wide operations, such as maintenance development, administration, and depreciation. Other elements include capital expenditures, consisting of replacement of buses and service equipment, new facilities and equipment, and expansion of technology enhancement programs. The budget includes upgrades to reduce pedestrian barriers to transit routes and increase ridership. Many of these were identified in the *Clark County Transit Access Improvement Plan* covering the Vancouver urban area, including more sidewalks, street lighting, improved routing around fences and other barriers. The draft capital projects list for 2003-2009 includes a total of $45 million in new capital investments (Table 29). C-TRAN Capital Plan funds are expected to be shared between federal (48 percent) and local sources. Many of the CIP projects for communities in Clark County also provide sidewalks and other transit related facilities as applicable.

Table 29. C-TRAN Capital Funding, 2003-2009

Funding Year	**Funding**		
	Federal $	**Local $**	**Total $**
FY 2003 Total	$13,161,148	$6,155,714	$19,316,862
FY 2004 Total	$6,794,574	$8,075,393	$14,869,967
FY 2005 Total	$1,038,421	$7,377,883	$8,416,304
FY 2006 Total	$39,574	$517,335	$556,909
FY 2007 Total	$26,494	$1,070,293	$1,096,787
FY 2008 Total	$27,289	$506,823	$534,112
FY 2009 Total	$28,108	$507,027	$535,135
7-Year Total (2003-2009)	$21,115,608	$24,210,468	$45,326,076

Source: 2003-2009 Draft Transit Development Plan, C-TRAN

C-TRAN is forecasting service for more than 4.03 million fixed route and 0.15 million paratransit trips by 2009. Both numbers represent significant decreases in service compared to projected 2003 levels (Table

30). Initiative 695 reduced funding support available to C-TRAN. C-TRAN is currently expending reserve funds to maintain current service levels. If additional funding is not identified, C-TRAN will need to implement service reductions as the reserve funds are expended.

Table 30. C-TRAN Operating Hours, 2003-2009

Service Mode	Base Operating Hours, 2003	2009 Operating Hours, 2009	Growth in Hours 2003-2009	Percent Growth 2003-2009
Fixed Route	280,084	183,576	(96,508)	-34.46%
Demand Response	79,488	61,546	(17,942)	-22.57%
Vanpool	4,534	4,534	0	0.00%
Total	364,106	249,656	(114,450)	-31.43%

Source: 2003-2009 Draft Transit Development Plan, C-TRAN

C-TRAN's performance indicators are show in Table 31 below. These are from the MTP 2002 Update.

Recent and ongoing efforts have studied HCT options in Clark County, with links across the Columbia River to Portland. These include the South/North High Capacity Transit Corridor Study and the associated DEIS, and the bi-state I-5 Trade Corridor project. These studies support various HCT designated corridors including I-5 from the state line to the vicinity of Clark College as a LRT corridor, I-5 north to 134th street as a HCT corridor, SR-500 between I-5 and Orchards marked for potential future HCT extension, and I-205 as a potential future HOV/Busway corridor. Establishing successful HCT in Clark County requires transportation corridor planning coordinated among various local and bi-state jurisdictions. A transportation corridor needs more intense and diversely developed regional centers, and either urban corridors with high density residential, commercial and employment development or an array of land use origins and destinations at station areas.

Table 31. Performance Indicators for C-TRAN

	Planning Indicators							Supporting Factors	
Service Classification	**Persons per Square Mile (Pop. + Emp.)**	**Peak/ Non-Peak Headways**	**Bus Stop Spacing**	**Accessibility***	**Load Factor**	**Travel Time Ratio (transit/auto)**	**Service Span (hours/day, days/week)**	**Expected Market Characteristics**	**Other Supporting Characteristics**
Commuter: Inter-state	20,000 - 25,000	15/NA	Major P&R lots	Within 5 miles of 80% of pop+emp	1.0	1.75	M-F, peak	Portland employees who live in Washington	Parking mgmt.; HOV priority treatments; P&R spaces
Commuter: Intra-state	20,000 - 25,000	15/NA	Major P&R lots	Within 3 miles of 80% of pop+emp	1.0	1.75	M-F, peak	CBD & urban growth centers; employees who live in Washington suburbs	Parking mgmt.; HOV priority treatments; large number of P&R spaces
Urban Corridor Service	18,000 - 20,000	15/30	1/8 mile	Within 1/4 mile of 75% of rural pop+emp	1.5	2.0	7 days, 12-16 hours/day	Income, special generators, age, high density residential development	Land use zoning compatibility; parking mgmt.
Urban Residential Connector Service	12,000 - 18,000	30/60	1/4 mile	Within 1/4 mile of 80% of pop+emp	1.5	2.0	5 days, 12-16 hours/day; limited weekend and evening service	Residential development connecting to major activity centers	Parking mgmt.; zoning; land use compatibility
Rural	Policy coverage	60/120	Designated pick-up locations	Within 5 miles of 75% of rural pop+emp	1.0	2.0-3.0	M-F, 10-12 hours/day; limited weekend service	Community centers, city halls, post offices	Citizen requests for service
Subscription Bus	30	As needed	NA	NA	1.0	1.15	M-F, peak	Specialized employer needs	Commute trip reduction; parking mgmt.
Vanpool	8-15	As needed	Not applicable	NA	1.0	1.15	M-F, peak	Specialized employer needs	Commute trip reduction; parking mgmt.
C-VAN (Disabled)	Policy	As needed	Not applicable	NA	1.0	NA	7 days, 12-16 hours/day	Elderly and handicapped	NA

* *Accessibility is defined as the percentage of households within walking distance of a transit stop, transit center, or park-and-ride lot.*
NA = not available
P&R = park-and-ride

C. Non-Motorized Modes

1. Setting

The use of bicycles for transportation as well as recreation in Clark County is becoming increasingly important and is supported by the Clark County Regional Transportation Plan (RTP). Reduced reliance on automobiles is largely dependent on the development of adequate sidewalks and bikeways to access activity centers and to allow for intermodal connections in use of the transit system. The development of non-motorized transportation modes (bicycling, walking) would maximize the capacity of the existing transportation system.

D. Airports

1. Setting

There are six general aviation airports operating in Clark County:

- Portland International Airport (PDX)
- Pearson Airpark (a publicly-owned general aviation airport)
- Evergreen Airpark, a privately owned airfield. (The airport has dense commercial and residential uses on three sides, including a public school. Adjacent neighborhoods have petitioned against noise impacts from the airpark. Despite discussions of a sale of the facility to private developers, capital improvements worth $200,000 are planned. A representative of the owner has applied to change the current airport designation to other zoning designations and has targeted this airport for closure in the near future.)
- Grove Field is (a general aviation airfield)
- Goheen Airport (privately owned)
- Fly for Fun airport (a small privately owned facility)

There are several additional private unattended airfields located throughout Clark County.

E. Rail Facilities

There are two main rail lines in use in Clark County that provide freight and passenger service. Both main lines are owned by Burlington Northern Santa & Fe Railroad (BNSF) and are in excellent condition. In addition, a privately owned rail line (the Lewis and Clark Railway) in the county also offers freight and tourist train passenger service. Twenty-one trains a day, including Union Pacific Railroad (UP), AMTRAK and BNSF trains pass through Vancouver on route from Portland to Seattle. AMTRAK, BNSF, and UP provide rail service on the main lines.

F. Ports

1. Setting

Clark County's location at the terminus of the Columbia River's deep draft channel makes water transportation an important element in the overall transportation system. This location provides an important transfer point for large ships and river barges. The inland waterways of the Columbia River systems feature a variety of modern port facilities with intermodal connections to railroad and highway systems serving the entire nation. Clark County has three Port Districts: the Port of Vancouver, the Port of Camas-Washougal, and the Port of Ridgefield.

2. General Impacts and Methodology

This summarizes the transportation analysis, impacts, and potential mitigation measures for the Proposed Alternative. An additional sub-alternative that includes light rail transit was analyzed during the DEIS process and will be referenced here. Methodology is presented in the DEIS.

A series of performance measures were used to analyze the alternatives and their impacts. These measures were also normalized to enable direct comparison of the alternatives in the DEIS. Tables 32 and 33 show performance measures and results for the Proposed Alternative. The household and employment data listed in Table 32 were provided by the RTC. Figures 35 through 39 in the DEIS show transportation facilities at critical, one-hour, volume-to-capacity ratios (roughly equated to level of service [LOS] E/F) for Alternatives 1 through 5. Figure 9 of this FEIS shows congested lane miles of roadway in 2003 where "congested" is defined as a one-hour volume-to-capacity ratio of 0.91 or higher. Figure 10 shows congested roadways under the Proposed Alternative in 2023.

Table 32. Summary of Impacts (Based on Performance Measures)

Performance Measure	Proposed Alternative
Future Households	198,548
Future Employment	202,203
Employment per HH	1.02
Total Person Trips*	2,252,500
Transit Person Trips	28,500
Non-motorized Person Trips	143,800
Average Trip Length (Miles: work/non-work)*	**
Percent to Portland	10.9%
All-Day Bridge Crossings	367,744
Vehicle Miles Traveled	1,041,155
VMT per HH	5.24
Vehicle Hours Traveled	31,957
VHT per HH	0.16
Vehicle Hours of Delay (VHD)	5,052
Delay Per Hour of Travel (Minutes per VHT)	9.5
Lane Miles LOS E/F	149
Non-motorized mode share	6.4%
Work Trip Transit Mode Share – within Clark County	1.2%
Work Trip Transit Mode Share – Clark County to Portland Trips	6.7%
Transit Share – all trips	1.3%
Average roadway speed	33

Source: Transportation Resource Document, Parsons Brinckerhoff, July 2002; Regional Transportation Council modeling summaries, 2003; Parsons Brinckerhoff analysis, 2003.

**With at least one Clark County trip end **RTC to forward data*

The 2023 MTP network was used as the original base network for the travel demand model run of the Proposed Alternative. After examining the resultant levels-of-service of this model run, an improved roadway network which included several new collector corridors as well as additional travel lanes on minor and principal arterials was developed and analyzed using the 2023 Proposed Alternative trips. This network is called the "Capital Facilities Plan" (CFP) network.

Table 33 below summarizes level-of-service deficiencies (LOS E/F) for major arterial corridors within Clark County for the CFP network. Where a facility is not listed, it is expected to be operating at LOS D or better conditions by 2023.

Table 33. Major Transportation Corridors: Resulting Highway Level-of-Service Scenario

Corridor Segment	Proposed Alternative
I-5, Columbia River to 99th Street (T)	**F**
I-5, 99th to 134th (T)	D/**E**
I-205, Columbia River to SR-500	**E**
I-205, SR-500 to I-5	D/**E**
I-5, I-205 to 219th	D
I-5, 219th to Ridgefield	D/**E**
SR-500, I-5 to I-205	D
SR-500, I-205 to 162nd Ave.	D/**E**
SR-503, SR-500 to 119th Street (T)	**F**
SR-503, 119th Street to Battle Ground (T)	D/**E**
SR-502, I-5 to Battle Ground (T)	D/**E**
SR-501, I-5 to Ridgefield	D
SR-14, I-205 to 164th Avenue (T)	**E/F**
Ward Road, SR-500 to UGB	**E**
Ward/182nd, UGB to 159th Street	D
162nd Avenue, SR-14 to Mill Plain (T)	**E**
162nd Avenue, Mill Plain to Ward (T)	**E**
La Center Road, I-5 to La Center	**F**
Lakeshore/Fruit Valley, Vancouver to Felida (T)	D/**E**
72nd Avenue, 119th to 219th Street	**E**
199th Street, NE 10th to 72nd Avenues	D
199th Street, 72nd Avenue to 142nd Avenue	D/**E**
179th Street, I-5 to 72nd Ave.	D
Burton Road, Andresen to 86th Avenue (T)	**E**
Andresen/Padden/88th Street vicinity	D/**E**
137th Ave., 28th to SR-500	D/**E**

Source: Transportation Resource Document, Parsons Brinckerhoff, July 2002; Regional Transportation Council modeling summaries, 2003; Parsons Brinckerhoff analysis, 2003.

(T) Transit Corridor

3. Impacts to Roads and Highways

All alternatives show sizeable levels of congested lane miles of roadway, where congested is defined as a on-hour modeled volume-to-capacity ratio of 0.91 or higher, which is roughly LOS E and F. The congested facilities are shown first for the existing roadways in 2003 on Figure 9. Congested roadways in 2023 for the Proposed Alternative are shown on Figure 10. Congested roadways for the other five alternatives are shown in the DEIS.

Sections of I-5 south of 134th Street under all alternatives are forecast to be at LOS E/F conditions even with the widening to six lanes which is under construction at the time this FEIS is being issued. The Leadership Committee of the Trade and Transportation Partnership Study has agreed not to widen I-5 beyond the six lanes in the MTP except for the section of I-5 between SR-500 and crossing the Interstate

Bridge, where additional collector-distributor lanes are being considered beyond the six through travel lanes. The EIS for this study will begin in 2004, and will include a variety of widening and light rail alternatives. At this time, there are no eight-lane I-5 alternatives for the section of I-5 from 134th Street to approximately Mill Plain Boulevard, although the section leading to the Columbia River crossing has a variety of lane configurations that in essence could serve as eight through-lanes of traffic across the Columbia River. Thus, while the modeling shows a need for eight lanes on I-5, this could be inconsistent with bi-state recommendations that have resulted from previous work on the I-5 Trade and Transportation Partnership Study.

I-205 between 83rd Street/Padden Parkway and the Columbia River crossing is under consideration for reconfiguration to improve long-term traffic operations. This includes a new split-diamond interchange with 18th Street and Burton Road, and a collector-distributor system in concert with the SR-500 interchange.

Modeling shows that for the most part these improvements would serve long-term traffic growth, but would still have some LOS deficiencies.

The two Columbia River crossings are well over capacity (approximately 50 percent over capacity in the demand model). Since these facilities cannot realistically operate at 50 percent over capacity levels, it is expected that what will occur is that the a.m. and p.m. peak periods will spread, work schedules will be adjusted, and discretionary cross-river trips will either occur outside of peak hours or not at all.

For SR-503 between SR-500 in Vancouver and SR-502 in Battle Ground, the Proposed Alternative will result in the segment of this corridor south of NE 119th Street being at LOS E/F conditions, demonstrating a need for six lanes to maintain LOS D along the corridor. Much of this is related to the growth in and expansion of the Battle Ground UGA that is occurring south and west of the current city limits. This growth and expansion uses SR-503 as its spine. Widening to six lanes likely carries with it impacts on adjacent residents, businesses, and two schools along with potential wetlands impacts near Salmon Creek and Meadowglade. This FEIS is recommending alternative mitigation measures instead of road widening in this section (see Mitigation below).

Under the Proposed Alternative, SR-500 will operate at LOS E/F between SR-503 and 137th Avenue. This FEIS is recommending construction of a parallel 2-lane collector adjacent to the north side of SR-500 between SR-503 and 137th Avenue.

SR-14 is showing a deficiency between I-205 and SE 164th Avenue. This is primarily due to bottlenecks in both directions between the 164th Avenue and I-205 ramps. Providing an auxiliary lane in each direction should alleviate this deficiency.

Major north-south corridors which are congested (LOS E/F) include I-5, I-205, 72nd Avenue, SR-503, 162nd Avenue, and portions of Ward Road/182nd Avenue. I-5 and I-205 would both be operating at or near LOS F conditions. Because of the impacts on the freeway mainlines, it is expected that in the a.m. peak in Clark County, ramps leading to the I-5 and I-205 facilities would queue and would spill back onto the intersecting arterials, impacting traffic operations on those facilities.

For arterials in the county, major routes connecting the Vancouver UGA to other outlying UGAs would all be congested. Specifically, these include I-5 north of Vancouver up to 99th Street, SR-503 between Vancouver and Battle Ground as well as portions of 219th Street/SR-502 between I-5 and Battle Ground, and La Center Road between I-5 and La Center.

LOS E and F results may have major impacts on concurrency, regional planning, or planning for Highways of Statewide Significance under HB 1487. For the preferred land use alternative, with current

revenue structure, it is likely improvement needs on the State Highway system would exceed available revenue over the twenty-year horizon of the comprehensive plan. Thus, policy decisions would need to be made to mitigate those impacts. Policy options are discussed under mitigation.

This congestion would affect mobility between major destinations and the FPIAs and traffic circulation within the urban areas and FPIAs. Congestion on the major corridors, intersections, and interchanges could greatly increase the potential for traffic to use neighborhood streets to avoid congestion, although less so compared to Alternative 1. Areas where neighborhood traffic diversion could be expected include:

- neighborhoods along Mill Plain Boulevard, 18th Street and Burton Road east and west of I-205
- streets paralleling I-5 south of 99th Street
- central Battle Ground
- neighborhood streets adjacent to 162nd/164th Avenue and 137th/138th Avenue in Vancouver

4. Impacts to Public Transportation

No HCT facilities were included in the transportation network other than the extension of the current southbound I-5 HOV lane between 134th Street and Mill Plain Boulevard. For the most part, C-TRAN buses would travel in mixed traffic on surface streets and freeways.

C-TRAN buses would experience high congestion levels, even on I-5 (except for the HOV corridor), although not to the extent of Alternative 1. C-TRAN service corridors would expect substantial delays and, therefore, increased costs to provide levels-of-service reflecting current conditions. Similar to Alternative 1, these corridors include:

- I-5 between 99th Street and the Interstate Bridge and downtown Portland, except on the HOV corridor from 134th Street to Mill Plain Boulevard and through Delta Park (although it is expected that buses would experience substantial delays trying to enter I-5 southbound and further delays trying to weave across the I-5 general purpose lanes to use the HOV lane)
- I-205 between 18th Street and the Glenn Jackson Bridge
- Lakeshore/Fruit Valley Road between Felida and downtown Vancouver
- Burton Road and Mill Plain Boulevard routes between downtown Vancouver and the Fisher's Landing Transit Center
- Routes connecting Battle Ground to Salmon Creek Transit Center and downtown Vancouver
- Highway 99 between Salmon Creek Transit Center and downtown Vancouver

Alternative 2 includes expansions to the Vancouver and Battle Ground Urban Growth Area boundaries. Much of the land in these expanded areas would be allocated for additional moderate to low-density housing. Providing transit service to these areas would be difficult. C-TRAN would need to expand service hours and route miles, both of which have financial impacts on its operations and maintenance budget. C-TRAN would also need to expand its park-and-ride facilities to capture commuter work trips on the region's major facilities.

Impacts to C-TRAN's performance are shown in Table 34.

Table 34. C-TRAN Performance Indicators

	Planning Indicators					Supporting Factors
Service Classification	**Persons per Square Mile (Pop. + Emp.)**	**Peak/ Non-Peak Headways**	**Accessibility**	**Resultant Load Factor**	**Proposed Alternative Impacts to Level-of-Service**	**Market Characteristics of Proposed Alternative**
Commuter: Inter-state	20,000 - 25,000	15/NA	Within 5 miles of 80% of pop+emp	Probably >1.5	I-5 and I-205 at LOS E/F; transit travel times to/from downtown Portland will be 30-50% longer than current.	New outlying residential and employment centers not accessible to existing transit routes. New park-and-rides and expanded service into Battle Ground, Ridgefield, and east Vancouver will be necessary.
Commuter: Intra-state	20,000 - 25,000	15/NA	Within 3 miles of 80% of pop+emp	Probably >1.0	Congestion on major arterials such as SR-503, I-5, Mill Plain, and Burton Road will increase transit travel times	Vancouver CBD growth will increase accessibility to "reverse commutes". New residential centers in Battle Ground are not currently within walking distance of existing transit service. New employment centers in Battle Ground, east Vancouver, and WSU area are not accessible for intra-county transit trips.
Urban Corridor Service	18,000 - 20,000	15/30	Within 1/4 mile of 75% of rural pop+emp	<1.5	Longer transit travel times on Burton, Mill Plain, SR-503, Highway 99/Main	Transit service would need to be expanded to include new residential and employment centers in outlying areas.
Urban Residential Connector Service	12,000 - 18,000	30/60	Within 1/4 mile of 80% of pop+emp	<1.5	East County Connector will experience minor delays on 164th Ave.	Some densification and continued development in the Fishers Landing area will increase accessibility of the East County Connector service.
Rural	Policy coverage	60/120	Within 5 miles of 75% of rural pop+emp	<1.0	Rural service on Route 7 will experience significant delays on SR-503. No other rural service.	Expanded growth boundary in Battle Ground is not within walk accessibility of transit.
Subscription Bus	30	As needed	NA	1.0	Tend to be commuter buses to Portland destinations; will experience delays on I-5 crossing throughout the day.	Unless new Clark County employment centers in Battle Ground, WSU, and East Vancouver area adopt TOD standards, unlikely that any subscription service will be established for Clark County destinations.
Vanpool	8-15	As needed	NA	1.0	Will become a more attractive choice for ridesharers.	Outlying employment centers in Clark County will likely see an increase in vanpooling.
C-VAN (Disabled)	Policy	As needed	NA	1.0	NA	Will be difficult to serve elderly and disabled population in new outlying population centers.

5. Impacts to the Pedestrian/Cycling Network

Congestion on the major corridors could serve to encourage pedestrian and bicycle trips for shorter non-work trips and bicycle trips for work trips, if pedestrian and bicycle facilities were built on the major corridors and amenities such as bike lockers and showers were installed at work destinations in outlying employment centers. However, it is unlikely that a substantial increase in bicycle and pedestrian travel would occur. The expansion of the UGAs increases trip lengths and distances between trip origins and destinations and many of the major corridors are rural facilities with no dedicated pedestrian or bicycle facilities.

The outlying employment centers, without a focus on regional bicycle facilities connecting the Vancouver and Battle Ground UGAs to other FPIAs and urban areas, may serve to discourage longer-distance bicycle commute trips.

Listed below are locations of identified bicycle system deficiencies within each FPIA. The listed deficiencies are either "caution" areas or "failed" areas. It is recommended that cyclists use caution while riding on "Caution" corridors. Areas considered "Failed" are not recommended as bike routes. Extreme caution should be used while riding through these areas.

Ridgefield Junction: NE 10th Avenue

Discovery Corridor: NE 179th Street

St. John's: NE 72nd Avenue

117th: NE 94th Avenue

Vancouver Mall: NE Andresen Road and NE Thurston Way

Each FPIA also includes many facilities considered to have low bike levels of service. These facilities are not recommended for bike riders of low and average riding skill.

Alternatives that increase traffic on these corridors will only exacerbate these problems. Bicycle and pedestrian facilities should be provided as these facilities are upgraded or expanded. Development of multi-use trails should also be considered where appropriate.

6. Impacts to the Freight System

The preferred alternative has a significant negative impact on freight mobility. Freight corridors tend to be state highways, and most of the state highways in Clark County will experience a significant increase in congestion compared to current conditions, especially I-5, I-205, and SR-503.

Major freight corridors experiencing substantial delays are:

- I-5 between 99th Street and the Interstate Bridge
- I-205 between SR-500 and the Glenn Jackson Bridge
- SR-501/Pioneer at the I-5 interchange area
- Battle Ground: portions of SR-502 out to I-5, 72nd Avenue south to Vancouver, and SR-503 south to Vancouver
- 162nd Avenue between SR-500 and SR-14
- Portions of Lakeshore/Fruit Valley Road between 99th Street and the Port of Vancouver

7. Impacts to the School Transportation System

Congestion on the major arterial roadways from the preferred alternative would likely have adverse impacts on school bus operations. Congestion during peak morning hours would increase travel time for school buses, which in turn reduces the length of routes that school buses can have and still run on time (high schools and middle schools). Because elementary schools tend to convene at a later time, the increased peak period congestion would be unlikely to have a significant impact on school bus transportation.

Conversely, in the p.m. peak, all school types dismiss prior to the start of the p.m. peak, which limits the impact of congestion on school bus operations.

Consequently, increased morning peak congestion on many of the major arterial routes under these alternatives is expected to negatively impact school bus operations by requiring a greater number of buses.

8. Emergency Services

Figure 41 of the DEIS shows the 5-minute emergency response time coverage areas under work conducted during the DEIS (the emergency response times are similar to Alternative 2 in the DEIS).

Emergency response coverage areas were calculated by examining average corridor travel speeds and the available roadway network. Average corridor travel speeds are lowest under Alternative 1. As a result, Alternative 1 would be expected to have the largest gaps showing no coverage. In general, the emergency response areas under Alternative 1 include good coverage in most areas currently inside UGA boundaries and those areas that already contain some urban development. Major gaps are located in areas not currently in UGAs and those areas within UGAs that are not currently developed.

The emergency response areas under the Proposed Alternative include good coverage in most areas currently inside UGA boundaries and those areas that already contain some urban development. Gaps are again located in areas not currently in UGAs and those areas within UGAs that are not currently developed. Coverage gaps are located in the far southern section of the Ridgefield Junction area, the center of the WSU area, the southern third of the Battle Ground area, the NE corner of the 117th area, the western section of the Port of Vancouver area, and the northern tip of the Fisher Swale area.

Future roadway development or enhancement in the gap areas may increase the coverage areas. It is likely however that new fire stations will be required in the area south of Battle Ground, the WSU area, the 117th area, and the western section of the Port of Vancouver area.

Consideration should be given to preparing fire district capital improvement plans based on these worst-case situations (peak hour or peak period response coverage areas). Planners and traffic engineers often employ similar methodologies for developing capital improvement programs.

9. Safety

There are several high accident corridors and locations currently identified within Clark County (identified by WSDOT, Clark County, and the City of Vancouver). These include:

- I-5 from 134th Street to 179th Street
- SR-500 from I-5 to SR-503
- SR-502 from I-5 to Battle Ground
- I-205 at Mill Plain/Chkalov
- NE 78th Street at Highway 99

- NE 182nd Avenue from NE 119th Street to NE 159th Street
- SR-14 from SE 192nd Avenue to Washougal
- NE 72nd Avenue from 119th Street to 219th Street
- NE 99th Street at 130th Avenue
- NE 78th Street at NE 5th Avenue
- Thurston Way at Parkway Drive
- Thurston Way/82nd Avenue at Vancouver Mall Drive
- NE 49th Street at 122nd Avenue
- Fourth Plain at F Street
- Columbia Street at W 13th Street

The Proposed Alternative adds significant traffic levels at all of these locations and will likely serve to exacerbate the high accident problem unless mitigation measures are undertaken.

10. Impacts on Focused Public Investment Areas (FPIAs)

The intent of the FPIA approach is to be able to focus public infrastructure investments in a concentrated area for increased efficiency. For transportation, this could include a mix of roadway improvements, park-and-rides, bikeways and walkways, traffic calming, and safety improvements. Where congestion occurs within or adjacent to FPIAs, transportation funds can be focused on fixing those transportation problems. Conversely, where traffic congestion occurs outside of the identified FPIAs, improvements to these facilities would reduce the amount of funding available to make investments in the FPIAs. The following is a discussion by alternative of the impact of land use alternatives on transportation investments within the FPIAs.

Specific transportation impacts related to the various Focused Public Investment Areas is summarized below. Included are potential publicly-funded transportation strategies to mitigate impacts and support each FPIA.

117th Avenue: The Proposed Alternative expand the Vancouver UGA to encompass most of this FPIA and will require additional roadways for access and circulation. Since SR-503 serves as the spine for this FPIA, it is affected as much by what occurs within the 117th Avenue FPIA as what occurs in other areas, such as in Battle Ground and Burnt Bridge Creek FPIAs. High levels of traffic congestion on SR-503 would make this FPIA more attractive for shorter trips and for work trips from the Vancouver UGA.

It is critical that new development along SR-503 has no or limited access directly onto SR-503, in order to protect the integrity of that corridor. A future, planned interchange at SR-503 and the Padden Parkway on the south side of this FPIA would require adequate setbacks and no access to SR-503 to accommodate this interchange, which would become a significant transportation node in the future. Land uses along SR-503 should be developed so as to be walkable from C-TRAN service between Battle Ground, Vancouver Mall, and downtown Vancouver on SR-503. SR-503 will likely need to be widened to six lanes from NE 119th Street to SR-500/Fourth Plain, or the LOS standard for that facility reduced, to enable economic development within this FPIA. Parallel collectors such as 92nd Avenue or 137th/142nd Avenue extended north of 99th Street will relieve SR-503 through this FPIA.

164th Avenue: Much of this FPIA depends on the reclamation and redevelopment of Section 30. The 164th Avenue and Mill Plain concurrency corridors serve this FPIA, and both are showing LOS deficiencies by 2023. Land uses which serve to contain trips within this FPIA, or which send trips in the non-peak direction, can be accommodated, whereas adding more residential development, which adds

trips to the peak direction, will contribute to the concurrency failure and cannot be accommodated without:

- Mixed use development within Section 30 to minimize trip length and to foster walking and bicycling modes
- A change in the LOS standard for both 164th Avenue and Mill Plain Boulevard
- Additional improvements to 164th Avenue and Mill Plain Boulevard, both of which will carry with them significant impacts to adjacent businesses and residences

A local street circulation system within the reclaimed Section 30 will be necessary.

Extension of transit service into this FPIA may be financially difficult. The lack of residential density, combined with current physical barriers between land uses, does not lend itself well to encouraging transit mode split. Impacts on the surrounding roadway system may be better mitigated by requiring or encouraging employer TDM programs, as well as retrofitting existing land uses to provide pedestrian and bicycle connections between land uses. Additionally, master planning of Section 30 should examine land use patterns which serve to contain trips, reduce trip length, and are amenable to walking or bicycling, or have services which support industrial and office employment on the site, such as retail stores and restaurants.

Battle Ground: This FPIA could result in a significant expansion of the Battle Ground UGA. The extent of new growth and the size of this FPIA carries with it potentially significant adverse traffic impacts to SR-503, SR-502, NE 72nd Avenue, and Ward Road/NE 182nd Avenue. Additionally, a significant expansion of the local street and collector network will be necessary to serve this FPIA, including NE 239th Street (extended from NE 10th Avenue at Carty Road to Battle Ground) and NE 92nd Avenue, as well as east-west collectors crossing SR-503 south of Main Street/SR-502. Areas which could experience significant traffic congestion include downtown Battle Ground, the SR-503 corridor between NE 199th Street and SR-502, and SR-502/Main Street from NE 112th Avenue to downtown Battle Ground.

Burnt Bridge Creek: Development of the Burnt Bridge Creek FPIA will require construction of a circulation collector and industrial roadway system, including NE 147th Avenue from Ward to NE 137th Avenue and NE 59th/62nd/65th Street from NE 147th Avenue to NE 162nd Avenue. Some of the land use alternatives expand the UGA east of NE 162nd Avenue; a circulation system with a connection to 162nd Avenue as well as to SR-500/Fourth Plain should be provided for land access and local traffic circulation.

Intense industrial and commercial development in this FPIA will likely have impacts on Ward Road, NE 137th Avenue, Fourth Plain/SR-500, and NE 162nd Avenue.

Since this FPIA is near the fringe of the Vancouver UGA, it is unlikely that a high level of transit service could be provided to serve the FPIA and even with service it is unlikely that a significant number of trips would shift to transit. The western portion of this FPIA is near the proposed LRT loop contained in the I-5 Trade and Transportation Partnership recommendations; a circulator shuttle service accessing LRT may increase transit trips.

Columbia Shores: This FPIA is considerably "land locked" from the surrounding transportation system, with one primary roadway into it. Transit service has been provided into this area in the past, but with the lack of density, the types of industrial and office uses, and the "dead-end" nature of the roadway system, transit ridership was minimal.

Isolation of this area from the surrounding system could be relieved by providing an eastern exit, somewhere near the interchange of SR-14 and Evergreen Boulevard/Riverside Drive.

Traffic impacts could be mitigated by providing employer-based programs for job sites and allowing for retail and restaurant establishments to reduce vehicular trip demand and trip length.

Columbia Tech Center: This FPIA assumes that the gravel pit area is reclaimed and redeveloped. The eastern portion has access to NE 192nd Avenue, which would be more attractive to trips to and from SR-14 if it were protected as a four-lane parkway, rather than allowing direct access from adjacent development. A circulation plan should be developed for land uses not already covered within the CTC Master Plan. The circulation system should be coordinated with the Section 30 redevelopment.

Discovery Corridor: Land use alternatives include industrial and office development along I-5 between NE 134th Street and the NE 199th Street. The planned land uses cause I-5 to take on a "pseudo arterial" function to serve the Discovery Corridor, which is inconsistent with its Interstate function. Urban and dense industrial development will contribute to increases in congestion along I-5 as well as at the NE 134th Street, 179th Street, 219th Street, and Ridgefield interchanges.

Therefore, it is recommended that transportation investments in this FPIA (as well as in the Ridgefield Junction FPIA) provide for alternative north-south arterial corridors, including a frontage road system adjacent to I-5 to provide local land access.

The Discovery Corridor concept may also lend itself to an extension of light rail service north along I-5, if development plans are built with walk and bike accessibility to LRT. The Discovery Corridor presents a unique opportunity for two-directional ridership similar to the Westside Light Rail line between Portland and Hillsboro. Ridership could come from Ridgefield residents commuting south, as well as workers in the corridor commuting northward from homes to the south. A transit oriented master plan for this FPIA should be developed prior to implementing the zoning plan. C-TRAN would need to extend bus service into this FPIA to serve it.

Downtown Vancouver: Investments in this FPIA should be coordinated with the Port of Vancouver FPIA as well as the Columbia Shores and Fruit Valley FPIAs. Vancouver's Downtown Transportation System Plan should be revisited if the preferred land use alternative's land use distribution is significantly different than what was considered for the Downtown TSP. Densities in this FPIA lend themselves to a high level of transit service and ridership potential. Planning for the LRT extension into Vancouver and the LRT loop in DEIS Alternative 3A would increase accessibility of this FPIA.

Evergreen Airpark/Cascade Park: In the event that Evergreen Airpark closes, a local circulation and collector system should be planned and established to serve redevelopment. Additionally, east-west circulation via 4th Street and 9th Street across NE 136th Avenue would relieve high congestion levels on Mill Plain Boulevard and NE 18th Street; however, this would also result in a high potential for through traffic through residential neighborhoods on both sides of 136th Avenue. Traffic calming strategies should be implemented on NE 9th Street.

Mill Plain Boulevard is projected to be at LOS F conditions, to which development in this FPIA partially contributes. To relieve this, adaptive traffic control as well as a high level of traffic signal coordination should continue to be implemented along Mill Plain. Design measures to encourage use of NE 18th Street as a Principal Arterial, and Burton Road/28th Street as a Minor Arterial, should be implemented. Access management, signal spacing of ¼ to ½ mile at a minimum, and minimizing side street connections are measures to increase the capacity of both corridors.

This area is proximate to the planned LRT loop in DEIS Alternative 3A. LRT stations planned along I-205 should provide for walk, bike, and transit accessibility to this FPIA. At issue will be whether the current location of the Evergreen Park-and-Ride is retained at NE 138th Avenue/18th Street or moved to the LRT station at I-205 and 18th Street. It is likely that the park-and-ride will move to the LRT station. In

that event, the current park-and-ride parking lot could be retained as a shared parking facility for adjacent land uses that could be developed (or redeveloped).

Fisher Swale: This area relies on NE 192nd Avenue as its primary north-south arterial. Adding urban development in this FPIA is projected to increase congestion along 162nd/164th Avenue unless vehicle travel can be encouraged to use 192nd Avenue. Access to NE 192nd Avenue should be limited and little or no additional direct access from adjacent land uses should be allowed, to maintain the integrity of 192nd Avenue as a Principal Arterial Parkway and to relieve 162nd/164th Avenue. Camas and Vancouver should coordinate in establishing a north-south and east-west local and collector circulation system.

The remoteness of this area from established community centers and existing transit service makes provision of a high level of transit service unlikely, although it is likely that the East County Connector will be continued. Some relief may be available through a local circulator service connecting to Fisher's Landing Transit Center and the LRT loop, as well as the Columbia Tech Center FPIA.

Fruit Valley: Intensity of development in this FPIA will adversely impact Fruit Valley Road/Lakeshore Avenue. Land west of Fruit Valley Road is not readily accessible from Fruit Valley Road, and does not have a good connection to the south (Fourth Plain Boulevard). A subarea plan for this FPIA should be developed to provide local east-west and north-south circulation. An extension of 39th Street to the west of Fruit Valley Road, connecting to 26th Avenue south to Fourth Plain (and to the Port area) would provide for arterial-level travel. A resolution to the 39th Street crossing of the BNSF mainline, which allows for 24-hour east-west travel should be implemented.

This FPIA currently experiences a high level of transit ridership, and if land uses west of Fruit Valley Road provide for good walk/bike accessibility to Fruit Valley Road, transit should continue to be a viable travel mode serving this FPIA.

La Center Junction: The Proposed Alternative provides for urban-scale development in the La Center Junction FPIA. Development at the junction would likely result in redesignation of La Center Road to an urban principal arterial with widening to multiple lanes, bike lanes, and sidewalks between I-5 and Timmens Road. If the development density and site layouts are transit- and pedestrian-oriented, bicycle trips to and from the Junction from the town core would be encouraged. Additionally, C-TRAN may find that extending fixed route service to serve the Junction as well as continuing town core service may be financially viable, if coupled with service along the I-5 north corridor serving the Discovery Corridor and Ridgefield Junction employment centers.

Port of Camas/Washougal: Development in this FPIA will likely impact SR-14 through Washougal as well as 15th Street in downtown Washougal and NW 6th Avenue in downtown Camas. A high level of truck traffic will serve uses in the Port area. The remoteness of this site from existing transit routes discourages transit service within this FPIA. Intersection improvements and possibly interchanges with SR-14 should be provided.

Port of Vancouver: Only one route (Fourth Plain/Lower River Road) serves this FPIA. It is likely that Fourth Plain Boulevard would need to be widened to four lanes to provide an adequate LOS in this corridor.

The layout of land uses and the heavy industrial nature of this area do not lend themselves to a high level of transit ridership. Employer-based programs to encourage carpooling and flexible work hours can alleviate congestion in this FPIA.

Ridgefield Junction: Transportation investments should be coordinated with the Discovery Corridor and La Center Junction FPIAs (see above). New crossings of I-5 both south and north of the Ridgefield

interchange should be provided for local circulation and to alleviate congestion on SR-501/Pioneer Street at the interchange. If the county advances the frontage road concept adjacent to I-5, a major reconfiguration of the Ridgefield interchange to provide access to the frontage roads (as well as the new crossings of I-5) should be examined as part of a subarea study.

The existing Ridgefield Park-and-Ride should be retained and expanded. This will serve Ridgefield residents commuting to destinations south of Ridgefield (Vancouver and Portland) as well as north (Kelso/Longview). Additionally, it could serve as the northern terminus of transit or a light rail extension serving the Discovery Corridor and Vancouver.

St. Johns: More intense development within this FPIA will add traffic congestion to St. Johns both north and south of 78th Street. The Padden Parkway runs through the center of the FPIA and becomes a barrier to north-south local circulation. A local circulation system, similar to that being considered by Clark County, should be adopted and implemented with development.

Vancouver Mall: This area is building out with mixed uses, including office, commercial, and multifamily residential. Publicly-funded transportation investments to accommodate increased trip making include an interconnected pedestrian and bikeway system, as well as providing access to transit. Consideration should be made to extend Vancouver Mall Drive west of Andresen Road to NE 66th Avenue to provide a circulation alternative to NE 40th Street. An interchange is being planned for NE 54th Avenue/Stapleton Road at SR-500; a local circulation and collector system between this interchange, north and east to Andresen Road within the FPIA should be planned and implemented with new development.

WSU Industrial Park: Some of the land use alternatives extend the Vancouver UGB to incorporate this FPIA. It is in an area not readily accessible by transit. Public transportation investments could include widening of NE 179th Street to four lanes, NE 29th Avenue to two lanes plus a center turn lane, and NE 50th Avenue to four lanes in the area, as well as providing for on-street bike lanes and sidewalks to connect the FPIA with the established Mount Vista, Salmon Creek, and WSU areas. The on-street facilities on NE 179th Street will allow for connections to the planned 179th Street Park-and-Ride near the Clark County Fairgrounds, as well as the Salmon Creek Transit Center. Local street circulation should be planned and implemented with new development.

11. Mitigation

Mitigation needed to achieve a system-wide LOS D for highways is listed below. The impact analysis highlights several major policy issues. Current County policy does not allow for four-lane rural major collectors (except as state highways). NE 72nd Avenue under the Proposed Alternative shows a need for four lanes between 119th Street and 219th Street/SR-502. The policy will need to be changed or the plans adjusted to reduce growth and relieve congestion on this road. This FEIS recommends establishing an "Interurban Rural Collector" designation on the County Arterial Atlas that would allow for four-lane rural arterials, including 72nd Avenue from 119th to 219th Street and Ward Road from the Vancouver UGA to the 172nd Avenue/Davis Road/99th Street intersection.

Another policy issue is whether, and/or how, to incorporate state highways into the Capital Facilities Plan and TIF project list. Although HB 1487 exempts Highways of Statewide Significance (HSS) from concurrency requirements, it requires the County, RTC, and WSDOT to jointly adopt an LOS for Highways of Regional Significance (HRS: state highways that are not HSS). HB 1487 also requires WSDOT to set a level-of-service for HSS routes. All of the land use alternatives analyzed contribute to traffic growth and congestion on Clark County's HSS and HRS routes. It is difficult to program local funds, including traffic impact fees, for state highway projects because uncertainty over state highway funding makes the state's share of the improvement unknown.

LOS E and F results may have major impacts on concurrency, regional planning, or planning for Highways of Statewide Significance under HB 1487. For any of the land use alternatives under the current revenue structure, improvement needs are predicted exceed available revenue over the 20-year horizon of the comprehensive plan. Thus, policy decisions considering the following options would need to be made:

- Seek out local option transportation funding and increased funding through the state legislature or referenda.
- Lower the LOS standards on corridors where appropriate funding levels are not available or where multimodal transportation use is to be encouraged.
- Reduce the UGA expansion or the intensity of growth in outlying urban growth areas.
- Amend the comprehensive plan to allow rural major collectors to become multi-lane, non-state highways on specific routes that connect urban areas.
- Implement a regional traffic impact fee structure whereby rural and outlying urban area development contributes toward the cost of rural corridor capacity improvements.

There are several arterial locations which are projected to have significant congestion levels but widening these locations to mitigate for this congestion may result in significant environmental impacts. This FEIS recommends establishing an arterial category called "Environmentally Constrained Facilities", whereby higher congestion levels would be acceptable in spot locations where widening would likely result in significant environmental impacts. A lower LOS standard is recommended for these locations. The locations are:

- Fruit Valley Road, from 78th Street to Bernie Drive, crossing Burnt Bridge Creek
- Goodwin Road crossing Lacamas Creek
- Daybreak Bridge over the East Fork of the Lewis River
- NW 36th Avenue/Seward crossing Salmon Creek
- SR-503 over Salmon Creek
- Burton Road between Andresen and 86th Avenue

The City of Vancouver is considering a variety of mitigation strategies in the Vancouver UGA that are alternatives to adding roadway lanes, that may be applied individually or in combination with others. These strategies include:

a. Investing in traffic operations (Intelligent Transportation System) technologies to increase system efficiency;
b. Implementing access management strategies, which may include medians and turn restrictions;
c. Increase the headway frequency and quality of transit service along congested corridors;
d. Encouraging and supporting expansion of transportation demand management strategies/programs.
e. Adjustments to the level-of-service standards;
f. Implementation of a multi-modal concurrency policy;
g. Utilization of capacity on parallel corridors;
h. Complementary land use / transportation development within urban centers; and,
i. Provide multi-modal mitigation opportunities within centers.

Many of the problem areas identified by the regional travel demand model are in or around identified urban centers in the Vancouver UGA. The FEIS recommends that the City of Vancouver and the County undertake a sub-area planning effort subsequent to Comprehensive Plan adoption that includes the following:

- Detailed local circulation networks to look for opportunities for local trips to occur on non-arterial streets
- Access management strategies which can increase capacity without adding lanes
- Refinements to land use/zoning which encourage walking or bicycling between destinations, and include transit/pedestrian oriented development standards
- Consideration of a revised LOS standard to reflect higher densities and traffic congestion in urban centers.

The following is a summary of the transportation capital facilities needs, with planning-level cost estimates for the Proposed Alternative (Table 35). A table summarizing the cost estimates by source of funding is provided in the Fiscal Impacts section (GMA Conformance chapter). A comprehensive project list can be found at the end of the document, before the References section.

Table 35. Capital Project Needs by Alternative

Corridor Segment	**Proposed Alternative Need/Mitigation**
Highways of Statewide and Regional Significance	
I-5, Columbia River to 99th Street	Multimodal, I-5 Trade/Transportation improvements from SR-500 to Interstate Bridge
I-5, 99th to 134th	6-lane widening underway, HOV southbound, future expansion of transit service
I-205, Columbia River to SR-500	Implement I-205 Strategic Corridor recommendations
I-205, SR-500 to I-5	Implement I-205 Strategic Corridor recommendations
I-5, 219th to Ridgefield	Add auxiliary lanes
SR-500, I-5 to I-205	Interchanges at St. Johns, 54th
SR-500, 162nd to 182nd Avenues	Widen to four lanes
SR-503, SR-500 to 119th Street	Change LOS standard, multimodal/bus priority treatments
SR-503, 119th Street to Battle Ground	Change LOS standard, multimodal/bus priority treatments
SR-502, I-5 to Battle Ground	limited access
SR-501, I-5 to Ridgefield	Widen to four lanes (i-5 to 35th Ave), additional turn and auxiliary lanes
Upgrades to I-5 interchanges at Ridgefield, La Center	Additional ramp and overpass lanes
SR-14, I-205 to 164th Avenue	auxiliary lane in each direction
Rural and Inter-urban Corridors	
Ward Road, SR-500 to UGB	Parallel collector: 137th/142nd Ave.
Ward/182nd, UGB to 99th Street/Davis	widen to four lanes
NE 10th Avenue, Carty to S. 5th/264th Street	Widen to 3 lanes
72nd Avenue, 119th to 219th Street	widen to four lanes
179th Street, UGB to SR-503	widen to 3 lanes, new road from 189th Street to SR-503
199th Street, NE 10th to 72nd Avenues	geometric and safety improvements
NE 239th Street extension, Carty/NE 10th Avenue to 29th Ave.	New 2 lane collector
Daybreak Bridge/259th Street over East Fork Lewis River	Improve adjacent intersections to include turn lanes
Multimodal	
High level of bike/pedestrian improvements in FPIAs	
Light Rail or High Capacity Transit	Under consideration by I-5 Trade and Transportation Partnership DEIS
Extended transit service into outlying employment centers	New centers in Battle Ground, Discovery Corridor, WSU, East Vancouver

Corridor Segment	Proposed Alternative Need/Mitigation
Vancouver UGA	
Burton Road, Andresen to 86th Ave.	Multi-modal and access management strategies
Andresen/Padden/88th Street vicinity –	new circulation system, Padden/Andresen interchange, connection to 88th Street
92nd Avenue, 99th Street to 119th Street	New 2-lane collector
137th Ave., 28th to SR-500	widen to 4 lanes
137th Ave/142nd Avenue, 99th St. to 199th St.	new 3-lane collector
104th Street, , 107th Ave. to 137th Avenue	new 2-lane collector
162nd Avenue, SR-14 to 39th Street	adaptive traffic control, transit service and priority, change LOS standard
162nd Avenue, 39th Street to Ward,	widen to four lanes, change LOS standard
172nd Avenue, 39th Street to SR-500	New collector paralleling 162nd Avenue
Lakeshore/Fruit Valley, Vancouver to Felida,	widen to 3 lanes, transit service and priority, change LOS standard
Mill Plain Boulevard, I-5 to 164th Avenue	Multimodal/transit priority, Intelligent Transportation System, adaptive traffic control, adjust LOS standard
50th Avenue, Salmon Creek to 219th Street,	widen to 3 lanes
Extend Poplar/49th Street east of 162nd Ave.	New 3-lane collector
Extend 28th Street collector to 172nd Ave.	New 3-lane collector
139th Street, 50th Ave. to SR-503,	2-lane collector
Battle Ground UGA	
92nd Ave., 119th to 239th Streets,	2 lane collector
239th Street/244th Street, 92nd to SR-503	2 lane collector
East-west collectors south of SR-502, 112th Avenue to 132nd Avenue/Parkway	New 2-lane collectors (2)
Ridgefield UGA	
Pioneer Street extension, I-5 to NE 10th Avenue,	2/4 lanes
S. 15th Street, south of Ridgefield interchange	New I-5 Crossing as 3-lane collector
La Center UGA	
La Center Road, I-5 to Timmen Road,	widen to four lanes
NW 319th Street, half mile west of I-5,	widen to 3 lanes

To maintain service levels that meet concurrency requirements, this alternative would also require substantial mitigation or a policy change with regard to measuring and tracking of LOS. The I-5 and I-205 corridors would likely not improve to LOS D even with expanding I-5 beyond six lanes and I-205 to beyond four-six lanes. Parallel collectors to SR-503 (92nd Avenue, 137th/142nd Avenue) reduce congestion on that facility, but it is still operating at LOS E/F in the p.m. peak and requires mitigation. Widening to six lanes is potentially environmentally significant and is expensive, so mitigation measures will likely include: reducing the LOS standard, establishing a multi-hour LOS standard, multimodal improvements such as bus rapid transit or transit priority treatment, and adaptive traffic control. Widening to four lanes would be needed for 72nd Avenue.

Key mitigation projects proposed for the Proposed Alternative include:

- Widen I-5 consistent with the range of alternatives resulting from the recent work on the I-5 Trade and Transportation Partnership study.
- Widen I-205 consistent with the I-205 Strategic Corridor Study.
- Widen 72nd Avenue to four lanes from 219th Street to 119th Street.

- Implement ramp metering with transit/HOV bypass lanes at all southbound on ramps on I-5 and I-205 from 219th Street south.
- Provide safety and geometric improvements to 199th Street from 72nd Avenue to SR-503, including left turn lanes at major intersections.
- Widen Ward Road from the UGB to 99th Street/Davis Road to four lanes.
- Multi-modal and access management strategies for Burton Road
- Subarea transportation and land use planning in Vancouver UGA urban centers to examine multimodal, TOD/POD, and trip reduction opportunities
- Install transit signal preemption for regional roadway routes for C-TRAN buses, to help improve transit performance.

Total estimated costs for improvements under the Proposed Alternative would be approximately $2.57 billion which does not include light rail or high capacity transit costs. The county "public share" (road fund and grant) is $525 million, and the county TIF/private share is $164 million. The sources of the funding would include Clark County and the cities of Vancouver, Battle Ground, Ridgefield, and La Center; federal, state, and other grant funds; private contributions (Traffic Impact Fees, frontage improvements, and latecomers reimbursements); WSDOT funds; and miscellaneous sources. Based on revenue forecasts for Clark County supplied by the Department of Community Development, the county's portion of these costs are reasonably fundable.

Because a limited subset of all needed improvements for the Proposed Alternative were evaluated, based largely on a volume to capacity analysis, the mitigating transportation improvements do not comprehensively reflect adopted policies by Vancouver and Clark County. The transportation element of the comprehensive plans for each jurisdiction will contain a final project list that is consistent with the policies for each component of the transportation system and the land use plan.

Suggested Mitigation

Other mitigation measures suggested by comments on the DEIS are:

- Use preferences for transit service as a transportation management strategy, particularly with lowered acceptable levels of service.

X. PUBLIC FACILITIES AND UTILITIES

A. Fire Protection

1. Setting

Three municipal fire departments, eleven rural fire districts, DNR and the FS provide fire protection and emergency medical services (EMS) to Clark County. In addition, there are three ambulance services in the county: American Medical Response (AMR), City of Camas, and North County EMS District No. 1. For more information on existing conditions, refer to the corresponding section of the DEIS.

2. Impacts

Increased demand for EMS and fire protection is related to population and employment growth in Clark County. The growth pattern determines cost of providing acceptable levels of service, and which service providers must bear that cost. In general, converting rural to urban uses raises the costs to the providers. More compact development patterns are easier to serve, and particularly easier to provide with adequate water flows for fire suppression. Since none of the alternatives include very high density or high rise

development, the special fire protection problems associated with these development patterns is not an issue. All fire and EMS providers are challenged by the tax revenue limits posed by Initiative 747.

Table 36 shows the acreage of additional urban area that would need to be served by affected fire districts under the Proposed Alternative. The impacts of the Proposed Alternative are discussed below.

Table 36. Additional Urban Land to be Served by Fire Districts under the Proposed Alternative

Fire Districts	Acres
Fire District No. 3	523
Fire District No. 5	4,469
Fire District No. 6 (also 176 acres urban land converted back to rural)	304
Fire District No. 9	205
Fire District No. 11	3,368
Fire District No. 12	587
Vancouver Fire District	8

Source: Clark County Department of Assessment and GIS, 2003

The Proposed Alternative would have less dispersed growth than under Alternative 1 and overall acreage converted to urban uses less than under Alternatives 1, 2, 4 and 5. However since there are significant areas of the current UGAs that have not yet developed, the addition of new areas may result in some leapfrog-type development, and result in more dispersed land use patterns in the interim. The dispersal of uses may require additional facilities, equipment and staff to provide service.

Fire Districts No. 5 and No. 11 serving Vancouver's and Battle Ground's UGAs would experience the greatest change to the areas they serve. Fire District No. 5 would be serving approximately 4,500 additional acres of urban land uses, primarily residential (1,700 acres) and business park (2,100 acres). Expansion of the UGAs east of 164th Avenue and northwest of Goodwin Road may result in less than 5-minute emergency response times for development in those areas currently and may require new or relocated fire stations.

Fire District No. 11 would be serving approximately 3,400 additional acres of urban land uses, primarily residential (about 2,200 acres) and industrial (about 700 acres). Lower density residential and industrial assigned to the southwest corner of the city's expanded UGA also may result in some of those areas having less than 5-minute emergency response times currently (see discussion under Transportation, above). Fire stations may need to be relocated or constructed to ensure coverage as those areas develop.

3. Mitigation Measures

Clark County has not included fire protection as one of the services considered under concurrency management. Individual cities have established general policies in their comprehensive plans requiring public facilities and services to be adequate to serve new development at the time it is available for occupancy and use, but fire is not included in concurrency management procedures. Individual cities and fire districts have set additional service standards that they attempt to meet. These standards and planned improvements are described in the Fire and Emergency Services Protection section of the DEIS.

Battle Ground: The Fire Capital Facilities Plan adopted by the City in August 2000 identifies a need for additional fire stations and equipment to serve growth proposed under the Proposed Alternative. Remodeling and upgrade of Fire Station 11-3, located in downtown Battle Ground, is also planned.

Vancouver: The City of Vancouver consolidated its fire department with Clark County Fire District No. 5 to more efficiently provide service to the Vancouver urban area. Since some of the proposed expansion

areas north of the current UGA were not part of the City's request and the overall expansion larger than requested, some additional facilities may be needed as development occurs and greater costs incurred than anticipated. As planning for Vancouver's urban activity centers proceeds, upgrade to some facilities to serve higher intensity development may be needed.

B. Police Protection

1. Setting

The Cities of Camas, Washougal, Battle Ground, La Center, Ridgefield, and Vancouver provide local law enforcement services through local police departments. The Clark County Sheriff's Department provides services in those areas outside the city boundaries and in Yacolt. Each jurisdiction provides backup for others in emergency situations. The Washington State Patrol has police jurisdiction on all state routes within the county. The State Patrol is largely responsible for state facilities, but also provides backup for the Clark County Sheriff's Department and local jurisdictions. For more detail on facilities and level of service standards, refer to the DEIS.

2. Impacts

Each of the police protection agencies will provide service to the homes and businesses which locate in their service areas. Law enforcement standards have generally been measured through the number of officers per thousand population, and the average response time for calls. The projected population under the Proposed Alternative is the same as under Alternative 1, a higher rate than under the other four alternatives. Consequently the Proposed Alternative would require more sworn officers and equipment than the other alternatives in order to provide the same LOS.

Table 37 provides estimates of how many new officers and facilities would be needed for each of the alternatives.

Table 37. Additional Law Enforcement Needed under Proposed Alternative

Jurisdiction	Current Level of Service (Staff per 1,000 people)	Proposed Alternative (to maintain current LOS)
Battle Ground	1.53	37
Camas	1.64	15
La Center	1.20	11
Ridgefield	2.00	18
Vancouver	1.20	121
Washougal	1.60	15
Clark County	0.72	23

Significant growth would occur in the rural area north of Vancouver's UGA and southeast of Battle Ground. Initially, this demand would fall on the sheriff, but as land annexed to the cities, the responsibility for serving this growth would fall to the cities. Additional facilities as well as staff and equipment would likely be needed. The additional

The Proposed Alternative would add a smaller rural population than under the five other alternatives, which could be expected to reduce demand for Clark County Sheriff's Department.

3. Mitigation Measures

Mitigation chiefly consists of policies to maintain adequate levels of police protection to serve new development. Refer to the DEIS for an expanded discussion.

Clark County: The same policies discussed under Clark County's mitigation for impacts on fire and emergency services also apply to police services.

Camas: The new public safety facility on Parker Road provides service to the northwestern portion of the city. Plans to upgrade the downtown Public Safety Building are also underway.

La Center: The City of La Center estimates that its current facilities are adequate to serve existing needs and planned growth.

Ridgefield: With the UGA expanded to include public facilities land, the city should not have a need for a new public safety facilities.

Vancouver: The City of Vancouver will need to increase police staffing and equipment as the population grows and urban growth areas are annexed. New facilities will also be needed. Mitigation policies for fire and emergency medical services also apply to law enforcement.

C. Public Schools

1. Setting

There are nine school districts within Clark County: Battle Ground, Camas, Evergreen, Green Mountain, Hockinson, La Center, Ridgefield, Vancouver, and Washougal. Refer to the DEIS for more information on existing conditions.

2. Impacts

New schools will need to be built to house students from future residential development. While population or household growth will generate more demand for school facilities and services, growth in commercial and industrial development will generate a portion of the tax base to pay for services.

Table 38 shows the expected growth in households for each school district under the Proposed Alternative. The number of new students added to school districts under the Proposed Alternative falls between those under Alternatives 2 and 4.

Table 38. Expected Growth in Single-Family and Multi-Family Households

	Proposed Alternative	
	SF	**MF**
Battle Ground	7,932	6,974
Camas	1,732	2,921
Evergreen	5,524	3,920
Hockinson	455	0
La Center	786	0
Ridgefield	2,853	2,956
Vancouver	6,270	4,770
Washougal	1,887	305

Source: Clark County Long Range Planning, 2003

The Schools Consortium comprises the districts of Battle Ground, Evergreen, Hockinson, La Center, Ridgefield, Vancouver, and Washougal. The Consortium, represented by Preston Gates Ellis LLP, provided an analysis of impacts on the schools districts for the DEIS and the FEIS. The analysis identified the capacity that exists in the public schools now, and the number of students that may need to be enrolled under the alternatives. It revealed how many students can be housed in existing schools and how many new schools will be needed to house students from future residential development. Information on

impacts under Alternatives 1 through 5 was added to the amended DEIS. Below is an analysis of the potential impacts of the Proposed Alternative on the districts in the Consortium. Table 39 estimates the number of new students and new schools needed to accommodate the students under the Proposed Alternative.

Table 39. Total Additional Schools and Students under the Proposed Alternative.

Totals	*Additional Students*	*Schools Needed**
Elem.	9,807	20
Mid.	5,052	6
High	5,179	4
Total	**20,038**	**30**

*Source: Preston Gates Ellis LLP, memorandum, September 5, 2003 . *The projected number of schools is based on approximately 500 students per elementary school, 850 students per middle school and 1,200 students per high school.*

Compared to other alternatives, the Proposed Alternative falls in the middle in terms of impacts on the districts. It would have impacts similar to those under Alternative 5, less impact than under Alternatives 1 and 2, but somewhat more than under Alternatives 3 and 4. Table 40 shows the additional students expected to be added to the school districts under the Proposed Alternative, by education level. This can be compared to the tables in the amended DEIS, for each school district. While the impacts across school districts and among the school level vary, in general the Proposed Alternative has a lower to medium impact compared to the other alternatives, typically having greater impacts than under Alternative 3 but close to impacts under Alternative 4 and fewer impacts than under the remainder.

Table 40. Additional Students by Individual District under the Proposed Alternative

Battle Ground	**Students**
Elem.	1,896
Mid.	1,857
High	1,702
Evergreen	
Elem.	2,411
Mid.	988
High	816
La Center	
Elem.	115
Mid.	70
High	83
Vancouver	
Elem.	1,971
Mid.	996
High	1,230

Camas	**Students**
Elem.	1,318
Mid.	474
High	381
Hockinson	
Elem.	175
Mid.	64
High	62
Ridgefield	
Elem.	1,291
Mid.	303
High	568
Washougal	
Elem.	630
Mid.	301
High	338

Source: Preston Gates Ellis LLP, memorandum, September 5, 2003

An estimated 30 schools may need to be constructed. The Battle Ground, Evergreen, and Vancouver School Districts would add the most students, which is not unexpected as growth would be focused in those areas and the Evergreen and Vancouver districts are the most urbanized.

Table 41 presents the growth in students expected with implementation of the Proposed Alternative. Compared to the other alternatives, this would be higher than under Alternative 4 but lower than the

others for Battle Ground and Camas, higher than Alternatives 4 and 5 for Evergreen and Hockinson, and higher than Alternative 5 for Ridgefield and Vancouver. By far the greatest impact would be on the Battle Ground School District, which would be expected to absorb 71 percent of the new growth in enrollment over the next 20 years.

Table 41. Summary of Additional Students Generated by the Proposed Alternative

School District	Proposed Alternative
Battle Ground	2,775
Camas	104
Evergreen	298
Hockinson	27
La Center	40
Ridgefield	594
Vancouver	57
Washougal	0
TOTAL	**3,895**

Source: Preston Gates Ellis LLP, May 5, 2003.

3. Mitigation

Clark County's school districts will revise their plans to respond to the plan that is ultimately adopted. Local jurisdictions have adopted school impact fees on new development for all school districts, as allowed by state law. Currently, the school districts do not charge the maximum impact fees allowed by law.

The school districts have also asked local jurisdictions to balance land uses within school districts so that they have the tax base to support the schools. That is, each school district would like to have a balance of residential, commercial and industrial land uses.

Table 42 shows the current supply of vacant, built, and underutilized residential, commercial, and industrial land in the districts. The supply is shown as a ratio of residential land to commercial plus industrial land. Commercial and industrial development contribute to the tax revenues that fund schools without adding pupils. Tables 43 through 45 show the average assessed values per pupil for the districts. The more revenue received per pupil the better able the district is to provide facilities and programs to meet a range of needs. The following tables provide very useful information for considering the comparative ability of schools districts to accommodate growth. However, there is no simple metric with which to judge the fiscal impacts to school districts. For example, Hockinson has very low commercial and industrial land development which might be expected to severely limit the ability of the district to fund necessary programs. To the contrary, the tables reflect that the total assessed value per pupil in Hockinson is the third highest in the county.

Table 42. Supply of Vacant, Built and Underutilized Residential, Commercial and Industrial Land

School District	Ratio of Residential to Commercial + Industrial
Battle Ground	1.3 : 1 acres
Camas	1.7 : 1 acres
Evergreen	3.35 : 1 acres
Hockinson	10.28 : 1 acres
La Center	6.30 : 1 acres
Ridgefield	1.64 : 1 acres
Vancouver	2.41 : 1 acres
Washougal	3.42 : 1 acres

Source: Preston Gates Ellis LLP, May 5, 2003.

Table 43. Summary of Total Average Assessed Value per Pupil

School District	Total Assessed Value per Pupil
Battle Ground	$276,653
Camas	$548,808
Evergreen	$317,660
Hockinson	$364,920
La Center	$314,897
Ridgefield	$451,282
Vancouver	$364,052
Washougal	$341,037

Table 44. Summary of Average Assessed Value of Residential Land per Pupil

School District	Assessed Residential per Pupil
Battle Ground	$254,565
Camas	$345,121
Evergreen	$252,735
Hockinson	$362,856
La Center	$307,190
Ridgefield	$415,918
Vancouver	$280,911
Washougal	$270,442

Table 45. Summary of Average Assessed Value of Commercial Plus Industrial Land per Pupil

School District	Assessed Commercial + Industrial per Pupil
Battle Ground	$22,088
Camas	$203,687
Evergreen	$64,925
Hockinson	$2,064
La Center	$7,707
Ridgefield	$35,364
Vancouver	$83,141
Washougal	$70,595

Source: Preston Gates Ellis LLP, May 5, 2003.

The DEIS contains information on current plan policies and ordinances to mitigate the impacts on schools.

Suggested Mitigation Measures

Another mitigation measure suggested by comments on the DEIS is:

- Adopt the following comprehensive plan policy in all local plans:
  "Work cooperatively with school districts to facilitate the provision of an adequate supply of K-12 public school facilities to avoid overcrowding and to enhance the educational opportunities for our children. Clark County and the cities in Clark County shall adopt regulations which are supportive of the permitting of public schools and K-12 facilities."

D. Parks and Recreation

1. Setting

Information on existing parks, funding, and other issues can be found in the corresponding section of the DEIS.

2. Impacts

Park standards would not change under the Proposed Alternative. The distribution of parks and the cost of acquiring them affects different jurisdictions. Because park standards are based on population, new parks would be required under all alternatives. The Proposed Alternative and Alternative 1 require proportionally more than the other alternatives, because they accommodate a higher population growth. Table 46 provides a comparison of the amount of additional urban park land required under the Proposed Alternative by jurisdiction.

Table 46. Impacts on Urban Parks and Open Space Land Needs under the Proposed Alternative

Jurisdiction	Combined Parks Standards* (acres/1000 people)	Additional Park and Open Space Needed (acres)
Battle Ground	5.0	120
Camas	2.5	22
La Center	8.5	16
Ridgefield	7.5	69
Vancouver	12.0	1,206
Washougal	5.0	46
Yacolt	5.0	0.4
Clark County	10.0	325

*Source: Calculated based on adopted standards and capacity build-out data from Clark County Department of Long Range Planning. *includes neighborhood, community & urban parks except for Clark County, which includes only the regional park standard.*

Having a deficit in park lands can affect the quality of life of residents and the impacts have to be qualitatively assessed. Quality of life impacts consist of whether existing parks provide the balance of active and passive recreation facilities desired by residents, and how accessible and free from crowding they are. Clark County's regional parks (for example, at Battle Ground, Frenchman's Bar, and the new Captain William Clark Park on the Columbia River) are in fairly close proximity to populated areas and are easily accessible by automobile. In that sense, the impacts of the deficit are less than they would be if the parks were in remoter parts of the county and less accessible. On the other hand, there may be more

people using the parks than is standard for regional parks so the experience may feel less like a regional park experience and more like a community park experience. Like other urban amenities, a lack of urban developed parks compared to the standards can negatively affect livability. In cities, it can seem even more vital to provide access to open spaces and recreation facilities, however small, because people need relief from the built environment that surrounds them.

About half of the land proposed to be added to UGAs would be to Vancouver's UGA. Approximately a third of the acreage would be added to Battle Ground's UGA and about 12 percent of the area to Camas, with the remaining small amounts to Ridgefield and La Center. Slightly less than half of the expanded acreage would be in residential land uses whose residents would require access to parks and open space. The Proposed Alternative would have a more compact urban development pattern so some existing and planned parks would serve much of the need. However, the substantial increase in the UGA for the city of Vancouver northward would result in a need for additional parks and open space to serve the expanded areas. Battle Ground would need to make a significant investment to meet adopted parks standards as growth occurs as residential land use represents the largest addition by use to the UGA. Facilities would be needed on the west and south sides of town, where growth is expected to focus.

In comparison to the other alternatives, the Proposed Alternative would generally require a level of investment to maintain levels of service that is similar to what was proposed under Alternative 2, and less than Alternatives 1 and 5 in terms of park acreage. Most of the additional urban park acreage would be needed in Battle Ground and Vancouver to serve those residential growth areas. Acquisition of parks is just one aspect of ensuring that population is adequately served. The monies to develop, maintain, and operate facilities are frequently in shorter supply than funds to acquire parks. Often there is a focus on acquisition so that land is banked before it becomes inaccessible due to development for other uses. Nevertheless, growth implies not only that funds are needed for acquisition, but also that a commensurate increase in funds is needed for parks development, maintenance, and operation.

3. Mitigation Measures

In their individual comprehensive plans, Clark County and the cities have established policies for provision of parks and open space to accommodate new development and enhance the quality of life in urban areas. Since the Proposed Alternative does not propose to add more population than was analyzed in the DEIS and since parks demand is based on population, the DEIS discussion summarizes the ways that each jurisdiction intends to meet adopted standards.

E. Libraries

1. Setting

Fort Vancouver Regional Library District is the provider for Clark, Skamania and Klickitat Counties and the city of Woodland in Cowlitz County. Refer to the corresponding DEIS section for more existing conditions information.

2. Impacts

FVRLD is in the process of updating their capital facilities plan. The draft plan proposes to divide the district into an Urban Service Model and Rural Service Model. Urban Service areas (largely the greater Vancouver UGA) would grow from the current public service space of 58,700 square feet to a proposed range of 163,000 – 193,000 square feet over the next 20 years. This would create a library service standard range of 0.49 to 0.58 square feet per capita. Rural Service areas would grow from the existing 8,325 square feet to 37,750 square feet in 2020 increasing the library service standard from the existing 0.09 square feet to an estimated 0.2 square feet per capita.

Library service demand is directly related to population. As the population of the County increases, demand for library service will increase. The differences in impact of the various alternatives relate to differing growth projections and the location of proposed growth.

The Proposed Alternative would accommodate more growth than Alternatives 2-5 and has a similar impact from population growth as Alternative 1 because they share the same growth rate. More library facilities, staff and resource materials would be needed in order to meet proposed level of service standards. The development pattern is more compact than Alternative 1 and adds less residential acreage than Alternatives 1, 2, and 5. As a result, some expansion areas would be closer to existing facilities, making efficient use possible. However, adding more residential land capacity beyond the existing UGAs, principally at the north end of Vancouver and the southwest of Battle Ground will could make it necessary to develop additional facilities and materials to serve new library users.

3. Mitigation Measures

None of the cities and towns or Clark County includes library services in the concurrency management system. Funding for FVRLD comes from property taxes, fees and donations. Refer to the DEIS for a discussion of additional mitigation measures that could be adopted.

F. General Government Facilities

1. Setting

General government buildings house the staff that operate each city and town, and include offices, public works yards, and maintenance facilities. As cities and towns grow, more staff is required to provide services to residents and maintain city/town facilities. As a result, more general government space is needed.

2. Impacts

Impacts from the Proposed Alternative is not expected to differ from those discussed in the DEIS. The jurisdictions have evaluated their needs for offices and other facilities based on projected growth and most expect to have to provide additional space to accommodate population growth to 2023.

3. Mitigation Measures

None at this time. Over the long term, jurisdictions need to plan for expansions of facilities to accommodate increased demands.

G. Solid Waste

1. Setting

For a discussion of providers and landfill capacity, refer to the corresponding section in the DEIS.

2. Impacts

The system of waste collection in Clark County has full backup capability that is expected to last throughout the 20-year planning period covered in the comprehensive plan. The current system has been designed with flexibility to respond to changes in population and economic growth and in the behavior of residential and non-residential waste generators.

3. Mitigation Measures

Mitigation measures are not required, since the existing system has the capacity to accommodate all expected growth. However, in the interests of the long-term health of the system, each jurisdiction could adopt waste reduction measures and encourage additional recycling. The county's recycling rate is estimated at 35 percent with a recovery rate of 45 percent.

H. Sanitary Sewer

1. Setting

Several jurisdictions and public agencies provide sanitary sewer services in Clark County. These include the cities of Battle Ground, Camas, Ridgefield, Vancouver, Washougal, CPU, and Hazel Dell Sewer District (HDSD). Clark County owns the Salmon Creek Wastewater Treatment Plant that treats flows from HDSD and Battle Ground. CPU operates La Center's sewer system under contract and provides septic system monitoring for the Yacolt. For a fuller discussion of providers, facilities, and collection and treatment capacity, refer to the corresponding section in the DEIS.

2. Impacts

Sanitary sewer service is one of the urban services that the County includes in its concurrency management system. Under all alternatives, public sewer service would be limited to urban areas, as required by GMA. Rural areas would continue to rely on septic systems.

Impacts on sewer service are directly related to population and employment growth. Table 47 presents the projected demand under the Proposed Alternative if the land develops to full capacity. Sewage generation factors are based on observed flow data from the City of Vancouver of 250 gallons per day per household, 700 gallons per day per acre of commercial development, and 350 gallons per day per acre of industrial development.

The Proposed Alternative would involve a less extensive expansion of the UGAs than all expansion alternatives, and largely in areas already designated as urban reserve areas. Projected capacity is based on the number of households so with a higher persons/household in the Proposed Alternative the capacity demand would be less than under Alternative 1. Projected capacity is also less than under Alternatives 2 and 5, but more than projected under Alternatives 3 and 4. Sewer service agencies have included eventual urbanization of much of this area in their planning to date. The Proposed Alternative's expansion areas primarily lie within HDSD's service boundary.

Projected needs and funding sources for HDSD are included in expanded form in the Hazel Dell Sewer District Comprehensive General Sewer Plan (March 2001). The HDSD Plan has the necessary contents required by the GMA for capital facilities elements, including inventories, forecasts and analyses of future plans and financing mechanisms. Clark County has formally incorporated the Hazel Dell Sewer District Comprehensive General Sewer Plan. HDSD reviewed the Proposed Alternative and determined that the HDSD Plan can accommodate the planned growth.

The original long-term planning for the Salmon Creek Wastewater Treatment Plant (SCWTP) included all of the Salmon Creek drainage basin, to a point past Battle Ground. The County is currently planning for the next expansion of the facility to be completed by 2008 and providing a peak month capacity of 16.0 million gallons per day (mgd). The County will also provide parallel additions to one section of the piping and pump stations leading to the treatment plant as part of the next expansion program. The master plan for the plant shows that the plant's planned upgrades over time will be able to treat 30 to 40 mgd and is currently operating well below that capacity (6 mgd). Following adoption of the comprehensive plans, the district will take the growth numbers and the location of expansion areas and adjust the master plan

accordingly. The sustained growth patterns and expansion of the service area tributary to the SCWTP dictated by the County's current growth management planning efforts will increase demands on the facility and related infrastructure. This will require further capacity expansion and upgrades in accordance with an update of the master plan, to meet GMA concurrency requirements and public health and safety needs.

Although capacity of the infrastructure is not an issue, topography is. High water tables in Battle Ground's growth area with lines close to surface in other areas will make upgrades in that area necessary. Hilly terrain in the vicinity of the Vancouver UGA expansion area at I-5 will require pump stations and will be more expensive to serve.

Table 47. Additional Sewage Generated Under the Proposed Alternative (gallons per day)

Jurisdiction	Capacity, Proposed Alternative
Battle Ground	
Residential	2,282,250
Commercial	301,480
Industrial	102,617
Total	2,686,347
Camas	
Residential	1,515,250
Commercial	209,734
Industrial	71,388
Total	1,796,372
Hazel Dell	
Residential	Included in Vancouver totals
Commercial	
Industrial	
Total	
La Center	
Residential	134,000
Commercial	5,318
Industrial	1,810
Total	141,128
Ridgefield	
Residential	907,000
Commercial	103,575
Industrial	35,254
Total	1,045,829
Vancouver	
Residential	9,704,500
Commercial	2,050,050
Industrial	697,787
Total	12,452,338
Washougal	
Residential	975,250
Commercial	32,380
Industrial	11,021
Total	1,018,651
Countywide Total	22,065,413

Source: Calculations based on data from Clark County Departments of Long Range Planning and Assessment and GIS.

The expansion area to Vancouver's northeast is not able to be served yet by Vancouver. HDSD upgraded their lines to their service area boundary in anticipation of being able to serve that area so the district could serve it if an adjustment to the service boundaries or interlocal agreements were made. The expansion area south of 119th and east of SR 503 is not slated for sewer service by either Vancouver or HDSD. An agreement would need to be reached to determine who could serve this area. In general, however, growth under the Proposed Alternative has been anticipated in the HDSD master plan.

The district is required to update the municipal NPDES permit every 5 years. Periodic reviews are designed to bring treatment and discharge operations up to date based on any new water quality requirements from the Washington State Department of Ecology. This could affect treatment standards over time and increase costs, but these costs are for the most part recovered through system development charges.

Battle Ground's service area includes only a portion of the city itself and an area to the southeast. Treatment is provided by the SCWTP. Additional infrastructure for Battle Ground's expanded UGA would likely require negotiations to change service district boundaries. New sewer mains would likely be required but not as extensively as would have been required under other expansion alternatives.

The City of Vancouver provides wastewater services within city limits and in a portion of the unincorporated urban area northeast of the city limits, such as the Orchards and Sifton areas. The City plans for sewer service through its *Wastewater Collection System Comprehensive Master Plan.* The City's updated comprehensive plan shows planned sewer system improvements through 2023, grouped into categories of roadway coordination, collection system, pump station program, relief sewer program, substandard main program, and sewer connection incentive program. No treatment facility projects are proposed because there is sufficient capacity for the expected growth. The City has sufficient funding sources (fees, system development charges, grants) to cover the costs of the all proposed projects through 2009. Similar funding sources are expected to continue to be available to in the long term to support future system improvement needs.

Camas' expanded UGA under the Proposed Alternative is substantially the same as what was requested and will be consistent with its plan. The City may want to re-examine portions of the boundary at the Green Mountain development since the boundary expansion did not include all of the development. One important issue in the vicinity of Fisher Swale is the road (and likely utility) crossing. The City had planned to divide the area with Vancouver, funding 50 percent of the cost of crossing the critical areas, which is expected to be substantial. Consequently, the City may need to require developer funding to make up the difference. In that area, the City will likely implement a regional STEP system with pump collection for sewer. Of two expansion areas on east side, the northern one is planned to have a STEG system. The southern one is planned to have a pump to gravity system. Camas's Wastewater Facilities Plan (1994) projected demand to 2043 for an eventual population of 45,000 and has phased improvements to the infrastructure to accommodate growth in the shorter term. Population growth for Camas is less under this alternative than was planned by the City.

CPU has indicated that La Center's new treatment plant will be online by the end of 2003 and will likely have treatment capacity to 2012. Plant expansions by 2012 would be able to accommodate growth projected under the Proposed Alternative to 2023.

The total cost of providing sewer service to the Proposed Alternative, based on build-out capacity, is estimated as $96.7 million.

3. Mitigation Measures

Sewer service must be included in concurrency management programs under the GMA, and policies for providing sewer service concurrent with new development within UGAs are established in all of the comprehensive plans, as discussed under Mitigation Measures in the DEIS. Additional mitigation measures that would reduce the impacts of growth on sanitary sewer services, are also highlighted there.

I. Public Water Systems

1. Setting

Water service within Clark County is provided by a variety of local jurisdictions and a publicly owned water provider. Within urban areas, the Cities generally provide water service. This is true in the case of Vancouver, Battle Ground, Camas, Ridgefield, and Washougal. CPU is the primary water provider for rural areas outside of UGAs and also operates the water systems for La Center and Yacolt. The DEIS discusses water rights.

Ideal design practice recommends that the source of supply be able to serve the maximum daily demand allowing stored water to be used for the daily peaking requirements of the system. For the City of Vancouver, for example, the total peak reliable well capacity is 58 mgd. The peak day system demand in 2002 was 53 million gallons, or 261 gallons per person. If the average demand per person does not increase, the current water system will have sufficient capacity through 2013. Table 48 shows the providers, water rights, and water supply information for Clark County and the cities. Water rights are gauged by the year in acre-feet, but to compare the average use to water rights, acre-feet have been converted to mgd, though this is simply a very rough indication of where there may be future needs for additional water rights and supply.

Table 48. Water Supply in Clark County by Provider

Provider	Population Served	Water Rights, mgd (acre-feet per year)	Number of Wells	Storage Capacity (gal)	Average mgd
Battle Ground	11,775	0.87 (979)	6	767,000	0.74
Camas	15,401	6.63 (7,430)	9**	8,450,000	2.39
CPU	62,419	10.53 (11,793)	33		24.5
Ridgefield	2,169	0.61 (681)	6	812,200	0.22
Vancouver	203,000	44.84 (50,226)	40	24,500,000	26
Washougal	9,836	3.38 (3,789)	5	3,060,000	0.44
Yacolt	1,237	0.28 (311)	2		0.13

*Source: Coordinated Water System Plan *Camas also draws water from rivers.*

As Table 48 indicates, Battle Ground's water rights are likely insufficient in the near term to serve population growth.

As the main water providers in the county, CPU and the City of Vancouver are actively pursuing new sources of water supply. To provide for uncertain growth patterns and for redundancy of supply, new water rights and water sources need to be acquired and brought on line to handle growth beyond the next ten years.

2. Impacts

Water is one of the services that is included in concurrency management in Clark County. Increase in demand for water is a function of population and employment growth, and the pattern of development.

Table 49 summarizes the impact of Proposed Alternative on water demand in Clark County if the alternative is developed to capacity.

The Proposed Alternative would create a demand for water at build-out in 2023 similar to that under Alternative 4 and greater than under Alternative 3. Demand is expected to be less than under Alternatives 1, 2 and 5. It would involve the smallest expansion of UGAs of all the proposed expansion alternatives, and largely in areas already designated as urban reserve areas. As a result, the water service agencies have included eventual urbanization of much of this area in their planning to date.

Most of the population growth would be added to the Vancouver and Battle Ground areas. Water service district boundaries will be an issue in some locations. Battle Ground will need to reach agreement with either the City of Vancouver or CPU to provide water service along 72nd. As noted above, the City will also need to purchase more water rights, typically a lengthy process. CPU plans to construct a new reservoir in Meadow Glade, near Battle Ground's west UGA boundary at 209th; it will be a regional facility and be able to serve the proposed growth areas.

Table 49. Public Water Demand under Proposed Alternative (gallons per day)

Jurisdiction	Capacity Proposed Alternative
Battle Ground	
Residential	2,556,120
Commercial	301,480
Industrial	102,617
Total	2,960,217
Camas	
Residential	1,697,080
Commercial	209,734
Industrial	71,388
Total	1,978,202
La Center	
Residential	150,080
Commercial	5,318
Industrial	1,810
Total	157,208
Ridgefield	
Residential	1,015,840
Commercial	103,575
Industrial	35,254
Total	1,154,669
Vancouver	
Residential	10,869,040
Commercial	2,050,050
Industrial	697,787
Total	13,616,878
Washougal	
Residential	1,092,280
Commercial	32,380
Industrial	11,021
Total	1,135,681
Countywide	24,278,333

Long-term planning for projects out to 2023 is accomplished through CPU's Water System Plan (1993), which is consistent with the GMA requirements for capital facilities elements. Specific project costs and funding sources are projected to 2012. Planning for growth in the longer term is based on a 3 percent annual growth increase, greater than the Proposed Alternative's 1.83 percent. No development is projected in an amount or location that is outside their planned improvements. After the comprehensive plans are adopted, CPU will look at potential deficiencies in the system and what may need to remedied. Efficiency in conveying water and peak demand from residential uses guides the location of pipes and storage facilities. Consultation with a CPU representative revealed that planned growth under the Proposed Alternative would not pose a problem for supply because new wells are slated to come online within six years. Serving industrial growth is more a matter of location rather than supply (because the demand is more steady throughout the day). Industrial growth appears to be situated near CPU's water mains. Reconstruction of 179th will allow for upgrade to transmission line along there to improve fireflow for industrial uses. The 1.2 million gallon Hockinson reservoir can serve northeast area of Vancouver's UGA expansion.

With respect to supply, CPU is applying for rights to drill wells near Vancouver Lake. The location is known to have ability to provide high production wells. In future, once those expected sources are online, CPU will primarily need to focus on storage and water rights to ensure supply. The South Vancouver Lake project will likely result in up to eight wells and would double the supply and accommodate demand expected for up to 30 years (at the 3 percent growth). CPU's 20-year budget consists of projected population growth on an annual average of 3 percent.

The City of Vancouver updated its Water System Comprehensive Plan (1996) in July 2003. The City's future water demand calculations include population and water demand numbers for the city and the unincorporated service area designated in the Clark County Coordinated Water Plan. As with CPU, the City is actively pursuing new water supply sources near Vancouver Lake. Funding estimates have been projected to 2023 for its comprehensive plan update.

Battle Ground's water service area includes the city itself and some unincorporated areas to the northwest and east. CPU serves areas in the southeast portion of the expansion areas and much of the area has water service.

The City of Camas has a 2001 Water System Comprehensive Plan. The areas proposed for inclusion in the Camas UGA are already within its water service area and included in its system plans. With respect to water supply in Camas, industrial uses are the biggest influence on water demand in the City's planning. The City has geared its plan to phased growth by Wafertech, a major water consumer for its silicon wafer manufacturing operation. Wafertech's Phase 2 expansion is planned for some time in the next 5 to 10 years. Camas has sufficient water supply to support that growth. Additional sources would be needed Wafertech's Phase 3. The City is working on purchasing more water rights and exploring for future supply wells.

The Water Utility Coordinating Committee (WUCC) is a committee composed of managers and technical officials from Clark County, the Washington Health District, local communities and other water providers, and the Southwest Washington State Department of Health. In 1983, WUCC instituted a process to develop a county-wide plan. The culmination of these efforts was Clark County Coordinated Water System Plan (CWSP) that was adopted in 1983 and most recently updated in 1999. The plan is updated every five years. The CWSP contains information about service areas and capacities for each jurisdiction and the entire county and would be updated following adoption of the updated growth plans.

The total cost of providing water service to this alternative is estimated to be $28.4 million.

3. Mitigation Measures

Mitigation to preserve the quality and quantity of surface and ground water (as discussed in the DEIS) also works to protect public water supplies (see Sections IVa and b of the DEIS). The impacts of additional growth creating demand for water can be mitigated to some extent by additional conservation policies and implementation measures. For a discussion of the applicable plan policies and ordinances related to public water, refer to the DEIS.

J. Electrical system

1. Setting

Electricity is provided to all Clark County jurisdictions by CPU, a consumer-owned public utility that both generates and buys electricity. For additional information on existing conditions, refer to the corresponding section of the DEIS.

2. Impacts on the Electrical System

Electrical service is entirely a "pay as you go" service. Electrical system upgrades are paid for by new development directly (in the form of system connection fees) and by utility rates paid by CPU customers. Rates are adjusted to reflect changing costs of purchasing or generating power. For this reason, CPU expects to be able to expand the electrical system to serve development, no matter which alternative is selected. The Proposed Alternative envisions more jobs and population growth than other alternatives but in a smaller geographical area. Availability of electricity is not expected to be a limiting factor for new development. (However, industries with special power needs – either total amount or reliability – may prefer to locate near existing substations or in areas where the power grid is more fully developed.)

3. Mitigation Measures

CPU has instituted an aggressive energy conservation policy and provides incentives to customers to encourage their participation in conservation efforts. Suggested mitigation for energy conservation is discussed under the Energy and Natural Resources section of the DEIS.

XI. CONFORMANCE WITH THE GROWTH MANAGEMENT ACT

A. Setting

The GMA establishes the overall framework for planning activities in Washington State. The corresponding section of the DEIS describes the requirements for comprehensive plans for counties and cities. It also looks at how the comprehensive plans of Clark County and its cities conform with the requirements of the GMA and with the requirements of the CWPPs, which serve as the framework for local comprehensive plans and development regulations and with the procedural criteria established by the Clark County Department of Community Development. Together these requirements are meant to ensure consistency among the plans of the region and that the plans will be implemented as envisioned.

This section in the DEIS and in the FEIS also addresses concurrency, fiscal impacts, and annexation and incorporation issues that are associated with the alternatives. The DEIS addressed those topics for the five initial alternatives under consideration. The section below addresses the topics for the Proposed Alternative. There are important policy implications arising from the transportation improvements needed to mitigate the impacts of each alternative. Consequently, a separate analysis of the five alternatives' consistency with transportation policies is included in the DEIS and an analysis of the Proposed Alternative's consistency with transportation policies is presented below.

B. Conformance with the GMA Requirements and Countywide Planning Policies

Tables 73 through 88 of the DEIS identify those sections of the comprehensive plans of Clark County and its cities that address the requirements of the GMA and CWPPs. Four jurisdictions—Clark County, La Center, Ridgefield, and Vancouver—made changes to the tables, and these new tables are presented below (Tables 50 through 65).

The following key can be used for abbreviations in the GMA conformance tables:

(-) Goal or Policy Number
CF: Capital Facilities Element
CP: Comprehensive Plan
CWPP: Countywide Planning Policy;
H: Housing Element
LCMC: La Center Municipal Code
LU: Land Use Element
MTP: Metropolitan Transportation Plan
N/A: Not applicable.
p. page number
Pks: Parks Recreation, Open Space Element
Pol: Policy number
RDC: Ridgefield Development Code
Res. Doc.: Resource Document
RRL: Rural and Resource Lands Element
T: Transportation Element
Tech. Supt.: Technical Support
TSP: Transportation system plan
VMC: Vancouver Municipal Code

Table 50. Conformance with Land Use Element Requirements of the GMA

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Land use designations?				
Agriculture	N/A	In progress N/A	N/A	RRL:p 4-6
Timber Production	N/A	N/A	N/A	RRL: p 4-10
Housing	In progress CP(7) p.36-37	CP (8) p. 22	Fig 1-2, Table 1-5	H
Commerce	In progress CP(8.1 & 8.5) p. 38-39	In progress CP (6.3) p. 17	Fig 1-2, Table 1-5	Pg 1-2, 1-9
Industry	In progress CP (8.1) p. 39	In progress CP (5) p. 15	Fig 1-2, Table 1-5	RRL: p 4-4
Recreation	CP (9) p.40-44	In progress CP (7,15) CF (6)	Fig 1-2, Table 1-5	RRL p 4-4
Open Space	In progress CP (9) p.40-44	In progress CP (7.1-7.9)	Fig. 1-2, Table 1-5	RRL p 4-4
Open Space Corridors	In progress	CP (7.6) p.20	Fig. 1-2, Tables 1-5	P
Public Utilities	CP (6) p.28-35	CP (10) CF (2,3,9)	Fig. 1-2, Table 1-5	RRL: p 4-4
Public Facilities	In progress CP (6.5) p. 32	In progress CF (1-9)	Fig. 1-2, Table 1-5	H: p. 5-1
Other				
Land use map showing all?	CP	CP	Fig. 1-2	Figure 22-A
Lands useful for public purposes identified (utility corridors, transportation corridors, etc.)?	In progress CF (5, C) p. 20-21	In progress CF(4) Figure 1	Fig. 1-2, Table 1-5, , 5-2, 5-3, 5-4, 5-5, 5-13, 5-14, 5-15	CF:p.6-20
Population densities?	In progress CP (3.5) p. 9	In progress CP (8.2, 8.3)	Table 1-2	LU:p.2-2
Building intensities?	In progress CF (4) p.12-18	In progress CP (8.3, 8.4)	Table 1-3	H
Population & employment forecasts?	CP (3.6) p. 9	In progress	Table 1-4	LU: p 2-2
Consistent with regional?	CP (3.6) p. 9	In progress	Table 1-4, Appendix C	RRL: 4-2
Groundwater protection?	RDC 18.280	LCMC 14.20	Fig. 4-1,VMC Chapter 14.26	
Flood hazard areas identified?	RDC 18.280	LCMC 14.20	Fig. 4-1, VMC 20.51	RRL p 4-4, Figure 5B
Surface water quality protection?	RDC 18.280	LCMC 14.20	Fig. 4-1, VMC 20.50, 20.51	RRL p 4-4
Vacant buildable land inventory?	Tech. Supp.	In progress	Appendix C	LU: p. 2-15
Implementation strategy?	CP 11	In progress	Chapter 7, VMC Chapters 20, 21	RRL: p 4-18
Consistency: internal, external, interjurisdictional?	CP 11	In progress	Chapter 7	CWPP 1.1
Consistency with Relevant CWPPs?	CP 11	In progress	Appendix A	CWPP 1.1

Table 51. Conformance with Land Use Element Requirements of the Countywide Planning Policies

Requirement	La Center	Ridgefield	Vancouver	Clark County
Urban Growth Areas				
Consistent with County?	iii:B	(11)	Fig. 1-2, Ch. 1; Ch. 7, Pol. IM-7	N/A
Consistent w/ CWPPs?	CP (11)	In progress CP (3) p.10	App. A, Ch. 7	CWPP 1.1
Consistent with adjacent cities?	N/A	N/A	Ch. 7	CWPP 1.1 (-d)
Accommodate expected growth?	iii:B	(11.1)	Table 1-4, App. C	LU:p 2-2
Balance business & housing?	iii:B	In progress	Pol. EC-1	LU:p p 2-5
No resource lands?	plan map	Insert	Fig. 1-2, Table 1-5	
Changes to UGAs with reasons?	In progress	In progress CP (11)	Ch. 1	CWPP 1.1 f (3)
Provide for Accessory Units? (20,000+ pop.)	In progress N/A	In progress N/A	VMC 20.91.202	H: P.24
Population densities?	iv:p.13	Insert	Table 1-2	
Building intensities?	iv:p.12	(8.1)	Table 1-3	LU:p.2-11, 2-12
Population & employment forecasts?	iv:p.11	Appx.	Table 1-4, App. C	LU:p 2-2
Urban levels of service?	In progress CF (6) Table 5	In progress CP (10)	Pol. PFS-2	CF, T3-14
Consistent with special districts?	vi:CF	Tech Supt.	Ch. 7, Pol. IM-11; Pol. 5, p 5-21, 5-23, 5-27, 5-28.	In progress
Consistent with County?	vi:D	Tech Supt.	See above	N/A
Hierarchy of centers?	iv:C	(6)	Ch. 1, p1-7	CFP 1-3
Criteria for annexation?	iii:B	(11.9)	Ch. 6, *Annexation Blueprint*	Annexation Element
Urban reserve areas & policies?	In progress CP (3,C) p. 10-11	In progress CP (11)	Fig. 1-2, Pol. IM-9	In progress
Consistent with county?	iii:C	(11.8)	Fig. 1-2, Pol. IM-9	In progress
Demonstrated need?	iii:C	Appx.	See County Plan	In progress
Vacant buildable land inventory?	Insert	Tech. Supt.	App. C, County Comp Plan	LU: p. 2-15
Goals & Policies of Shoreline MP?	N/A	In progress	App. B, Vancouver Shorelines Master Program	Environ.Ch.
Implementation strategy?	i.D	In progress	Ch. 7, VMC Ch. 20	RRL:p 4-18
Consistent w/ CWPPs?	In progress CP (3.22)p. 11	In progress	App. A	CWPP 11.1

Table 52. Conformance with Housing Element Requirements of the GMA

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Housing inventory & analysis?				
Existing	vii:B	In progress	Ch. 3, p 3-4 to 3-7.	H p. 5-2
Projected needs	In progress CF (7) Table 7	Tech. Supt.	Ch. 3, p 3-3.	Lu p. 5-11
Goals, policies, objectives?				
Preservation	vii:C:(3)		Pol. H-3	H: p. 1-1
Improvement	vii:C:(6)	(8.10)	Pol. H-3	H: p. 1-6
New development	vii:C	(8)	Pol. H-1	H: p. 1-7
Affordable housing	vii:C:(1)		Policies H-1, H-2	H: p 5-16
Sufficient land identified for:				
Government-assisted?	vii:C	(8)	Pol. H-6, Fig. 1-2, VMC 20.11-20.15	H: p. 5-14
Low income?	vii:C	(8)	Policies H-1, H-2, H-6; Fig. 1-2, VMC 20.11-20.15	H: p. 5-14
Middle income?	vii:C	(8)	Policies H-1, H-6; Fig. 1-2, VMC 20.11-20.15	H: p. 5-14
High income?	vii:C	(8)	Pol. H-1, H-6; Fig. 1-2, VMC 20.11-20.15	H: p. 5-13
Manufactured?	vii:C	(8)	Pol. H-1, H-6; Fig. 1-2, VMC 20.11-20.15	H: p. 5-23
Multi-family?	vii:C	(8)	Pol. H-1, H-6; Fig. 1-2, VMC 20.11-20.15	H: p. 5-6
Group homes/foster care?	vii:C	(8)	Pol. H-1, H-6; Fig. 1-2, VMC 20.11-20.15	H: p. 5-14
All economic segments?	vii:C:(1)	In progress	Pol. H-1, H-6; Fig. 1-2, VMC 20.11-20.15	H:, p. 5-1, 5-2
Condition of existing housing?	vii:B:p.31	In progress	Ch. 3, p3-5	H: p. 5-12
Housing assistance needs?	vii:C	In progress	Pol. H-9, p3-6, 3-7	H: p. 5-8
Financing?	vi:	In progress	Pol. H-9	H: p. 5-7, 5-16, 5-23
Implementation strategy?	In progress CP(7.1-7.8) p. 37	In progress	VMC Ch. 20, Consolidated Housing Assistance Plan, CDBG program	H: p. 5-18
Consistency w/ CWPPs?	In progress	In progress CP (8.15) p. 29	Appx. A	CWPP 2.1

Table 53. Conformance with Housing Element Requirements of the Countywide Planning Policies

Requirement	La Center	Ridgefield	Vancouver	Clark County
Housing inventory & analysis?				
Existing	vii:B	In progress	Ch. 3, p 3-4 to 3-7.	H: p. 2-2
Projected needs	In progress CF (7) Table 7	In progress	Ch. 3, p 3-3.	H: p. 5-11
Sufficient land identified for:				
Government-assisted?	vii:C	In progress	See previous Table 75	H: p. 5-14
Low income?	vii:C	In progress	See previous Table 75	H: p. 5-14
Middle income?	vii:C	In progress	See previous Table 75	H: p. 5-14
High income?	vii:C	In progress	See previous Table 75	H: p. 5-13
Manufactured?	vii:C	In progress	See previous Table 75	H: p. 5-13, 5-23
Multi-family?	vii:C	In progress CP (8.3)	See previous Table 75	H: p. 5-6
Group homes/foster care?	vii:C	In progress	See previous Table 75	H: p. 5-14
Special needs?	vii:C	In progress CP (8.9)	See previous Table 75	H: p. 5-8
Jobs/housing balance?			Pol. EC-1	H: p. 5-12, 5-13
Job site/housing link?	vii:A	(8.4)	Pol. CD-10	H: p. 5-12, 5-13
Transportation/housing link?	vi:p.29-30	(8.4)	Policies CD-2, H-5	H: p. 5-1
Public facilities/housing link?	vii:C		Policies PFS-1, PFS-2	H: p. 5-1
Flexibility?				
Infill	Vii	(8.10)	Pol. CD-3, VMC 20.920	H: p. 5-20
Reuse/rehabilitation	vii:C:(6)	(8.10)	Policies CD-3, EC-6	H: p. 5-21
Preservation	vii:C:(4)	CP (12)	Policies CD-11, H-3	H: p. 5-21
Other				
Maximum & minimum lot sizes?	iv:C	(8.1)	VMC 20.11-15	
Housing assistance?	In progress CP (7.1, 7.6, 7.8) p.37	In progress	Policies H-1, H-2, H-4; VMC	H: p. 5-8
Mitigate impacts of new fees/regs?	In progress	In progress	Pol. PFS-3, VMC 20.97.160	H: p. 5-13
Financing?	In progress	In progress	Pol. H-9	H:p. 5-7,5-16,5-23

Table 54. Conformance with Utilities Element Requirements of the GMA

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Integrated with land use element?	p.10	CF:p.2	Policies CD-2, PFS-2.	CF: p. 6-1
Location & capacity of existing utilities?				
Electrical	vi:	In progress CF (9) 2.3	Clark County Plan, Resource Document	In progress
Telecommunication	vi:	CF (9) 2.1	See above	CF: p. 6-9, 6-18
Natural gas	vi:	In progress CF (9) 2.4	See above	In progress
Other				
Future capacity needs?				
Electrical	vi:	In progress CF (9) 2.3	See above	In progress
Telecommunication	vi:	In progress CF (9) 2.1	See above	In progress
Natural gas	vi:	In progress CF (9) 2.4	See above	In progress
Other		Oil CF (9) 2.2		
Proposed location?				
Electrical	vi:	In progress N/A	See above	In progress
Telecommunication	vi:	In progress N/A	See above	In progress
Natural gas	vi:	In progress N/A	See above	In progress
Other				
Essential public facilities evaluation?	vi:C: p.30	In progress	Pol. PFS-27	In progress
Countywide or statewide nature?	vi:C	In progress	Pol. PFS-27	CF: p. 6-19
Local criteria for siting utilities?		In progress		In progress
Consistent with land use element	CP (6.6) p. 35	In progress	p. 5-23 to 5-31, and sewer and water system Plans	In progress
Public service obligations	vi:C	In progress	See above	In progress
Impact on utility's system	CP (6)	In progress	See above	In progress
Design/system uniformity balance	CP (6)	In progress	See above	In progress
Policies?				
Joint transp/utility rights-of-way	CP (6)	In progress	See above	In progress
Road maintenance notification		In progress	See above	In progress
Utility permit/devel. proposal timing		In progress	See above	In progress
Consistent with regional plans?	vi:C	In progress	Pol. IM-11, Community Framework Plan, CWSP	CF: p. 6-29
Consistent with County (cities)?	vi:C	In progress	See above	CF: p. 6-27
Consistency w/ CWPPs?	In progress CP (6.8) p. 35	In progress	App. A	CWPP 6.1

Table 55. Conformance with Utilities Element Requirements of the Countywide Planning Policies

Requirement	La Center	Ridgefield	Vancouver	Clark County
Develop policies and incentives to:				
Eliminate private utilities (urban)?	vi:p.30-31	CP (10.3)		
septic systems	vi:p.30-31	(10.3)	Pol. PFS-21	CF: p. 6-6
private wells	vi:p.30-31	(10.3)	Pol. PFS-22	CF: p. 6-6
Encourage connection to public water & sewer?	vi:D	(10)	Policies PFS-21, 21	CF: p. 6-6
Extend sewer only with annexation (unless health hazard exists)?	vi:D:(11)	(10.1), (11.6)	Policies PFS-23, A-2	CF: p. 6-6
Extend utilities throughout urban areas?				
Public sewer	vi:D:(11)	CF Ch.3 p.14	Pol. PFS-21	CF: p. 6-6
"Adequate" public water system	vi:D:(11)	CF Ch.2 p.8	Pol. PFS-22	CF: p. 6-6
Adequate public water in rural areas (where appropriate?)	N/A		N/A	CF: p. 6-6
Limit wells in rural areas?	N/A	CF Ch.2 p.3	N/A	CF p. 6-6
Septic inspection/maintenance program?	vii:p.30-31	CP (10.10)	Ch. 5, p5-30, 5-31.	CF: p. 6-6
Proof of adequate water supply before development?	vi:D:(11)		Pol. PFS-2; VMC Ch. 14	CF: p. 6-6
Consistent with County (cities)?	vi:B	(10.3), (10.4)	Pol. IM-11, IM-12	CF: p. 6-27
Consistent with comp. & land use plans?	vi:B	CF Ch.1 p.2	Chapters 1, 5; Pol. PFS-1	CF: p. 6-6
Maximize efficiency & cost-effectiveness?	vi:B	(10.3)	p. 5-23 to 5-31, Coordinated Water System Plan	
Consensus on current & future services?		CP (10.9)	See above	

Table 56. Conformance with Capital Facilities Element Requirements of the GMA

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Inventory of public capital facilities?				
Location & capacity for existing:				
water system	vi:C:b	Appx., CF CF(2)	Ch. 5, p5-23 to 5-26. Fig. 5-7	CF p. 6-2
sanitary sewer	vi:C:a	Appx., CF CF (3)	Ch. 5, p5-27 to 5-31. Figures 5-8, 5-9.	CF: p. 6-6
stormwater	vi:C:c	Appx., CF CF (5)	Ch. 5, p5-32 to 5-34. Fig. 5-10	CF: p. 6-9
schools	vi:C:e	CF (8)	Ch. 5, p5-51 to 5-55. Fig. 5-16.	CF: p. 6-10, 6-12
parks & recreation	x:C	CF (6)	Ch. 5, p5-35 to 5-41. Fig. 5-12.	P: p. 6-11
police	vi:C:h	CF (7.1)	Ch. 5, p5-51 to 5-55. Fig. 5-15	CF: p. 6-13
fire	vi:C:g	CF (7.2)	Ch. 5, p5-46 to 5-49. Fig. 5-14	CF p. 6-11
Establish level of service standards?	vi:D	CF	Pol. PFS-2	CF: p. 6-1
Forecast of future needs?				
Proposed locations	vi:C	CF	Ch. 5	CF: p. 6-2, 6-9
Proposed capacity	vi:C	CF	Ch. 5	CF: p. 6-2, 6-9
Industrial areas outside UGA?	N/A		N/A	(part of Plan Update)
Financing, six-year plan?	vi:	CF	6-year CFP Project List	CF: p. 6-2, 6-9
Siting Essential Public Facilities?		CF	Pol. PFS-27	CF:E
Consistent with land use element?	iii:B	CF	Chapters 1, 5; Pol. PFS-1	CF: p. 6-17
Consistency w/ CWPPs?	CP (6.8) p. 35	CP (8,9)	App. A	CWPP 6.1 (-l)

Table 57. Conformance with Capital Facilities Element Requirements of the Countywide Planning Policies

Requirement	La Center	Ridgefield	Vancouver	Clark County
Establish level of service standards?				
Urban	vi:D	CF	Pol. PFS-27	CF: p. 6-2
Rural	N/A	N/A	N/A	CF: p. 6-2
Coordinated with land use plans?	iii:B	CP (11)	Policies PFS-1, PFS-9, CD-2	CF: p. 6-17
Location standards?				
Urban Growth Areas	CP (6.5) p.34	CF	Ch. 5, policies PFS-1, PFS-2	CF: p. 6-1
Urban Reserve Areas	N/A	CP (11.10)	N/A	CF: p. 6-1
Rural areas	N/A	N/A	N/A	CF: p. 6-1
Maximize efficiency & costs effectiveness?	vi:B	CF	Ch. 5, policies PFS-1, PFS-2	
Concurrent with GMA?	vi:D	CP (11.4 d) p.40	p. 5-4 to 5-6, VMC 11.95	CF: p. 6-1
Coordinated with County (cities)?		CP (11.4)		
Existing service	iii:B	CF	Policies IM-11, IM-12	CF: p. 6-5
Future service	iii:B	CF	Policies IM-11, IM-12	CF: p. 6-5
Range of services in urban area	vi	CF	Policies IM-11, IM-12	CF: p. 6-5
Implement adopted comp. plans	vi:C	CF	Pol. IM-4	
Process to reevaluate land use element if funds are insufficient?	vi:C:p.30, iii:B(5)		Pol. CD-13	
Impact fees?	iii:B	CF	VMC 20.97	
Financing?	vi:C:p.30	CF	Ch. 5, Table 5-2. 6-year CFP Project List	CF: p. 6-9
State/regional facilities plan?			Pol. PFS-27	
Future needs identified?	vi:C:p.30	CF	Ch. 5, Table 5-2	CF: p. 6-2

Table 58. Conformance with Transportation Elements Requirements of the GMA

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Land use assumptions identified?	T		Transportation System Plan (TSP); Appx. C	
Inventory of existing:				
Air transportation facilities?	N/A	N/A	TSP, Clark County Resource Document	T p. 3-12
Water transportation facilities?	N/A	T	See above	T p. 3-11
Land transportation facilities?	T	T	TSP; Ch. 5, Figures 5-1, 5-2, 5-3	T p. 3-4
Transit alignments?	T	T	Ch. 5, Fig. 5-6	T p. 3-6
Est. traffic impacts to state-owned facilities?		CF (4.5)	Metropolitan Transportation Plan (MTP); TSP; p5-10	CP update will provide
Maps?	T	T	Ch. 5, figures 5-1 to 5-5.	CP: Fig A-1 to A-4
Establish level of service standards?	T	(9.1)		T p. 3-10
Regional LOS for arterials	CF (5) table 2 p. 21	CF (4.3)	MTP; TSP; Table 5-3	Ch:12.41
Regional LOS for transit	CF (5) table 2 p. 21	CF (4.3)	See above	T:p3-8
Highways of state-wide significance	CF (5) table 2 p. 21	CF (4.3)	See above	*
Other state highways	CF (5) table 2 p. 21	CF (4.3)	See above	
Local streets	CF (5) table 2 p. 21	CF (4.3)	N/A	
System expansion & maintenance to be in compliance w/LOSs?	T	T	MTP; TSP; p5-9-520	T p. 3-7
Traffic forecast (min. 10 years)?	CF (5, C) p. 23-25	CF (4.4)		
Vehicular	T	Appx.	MTP; TSP, p5	T p. 3-7
Transit	T	Appx.	MTP; TSP, p5	T p. 3-7
Bicycle & pedestrian	CF (5) p.25	Appx.	MTP; TSP, p5	T p. 3-7
Existing & future needs?	T	CF (4.4)	TSP;Ch. 5, Tables 5-4. 5-5-5, 5-6, and 6-year CFP Project List	T 3-10, 3-26
Financing?	T	CF (4)		
Analysis (existing & projected)	6 yr. Road	6 yr. road	TSP; Ch. 5, Tables 5-4. 5-5-5, 5-6, and 6-year CFP Project List	T 3-24, 3-25
Multi-year financing plan?	6 yr. Road	6 yr. road	TSP; Ch. 5, Tables 5-4. 5-5-5, 5-6, and 6-year CFP Project List	T 3-24, 3-25
If funding shortfalls, additional funding sources identified?			TSP; p5-18, 5-19	T p. 3-26, CP Upate-T
Intergovernmental coordination & impact assessment?	T	(9.3)	TSP; Pol. PFS-14	
Demand management strategies?		(9.2)	TSP;Pol. PFS-12	T p. 3-4
Goals & policies?				
Roadways	T	(9)	Pol. PFS-4 to PFS-18	

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Transit (fixed-route & demand resp)	T	(9)	Pol. PFS-4 to PFS-18	
Bicycle & pedestrian	T	(9)	Pol. PFS-4 to PFS-18	
Port facilities (air, water, etc.)	N/A	CP (9.13) p. 35	P 5-16	
Rail (passenger & freight)	N/A	N/A	P 5-16	
Freight mobility (truck, barge, rail)	N/A		P 5-16	
Concurrency			Pol. PFS-2, VMC 11.95	T p. 3-1, 3-2
Consistent with land use element?	T	T	Pol. PFS-9	T p. 3-1
Consistent with regional transp plan?	T	(9.1)	Pol. PFS-14	T p. 3-1
Consistent with County (cities)?	T	(9.1)	Pol. PFS-14	T p. 3-1
Compliance with Clean Air Act?		CP (9.2g) p. 30	MTP; TSP	
Public involvement?	ii:B		TSP	

Table 59. Conformance with Transportation Element Requirements of the Countywide Policies

Requirement	La Center	Ridgefield	Vancouver	Clark County
Integrated/part of regional system?	T	(9.1)	TSP; Pol. PFS-14.	T
Coordinate with County, MPO & cities to establish consistent:				
Roadway standards	T	(9.1)	See above	T
Level of service standards	T	(9.1)	See above	T
Functional classifications	T	T	See above	T
Coordinated, multi-modal system?				
Roadways	T	(9.1)	TSP; Pol. PFS-5	T PG 3-2,3-3
Public transit routes	T	(9.1)	See above	T p. 3-6
Bicycle paths	T	(9.1)	See above	T p. 3-13
Pedestrian paths	T	(9.1)	See above	T p. 3-13
Carpools/HOV lanes	T	(9.1)	See above	T 3-4, 3-8
Other				
Coordinated with land use plan?				
Transit corridors	N/A	CP (9.1)	TSP; Policies CD-2, CD-4, PFS-9	T p. 3-6
Commercial nodes	N/A	CP (9.4a)	See above	T 3-21
Mixed land uses	N/A	CP (9.10)	See above	T p. 3-21
Development standards that support alternative transportation modes?	iv:C		TSP; Pol. PFS-5	Partnership Plan
Connections btw/ Urban/Rural Ctrs?	T	N/A	TSP: Pol. CD-4	
Major inter-modal transp corridors?	N/A	N/A	TSP	
Transportation demand mgmnt.		(9.2)	TSP; Pol. PFS-12	T p. 3-4
Assess & minimize impacts?		(9.3)		
Environmental		CP (9.2)	TSP; Pol. PFS-16	
Financial		CP (9.2c) p.30	TSP; Pol. PFS-12	
Social	CP (5.9)	CP (9.12)	TSP; Pol. PFS-6	
Park-and-ride facilities?	v:D	(9.8)		
Regional corridors		CP (9.1)	TSP	
Rural centers	N/A	N/A	N/A	
Consistent w/ state/federal legisltn.?	pp.2-3		TSP; Pol. PFS-14	

Table 60. Conformance with Critical Areas Requirements of the GMA

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Critical Areas identified?				
Wetlands	Plan Map	Plan Map	Fig. 4-1, VMC 20.50	Fig. 3
Aquifer recharge areas	Plan Map	Plan Map	Fig. 4-1,VMC 14.26	Fig. 6
Fish & wildlife conservation areas	N/A	N/A	Fig. 4-1, VMC 20.59.900. New habitat ordinance pending	Fig. 2
Flood hazard areas				
100-year	Plan Map	Plan Map	Fig. 4-1, VMC 20.51	Fig. 5
500-year	N/A	N/A	N/A	
Geological hazards				
steep slopes	Plan Map	Plan Map	Fig. 4-2, VMC 20.52	Fig. 7, 8
landslides	Plan Map	Plan Map	Same	Fig. 7, 8
earthquakes	Plan Map	Plan Map	Same	Fig. 7, 8
volcanoes	N/A	N/A	N/A	
erosion	Plan Map	Plan Map	Fig. 4-2, VMC 14.24	Fig. 7, 8
Open space corridors identified?	CF (9) p. 41-42	CF (6)	Additional mapping pending	P
Best available science policies?			Pending. Habitat ordinance in subcommittee review	
Measures to protect anadromous fisheries?			Policies EN-5, EN-7. Development regulations pending	
Policies to protect?				Goal 2-2; Pol. 2.2-1 to 2-2.3
Wetlands	iv:C	(7.2)	Policies EN-5, EN-7, VMC 20.50	Goal 2-1
Aquifer recharge areas	iv:C	Map	Pol. EN-7, VMC 14.26	Goal 2-1
Habitat conservation areas	iv:C	N/A	Pol. EN-5, VMC 20.59. New habitat ordinance pending	Goal 2-1
Flood hazard areas	iv:C	Map	Policies EN-7, EN-10, VMC 20.51	Goal 2-9
Geological hazards	iv:C	(8.2)	Pol. EN-10, VMC 20.52	Goal 2-9
Consistency w/ CWPPs?			Appx. A	

Table 61. Conformance with the Critical Areas Requirements of the Countywide Planning Policies

Requirement	La Center	Ridgefield	Vancouver	Clark County
Countywide Policies				
Critical areas identified?		Plan map	Figures 4-1, 4-2 and VMC 20.50-.52, 20.55, 20.59, 14.24, 14.26	Fig. 1
Protection policies?	iv:C,vi:D	(7)	Same	LU: p. 2-8
Acquisition program?	x:	(7.3)	Pol. PFS-28, VMC 20.55, parks acq. prog.	
Framework Plan Policies				
Critical areas as open space?	iv:C, ix:E	(7.1)	Pol. PFS-28	LU:p 2-6
Continuous system of open space?	x:	(7)	Policies PFS-29, EN-5	
Ensure new development protects?	iv:C		Pol. EN-1, VMC VMC 20.50-.52, 20.55, 20.59, 14.24, 14.26, and title 21	FWP p. 1-14
Maximize protection/minimize cost?			Policies EN-1, EN-5	
Consistent wetlands definitions?	iv:C		VMC 20.50	LU p. 2-6
Aquifer recharge area protection?	iv:C		Pol. EN-7, VMC 14.26	LU p. 2-7
Revise dev. code for sensitive lands?			Pol. IM-4	
Ground/surface water quality protection?	iv:C, vi:D		Pol. EN-7, VMC 14.26	LU:p. 2-1, 2-2
Habitat preservation programs and policies?	iv:C		Pol. EN-5, VMC 20.59. New habitat ordinance pending	LU:p.2-6

Table 62. Conformance with Rural Element Requirements of the GMA

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Identify rural lands?	N/A	N/A	N/A	RRL: p. 4-2
Identify future population permitted to live/work on rural lands?	N/A	N/A	N/A	RRL: p. 4-3
Adopt development policies?				
Types of uses permitted	N/A	N/A	N/A	RRL: p. 4-9
Variety of development densities:				
residential	N/A	N/A	N/A	H: 2.2.2
commercial	N/A	N/A	N/A	RRL: p. 4-4
industrial	N/A	N/A	N/A	RRL p. 4-4
Define rural gov't services	N/A	N/A	N/A	RRL p. 4-1
Appropriate buffers for land of long-term comm'l significance:	N/A	N/A	N/A	
agricultural	N/A	N/A	N/A	RRL: p. 4-4, 4-5-,4-6
forest	N/A	N/A	N/A	RRL p. 4-5
mineral resource	N/A	N/A	N/A	RRL: p. 4-5
Development at UGA boundary	N/A	N/A	N/A	
Policies to preserve rural character?				
Critical areas	N/A	N/A	N/A	RRL:p. 4-4
Agric, forest, & mineral res. uses	N/A	N/A	N/A	RRL p. 4-5
Recreation	N/A	N/A	N/A	Goal 4.1
Scenic resource acquisition	N/A	N/A	N/A	Pol. 4.3.9
Environmental protection	N/A	N/A	N/A	RRL: p. 4-18
Consistency w/ CWPPs?				RRL:E Goal 4.1

Table 63. Conformance with Rural Element Requirements of the Countywide Planning Policies

Requirement	La Center	Ridgefield	Vancouver	Clark County
Identify land for existing rural development?	N/A	N/A	N/A	
For future rural development?	N/A	N/A	N/A	RRL: p. 4-13
Recreational uses?	N/A	N/A	N/A	
Preserve open space	N/A	N/A	N/A	RRL: p. 4-4
Environmentally sensitive	N/A	N/A	N/A	RRL: p. 4-4
Comm'l development in rural centers?	N/A	N/A	N/A	RRL: p. 4-4
Large minimum lot sizes (residential)?	N/A	N/A	N/A	RRL: p. 4-3
TDR or similar program?	N/A	N/A	N/A	RRL p. 4-18
Master-planned resort criteria?	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
Self-contained sanitary sewer	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
Adequate public water	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
Preserve scenic/cultural resources	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
Focus on short-term visitors	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
Full range of recreational amenities	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
No adverse impact to resource land	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
Preserve sensitive lands	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
Nearby employee housing	N/A	N/A	N/A	RRL: Pol. 4.1.4, p. 4-2
Comply w/ development standards	N/A	N/A	N/A	RRL Pol. 4.1.4, p. 4-2
Cluster new development w/i resort or designated rural center?	N/A	N/A	N/A	RRL Pol. 4.1.4
Affordable housing?	N/A	N/A	N/A	H p. 5-16

Table 64. Conformance with Resource Lands Element Requirements of the GMA

GMA Requirement	La Center	Ridgefield	Vancouver	Clark County
Designate natural resource lands of long-term commercial significance?				
Agricultural	N/A	N/A	N/A	RRL: p. 4-6
Forest	N/A	N/A	N/A	RRL: p. 4-5
Mineral resource	N/A	N/A	N/A	RRL: p. 4-7
Use of new information from DNR?	N/A	N/A		CP Update
Meet min. state criteria for designating resource lands?	N/A	N/A		CP Update
Encourage conservation of forest & agricultural lands?	N/A	N/A		
Development regulations to assure conservation?	N/A	N/A	N/A	RRL: p. 4-6
Discourage incompatible uses?	N/A	N/A		RRL:E:Goal 4.5
Review previous designations?	N/A	N/A		
Consistent with comp. plans	N/A	N/A	N/A	RRL: p. 4-2
Compatible with adjacent lands?	N/A	N/A		
agriculture	N/A	N/A	N/A	RRL: p. 4-6
forest	N/A	N/A	N/A	RRL: p. 4-5
mineral resources	N/A	N/A	N/A	RRL: p. 4-5
No designation within UGA without transfer/purchase of development rights program?	N/A	N/A	N/A	N/A

Table 65. Conformance with Resource Lands Element Requirements of the Countywide Planning Policies

Requirement	La Center	Ridgefield	Vancouver	Clark County
Policies to preserve/protect resources?				
Agricultural (WAC 365-190-050)				
WAC 365-190-050 currently used or designated	N/A	N/A	N/A	
Forest (WAC 365-190-060)				
WAC 365-190-060 currently used or designated	N/A	N/A	N/A	
Encourage conservation & protect large parcels w/ prime agricultural soils?	N/A	N/A	N/A	RRL: p. 4-6, 4-16
Standards for compatible land uses?				
Agricultural	N/A	N/A	N/A	RRL: p. 4-6
Forest	N/A	N/A	N/A	RRL: p. 4-5
Mineral resource	N/A	N/A	N/A	RRL p. 4-5
Review cluster resid. development?	N/A	N/A	N/A	
Programs/incentives for property owners?	N/A	N/A	N/A	RRL: p. 4-18, Pol. 4.1.15
Best management practices				
Agricultural operations	N/A	N/A	N/A	RRL: p. 4-6, 4-11
Forest operations	N/A	N/A	N/A	RRL: p. 4-6, 4-11
Mineral operations	N/A	N/A	N/A	RRL: p. 4-6, 4-11
Buffers between resource lands and urban & rural uses?	N/A	N/A	N/A	RRL Pol. 4.3.6, 4.3.11
Right-to-farm/harvest ordinances?	N/A	N/A	N/A	RRL p. 4-18, 4-19
Conversion not justified by available utilities/public facilities?	N/A	N/A	N/A	

1. Consistency of the Alternatives with Plan Policies

The GMA conformance tables in the previous section and in the DEIS identify the measures that each jurisdiction has or proposes to have in their plans and ordinances to address the requirements of GMA and the Countywide Planning Policies. However, those tables do not address how the alternatives with their proposed UGA expansions affect or are consistent with Countywide Planning Policies and local comprehensive plan policies. Not all policies are affected or need to be discussed, but as part of the decision-making process to select a growth plan, it is important to understand how the alternatives relate to policies for expanding the UGAs. In addition, because GMA requires communities to be able to fund the infrastructure for the land uses proposed over the life of the comprehensive plan, how the UGA expansions affect policies for transportation is also important. Inconsistencies with applicable policies raise policy implications; that is, what changes need to be made to either the final growth management plan for the County and its cities, or to policies and ordinances to fix the disconnection.

a. Relationship of the Alternatives to Countywide Planning Policies for UGA Expansion

Below are the Countywide Planning Policies that relate to UGA expansions (proposed language that is part of the County's comprehensive plan update is <u>underlined</u>). A brief discussion of how the Proposed Alternative is consistent with a policy or group of related policies is provided.

1.1 Countywide Planning Policies

a. The County, municipalities and special districts will work together to establish urban growth areas within which urban growth shall be encouraged and outside of which growth may occur only if it is not urban in nature. Each municipality within the County shall be included within an urban growth area. An urban growth area may include territory located outside of a city if such territory is characterized by urban growth or is adjacent to areas characterized by urban growth.

The County, the cities, and the special districts have collaborated in the growth management plan update process. The Proposed Alternative chosen by the County incorporates many of the geographic areas presented by the cities in Alternative 4 for accommodating future urban growth, such as areas proposed by La Center, Battle Ground, Camas, and Vancouver. However, in some cases, more land than requested by the cities was added to UGAs. In the case of Vancouver, these are significantly large to impact the City's planned public improvements and funding. In addition, although a collaborative process has been followed since the beginning of the update, recently the population and jobs planned to be accommodated in some cities' plans appear to differ from the numbers developed by the County for those UGAs. As long as the County's and cities' growth plans resolve this discrepancy, the Proposed Alternative would be fully consistent with this policy. If not, the plans would be inconsistent.

Under the Proposed Alternative all municipalities are included within UGAs. Many of the new areas proposed for inclusion in UGAs are not now characterized by urban growth but as they are contiguous with existing UGAs, would be adjacent to areas characterized by urban growth in the future.

b. Urban growth areas shall include areas and densities sufficient to permit the urban growth that is projected to occur in the County for the succeeding 20-year period.

All alternatives are consistent with this policy.

c. Urban growth shall be located primarily in areas already characterized by urban growth that have existing public facility and service capacities to adequately serve such development, and second in areas already characterized by urban growth that will be served by a

combination of both existing public facilities and services that are provided by either public or private sources. Urban governmental services shall be provided in urban areas. These services may also be provided in rural areas, but only at levels appropriate to serve rural development.

Urban governmental services include those services historically and typically delivered by cities, and include storm and sanitary sewer systems, domestic water systems, street cleaning services, fire and police protection, public transit services, and other public utilities not normally associated with non-urban areas.

No alternatives propose expanding urban levels of service to areas outside proposed expansion areas. All alternatives propose to eventually provide urban services to the expanded and/or existing UGAs; however, compliance of the alternatives with concurrency requirements for public facilities is dependent on the timing and costs of providing those services. Only Alternative 3 would not expand the UGA and thus the area that would have to be provided urban services. Since costs for capital facilities and public services are expected to exceed projected revenues over the next 20 years, the more costly alternatives are less in conformance with this policy than the least costly alternatives. The public facilities and utilities section of this FEIS presents an analysis of the providers' ability to serve the planned growth. The water and sewer providers have not indicated any deficiencies in funding to provide services under the Proposed Alternative. Based on revenue forecasts for Clark County supplied by the Department of Community Development, the County's portion of these costs is reasonably fundable.

d. An urban growth area may include more than a single city.

Not applicable.

e. Urban growth is defined as growth that makes intensive use of land for the location of buildings, structures, and impermeable surfaces to such a degree as to be incompatible with the primary use of such land for the production of food, other agricultural products, fiber, or the extraction of mineral resources.

Conversion of resource lands under each alternative is addressed in the Resource Lands section of the DEIS. The Proposed Alternative would convert approximately 2,900 acres of resource land to urban land. All comprehensive plans have policies to protect resource lands from incompatible uses. The plans are consistent with this policy.

f. The County and cities shall review, at least every seven (7) years, their designated urban growth area or areas in compliance with RCW 36.70A.215. The purpose of the review and evaluation program shall be to determine whether Clark County and its cities are achieving urban densities within Urban Growth Areas. This shall be accomplished by comparing the growth and development assumptions, targets and objectives contained in these policies (and in county and city comprehensive plans) with actual growth and development that has occurred.

1. Each municipality within Clark County shall annually provide to the County parcel specific information on land developed or permitted for building and development in three categories: residential, commercial, and industrial. The County and municipalities shall follow the guidelines specified in the Plan Monitoring Procedures Report for the collection, monitoring, and analysis of development activity and potential residential/employment capacity.

2. Clark County, in cooperation with the municipalities, shall prepare a Buildable Lands Capacity Report every five years, with the first report completed by September 2002. The

report will detail growth, development, capacity, needs, and consistency between comprehensive plan goals and actual densities for Clark County and the municipalities within it.

3. The County and municipalities shall use the results of the Buildable Lands Capacity Report to determine the most appropriate means to address inconsistencies between land capacity and needs. In addressing these inconsistencies, the County and municipalities shall identify reasonable measures, other than adjusting urban growth areas, that will be taken to comply with the requirements of RCW 36.70A.215.

The *Clark County Buildable Lands Report* was developed by the County in 2001 and 2002. The report showed inconsistencies between assumptions in the 1994 growth management plans and experience of development between 1995 and 2000. Each of the alternatives evaluated in the DEIS, as well as the Proposed Alternative, is based on one or more assumptions that are not consistent with the results of the Buildable Lands Report 2001. The Proposed Alternative would provide excess land capacity to accommodate forecast growth in population and jobs to 2023 as a result of using lower average housing and employment densities and as a result of including a market cushion. Only Alternative 3 proposes to accommodate growth by measures other than expanding the UGAs and is consistent with the plan monitoring analysis results.

g. Population projections used for designating urban growth areas will be based upon information provided by the Office of Financial Management and appropriate bi-state/regional sources.

The population projection used in the Proposed Alternative falls within the range provided by the OFM.

h. Interagency Cooperation

The County and each municipality will work together to:

1) establish Partnership Planning Subcommittees to develop an ongoing coordination program within the urban growth area;
2) provide opportunities for each jurisdiction to participate, review and comment on the proposed plans and implementing regulations of the other;
3) coordinate activities as they relate to the urban growth area;
4) coordinate activities with all special districts;
5) seek opportunities for joint efforts, or the combining of operations, to achieve greater efficiency and effectiveness in service provision; and,
6) conduct joint hearings within the urban growth areas to consider adoption of Comprehensive Plans in the Partnership Planning Process.

These policies are unaffected by the Proposed Alternative. Please see section XIX for a description of regional coordination efforts. The Proposed Alternative is not consistent with the UGA proposals of the cities of Battle Ground, Vancouver, and Ridgefield. A heightened level of coordination will be needed to resolve issues related to urban service provision and management of unincorporated areas as a result.

i. Coordination of land use planning and development

1) The County and each municipality shall cooperatively prepare land use and transportation plans and consistent development guidelines for the urban area.
2) Comprehensive Plans must be coordinated. The comprehensive plan of each county or city shall be coordinated with, and consistent with, the comprehensive plans adopted by other counties or cities with which the County or city has, in part, common borders or related regional issues (ESHB 2929; Section 10). The

city and the County shall play partnership roles in the production of plans which provide the opportunity for public and mutual participation, review and comment.

3) Urban development shall be limited to areas designated by the urban growth boundary.

4) Salmonids cannot distinguish between urban and rural boundaries, therefore resource protection and ESA concerns should be applied similarly in both urban and rural area settings.

As noted above, although the County and its cities have cooperated during the update process, recently the population and jobs planned to be accommodated in some cities' plans differ from the numbers developed by the County for those UGAs. This issue must be resolved if the growth plans are to be considered consistent with state regulations, and compliant with the GMA. As long as the County's and cities' growth plans do not resolve this discrepancy, the Proposed Alternative would not be consistent with this policy. The County and cities are pursuing a regional salmon recovery process to address ESA concerns.

b. Relationship of the Alternatives to Transportation Policies

The following summarizes how the Proposed Alternative responds to transportation policies in the comprehensive plan for Clark County.

Policies of the Transportation Element are intended to:

- improve mobility with a focus on people and goods, instead of automobiles;
- limit roadway widening (especially in neighborhoods that are bisected by the arterial network);
- improve the pedestrian and bicycle non-motorized network;
- improve pedestrian and bike safety and mobility ;
- establish funding priorities with respect to preservation, maintenance, mobility, and safety of transportation facilities;
- enhance access controls on the arterial system in order to improve mobility and safety;
- improve the coordination and working partnerships with other jurisdictions; and,
- enhance circulation and cross-circulation opportunities to reduce congestion on the arterial system.

Clark County: Countywide Planning Policies include the following:

Improve mobility with a focus on people and goods, instead of automobiles

Reducing reliance on single occupancy vehicle (SOV) transportation through a balanced transportation system

The Proposed Alternative achieves a medium level of transit and non-motorized mode shares as compared to land use alternatives considered during the DEIS. Many of the new areas of urban development are outside of existing transit, walk, and bicycle accessibility.

The Proposed Alternative would be more consistent with this goal if area- and site-specific transit and pedestrian-oriented development standards, along with support to extend C-TRAN's coverage, were implemented.

Limit roadway widening (especially in neighborhoods that are bisected by the arterial network)

The Proposed Alternative limits the amount of arterial widening in the more highly developed areas in the Vancouver UGA. Roads such as 18th Street, Main Street, Burton Road, SR-503, Mill Plain, and Fourth Plain are all retained at their existing cross sections. Traffic congestion will be higher on these routes in the future, affecting economic development approvals under current Concurrency standards. Multimodal mitigation strategies, and multimodal or multi-hour level-of-service standards, should be considered on these corridors. The Proposed Alternative is consistent with this policy.

Improve the pedestrian and bicycle non-motorized network AND improve pedestrian and bike safety and mobility

Arterial standards and projects in all UGAs consists of on-street bike lanes, separated sidewalks, and interlinking bicycle and pedestrian facilities. To be fully consistent with these policies, the respective Capital Facilities Plans and Transportation Improvement Programs should identify bicycle and pedestrian safety and mobility projects as funding priorities.

Establish funding priorities with respect to preservation, maintenance, mobility, and safety of transportation facilities

The respective capital facilities plans and transportation improvement programs should establish this policy as funding priorities to be consistent with this goal.

Enhance access controls on the arterial system in order to improve mobility and safety

Access management is a proposed mitigation strategy on several facilities where additional road capacity is not a mitigation measure. Key locations where access management is specifically mentioned in the FEIS are: SR-502, SR-503, Mill Plain Boulevard, and 162nd/164th Avenue.

Coordinated planning of regional and bi-state transportation facilities in the context of air, land, and water resources

The transit and non-motorized mode share is mid-range when compared to DEIS land use alternatives, while the vehicle miles traveled is higher than all but one of the DEIS alternatives. The Proposed Alternative implementation should strongly partner with the I-5 Trade and Transportation Partnership study, C-TRAN and implementation of its 20-year Transit Development Plan, and other multimodal transportation policies in the Plan to be consistent with this policy.

Improve the coordination and working partnerships with other jurisdictions

Regional assessment of impacts of regional transportation facilities to maximize the benefits to the region and local communities

The preparation of the Proposed Alternative and the regional transportation planning coordination through that process and the Regional Transportation Council will continue. The Proposed Alternative is consistent with this policy.

Enhance circulation and cross-circulation opportunities to reduce congestion on the arterial system

There are several locations where local circulation and cross-circulation is called for in the FEIS and the Proposed Alternative to reduce the need to widen arterial facilities. Key locations include: the Washington State University area (expanded UGA), Ridgefield UGA, and a new collector facility adjacent to SR-500 between SR-503 and 137th Avenue. The Proposed Alternative is consistent with this policy.

Implementation of Transportation System Management (TSM) strategies to optimize the efficiency of the current system

The Proposed Alternative serves to increase use of the system by attracting trips in the non-peak direction of travel, and proposed multimodal and TSM strategies as a mitigation tool on several corridors in lieu of road widening. The Proposed Alternative is consistent with this Policy.

Implementation of Transportation Demand Management (TDM) strategies to reduce trip demand on the current system

TDM strategies can be implemented under the Proposed Alternative.

Consider development of transportation corridors for high capacity transit and adjacent land uses that support such facilities.

To be consistent with this policy, the Proposed Alternative should include transit-oriented development standards for the new urban areas, as well as foster the development of high capacity transit along I-5 and I-205.

Vancouver UGA. The Vancouver Comprehensive Plan and Mobility Management Element contain a wide variety of transportation policies and implementation measures. Rather than restate each and every policy and implementation measure, they will be grouped into general topic areas and the impacts of land use alternatives on these topic areas will be discussed.

Land Use Patterns: Promote land use patterns and site development practices which encourage multimodal (especially non-vehicular) transportation to work sites and for trips within the UGA, reduction in trip length and the number of vehicle trips made, and system efficiencies via TSM and TDM. Adopt LOS standards that encourage growth in urban centers and corridors as well as a multimodal transportation system. Coordinate parking standards to maintain neighborhood integrity, shared uses, and encourage economic development.

The Proposed Alternative serves to expand Vancouver's UGA and significantly expand Battle Ground's UGA. These expansion areas are not currently served by fixed route transit service and have little or no pedestrian and bicycle infrastructure. Specific development standards and zoning need to be developed to promote a multimodal transportation system, especially transit- and pedestrian-oriented development standards. LOS standards would likely need to be lowered or converted to a multi-hour standard for major routes, such as state highways, Mill Plain, Burton Road, and Fourth Plain.

Station area planning in a light rail scenario would be required to adequately promote efficient and shared parking facilities so as to encourage transit, walking, and bicycling while at the same time ensuring that commercial and office site parking does not infiltrate into adjacent neighborhoods. Both alternatives are consistent with this policy.

Multimodal Transportation System: provide for a multimodal and efficient transportation system which provides reasonable alternatives to automobile travel and roadway expansion. Continue efforts to construct a High Capacity Transit system within the Vancouver UGA. Discourage

future transportation projects that will result in a significant increase in carrying capacity for single occupant vehicles. Give priority to inter-jurisdictional, multi-modal projects.

The Proposed Alternative provides for new employment centers with the Vancouver UGA as well as in other areas in the county. Since these employment centers are not within current transit service areas, and are somewhat remote for bicycle and pedestrian access from residential centers, the transit and non-vehicular mode shares under these alternatives is low. They do, however, serve to encourage traffic flow in the non-peak direction of travel, thus using existing roadway capacity and serving to increase the efficiency of the system. C-TRAN may find that extending fixed route service to serve these employment centers is financially viable, if employment centers are developed with transit- and pedestrian-oriented site designs.

These alternatives are somewhat consistent with the City's multimodal transportation policy, but would require implementation measures to ensure full consistency with this policy.

Intercity Transportation: Support federal, state, and local programs to expand the level of air, water, and rail transport service to and from the region.

The policy regarding air, water, and rail transport relates to intercity transportation of people and goods, rather than movement within Clark County. The Proposed Alternative is not inconsistent with this policy. Intermodal connections within Clark County may affect intercity transportation, however. For example, all land use alternatives add congestion to the state highway and regional transportation system within Clark County, which in turn affects the mobility of freight movement into and out of land, water, and air ports. Additionally, bus connections to the Amtrak passenger rail station in Vancouver is affected by congestion on the regional roadway system.

Access and Livability: Maintain and enhance the quality of existing roadways. Provide safe, attractive pedestrian facilities adjacent to arterials and streets within residential neighborhoods. Promote safe and secure terminal facilities for bicyclists, pedestrians, and transit users in activity centers and transit corridors. Ensure that the transportation needs of the physically challenged are met.

Regarding pedestrian and bicycle facilities, the Proposed Alternative all would be consistent with this policy provided that transportation improvement projects all include pedestrian and bicycle facilities and that these projects be given priority. The Proposed Alternative has higher congestion levels on regional facilities than DEIS land use alternatives which did not expand the Vancouver UGA. Mitigating for this congestion may result in roadway capacity projects outside of the Vancouver UGA competing with multimodal transportation improvements within the Vancouver UGA.

Regarding meeting the needs of the physically challenged, the city has adopted ADA-compliant design standards for new roadways as well as roadway reconstruction; thus, all alternatives are consistent with this policy.

Coordination: Ensure participation in the Vancouver/Portland area programs and planning efforts. Promote interagency coordination and multimodal systems.

The city currently participates in the Bi-State Transportation Committee, the I-5 Trade and Transportation Partnership Study, and other RTC and Metro efforts, to ensure regional coordination.

At issue is whether the Proposed Alternative is consistent with bi-state and metropolitan planning goals and policies. These policies, which are moving forward with a proposed Bi-State Land Use accord that focuses on protecting the integrity of I-5 as a regional, bi-state, and Interstate transportation corridor,

serve to encourage land use actions which encourage non-SOV mode use and preserve traffic operations on I-5 and I-205.

The Proposed Alternative provides for new employment centers within the Vancouver UGA as well as in other areas in the county. Since these employment centers are not within current transit service areas, and are somewhat remote for bicycle and pedestrian access from residential centers, the transit and non-vehicular mode shares under this alternative is low. To ensure consistency with this policy, strong coordination between the I-5 Trade and Transportation Partnership study, with C-TRAN and their 20-year plan, and with multimodal project funding is necessary.

Financing: pursue all available funding and encourage multimodal transportation projects.

The Proposed Alternative lends itself to more auto-oriented mitigation than for DEIS Alternatives 3 and 3A, but also may present opportunities for public-private partnerships for transportation improvements, especially in the Discovery Corridor, which may help leverage federal and state funding. Additionally, the Proposed Alternative may lend itself to transit projects and service which serve outlying employment centers, provided that new employment sites be transit-oriented in layout and along the same corridor and that the communities work with C-TRAN to establish and fund this new service. The Proposed Alternative is consistent with this policy.

Ridgefield.

Coordinate with Clark County to develop and implement transportation programs which reduce reliance on the SOV, encourage energy efficiency, recognize financial constraints, minimize neighborhood impacts, minimize environmental impacts, and implement TDM programs.

The Proposed Alternative achieves a medium level of transit and non-motorized mode shares as compared to land use alternatives considered during the DEIS. Many of the new areas of urban development are outside of existing transit, walk, and bicycle accessibility.

The Proposed Alternative would be more consistent with this goal if area- and site-specific transit and pedestrian-oriented development standards, along with support to extend C-TRAN's coverage, were implemented, especially at Ridgefield Junction.

Level-of-service: generally provide LOS C and D on city arterials, except for unsignalized urban arterials, which are allowed LOS E where they do not meet signal warrants.

Ridgefield should be able to maintain LOS D on most of its city arterials under all the Proposed Alternative, with the draft Ridgefield CFP in place.

Coordinate with C-TRAN in providing service, stops, and park-and-ride facilities.

C-TRAN no longer commuter service between the Ridgefield Park-and-Ride facility and the Salmon Creek Park-and-Ride. The Ridgefield park-and-ride facility is located in the NE quadrant of the I-5 interchange. The limited nature of the roadways serving the facility and the current lack of housing and employment near the facility do not allow for convenient and safe walking or bicycling access. At this time there are no plans for transportation improvements or new transit service. This current and at least short-term future situation is inconsistent with the City's goal.

The Proposed Alternative provides for urban-scale development at the Ridgefield/I-5 junction. With development at the junction, it would be likely that the existing park-and-ride facility could be enhanced to better serve both Ridgefield resident commuters as well as those commuting to jobs at the Junction.

Additionally, if the Ridgefield junction development density and site layouts are implemented so as to be transit- and pedestrian-oriented and have incentives or requirements for employer-based carpooling and vanpooling programs, C-TRAN may find that extending fixed route service to serve the Junction as well as continuing to and from the town core may be financially viable, especially coupled with service along the I-5 north corridor serving the Discovery Corridor and La Center Junction employment centers. The Proposed Alternative is consistent with this goal.

Minimize neighborhood congestion and encourage safety

This goal contains several policies including improved traffic safety, protection against neighborhood cut-through traffic, and development of attractive streetscapes. If Camas dedicates funding for a Neighborhood Traffic program, all land use alternatives would be consistent with this goal.

The Proposed Alternative provides for industrial and commercial development at Ridgefield Junction. Typically, traffic calming is not implemented within areas with these land uses, except where desired by the developer as part of site design. There will be little need for Ridgefield to extend a neighborhood traffic program to the Junction. If housing is built near the interchange and is served by public streets, the City should extend a neighborhood traffic program to the Junction. The Proposed Alternative is consistent with this goal.

C. Concurrency

1. Setting

The GMA requires all local jurisdictions "to 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."

Clark County and each of the cities has established concurrency requirements for water, sewer, and transportation. The following section looks at how each of the alternatives under consideration would impact concurrency management for water, sewer, and transportation facilities. For an expanded discussion of concurrency, refer to the corresponding section of the DEIS.

2. Impacts

The Proposed Alternative would see a less extensive expansion of UGAs than under the other action alternatives, and most growth would occur around Vancouver and Battle Ground. Some of this growth would occur in areas designated as urban reserve areas, and water and sanitary sewer service providers have included eventual urbanization of some of this area in their planning to date; therefore, meeting concurrency requirements for water and sewer under this alternative would likely be less difficult than under other alternatives in certain areas. In addition, some of the areas are outside current water and sewer service boundaries and agreements would be needed between providers to serve them. Battle Ground will likely need to negotiate an agreement with either the City of Vancouver or CPU for additional water supply to serve growth to 2023.

The Proposed Alternative would involve the extension of water transmission lines and sewer mains to portions of new UGAs, so its costs would likely be greater than those associated with Alternative 3, which relies largely on the capacity of existing facilities.

The Proposed Alternative has the second highest number of congested lane miles, delays, and LOS E/F. Only Alternative 1 involves greater congestion and delays. The Proposed Alternative also has the second highest average trip length for both work and non-work trips of any of the alternatives. Similar to

Alternative 1, major north-south corridors that would be congested (LOS E/F) include I-5 and I-205, from 134th Street to the Columbia River, and SR-503, from 119th to SR-500. As with Alternative 1, meeting current concurrency requirements for transportation under the Proposed Alternative would present significant challenges in some areas. Maintaining transportation service levels similar to LOS D would require more expensive mitigation in the form of transportation system improvements than under all other alternatives.

3. Mitigation Measures

Mitigation measures to help implement concurrency management programs are presented in the corresponding section of the DEIS.

To help implement concurrency management programs, local jurisdictions should consider the following measures:

- Revise the proposed UGA to reduce the area requiring service extensions.
- Establish LOS standards for all public facilities and services that the jurisdiction has designated to meet concurrency requirements.
- Establish procedures and criteria for the permitting process to evaluate the impact of new development on the levels of service of public facilities and services.
- Design public facilities that are efficient, cost-effective, and appropriate to the area.

D. Fiscal Impacts

The GMA requires CWPPs to include an analysis of fiscal impact (RCW 36.70A.210(3)(h)). As noted in the SEIS for the 1994 comprehensive plans for the County and local cities, the statutory requirement is brief and general. Subsequent conclusions by the Central Puget Sound Growth Management Hearings Board appeared to establish minimum requirements for fiscal analysis that included an assessment by local jurisdictions of anticipated costs versus revenues based on designated UGAs. There does not appear to be criteria for determining whether a particular assessment is adequate.

In the past Clark County has dispersed its capital improvements expenditures throughout the county providing partial solutions to many areas, but not complete solutions to priority areas. It is clear that existing revenue streams are not sufficient to keep up with demands for public services and facilities. Transportation concurrency policy has led to denial of projects in some corridors; park development is not keeping up with population and employment growth for maintenance.

As a part of updating the comprehensive plan and planning for a better balance of jobs to population, the County investigated a more strategic approach to investment of public funds to better prioritize funding for capital improvements. The goal is to obtain “fully-served” land where all public facilities meet or exceed standards in areas planned for employment development. Experience shows that the market responds well to “shovel ready” sites at which development can begin as soon as plans and approvals are completed. Consequently, a very focused analysis was conducted to first identify potential investment areas (the FPIAs) and then develop conceptual plans and cost estimates for making them ready to build (recognizing that full build-out of all the areas will take many years and elected officials will determine the timing for improvements).

The results of estimating the costs of water, sewer, and transportation improvements for serving the UGAs proposed under each alternative were presented in the capital facilities sections of the DEIS and this FEIS. The following sections discuss the potential fiscal impacts of water, sewer, and transportation improvements based on the proposed alternatives.

1. Fiscal Impacts of Water and Sewer Improvements

Unlike transportation systems, water and sewer costs are largely funded by business and residential development incrementally extending lines and paying meter fees and other system development ("hook-up") charges. Plans for new transmission and/or treatment facilities are based on planned land uses and funded through a number of mechanisms, including bonds. Debt used to fund improvements is paid back through future user fees. This system of paying for major improvements up front and recovering the costs later is necessary because the improvements need to be in place before development can occur and because of the long lead time needed to build the major improvements.

A review of the comprehensive planning documents for the various water and sewer utilities and discussions with staff in each show that some water and sewer providers have recently built water supply and sewage treatment plants in response to the growth forecasts of the 1994 comprehensive plans and are now awaiting the connections that will recoup the cost of these investments. Consequently, utility providers may have more difficulty recovering costs to the extent that the proposed land use pattern under each alternative is less than the pattern proposed in the 1994 comprehensive plans. The Proposed Alternative does not present growth rates or locations that are inconsistent with planning that has been done by the major sewer and water providers that will be responsible for accommodating the majority of the growth: Clark County, HDSD, City of Vancouver and Clark Public Utilities. Timing, location, and types of uses proposed all factor into the ability of the providers to bond, construct, and recover the costs for improvements not currently planned. Planning and funding sources for infrastructure improvements are contained in the respective comprehensive plans for each provider. These plans will need to be updated to take into account the adopted growth alternative.

The County is currently planning for the next expansion of the SCWTP to be completed by 2008 and providing a peak month capacity of 16.0 mgd. These improvements will be primarily financed by the sale of revenue bonds, with payment on the bond to be backed by the HDSD and the City of Battle Ground. The method of repayment will be collected from both existing and new customers. The new capacity will primarily be financed by the Regional Facilities Charge collected from all new connections to the sewer systems by Hazel Dell and Battle Ground. Some portion of the cost will be borne by existing customers through the monthly sewer fees charged by Hazel Dell and Battle Ground.

Over the long-term, CPU systems charges are planned to fund 67 percent projected project costs, with contributed capital accounting for the remaining 33 percent. This information and related details are included in expanded form in the 1993 Clark Public Utilities Water System Plan. The CPU Plan has the necessary contents required by RCW 36.70A.070 (3), including inventories, forecasts, and analyses of future plans and financing mechanisms. If growth occurs faster than projected, CPU will utilize a combination of capital reserves, rates, Systems Development Charges and revenue bonds to finance additional projects.

Projected needs and funding sources for the Hazel Dell Sewer District are found the HDSD Comprehensive General Sewer Plan. The HDSD Plan has inventories, forecasts and analyses of future plans and financing mechanisms. Future Changes made to the HDSD Plan should be reviewed for consistency with County plans on an annual basis.

The City of Vancouver has projected water and sewer project costs and funding sources to 2023 as part of updating the Capital Facilities element of its 2003-2023 comprehensive plan. Analysis of revenue and expenses indicated that the City has adequate operating reserves to fund ongoing water system facility replacement needs. System development charge revenues are more than adequate to fund expansion projects. With respect to sewer costs, the City has sufficient funding sources (fees, system charges, grants) to cover the costs of all the City's proposed projects through 2009. Similar funding sources are expected to be available in the long-term to support future system improvement needs as they arise.

2. Transportation Costs

Transportation costs cannot be recouped in the same way as costs for water and sewer service. In the past, the gap between funding for transportation improvements and the need to maintain concurrency levels of service on roadways has resulted in development moratoria in some congested corridors of Clark County. The purpose of looking at the FPIAs as part of the comprehensive plan update was to identify where limited funds might best be invested to achieve the policy goals for economic development in Clark County and maintain the county and city concurrency levels of service. All alternatives would require significant investments in the transportation system to maintain LOS D.

Funds for county and city transportation improvements come from several sources:

- Portions of property taxes passed through the County's Road Fund
- Real estate excise taxes (REET)
- Sales taxes
- Traffic Impact Fees
- Frontage improvements and other private developer contributions
- Motor vehicle fuel taxes
- Federal and state grants
- WSDOT

Table 66 shows the projected costs of the projects that would be needed to maintain LOS D on the roadways under each alternative, by jurisdiction. The local agency costs are broken out by approximations of local share, expected grant and private funding. WSDOT estimates are also provided. Local agency funding includes current road and street funds, potential local option tax revenues, and other locally-adopted matching funds. Private funding includes developer proportionate share contributions to mitigation projects, traffic impact fees, latecomers' reimbursement fees, and required frontage improvements. It should be noted that the calculations assume that some form of regional traffic impact fee is adopted to help pay for interurban transportation corridors, such as NE 50th Avenue and NE 72nd Avenue, that travel through rural areas but require widening (for mitigation purposes) due to growth in outlying urban areas under specific land use alternatives.

Of the total estimated costs of $2.86 billion, the County road fund share is $638 million. Based on revenue forecasts for Clark County supplied by the Department of Community Development, the County's portion of these costs are reasonably fundable.

3. Mitigation

Local jurisdictions could make the following adjustments to reduce potential adverse fiscal impacts.

- Eliminate certain proposed projects based on needs assessments and community priorities.
- Aggressively seek alternative funding sources from federal, state, and local grant programs.
- Establish appropriate impact fees for new development to offset the costs of providing additional public facilities and services.
- Implement user fees for appropriate public facilities and services.

Table 66. Projected Transportation Costs

2003-2023	**Total Costs for Proposed Alternative**	
Clark County		Subtotals
Road Fund	$474,153,000	
Grant County	$44,650,000	
Private County	$164,097,000	
Reconstructions	$3,000,000	
Emergency Repairs	$3,000,000	$688,900,000
C-TRAN		
Local Transit Fund	$24,540,000	
Grant	$77,360,000	
HCT/LRT Fund	$0*	$101,900,000
Battle Ground		
Road Fund		
Grant Battle Ground	$36,430,000	
Private Battle Ground	$1,560,000	
	$15,810,000	$53,800,000
La Center		
Road Fund		
Private La Center	$11,040,000	
Grant La Center	$5,130,000	
	$1,530,000	$17,700,000
Ridgefield		
Road Fund		
Private Ridgefield	$28,161,000	
Grant Ridgefield	$74,339,000	
	$22,195,000	$124,695,000
Vancouver		
Street Fund	$115,120,000	
Grant Vancouver	$33,690,000	
Private Vancouver	$113,080,000	$261,890,000
WSDOT		
WSDOT Funds	$963,425,000	
Grant WSDOT	$301,065,000	
Private WSDOT	$2,200,000	$1,266,690,000
Other		
Road Fund		
Private Other	$36,925,000	
Grant Other	$17,775,000	
Other Total	$200,000	$54,900,000
TOTAL COSTS	$2,570,475,000	$ 2,570,475,000

Note: Costs are in 2003 dollars and revenue are 20-year revenues worked back to a year 2003 net present value.

E. Annexation and Incorporation

1. Setting

Refer to the DEIS for a general discussion of annexation and incorporation.

2. Conformance with Annexation and Incorporation Requirements

Those alternatives that expand UGAs—Alternatives 1, 2, 4, 5, and the Proposed Alternative—would increase the amount of land that would eventually be annexed or incorporated. Alternative 3, which accommodates all new growth and development within existing urban growth areas, would not. The challenge of annexation is to extend city services to annexed neighborhoods where such services are needed without eroding existing service levels for established neighborhoods. Annexation also involves close cooperation between the County and cities in order to bring about a smooth transition in services. These challenges would be even greater under those alternatives that add a substantial amount of land to urban growth areas.

3. Mitigation

The DEIS contains mitigation measures that cities could adopt. Clark County has updated its procedural guidelines to propose applying the designation of urban holding to new areas brought into the UGAs to prevent premature development. The City of Vancouver prepared an annexation blue print (updated in 1997) to set priorities for areas annexed to the City. Vancouver would like to annex its entire UGA as quickly as possible in order to ensure that those who are receiving services have a voice in electing the City Council that sets level of service standards. The City will update the annexation blue print following final adoption of the UGA.

(NOTE: Table referred to in the Transportation Mitigation section is presented in a separate *.pdf file on the CD version of this document.)

REFERENCES

Additional references used to produce the FEIS are cited below. References used to produce the DEIS are listed in that document.

Coastal Management Group, Green Mountain EIS, (May 1994).

Pacific Groundwater Group, *Effect of Exempt Wells on Baseflow Washougal River Watershed, WRIA 27/28, Task 8B*, July 2003.

USGS, *Groundwater Recharge Characteristics of Island County*, *Washington,* 1988.

Personal Communications:

Allen, Marnie, Preston Gates Ellis LLP letter to Clark County on behalf of the Consortium of Clark County School Districts (May 5, 2003) and memorandum to Clark County, September 5, 2003.

Duh, Stephen, Vancouver-Clark Parks and Recreation. Electronic mail correspondence.

Kramm, Norm, City of Vancouver. Personal communication.

Levison, Eric, City of Camas. Meeting, August 28, 2003.

Navidi, Ken, and Chuck MacDonald and John Peterson, Hazel Dell Sewer District. Meeting, August 28, 2003.

Olsen, Randall, Clark County Health Department, telephone conversation.

Phillips, Randy, Clark County Health Department, telephone conversations.

Pickering, Ed, Senior Planner, C-TRAN, telephone conversation.

Salsig, Brian, Clark County Sheriff Office. Electronic mail correspondence. (360)397-2211 x 4406

Swanson, Rod, Clark County. Personal Communication.

GLOSSARY

ACRONYMS

ADA – Americans with Disabilities Act
AMR – American Medical Response
BCEG – Building Code Effectiveness Grading
BNSF – Burlington Northern & Santa Fe
BOCC – Board of County Commissioners
BPA – Bonneville Power Administration
CAA – Federal Clean Air Act
CARA – Critical Aquifer Recharge Areas
CCC – Clark County Code
CCHR – Clark County Heritage Register
CFP –Capital Facilities Plan

CMAQ – Air Quality Improvement Program
CMC – Camas Municipal Code
CMS – Congestion Management System
CPU – Clark Public Utilities
CREDC – Columbia River Economic Development Council
CRESA – Clark Regional Emergency Services Agency
CTR – Central Transfer and Recovery Center
CWA – Federal Clean Water Act
CWPPs – County–wide Planning Policies
CWSP – Clark County Coordinated Water System Plan
DEIS – Draft Environmental Impact Statement
DEQ – (Washington State) Department of Environmental Quality
DGER – Division of Geology and Earth Resources
DNR – (Washington State) Department of Natural Resources
DOE – (Washington State) Department of Ecology
DS – Determination of Significance
EDSP – Economic Development Strategic Plan for Clark County prepared by CREDC
EIS – Environmental Impact Statement
EMS – emergency medical services
ESA – Endangered Species Act
ESD – (Washington State) Employment Security Department
FEIS – Final Environmental Impact Statement
FEMA – Federal Emergency Management Agency
FIRM – Federal Insurance Rate Map
FPIA – Focused Public Investment Area(s)
FVRLD– Fort Vancouver Regional Library District
FWS – Fish and Wildlife Service
GMA – Growth Management Act
H&CD – Housing and Community Development Plan
HCT – high capacity transit
HDSD – Hazel Dell Sewer District
HHW – household hazardous waste
HOV – high occupancy vehicle
HRS – Highway of Regional Significance
HSS – Highway of Statewide Significance
HUD – U.S. Department of Housing and Urban Development
IPCC – United National Intergovernmental Panel on Climate
ISTEA – Intermodal Surface Transportation and Efficiency Act
kVa – 1000 volt-amperes; the rating assigned to an electricity distribution transformer
LCMC – La Center Municipal Code
LCSCI – Lower Columbia Steelhead Conservation Initiative
LOS – level of service
LOS E/F – level of service rating of E/F (close to failing or failing level of service)
LRT – light rail transit
mgd – million gallons per day
MHI – median household income
MPO – Metropolitan Planning Organization; regional planning organization required by federal regulations (for Clark County it is RTC).
MRCI – municipal, residential, commercial, and industrial
MTP – Metropolitan Transportation Plan
NAAQS – National Ambient Air Quality Standards

NHS – National Highway System
NMFS – National Marine Fisheries Service (now NOAA Fisheries)
NOAA – National Oceanic and Atmospheric Agency
NRCS – Natural Resource Conservation Service
NRHP – National Register of Historic Places
NSS – Highways of Statewide Significance
OCD – Office of Community Development, State of Washington
OFM – Office of Financial Management, State of Washington
PDX – Portland International Airport
PHS – Priority Habitat and Species Program
PIF – Park Impact Fees
PMSA – Primary Metropolitan Statistical Area
RCW – Revised Code of Washington
REET – Real Estate Excise Tax
RMC – Ridgefield Municipal Code
RTC – Southwest Washington Regional Transportation Council
RTP – Regional Transportation Plan
RTPOs – Regional Transportation Planning Organization; created by GMA (RTC is the RTPO for Clark, Skamania and Klickitat counties.)
SCWTP – Salmon Creek Wastewater Treatment Plant
SEPA – State Environmental Policy Act
SIP – State Implementation Plan (for reducing air pollution).
SMA – Shoreline Management Act
SR – State Route, Washington
STE – Sensitive, Threatened and Endangered species
STEP – septic tank effluent pump
SWCAA – Southwest Washington Clean Air Agency
TDR – Transfer of Development Rights
TEA-21 – Transportation and Efficiency Act
TIF – Transportation Impact Fees
TSM/TDM – Transportation System Management / Transportation Demand Management
UBC – Uniform Building Code
UGA – urban growth areas
UP – Union Pacific Railroad
USDA – U.S. Department of Agriculture
VHT – Vehicle hours traveled
VMC – Vancouver Municipal Code
VMT – vehicles miles traveled
WAC – Washington Administrative Code
WDFW – Washington State Department of Fish and Wildlife
WMC – Washougal Municipal Code
WSDOT – Washington State Department of Transportation
WSU – Washington State University
WSRB – Washington State Surveying and Rating Bureau
WUCC – Water Utility Coordinating Committee

DEFINITIONS

Achievable density – the density of residential development (usually expressed as number of dwelling units per acre) that can actually be built, taking into consideration the required street dedications, setbacks, parking, and environmental constraints such as slopes, wetlands, etc.
Acre, gross – an acre of land measured including all land uses (i.e., streets, sidewalks, utility easements as well as buildable lots).
Acre, net – an acre of land calculated excluding all unusable spaces (i.e., streets, sidewalks, utility easements, drainage channels, etc.)
Affordable housing – Housing is considered affordable to a household if it costs no more than 30% of gross monthly income for rent or mortgage payments, or up to 3.0 times annual income for purchasing a home. This is the standard used by the federal and state government 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.
Average Daily Traffic – the weighted 24 hour total of all vehicle trips to and from a site Monday through Friday.
Built-out – having no remaining vacant land; fully developed to the maximum permitted by adopted plans and zoning.
Capital Facilities Program – a program administered by a city or county government and reviewed by its Planning Commission, which schedules permanent improvements, 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.
Cluster Development – development in which a number of dwelling units are placed in closer proximity than usual, or are attached, with the purpose of retaining an open space area.
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.
Comprehensive Plan – a document consisting of maps, charts, and text which contains the adopting city or county's policies regarding long–term development. A comprehensive plan is a legal document required of each local government by the State of Washington. The required content of the comprehensive plan is described in RCW 36.70 and 36.70A, 36.70B, and 36.70C.
Concurrency – occurring at the same time. The Growth Management Act requires that adequate public services and facilities such as water, sewer, storm drainage, and transportation infrastructure is available at the time that new development is occupied and that the level of service for that infrastructure must meet standards set by the city or county.
Critical Areas – includes 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), as defined by GMA.
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.
Density, gross – density calculations based on the overall acreage of an area, including streets, roads, easements, rights–of–way, parks, open space, and sometimes, other land uses.
Density, net – density calculations based on the actual area of land used, exclusive of streets, roads, rights–of–way, easements, parks and open space.
Determination of Significance – under SEPA, the written decision by the responsible official of the lead agency that a proposal is likely to have a significant adverse environmental impact and therefore an EIS is required.
Developable land – land that is suitable as a location for structures because it is free of hazards (flood, fire, geological, etc.), has access to services (water, sewer, storm drainage, and transportation), and

will not disrupt or adversely affect natural resource areas.
Element – a component or Ch. of the comprehensive plan. State law requires each city comprehensive plan to include five elements, which are land use, public facilities, utilities, transportation, and housing. Counties must also prepare a rural element. In addition, elements addressing recreation, conservation, and solar energy may be included at local option.
Extremely-low-income household – households earning 30 percent or less than the countywide median household income.
Flood Hazard Area – a lowland or relatively flat area adjoining inland or coastal waters that is subject to a one percent or greater chance of flooding in any given year. Also known as the 100 year flood area.
Floodplain – typically is the surface elevation of a water body during a 100-year storm event, includes the floodway and floodway fringe.
Floodway – an area within the floodplain where encroachments (e.g., by a structure) would cause the floodplain elevation to rise.
Floodway fringe – an area between the floodway and the outside limit of the flood plain where structures can usually be built.
Floor Area Ratio – the gross floor area permitted on a site divided by the total net area of the site, expressed in decimals to one or two places. For example, on a site with 10,000 net square feet of land area, a Floor Area Ratio of 1 to 1 (1.0:1.0) will allow a maximum of 10,000 square feet of building area to be built. On the same site, a FAR of 1.5 to 1.0 would allow 15,000 square feet of building to be constructed.
Growth management – the use by a community of a wide range of techniques in combination to determine the amount, type, and rate of development desired by the community and to channel that growth to into designated areas.
Growth Management Act – Washington State House Bill (HB) 2929 which was adopted in 1990 and amended several times since then.
High Occupancy Vehicle – a vehicle carrying more than two people.
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. Households are usually described as very low income, low income, moderate income, and upper income.
Impact fee – a 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 impact fees on new development and sets the conditions under which they may be imposed.
Implementation measure – an action, procedure, program or technique that carries out comprehensive plan policy.
Infrastructure – the physical systems and services which support development and people, such as streets and highways, transit services, water and sewer systems, storm drainage systems, airports, and the like.
Land absorption – when vacant land is developed or underdeveloped land is redeveloped.
Landscaping – planting (including trees, shrubs, and ground covers) suitably designed and installed and maintained to enhance a site or roadway permanently.
Level-of-Service (LOS) – a method of measuring and defining the type and quality of particular public service such as transportation, fire protection, police 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.
Low-income household – households earning between 51% and 80% of the countywide median income
Market factor – an amount used in calculating the needed supply of vacant and buildable land; the

market factor represents an additional "cushion" of available land. It is intended to ensure that the land supply does not become so restricted that it causes an artificial rise in land prices.
Median income – the mid-point of all of the reported household incomes; half the households have higher incomes and half have lower incomes than the mid-point.
Middle-income household - households earning between 95 and 120% of the countywide median income.
Moderate-income household – households earning between 81 and 95% of the countywide median income.
Non-project action – an action that is different or broader than a single, site-specific project. Includes adoption of plans, policies, programs, or regulations that contain standards controlling the use of the environment, or that will regulate a series of connected actions (WAC 197–11–704).
Open space – any parcel or area of land or water that is essentially unimproved and devoted to an open space use such as preservation of natural resources, outdoor recreation not requiring development of play fields or structures, or public health and safety (flood control).
Planning Commission – a group of people appointed by the City Council or County Commission to administer planning and land use regulations for the jurisdiction. State regulations governing the powers and activities of the Planning Commission are contained in RCW.

Poverty level – a set of money income thresholds that vary by family size and composition that the Census Bureau uses to detect who is poor. If the total income for a family or unrelated individual falls below the relevant poverty threshold, then the family or unrelated individual is classified as being "below the poverty level".

Resource lands – as defined by GMA, lands that may be used for commercial forest, agriculture, or mineral extraction industries. Cities and counties must identify these lands and develop policies to protect them as a part of growth management planning.
SEPA – the State Environmental Policy Act which requires that each city or county consider the environmental impacts of a proposed development before approval and incorporate measures to mitigate any expected negative impacts as conditions of approval.
Transfer of Development Rights (TDR) – a program that permits a property owner or developer to relocate development potential from areas where proposed land use or environmental impacts are considered undesirable to another site which can accommodate increased development beyond that for which it was zoned.
Upper income household – households earning over 120% of the countywide median income.
Urban Growth Areas – areas where urban growth will be encouraged. Counties and cities planning under GMA must cooperatively establish the urban growth areas and cities must be located inside urban growth areas. Once established, cities cannot annex land outside the urban growth area. Growth outside of urban growth areas must be rural in character.
Vehicle Miles Traveled – the 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% of the countywide median income
Vision, Visioning – a collective and collaborative statement by citizens, elected and appointed officials and interested parties of their preference for what their community can and should be.
Water-quality limited stream – surface waters that have been identified as not meeting water quality standards and not supporting identified beneficial uses, as defined in Washington regulations (WAC 173-201A).
Zoning – a map and ordinance text which divides a city or county into land use "zones" and specifies the land uses and size restrictions for buildings within that zone.

FIGURES

Figures for the FEIS are included in the hard copy and online PDF versions of the document, following this page.

In the CD version, figures are included as separate PDF files.

Refer to the DEIS for additional figures.