



KCR  
878

# Draft Supplemental Environmental Impact Statement for the Countywide Planning Policies

METRO LIBRARY  
MUNICIPALITY OF METROPOLITAN SEATTLE  
821 SECOND AVENUE  
SEATTLE, WA 98104



**JAN. 12, 1994**



**Henigar & Ray<sup>INC.</sup>**

PLANNING • TRANSPORTATION • ECOLOGY • ENGINEERING



**King County  
Planning and Community  
Development Division**

Parks, Planning and  
Resources Department

Smith Tower Building  
506 Second Avenue Room 707  
Seattle, WA 98104

(206) 296-8650

January 12, 1994

**RE: Draft Supplemental Environmental Impact Statement for the King County  
Countywide Planning Policies**

**Dear Interested Reader:**

The Draft Supplemental Environmental Impact Statement (DSEIS) for the Phase II work on the King County Countywide Planning Policies is being issued by the King County Planning and Community Development Division. The Planning Policies were adopted and ratified in 1992 to serve as a framework for developing local comprehensive plans. At the time the policies were adopted, it was recognized that additional work was needed on several key topics. This work, called Phase II Countywide Planning Policies, has been underway for the last year. It analyzes five land use alternatives developed from the Phase II work.

This DSEIS has been prepared pursuant to the State Environmental Policy Act (SEPA) and Rules (WAC 197-11) for use by the public, agencies, groups and decision-makers in review of the proposal and alternatives. Included is an Executive Summary which highlights the key components in the DSEIS.

I believe this document outlines the range of issues facing King County as we move into the next century. Your input is important in determining the most suitable alternative for managing future growth while minimizing environmental impacts.

Copies of the DSEIS are available for public review at King County and Seattle public libraries, and at the Planning and Community Development Division offices during business hours from 8:30 a.m. to 4:30 p.m. daily. Copies can also be mailed for a cost of \$20.00. Please send your request along with a check made out to the King County Office of Finance to the Planning and Community Development Division, 707 Smith Tower, 506 Second Avenue, Seattle, WA 98104. The comment period is 45 days; please mail comments to the Planning and Community Development Division by February 28, 1994.

Thank you for your interest and participation in the environmental review process. If you have any questions about the DSEIS or the environmental review process, please call me at 296-8650 or Lisa Majdiak, Growth Management Project Supervisor, at 296-7631, or send written comments to:

Lisa Majdiak  
King County Planning and Community Development Division  
707 Smith Tower Building, 506 Second Avenue  
Seattle, WA 98104

Sincerely,

  
Jim Reid  
Manager



---

**TABLE OF CONTENTS**

---

Fact Sheet

Executive Summary . . . . . i

Introduction . . . . . 1

1.0 Land Use . . . . . 14

2.0 Affordable Housing . . . . . 59

3.0 Transportation . . . . . 73

4.0 Human Services . . . . . 102

5.0 Police/Fire/Emergency Response . . . . . 107

6.0 Schools . . . . . 114

7.0 Parks and Open Space . . . . . 119

8.0 Water Supply . . . . . 125

9.0 Stormwater Management . . . . . 132

10.0 Sewer/Septic . . . . . 139

11.0 Solid Waste . . . . . 145

12.0 Utilities . . . . . 150

13.0 Sensitive Areas and Resource Lands . . . . . 155

14.0 Air Quality . . . . . 163

15.0 Water Quality . . . . . 174

16.0 Plants, Animals and Fish . . . . . 180

17.0 Noise . . . . . 190

18.0 Economic Development . . . . . 199

Glossary . . . . . G-1

---

**TABLE OF CONTENTS**

---

References . . . . . R-1

**Appendices**

Introduction . . . . . A

Land Use . . . . . B

Affordable Housing . . . . . C

Transportation . . . . . D

Police/Fire/Emergency Response . . . . . E

Schools . . . . . F

Water Supply . . . . . G

Stormwater Management . . . . . H

Sewer/Septic . . . . . I

Sensitive Areas and Resource Lands . . . . . J

Air Quality . . . . . K

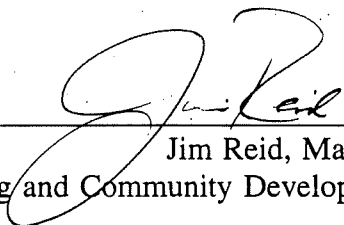
# DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

## PROPOSED AMENDMENTS TO THE COUNTYWIDE PLANNING POLICIES

Prepared for Review by Citizens and  
Government Agencies in Compliance with:

The State Environmental Policy Act of 1971  
Chapter 43.21C Revised Code of Washington  
SEPA Rules, Effective April 4, 1984, as revised  
King County Code Chapter 20.44

Date of Issue: January 12, 1994  
Comments Due: February 28, 1994



---

Jim Reid, Manager  
Planning and Community Development

**FACT SHEET  
KING COUNTY  
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT  
FOR AMENDMENTS TO THE COUNTYWIDE PLANNING POLICIES**

Project Title

Proposed Amendments to the King County Countywide Planning Policies (CPPs).

Proposed Action

The proposed action consists of amendments or polices to refine the existing King County CPPs for adoption by the Metropolitan King County Council, and ratification by cities as specified in the interlocal agreement that established the Growth Management Planning Council. The proposed amendments or refinements include additional policies on rural character, affordable housing, and economic development and fiscal impact. The proposed action also includes designation of urban centers and manufacturing/industrial centers as called for in King County Ordinance 10450.

Five alternatives were analyzed in the Draft SEIS and include: No Action; Eight Centers Alternative; 14 Centers Alternative, Pre-Countywide Planning Polices Alternative; and the Magnet Alternative. This SEIS supplements the VISION 2020 FEIS and the FEIS for the 1985 King County Comprehensive Plan.

Location of the Proposal

King County Washington: The CPPs serve as the framework for the update of the King County Comprehensive Plan and the local comprehensive plans of each jurisdiction within King County.

Lead Agency and Source of Proposal

King County  
Planning and Community Development Division  
Parks, Planning and Resources Department  
707 Smith Tower Building  
506 Second Avenue  
Seattle, WA 98104

Proposed Date of Implementation

Council adoption is anticipated Spring 1994. The CPPs would be implemented through local jurisdictions' comprehensive plans.

Responsible Official

Jim Reid, Manager  
Planning and Community Development Division  
Parks, Planning and Resources Department  
707 Smith Tower Building  
506 Second Avenue  
Seattle, WA 98104  
(206) 296-8650

Contact Person

Lisa Majdiak, Growth Management Project Supervisor  
Planning and Community Development Division  
Parks, Planning and Resources Department  
707 Smith Tower Building  
506 Second Avenue  
Seattle, WA 98104  
Phone: (206) 296-8640  
Fax: (206) 296-0119

Licenses/Permits/Approval Required

Amendments to the CPPs can not become effective until adoption by the Metropolitan King County Council and ratification by at least thirty percent of the City and County Governments representing seventy percent of the population in King County.

Authors and Principal Contributors

This document had been prepared under the direction of the King County Planning and Community Development Division, who also was responsible for the Affected Environment Section. The following consulting firms contributed to this document.

(Prime)

Henigar & Ray, Inc.  
157 Yesler Way, Suite 617  
Seattle, WA 98104

(Land Capacity Analysis)

King County  
Planning and Community Development  
Parks, Planning and Resources Department  
707 Smith Tower Building  
506 Second Avenue  
Seattle, WA 98104

(Water Quality, Water Supply, Solid Waste, Sewer/Septic and Utilities Analysis)

CH2M Hill Northwest, Inc.  
777 108th NE  
Bellevue, WA 98004

(Stormwater Management Analysis)

Hong West & Associates, Inc.  
19730 64th Avenue West, Suite 200  
Lynnwood, WA 98036-5904

(Sensitive Areas and Resource Lands, Shoreline Use, Human Services, Police/Fire/Emergency Response, Parks and Open Space Analysis)

M.R. Stearns Urban Planning and Design  
P.O. Box 282  
Vashon Island, WA 98070

(Housing Analysis)  
Judith Stoloff Associates  
2 Nickerson Street, #105  
Seattle, WA 98109

(Transportation Analysis excluding Roads and Freight)  
Weslin Consulting Services  
1750 112th Avenue N.E., Suite B217  
Bellevue, WA 98004

Additional analysis was prepared under separate contract for incorporation into this SEIS:

(Economic Development)  
Thomas Lane & Associates  
117 East Louisa #141  
Seattle, WA 98102-3203

(Executive Summary)  
Maggie Brown  
Media Relations Communications  
8823 20th Avenue N.W.  
Seattle, WA 98117

Date of Issue of this Draft SEIS

January 12, 1994

Dates Comments Are Due

February 28, 1994

Scheduled Date of Hearing and Action on Countywide Planning Policies

Please call the GMA Hotline at 296-8777 for date, location, and time of hearing.

Subsequent Environmental Review

The environmental review under the State Environmental Policy Act (SEPA) for the non-project actions required under the Growth Management Act is intended to be a phased approach. Phase I was the adoption of countywide planning policies with environmental review. This SEIS is part of Phase II, refinements to the countywide planning policies. The purpose of this SEIS is to analyze environmental impacts of the five growth scenarios and how the five alternatives might affect the policy refinements being recommended by the Rural Character, Affordable Housing, and Fiscal Analysis and Economic Development Task Forces.

The phased approach could also include determination and actions to be undertaken by the County and Cities during adoption of their respective comprehensive plans, and development regulations which support those plans. The phased approach could also include environmental determinations and actions to be undertaken by state, regional and transit agencies for adoptions of transportation plans.

Location of Background Information

Copies of the CPPs and environmental documents are available at the address below:

Planning and Community Development Division  
Parks, Planning and Resources Department  
707 Smith Tower Building  
506 Second Avenue  
Seattle, WA 98104  
(206) 296-8640

Cost and Availability of the Draft SEIS

Planning and Community Development Division  
Parks, Planning and Resources Department  
707 Smith Tower Building  
506 Second Avenue  
Seattle, WA 98104  
(206) 296-8640

\$20.00

# **A Vision for King County in 2010**

*The Executive Summary of the Draft Supplemental  
Environmental Impact Statement  
Which Analyzes Proposed Amendments of the  
Adopted Countywide Planning Policies*

*January 1994*

King County Parks, Planning and Resources Department

# I. Introduction

## ***This Executive Summary:***

- Summarizes the work to date to amend King County's Countywide Planning Policies, which were adopted and ratified in 1992 as the framework for local jurisdictions to develop their comprehensive plans by July 1994.
- Describes five alternative approaches to implement the Countywide Planning Policies through the distribution of growth.
- Describes proposed policy refinements to the Countywide Planning Policies proposed by the Growth Management Planning Council's Task Forces addressing economic development, affordable housing and rural character.
- Highlights significant findings of a Draft Supplemental Environmental Impact Statement, which analyzed the probable environmental consequences of five alternative approaches and the proposed policy refinements.

## ***Some key findings of the Draft Supplemental Environmental Impact Statement include:***

- Each of the five alternatives attempts to preserve rural lands and rural character by guiding development into Urban Growth Areas which are already served by the public services and facilities necessary for urban development.
- The 8 and 14 Centers Alternatives generally call for the greatest concentration of future development. Therefore, they would have the fewest negative environmental impacts by minimizing growth outside urban centers.
- The five alternatives produce very different impacts on King County's remaining vacant lands:
  - The Pre-Countywide Planning Policies Alternative, which continues the land development trends of the late 1980s and early 1990s, would consume virtually all the remaining urban-designated vacant land in the county and its cities in the next 20 years.
  - The 14 Centers Alternative, which makes use of higher concentration of housing and employment and redevelopment to accommodate growth, would consume far less vacant land.
  - In comparison with these "bookends," the other three alternatives would fall in the middle between the Pre-Countywide Planning Policies Alternative and the 14 Centers Alternative.
- The 8 and 14 centers alternatives, with their concentrated development in urban centers, are likely to produce fewer vehicle trips than the other alternatives considered in this analysis.
- Overall, the alternative policies recommended by the Fiscal Analysis and Economic Development Task Force, the Rural Task Force and the Affordable Housing Task Force provide for greater beneficial impacts on the environment than the Countywide Planning Policies.
  - The Economic Development Policies promote environmental protection while promoting economic development.
  - The Rural Task Force Policies encourage land patterns which support the traditional character of Rural King County through preserving rural lifestyles and economies.

- The Affordable Housing Policies encourage development and preservation of low and moderate-income housing. Each of the alternatives includes components that work for and against housing affordability, which - combined with the enormous impact of market forces - makes it difficult to predict which alternative will best provide for affordable housing. For each alternative, mitigating measures (such as creating incentives and reducing development costs) and market forces (such as household income and financing costs) will greatly influence success in achieving affordable housing.

***The Draft Environmental Impact Statement's findings are qualified in several respects:***

- The impacts of the proposed policies or strategies under each alternative are numerous and interrelated. If some policies are not implemented or if policies are interpreted differently, the environmental impacts could change.
- The expected or predicted outcomes of each alternative are based upon planning assumptions regarding population and employment growth. Any changes in these assumptions could substantially affect the outcomes.
- Detailed countywide data on existing conditions (particularly environmentally sensitive areas, infrastructure capacities, and economic activity), is not yet available. Much of this data is currently being researched by individual jurisdictions in the preparation of their respective comprehensive plans. Upon completion of these studies, it is recommended that the Countywide Policies be reviewed with consideration of the new data.
- The benchmarks and monitoring programs proposed by the Magnet Alternative would be beneficial during implementation of any of the alternatives. Monitoring both the implementation of the policies and actual development will be necessary to achieve the desired vision.

## II. Growth Management: The Policy Development Process

---

### *An Overview*

**H**ow and where King County will grow over the next two decades has been the focus of extensive public discussion and debate during the past few years. The challenge facing elected officials from around King County is how to provide for an estimated 325,000 additional people, with the least negative impact on the environment and the most positive impact on the economy and quality of life.

Between 1970 and 1990, the county experienced the largest growth in its history. The addition of 348,000 people swelled the county's population by 30% to its present size of 1.5 million. By 2010, the addition of an estimated 325,000 residents will enlarge the population to 1.8 million.

King County was not alone in experiencing this accelerated growth. Throughout the Puget Sound region and other parts of the state, citizens were alarmed by the increasingly negative effects of rapid development — sprawling subdivisions, traffic jams, declining air and water quality, escalating housing costs, more frequent and severe flooding, rising human service needs and local governments struggling to pay for increased demands for public services.

The state Legislature, recognizing the urgent need for jurisdictions to work together to comprehensively plan for their future, passed the Growth Management Act in 1990. As a result, for the first time, King County and the 33 cities within its 2,134-square-mile boundary are working together to define how and where King County should — and should not — grow in decades to come.

The primary challenge is to figure out a way to manage future development so that our economy remains strong and our environment is protected — and to do it in a consistent manner throughout the county and the region.

That means each city within King County must develop policies to manage growth which are compatible with the Countywide Planning Policies, adopted in 1992 as the framework for each jurisdiction to follow when developing its own comprehensive plan. Additionally, King County is working in close collaboration with Pierce, Snohomish and Kitsap counties to deal with multi-county issues.

Growth management is a complex, exciting and healthy process for King County and Washington state. It will help ensure that we retain the county's character of natural beauty, thriving cities and healthy rural communities. It also will help us strength-en each citizen's freedom to make informed decisions from a variety of options to improve their lives.

*The primary challenge is to figure out a way to manage future development so that our economy remains strong and our environment is protected — and to do it in a consistent manner throughout the county and the region.*

## III. The Growth Management Act & Comprehensive Plans

---

**P**lanning for the future is happening simultaneously at several levels — regional, countywide and in local cities and towns.

Passage of the Growth Management Act (GMA) in 1990 was a critical step in the development of rational policies to sustain growth in Washington. For the first time in the state's history, all

urban counties and their cities were required to plan comprehensively for the future. The state has mandated that all comprehensive plans be adopted by July 1994. By December 1994, all jurisdictions must complete the regulations which implement the policies contained in their comprehensive plans.

For King County, implementing the GMA means ensuring that the area's population growth is accompanied by family wage jobs and affordable housing for all citizens. It also means maintaining the county's high quality of life by efficiently and cost-effectively providing transportation, parks, open space, schools, water, sewer and stormwater systems and facilities.

To achieve these goals, the local comprehensive plans of King County and its cities will address land use, housing, capital facilities, utilities, rural areas and transportation issues. King County's Comprehensive Plan will also contain policies to guide sustainable economic expansion, as well as regulations to conserve agricultural, forest and mineral resource lands, and to preclude land use or development that would damage critical areas such as streams and wetlands.

Additionally, the GMA states that counties and cities must adopt regulations requiring them to deny development if they cannot provide, within six years the transportation systems and facilities such as roads and transit needed to support the growth.

At its heart, a community's comprehensive plan should reflect the hopes of local citizens for the future and contain detailed actions to help achieve that vision. A comprehensive plan also must be flexible. Through regular reviews and amendments, a comprehensive plan can be fine-tuned to reflect experience and citizens' evolving concerns.

Because planning is happening at various levels at the same time, the GMA requires that cities and counties constantly talk to each other to coordinate their decisions and actions. Consequently, relationships between cities and counties are changing dramatically as they seek new ways to manage growth to strengthen the economy and protect the environment. Equally important is the building of stronger relationships between the public and private sectors as citizens, either as individuals or as representatives of specific interests, become increasingly involved in the planning process and exert their influence over the decisions being made.

Thus, the GMA is creating a lasting legacy of integrated plans and policies that make sense for the entire region.

## **IV. Vision 2020: A Multi-County Effort**

---

**T**he GMA sets out the general parameters of growth planning for the entire state. A set of guidelines known as VISION 2020 provides a broad conceptual framework to guide public policy decisions on growth management and transportation issues to ensure consistency and coordination among the region's four counties —King, Kitsap, Pierce and Snohomish — and their cities.

VISION 2020 was adopted in 1990 by the Puget Sound Council of Governments, the forerunner of today's Puget Sound Regional Council. It was amended in 1992 by the Regional Council and adopted as the required Multi-county Policies under GMA. In November 1993, the Regional Council initiated an 18-month effort to update and refine VISION 2020 to reflect changes since its adoption.

## **V. Countywide Planning Policies**

---

### *Phase I: Adoption*

**G**uided by both the GMA and VISION 2020, the Countywide Planning Policies were developed in early 1992 by the Growth Management Planning Council, a 15-member interjurisdictional group of elected officials from King County, Seattle and suburban cities. This group coordinates the county's interjurisdictional planning efforts and recommends to the Metropolitan King County Council policies for its adoption.<sup>1</sup>

---

<sup>1</sup>(Note: The 13-member Metropolitan Council replaced the nine-member King County Council on January 3, 1994, following voter approval in 1992 of the merger of King County government and Metro, which had countywide responsibilities for public transit, sewage treatment and water quality.)

The Countywide Planning Policies subsequently were adopted by the King County Council and ratified by more than the required 30% of the governments representing 70% of the entire county's population. Any amendments to the Countywide Planning Policies must be approved in the same manner.

It's important to remember that the Countywide Planning Policies are only a **framework** to guide development of the comprehensive plans for King County and each city within the county. The Countywide Planning Policies do not dictate the way each jurisdiction will handle its share of growth or which city will choose to have one or more Urban Centers. Rather, the policies set up criteria and allow local decisions.

### ***The Countywide Planning Policies' Vision***

As adopted in 1992, the Countywide Planning Policies are a vision statement of how King County should grow over the next 20 years. The policies established an **Urban Growth Area** within the western one-third of the county where most future growth and development would occur in order to reduce urban sprawl, enhance open space, protect rural areas and more efficiently use social services, transportation and utilities. (See Map A) Ultimately, the idea is to reduce the taxpayer's costs by encouraging concentrated development in those areas where services already are provided. This can be accomplished by changing development patterns and zoning, and by offering incentives to direct growth within the Urban Growth Area.

Within the Urban Growth Area, some **Urban Centers** (see map A) would be designated within existing cities. These Urban Centers are envisioned as areas of concentrated employment and housing, with direct service by high-capacity transit, and a wide variety of land uses, including retail, recreational, cultural and public facilities, parks and open spaces. Quite simply, the notion is that well-designed, highly livable Urban Centers will encourage people to work

*Ultimately, the idea is to encourage concentrated development in those areas where services already are provided.*

and live there, and thus contribute to achieving the GMA goal of concentrating infrastructure investments and preventing further urban sprawl. Examples of possible Urban Centers include the downtowns of Bellevue, Seattle, Renton, SeaTac, Kent and Redmond.

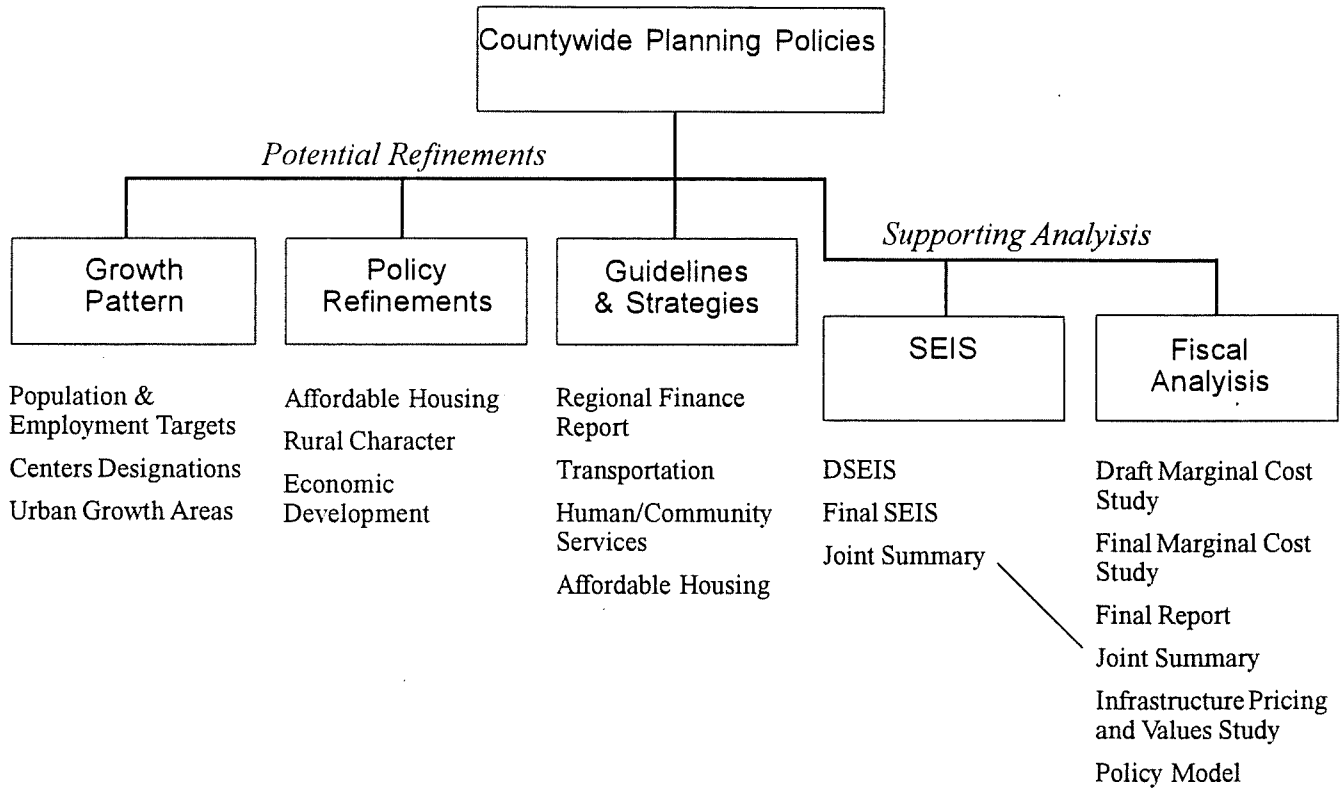
The policies also call for designation of **Manufacturing/Industrial Centers**, (see map A) recognizing that these sites are key components of a strong and vibrant regional economy. These areas would be zoned to preserve and encourage industrial growth. Examples include Tukwila and the Duwamish River industrial area.

While the majority of our investments in infrastructure and transit, as well as jobs, will be directed to the Urban Centers, it's expected that these urban centers will take only 25% to 40% of the residential growth. Like today, urban neighborhoods will form the bulk of the Urban Growth Area and will be home to the largest portion of the county's population. These areas will look much like they do today in that there will be a diversity of housing types — single-family houses, smaller-scale apartment buildings, condominiums — nestled with neighborhood business districts. However, considering that rising costs already have made housing ownership and rental increasingly expensive, figuring out how to provide a variety of affordable housing in ways that consume less land is a critical issue facing all jurisdictions.

By promoting growth in existing urban areas, we anticipate that an increasing share of all growth will be in cities. To preserve the character of these cities, each jurisdiction has the authority to make decisions regarding its local character and density. But they are expected to develop their comprehensive plans to be consistent with the countywide policies so that together we solve countywide problems that transcend jurisdictional boundaries.

# Summary of Phase 2 Work

Chart 1



## Phase 2: Refinement

When the Countywide Planning Policies were adopted, the GMPC and the King County Council recognized there is still important work to do. Today, the policies are being analyzed and may be refined to:

- Develop population and employment targets;
- Adjust the Urban Growth Area;
- Designate Urban and Manufacturing/Industrial centers;
- Establish countywide objectives for providing affordable housing for low- and moderate-income households within each jurisdiction;
- Define rural character and provide incentives for protecting rural areas.
- Prepare a countywide economic development strategy.

Additionally, **guidelines and strategies** regarding regional finance, transportation, affordable housing and human/community services are being developed that will also guide the county's growth strategies.

Finally, **supporting analysis** of the Countywide Planning Policies is being conducted in the form of this supplemental environmental impact statement and a separate fiscal analysis study. A summary document that will highlight both environmental and fiscal impacts of proposed refinements and/or alternatives to the Countywide Planning Policies is expected to be released for public review in late Spring 1994. (See Chart 1 for a summary of the Phase 2 Work.)

Ultimately, all these pieces of additional work and analysis may lead to adoption of amendments to the Countywide Planning Policies. In some cases, existing policies may be **refined**, and, in others, **replaced** with new ones. Such action would be intended to retain the County's character of natural beauty, thriving cities and healthy rural communities.

Any recommended amendments to the Countywide Planning Policies must be approved by the Metropolitan County Council, and then ratified by at least 30% of the governments representing 70% of the county's entire population.

## **VI. Phase 2: Projects**

The following sections briefly describe some of the projects undertaken to refine and analyze the Countywide Planning Policies.

### **Growth Pattern**

#### ***Target Numbers for Population and Employment by Jurisdiction***

According to state forecasts, between 1990 and 2010, King County will grow by 325,000 people living in 215,000 households. The Puget Sound Regional Council predicts there will be 340,000 new jobs within the county.

Based upon those predictions, the cities and county are working together to develop how much growth in people, households and jobs each jurisdiction will absorb. These target numbers are expected to be presented to the Growth Management Planning Council for review in early 1994.

Once the Metropolitan County Council establishes target numbers, each jurisdiction then must examine its current land use and zoning to determine what adjustments will be required to plan for and accommodate its share of growth.

As part of that process, a methodology has been developed to determine whether the county has the land capacity to handle the predicted growth. An adequate supply of land suitable for development is critical for a growing economy. Many complex and competing factors govern its supply, including the quality and type of land, the location and affordability of sites, the redevelopment potential of sites and regulatory and market factors.

To estimate how much room there is for growth in King County, growth management planners from the cities, King County, METRO, the Puget Sound Regional Council and special districts consulted with private sector experts. The group developed common

assumptions and criteria to ensure they were all calculating estimates the same way.

Based on 1991 data, the group estimated the county's urban and rural areas could handle 320,300 new dwelling units over the next 20 years, with about 63% of those units in the cities.

#### ***Designation of Urban and Manufacturing/Industrial Centers***

Designating Urban and Manufacturing/Industrial Centers is at the core of the Countywide Planning Policies. The policies set up a process for cities to nominate Urban and Manufacturing/Industrial Centers and for the Growth Management Planning Council to make recommendations from these nominations to the Metropolitan County Council.

Urban Centers are defined as areas no larger than 1.5 square miles. They must accommodate a minimum of 15,000 total jobs within 1/2 mile of a transit station to promote good transit service. Urban Centers must be zoned for at least 50 employees and 15 households per gross acre.<sup>2</sup> In addition, all portions of each Center must be within walking distance of a transit station and discourage single-occupant vehicles through such measures as limited parking and higher parking rates.

Manufacturing and Industrial Centers are defined as large parcels of land earmarked for manufacturing and industrial uses that can accommodate at least 10,000 total jobs. These areas also will be served by good transit and allow for easy movement of goods by truck, rail or waterway.

Following these guidelines, the Growth Management Planning Council received nominations from eight city councils for 14 Urban Centers and four Manufacturing/Industrial Centers within their cities.

---

<sup>2</sup>A gross acre is a measurement of all land, including land which may be used for right-of-way or is unsuitable for development, such as wetlands.

# Policy Refinements

## ***Rural Character***

A fundamental component of the countywide planning strategy is to maintain the traditional character of our rural area, with its mix of forests, farms, high-quality natural environment, rural cities and unincorporated rural centers, and a variety of low-density residential uses.

The Countywide Planning Policies were very general in this area, and lacked details about how to accomplish the vision. That job fell to the Rural Character Task Force, which has developed new and amended policies that define what characterizes a rural area and offer specific incentives for protecting these areas.

## ***Affordable Housing***

The need for a greater supply of affordable housing equitably distributed throughout the County is a critical issue facing the region. An Affordable Housing Task Force was formed to recommend countywide policies, as well as local actions to encourage development and preservation of affordable housing. That task force has recommended policies that provide:

- Specific targets for low and moderate-income housing development and preservation.
- Expanded programs and funding to overcome existing deficiencies in housing availability.
- Better monitoring and evaluation of housing development and affordability.
- Technical assistance to help local governments create programs and strategies that promote affordable housing.

## ***Economic Development***

Just by itself, properly managing future growth does not guarantee a robust economy. Our goal and expectation is that proactive policies and strategies will provide strong stimulus and encouragement for economic expansion.

The Fiscal Analysis and Economic Development Task Force was charged with ensuring that the

countywide policies, and any refinements or alternatives to them, maintain the economic vitality of King County. The task force developed a series of policies that seeks to encourage long-term sustain-able economic growth under any of the alternative growth scenarios analyzed within this Draft Supplemental Environmental Impact Statement.

# Guidelines & Strategies

## ***Regional Transit System Plan***

One of the key elements that will guide growth management planning, particularly development of Urban Centers, is the availability of transit systems to help people get around efficiently. Thus, while a separate planning effort is underway for a Regional Transit System Plan, that process is closely linked to the region's comprehensive planning process. This transit plan, originally proposed in May 1993, is being refined by the Regional Transit Authority, a group of elected officials from King, Pierce and Snohomish counties.

The transit plan seeks to increase speed, service and reliability and to encourage the use of transit and high-occupancy vehicles. Development of a regional and commuter rail system is a major element of the Regional Transit System Plan. The Regional Transit Authority will determine how the plan will be financed, and then determine when to put the plan before the voters.

## ***Affordable Housing***

Housing affordability is affected by a range of factors — land capacity, market supply and demand, cost and availability of financing, housing development mix and household incomes. Therefore, in order to help local governments and the Growth Management Planning Council, the Affordable Housing Task Force is developing specific strategies on ways to implement its recommended policies.

These strategies are based on the task force's analysis of King County's housing needs in relation to its demographic profile. They will range from ways to ensure sufficient land and to reduce development costs of affordable housing, to incentives and funding for low-income housing.

This 100-plus page report also will include a "directory of housing techniques," which will provide specific examples of projects and programs local governments could implement to provide affordable housing for their residents. Examples include ways to revise a city's subdivision code to allow more flexibility and cost savings, suggestions on how to create a lease-purchase program to assist lower-income individuals buy homes, as well as public education strategies.

These strategies will be important tools to help local jurisdictions implement the policies because each town or city has different housing markets and needs. What works in Kent won't necessarily work in Bellevue.

## Supporting Analysis

### *Fiscal Analysis*

When the Countywide Planning Policies were adopted, local elected officials recognized that more time was needed to conduct a fiscal analysis of how much the policies will cost in terms of public financing and investment in infrastructure. The Fiscal Analysis & Economic Development Task Force is examining these costs, particularly in regard to their impact upon individuals, businesses and the public sector.

## VII. Supplemental Environmental Impact Statement

---

**T**his Draft Supplemental Environmental Impact Statement is another part of the analysis conducted to determine probable outcomes of the Countywide Planning Policies; in this case, their impact on the environment.

### *Purpose*

Taking the nominations for Urban and Manufacturing/Industrial Centers and using

preliminary planning assumptions about the population and employment targets, five different growth alternatives were developed for purposes of examining probable impacts on the environment. These alternatives contain both proposed policy refinements and replacements to existing Countywide Planning Policies. The results of that analysis are contained in this Draft Supplemental Environmental Impact Statements (DSEIS).

*The purpose of this DSEIS is to analyze environmental impacts of both the growth scenarios and the policy refinements being recommended by the Rural Character, Affordable Housing and Fiscal Analysis and Economic Development Task Forces.*

The DSEIS also looks at what the impact might be on the three alternatives should the rail component of the Regional Transit Program not be built.

## Limitations

When reviewing the DSEIS, it is important to understand what its limitations are and the consequences of those limitations:

- Prior to passage of the Growth Management Act, individual jurisdictions were not required to coordinate their planning. Therefore, data from individual jurisdictions is just now being collected and combined to produce a countywide perspective. Therefore, because of data limitations and the countywide nature of this environmental examination, analysis for most elements in the DSEIS is presented at a broad, qualitative level. Further analysis will be done when each jurisdiction does its environmental review to evaluate its own comprehensive plan and regulations.
- For purposes of environmental review, the DSEIS assumes that the action called for within the Countywide Planning Policies and the five alternatives can be accomplished, but it does not estimate the costs or feasibility of achieving them. Again, that analysis is forthcoming from the Fiscal Analysis and Economic Development Task Force. A summary document that will highlight both environmental and fiscal impacts of proposed refinements and/or alternatives to the Countywide Planning Policies is expected to be released for public review late this spring.

- In order to evaluate the differences among alternatives, the DSEIS assumes that under the 8 Centers and 14 Centers Alternatives, jobs and housing growth will occur in Centers in sufficient numbers to meet the Countywide Planning Policies' defined criteria. In reality, the Countywide Planning Policies require planning to accommodate the housing and jobs targets. Development to actually achieve the Centers' criteria may take more than 20 years for most Centers.

## Summary Description of Alternatives

*The following sections contain summary descriptions of the five alternatives and highlight some of the DSEIS' significant findings.*

This DSEIS addresses five alternatives for King County's future. All alternatives assume the same amount of growth by 2010 within the county: 325,000 more people living in 215,000 additional households, and 340,000 new jobs. All the alternatives also call for concentrating the majority of future growth west of King County's Urban Growth Area boundary. (See Map A)

The primary difference between the Alternatives is in the approach used for spreading employment and population growth within urban and rural areas. The accompanying Tables 1 and 2 show how the alternatives will distribute job and housing growth in each land use category. For example, one alternative calls for 30% of all the new jobs to be located within Urban Centers. This table allows for direct comparison between each alternative. For more detailed definitions of these alternatives, see the introductory chapter of the DSEIS.

*Note: It is important to keep in mind that the growth targets referred to in the following discussion are preliminary. They are based upon certain planning assumptions and were approved by the Growth Management Planning Council for this environmental impact examination.*

### No Action Alternative

This alternative assumes that the Countywide Planning Policies are in effect, but that no additional action will be taken to refine or amend them. This means there will be no formal designation of Urban Centers or Manufacturing/Industrial Centers to which future growth will be channeled. Only one area within the county — Seattle's University District — currently meets the Urban Center criteria as defined by the Countywide Planning Policies. Others which are close include the Central Business District of Seattle and the First Hill area of Seattle.

Under this alternative, each jurisdiction is expected to pursue the vision contained in its own comprehensive plan, acting individually while paying attention to the Countywide Planning Policies.

Under the No Action Alternative, the county most likely will continue its current development pattern. Most new housing development, including single-family and multifamily, will continue to occur outside the Urban Centers in existing incorporated cities and the unincorporated areas of King County located within the designated Urban Growth Area (see Map A). New employment will continue to locate in major downtown areas and in office parks, shopping malls and commercial strip centers throughout the county's Urban Growth Area.

Under the No Action Alternative, most employment growth — 65% — will go to non-Urban Center areas; 32% to Urban or Manufacturing Centers, and 3% to Rural Areas and Resource Lands. Of new housing, 36% will go to Urban Centers or Urban Areas served by transit; 52% to Urban Areas where the car is the primary means of getting around, and 12% to Rural Areas and Resource Lands.

The No Action Alternative will produce a growth pattern which is more dispersed than those alternatives calling for designated Urban Centers.

### 8 Centers Alternative

This alternative will refine the Countywide Planning Policies by designating eight Urban Centers and four Manufacturing Centers to be developed over the next 20 years.

The Urban Centers include five in Seattle — the Central Business District, First Hill/Capitol Hill,

Seattle Center/South Lake Union, Northgate and the University District and the Bellevue Central Business District, Renton Central Business District, and SeaTac Central Business District.

The Manufacturing Centers include: North Kent, Duwamish/Tukwila, Ballard Interbay and Seattle/Duwamish.

New growth first will be phased into Urban Centers and other urbanized areas which have existing infrastructure for transportation, water, sewer and surface water management. The 8 Centers Alternative calls for new housing development in a diversity of housing types to be provided for all income groups. Jurisdictions will cooperatively establish a process to ensure equitable distribution of low-income housing throughout the county.

Guided by the four-county Regional Transit Plan, the transportation system will include a combined bus/rail system implemented in incremental stages throughout the region.

Under the 8 Centers Alternative, 54% of the employment growth will go to Urban or Manufacturing Centers; 43% to non-Urban Center Areas, and 3% to Rural Areas and Resource Lands. Of new housing, 60% will go to Urban Centers or Urban Areas served by transit; 34% to Urban Areas where the car is the primary means of getting around, and 6% to Rural Areas and Resource Lands.

Thus, the 8 Centers Alternative will produce a growth pattern that is more compact and will consume less vacant land than all but one of the five DSEIS alternatives, the 14 Centers Alternative.

## **14 Centers Alternative**

This Alternative is similar to the 8 Centers Alternative except it designates 14 Urban Centers to be developed over the next 20 years.

The Urban Centers include five in Seattle — the Central Business District, First Hill/Capitol Hill, Seattle Center/South Lake Union, Northgate and the University District and the Bellevue Central Business District, Renton Central Business District, SeaTac Central Business District, Federal Way Central Business District, Tukwila Central Business District, Kent Central Business District, Redmond Central Business District, Overlake, and Totem Lake.

The Manufacturing Centers include: North Kent, Duwamish/Tukwila, Ballard Interbay and

Seattle/Duwamish.

New growth first will be phased into Urban Centers and other urbanized areas which have existing infrastructure for transportation, water, sewer and surface water management. This Alternative also calls for new housing development in a variety of styles — such as single-family homes, row houses, cottage-type apartments, smaller-scale apartment buildings and condominiums — to be provided for all income groups, coupled with cooperative efforts among cities to ensure an equitable distribution of low-income housing throughout the county. This alternative also assumes implementation of the four-county Regional Transit Plan.

Under the 14 Centers Alternative, 79% of the employment growth will go to Urban or Manufacturing Centers; 19% to non-Urban Center Areas, and 2% to Rural Areas and Resource Lands. Of new housing, 74% will go to Urban Centers or Urban Areas served by transit; 21% to Urban Areas where the car is the primary means of getting around, and 5% to Rural Areas and Resource Lands.

The 14 Centers Alternative will produce the most compact growth pattern and consume the least amount of vacant land. To achieve this growth pattern, this alternative will require a higher concentration of development than exists today.

## **Pre-Countywide Planning Policies Alternative**

This alternative assumes that the Countywide Planning Policies are replaced by the 1985 King County Comprehensive Plan. In other words, this Alternative calls for returning to the policy framework which existed before the ratification of the Countywide Planning Policies in 1992. This alternative has an urban growth boundary based on the 1985 Plan (see map A).

This means there will be no formal designation of Urban Centers or Manufacturing/Industrial Centers. Each jurisdiction will pursue the vision contained in its own comprehensive plan, acting individually under the old policy framework rather than the 1992 Countywide Planning Policies.

Under the Pre-Countywide Planning Policies Alternative, 21% of the employment growth will be Urban or Manufacturing Centers, 75% in non-Urban

Center Areas, and 3% in Rural Areas and Resource Lands. Of new housing, 29% will go to Urban Centers or Urban Areas served by transit; 56% to Urban Areas where the car is the primary means of getting around, and 15% to Rural Areas and Resource Lands.

Thus, the Pre-Countywide Planning Policies Alternative will produce a growth pattern that is the least compact and consumes more vacant land than any of the four other DSEIS alternatives.

### **Magnet Alternative**

This alternative proposes to use social, economic and environmental incentives — as opposed to regulations — to try to attract people and businesses to many “magnet communities,” rather than a few urban centers. This alternative is separate from the other four alternatives in that it does not assume implementation of either the Countywide Planning Policies or the 1985 King County Comprehensive Plan.

The alternative stresses strategies and incremental changes to achieve a defined series of quantifiable community goals monitored by measurable benchmarks. It sets forth the concept of “least-cost planning” to develop the most cost-effective plan and minimize the tax burden, while taking into account social and environmental costs. Under this alternative, existing facilities would be utilized to maximum capacity before development of new infrastructure. It also would lower and gradually phase-in the higher-density housing and employment targets currently proposed in the 8 and 14 Centers Alternatives.

Under the Magnet Alternative, 35% of the employment growth will be in Urban or Manufacturing Centers, 62% in non-Urban Center Areas, and 3% in Rural Areas and Resource Lands. Of new housing, 36% will go to Urban Centers or Urban Areas served by transit; 51% to Urban Areas where the car is the primary means of getting around, and 13% to Rural Areas and Resource Lands.

Thus, the Magnet Alternative likely will produce a pattern of growth more compact than the Pre-Countywide Planning Policies Alternative, but less compact than the 8 and 14 Centers Alternatives. It is probably most similar to the No Action

Alternative’s growth pattern, although it might consume less acreage and be somewhat more compact. That’s because it calls for 25% of all new development by the year 2000 to be either more concentrated development or redevelopment of existing land. By the 2010, 50% of all new development must be either more concentrated or redevelopment.

## **Summary of Environmental Impacts**

### **Overview**

1. Overall, the five alternatives are similar to one another in that each contains an Urban Growth Area boundary and recommends achieving some greater concentration of new development.
2. Overall, the alternative policies recommended by the Fiscal Analysis and Economic Development Task Force, the Rural Task Force and the Affordable Housing Task Force provide for greater beneficial impacts on the environment than the Countywide Planning Policies.
3. The proposed policies or strategies under each alternative are numerous and interrelated. Thus, if some policies are not implemented or if policies are interpreted differently, the environmental impacts could change.
4. The alternatives’ outcomes are based upon assumptions about population and employment growth. Any changes in these assumptions could substantially affect the outcomes.
5. Detailed data on existing conditions (particularly critical areas, infrastructure capacities and economic activity), is not yet available. Much of this data is currently being researched by individual jurisdictions in the preparation of their respective comprehensive plans. Upon completion of these studies, it is recommended that the data be aggregated and the countywide policies reviewed with consideration of the new data.
6. The benchmarks and monitoring programs proposed by the Magnet Alternative would strengthen implementation of any of the alternatives.

## Land Use

7. The 14 Centers Alternative generally provides the fewest negative environmental impacts. Considering anticipated employment growth, implementation of this Alternative could take longer than the forecast year of 2010.

8. The increased densities called for under the 8 Centers and 14 Centers Alternatives may cause adverse impacts within the Urban Centers themselves. However, the Countywide Planning Policies do include actions to mitigate the majority of the negative impacts most commonly associated with concentrated development, such as: increased traffic congestion; change in existing neighborhood character, scale or identity; degradation of quality of life due to a lack of design standards for more concentrated development and redevelopment; increased costs of housing and business space due to increased development competition for available land; land-use conflicts between areas of concentrated development and areas less developed or with less-intensive uses, and decreased public safety.

9. The five alternatives produce very different impacts on King County's remaining vacant lands:

- The Pre-Countywide Planning Policies Alternative, which continues the land development trends of the late 1980s and early 1990s, would consume virtually all the remaining urban-designated vacant land in the county and its cities in the next 20 years — an estimated 44,000 residential acres and 10,100 commercial/industrial acres. 20 years from now, we will have to either move out into rural areas or tear down existing buildings to satisfy growth needs. Although current density implies less change or fewer impacts to the Centers, the net impact to the region is quite different. This alternative's policies provide the least amount of mitigation of the adverse impacts of dispersed, low-density development. Thus, it may result in the most negative impacts on lands within the Urban Growth Area (other than Urban Centers), as well as rural and resource lands. The Urban Growth Area for

this alternative also is much larger than the other alternatives. Hence, there will be more impacts located over a larger area.

- The 14 Centers Alternative, which makes use of higher concentration of housing and employment and redevelopment to accommodate growth, would consume far less vacant land: an estimated one-quarter as much residential land and one-third as much commercial/industrial land.

- In comparison with these "bookends," the other three alternatives would fall in the middle. The 8 Centers, Magnet and No Action Alternatives would consume, in increasing order, greater amounts of vacant land than the 14 Centers Alternative, but less than the Pre-Countywide Planning Policies Alternative.

10. The 14 Centers Alternative, followed by the 8 Centers Alternative, has the least amount of adverse impacts on rural areas, resource lands and rural cities by allocating the least amount of employment and residential growth to these areas. However, all the alternatives, to differing degrees, attempt to preserve rural lands and rural character by guiding development into Urban Growth Areas served with the public services and facilities necessary for urban development.

11. For four of the five Alternatives, existing zoning (which includes an estimate for redevelopment as well as vacant land) is adequate to accommodate all the projected future housing growth. The exception is the 14 Centers Alternative. Its designated Urban Centers fall short by 14,000 housing units under current zoning. This shortfall in housing capacity is in the seven centers outside Seattle, Bellevue and Kent. Centers in these three cities have adequate capacity for residential growth under current zoning. Remember, however, that this finding is based upon current zoning and does not reflect any zoning changes to accommodate increased densities that planning efforts will make.

12. Job growth targets can be accommodated by the capacity of commercial and industrial lands as currently zoned under all five alternatives.

13. Because of the lack of computer data, it will be essential to vigorously monitor actual land development to ensure adequate capacity for future development. Close coordination of land capacity issues with any capital improvements also will help ensure adequate capacity for future development.

### ***Air Quality***

14. The 8 and 14 Centers Alternatives are likely to produce fewer vehicle trips than other alternatives because of their concentrated development. Air quality should be best in the two Alternatives as a result. It is not expected, however, that they would reduce or hold constant the number of trips currently produced.

### ***Schools***

15. Previous studies have indicated that, overall, the impacts of additional families could be severe on schools. There could be a shortage of school facilities. Without estimates of population growth in each city, it is not now possible to identify which school districts will be impacted under each alternative.

### ***Utilities***

16. All the alternatives concentrate most growth in employment and households in urban areas where existing infrastructure (electrical, gas, and water supply) is in place or can be expanded with moderate to significant capital investment. For example, for some utilities, improving service within the Urban Centers would entail significant costs. All the alternatives propose locating no more than 1% of new employment and 9% of new households in rural areas, which would require significant improvements to the utilities infrastructure.

### ***Affordable Housing***

17. Each of the alternatives includes components that work for and against housing affordability. Combined with the enormous impact of market forces, it is difficult to predict

which alternative will best provide for affordable housing. The 8 and 14 Centers Alternatives restrict land supply, which will likely cause land prices to rise (although not necessarily land price per unit); however these alternatives increase the proportion of moderately priced housing, including small lot single family homes, mid-rise condominiums and apartments. The Pre-countywide Alternative provides the greatest amount of land for housing, but would contain the highest proportion of low density, higher cost housing. The No Action Alternative and Magnet Alternative fall between the Pre-countywide Planning policies and 8 and 14 Centers Alternatives. For each alternative, mitigating measures (such as creating incentives and reducing development costs) and market forces (such as household income and financing costs) will greatly influence success in achieving affordable housing.

### ***Transportation***

18. All the alternatives analyzed are expected to increase the average vehicle occupancy in the County.

### ***Water Quality***

19. All the alternatives propose concentrating urban growth west of the urban growth boundary, providing positive benefits to water quality in the rural and resource areas in the eastern portion of the County. Water quality in areas where growth will be concentrated could be adversely affected.

### ***Sensitive Areas***

20. The Pre-countywide Planning policies alternative has the greatest potential for dispersed growth which could have greater negative impacts on the majority of sensitive areas and resource lands.

# VIII. Answers to Questions about the DSEIS

---

Following are answers to some frequently asked questions. They are designed to help explain some significant findings of the Draft Supplemental Environmental Impact Statement.

*1. Can the Countywide Planning Policies be implemented without unacceptable damage to the environment, i.e. degradation of sensitive areas and resource lands, air and water quality, plants, animals, fish and noise?*

All new growth will pose some trade-offs with environmental values. In general, the 8 and 14 Centers Alternatives will cause fewer adverse impacts to the environment than the No Action and Pre-Countywide Planning Policies Alternatives. The Magnets Alternative would fall in between the other four alternatives in its environmental impacts.

*2. Will the proposed policies developed by the Task Forces markedly improve or detract from the overall performance of the alternatives?*

**Fiscal Analysis & Economic Development Task Force policies** that propose benchmarks will greatly facilitate implementation of policies recommended in all the alternatives. Benchmarks for redevelopment will facilitate implementation of both the 8 and 14 Centers Alternatives. These policies also generally will enhance the likelihood that Countywide Planning Policies can be implemented without adverse impacts on economic development, with one possible exception: The Task Force policies provide more land for business/office parks, which may draw jobs from the Urban and Manufacturing Centers, and thus undermine the outcomes of both Centers Alternatives and the Countywide Planning Policies.

**Rural Character Task Force policies** offer more specific criteria for designating rural areas which will make more accurate and efficient our efforts to implement them. Densities in the rural area would be slightly lower under the Task Force's recommendation than under existing Countywide Policies. That would reduce adverse impacts on both public services and the natural environment.

**Affordable Housing Task Force policies** emphasize the importance of looking at the entire housing market and finding ways to provide affordable housing for all economic segments. In addition, they call for setting specific targets by jurisdiction for low- and moderate-income housing, new development and to be attained through preservation of existing housing. The policies also recommend expanding the monitoring of both the housing market overall, which includes land capacity issues, and of the low- and moderate-income housing targets. These policies are more specific than those recommended within the alternatives and therefore are likely to improve the outcome.

*3. Is there sufficient growth capacity under current zoning to support the growth in jobs and households described in the DSEIS alternatives? If not, how much change will be needed to support future growth?*

Land capacity under existing zoning is adequate to accommodate the 20-year targets for residential growth, with one exception. The exception is the 14 Centers Alternative. Its designated Urban Centers fall short by 14,000 housing units under current zoning. This shortfall in housing capacity is in the seven centers outside of Seattle, Bellevue and Kent. However, local jurisdictions are currently working on Comprehensive Plans to address this issue.

The 20-year employment targets can be accommodated in each of the alternatives by the capacity of commercial and industrial lands as currently zoned.

Although land capacity generally is adequate to accommodate growth targets, current zoning provides an inadequate “cushion” in case the numbers are off and there isn’t enough room for growth in the urban areas. These cases are evenly spread across the five alternatives. Changes in zoning will be needed to allow markets to function efficiently in these cases.

These conclusions are based on the growth targets specified for the DSEIS and the land capacity work of the King County Data Resources Technical Forum, which has recommended that additional capacity be provided through zoning to provide for a 25% “cushion.” Land capacity calculations estimate potential buildout under specific assumptions and include a factor for both vacant land and redevelopment potential. Land capacity estimates have been adjusted for critical area constraints, right-of-way, public purpose lands and market factors.

*4. Will the Alternatives place different demands on the remaining vacant lands in urban-designated areas of King County?*

The alternatives would have widely different impacts on the remaining urban-designated vacant lands in King County and its cities. The Pre-Countywide Planning Policies Alternative, which continues the land development trends of the late 1980s and early 1990s, would consume virtually all remaining urban-designated vacant land in the County and its cities in the next 20 years — an estimated 44,000 residential acres and 10,100 commercial/industrial acres. The 14 Centers Alternative, which makes greater use of more concentrated development and redevelopment to accommodate growth, would consume far less vacant land, an estimated one-quarter as much residential vacant land and one-third as much commercial/industrial land.

*5. Will the Alternatives produce adverse impacts to affordable housing? If so, how can the impacts be mitigated?*

Each of the alternatives is likely to produce some degree of adverse impact on housing prices and rents because the overall supply of land available for development will be constrained by designating the Urban Growth Area and by requirements to provide infrastructure services. It is not known for sure which of the alternatives will have the least adverse impact. Prices and rents will be greatly affected by market factors such as supply and demand and the cost of financing. Affordability also will be affected by the degree to which private and public actions actively promote affordable housing in areas where services are available.

Such actions might include:

- Providing adequate land capacity, with a cushion, to allow markets to function without undue price effects;
- Providing public subsidies to assist lower-income individuals meet their housing needs;
- Providing incentives to encourage development of attractive, higher-density housing, and

*6. Can the Countywide Planning Policies succeed without a rail system?*

The Countywide Planning Policies, which are based on the concept of compact centers, must be supported by a high-capacity transit system in order to function effectively. This system does not have to use light rail in order to succeed. Buses and other options to the single-occupant vehicle could fulfill the need.

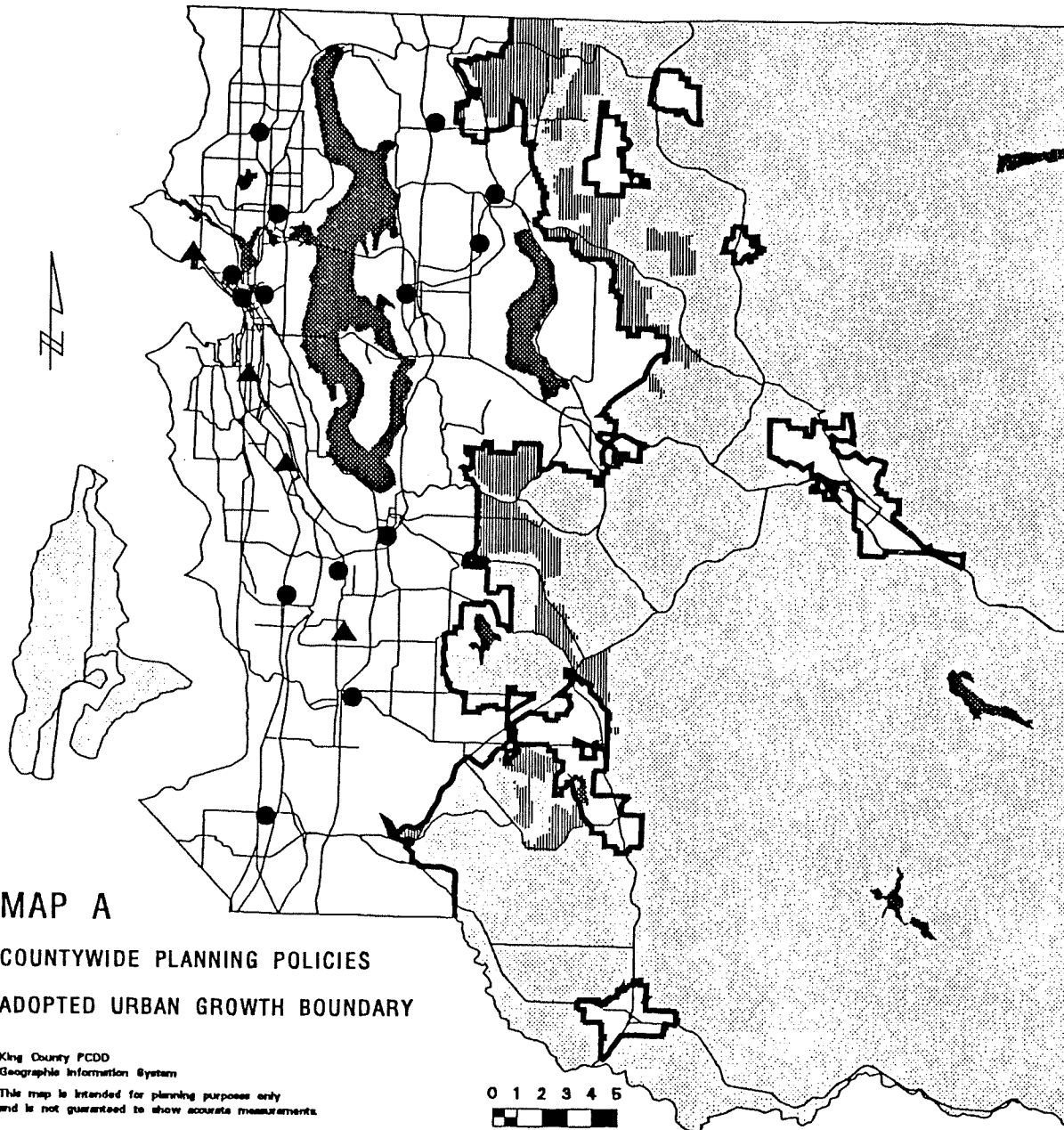
*7. Will the Countywide Planning Policies affect economic development? If so, how?*

It is assumed the policies will affect economic development, but on the whole, the specific impacts are not known.

To the extent that development policies reflect a balance between conservation of the County's physical and biological resources and land use requirement of commerce and industry while providing a constant low risk of change environment, the development potential of the County will be enhanced relative to other parts of the Western United States.

Positive effects could result from jurisdictions working together to implement the Countywide Planning Policies through appropriate changes to regulations and provision of incentives for growth in Urban Areas and Centers.

This Executive Summary was prepared by Maggie Brown of  
Maggie Brown Media Relations/Communications



1992 Countywide Planning Policies  
 Urban Growth Boundary line

Highways and Arterial Roads

Urban

Rural/Resource

New Rural  
 (Formerly Urban Lands under 1985  
 King County Comprehensive Plan)

Nominated Urban Centers

Nominated Manufacturing/  
 Industrial Centers

**MAP A**  
**COUNTYWIDE PLANNING POLICIES**  
**ADOPTED URBAN GROWTH BOUNDARY**

King County PCDD  
 Geographic Information System  
 This map is intended for planning purposes only  
 and is not guaranteed to show accurate measurements.

Boundaries may be incomplete and are the best  
 available at the current time.

January 06, 1994

0 1 2 3 4 5  
 MILES

**URBAN CENTERS:**

- Seattle Central Business District
- First Hill/Capitol Hill
- Seattle Center/South Lake Union
- Northgate
- University District
- Bellvue Central Business District
- Renton Central Business District
- SeaTac Central Business District
- Federal Way Central Business District
- Tukwila Central Business District
- Kent Central Business District
- Redmond Central Business District
- Overlake
- Totem Lake

**MANUFACTURING/  
 INDUSTRIAL CENTERS:**

- North Kent
- Duwamish/Tukwila
- Ballard/Interbay
- Seattle/Duwamish

# Table 1

Distribution of King County Employment Growth,  
in terms of Percentage Land Use

Land Use Type	No Action Alternative	8 Centers Alternative	14 Centers Alternative	Existing Plans Alternative	Magnet Alternative
Urban Center	30	49	74	20	30
Manufacturing Center	2	5	5	1	5
Activity Center	35	27	9	38	38
Office/business Park	12	8	5	15	15
Other Urban	18	8	5	22	9
Rural City	2	2	1	2	2
Rural/Resource Lands	1	1	1	1	1

# Table 2

Distribution of King County Household Growth,  
in terms of Percentage Land Use

Land Use Type	No Action Alternative	8 Centers Alternative	14 Centers Alternative	Existing Plans Alternative	Magnet Alternative
Urban Center/ Urban Areas (transit primary means of travel)	36	60	74	29	36
Non-Urban Center Areas (car primary means of travel)	52	34	21	56	60
Rural/ Resource Lands	7	2	2	9	7
Rural Cities Rural/Resource Lands	5	4	3	6	6

**1.0 LAND USE**

**MAIN FINDINGS**

**OVERALL LAND USE**

- Because there are uncertainties and possible errors in the data, it is essential to establish a vigorous monitoring effort to track land development and capacity, so that on-course corrections can be made and adequate capacity for future development can thereby be ensured. Integration of land capacity provision with capital improvement programming also will help ensure adequate capacity for future development.

**LAND DEVELOPMENT AND LAND CAPACITY**

- The five SEIS alternatives produce very different impacts to King County's remaining vacant lands. The Pre-Countywide Planning Policies Alternative, which comes closest to continuing the low-density development pattern typical of the 1980s, would consume virtually all remaining vacant urban lands within the 20-year planning horizon. By way of contrast, the 14 Centers Alternative, which places greater reliance on use of infill sites and redevelopment, would consume far less vacant land -- an estimated one-quarter as much residentially zoned land, and one-third as much commercial/industrially zoned land.
- With one exception, residential land capacity under existing zoning is adequate to accommodate growth targets in the five SEIS alternatives. The exception is that within urban centers there is a collective residential capacity shortfall of about 14,000 dwelling units under current zoning in the 14 Centers Alternative. This capacity shortfall is in the proposed centers outside of Seattle, Bellevue, and Kent.
- Without exception, job growth targets can be accommodated by the capacity of commercial and industrial lands as currently zoned.
- While there is generally sufficient land capacity to meet the growth targets for each alternative, in about one-quarter of the cases where targets are compared to individual land uses there is insufficient capacity to provide a 25 percent cushion (i.e., to allow for growth to exceed the target by 25 percent).

**URBAN GROWTH AREAS AND URBAN CENTERS**

- The 14 Centers Alternative, followed by the Eight Centers Alternative, calls for the greatest concentration of development within urban centers and hence, the greatest impact on land uses currently inside the centers. As a result, the 14 Centers Alternative has the least adverse impact on other areas within the UGA, followed by the Eight Centers Alternative. These alternatives will require a more compact development pattern within urban centers than currently experienced. The policies for the 14 Centers Alternative call for this to be accomplished through infill and redevelopment, regulatory changes and incentives.
- The Pre-Countywide Planning Policies Alternative calls for the least allocation of growth to urban centers, and more dispersed development within the UGA. This results in less density and less change or impacts to the centers. The net impact to the remaining portions of the UGA is quite different. The policies associated with this alternative provide the least amount of mitigation to the adverse impacts of dispersed, low density development. The UGA for the Pre-Countywide Planning Policies Alternative is also much larger than the other alternatives, hence there will be more impacts located over a larger area.

**MAIN FINDINGS "Continued"**

**RURAL LANDS AND RURAL CITIES**

- All of the alternatives allocate similar amounts of new jobs to rural lands and cities, except for the 14 Centers Alternative which allocates more jobs to urban centers in the western portion of the County, thereby reducing the amount targeted to rural cities. The major differences between alternatives lie in their allocation of residential growth to rural areas and rural cities.
- The Pre-Countywide Planning Policies Alternative calls for the largest allocation of residential growth to rural areas and rural cities. This alternative also provides the least mitigation for the impacts associated with its pattern of lower density development. As a result, it may produce the greatest impacts to rural lands and rural cities.
- Implementation of the Rural Character Task Force policy options would improve the extent to which the existing rural character of the unincorporated areas would be preserved and enhanced.

**SHORELINE USE**

- The 14 Centers Alternative would have the least negative impacts on the greatest number of shorelines, with the Eight Centers, No Action, Magnets, and Pre-Countywide Planning Policies Alternatives following in respective order. However, more adverse impacts could occur to urban shorelines inside or adjacent to urban centers as pressures for infill and greater density are achieved through both the Centers Alternatives.
- The Pre-Countywide Planning Policies Alternative has the greatest potential for dispersed growth which could negatively impact a greater number of shorelines in urban and rural areas. There would also be limited requirements for jurisdictional coordination under the Pre-Countywide Planning Policies Alternative resulting in potentially more adverse impacts on shorelines in both urban and rural areas.

**AFFECTED ENVIRONMENT**

**LAND DEVELOPMENT AND LAND CAPACITY**

**Land Development Patterns**

Substantial land development occurred in King County during the 1980s. The first half of the decade, which experienced a recession, had a slower rate of growth for both new households and jobs. Development picked up greatly in the second half of the decade, led by a rapidly expanding economy which created population immigration, new jobs and corresponding demand for additional commercial and residential development.

**Residential Lands**

Demand for residentially zoned lands increased greatly during the second half of the 1980s. Annual Growth Reports for King County show that between 1985 and 1989, an average of 17,600 new dwelling units were permitted annually in unincorporated King County and its cities, compared with slightly more

than 11,200 a year during the first half of the decade. Approximately 52 percent of the new units receiving permits during the 1980-1989 period were for locations in unincorporated King County, and the balance in the cities.

The share of new development siting in unincorporated areas has declined in the past few years, principally as a result of the incorporation of new cities in Federal Way, SeaTac, Burien, and Woodinville. Between 1990 and 1992, about 43 percent of newly permitted units were sited in unincorporated areas.

Between 1980 and the end of 1990, 161,000 dwelling units received construction permits in King County and its cities. Fifty-five percent of these units were for multifamily units; the rest were single family. With an average density of 20 units per gross acre, multifamily development used between 10 and 15 percent of all lands consumed by residential development during the period. Single family development, at roughly 2.5 dwelling units per gross acre, which was substantially less than allowed by

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

zoning, consumed 85 to 90 percent of the residentially zoned lands committed to new development.

Overall, an estimated 26,000 to 27,000 acres of vacant land (41 to 42 square miles) were consumed by new residential development during the 1980-1990 period. This represents about 80 percent of all residential development, with the balance occurring through redevelopment or reuse of underutilized lands.

Recent market trends do not show residential lands being used more efficiently. Between 1990 and the end of 1992, the last full year for which data are available, the 1993 Annual Growth Databook<sup>1</sup> shows that lots recorded in single family subdivisions in King County and its cities achieved an average density of between 1.6 and 1.8 lots per gross acre. At the same time, the multifamily share of all units permitted has declined, from 55 percent during the 1980s to slightly less than 40 percent during 1991 and 1992. With the total mix of development shifting toward lower density single family development, this means that greater amounts of land are being used to create new housing on a per household basis in the early 1990s than was true during the 1980s.

As of 1991, prior to adoption of the Countywide Planning Policies (CPPs), King County had roughly 52,000 acres of residentially zoned vacant lands remaining in its cities and unincorporated urban designated areas. Ninety percent of this acreage was zoned for single family development and ten percent for multifamily. Data for individual cities and planning areas, as well as a summary for unincorporated rural areas, are presented in Table B1 in the Appendix.

The 1992 CPP redesignated about 49 square miles of lands formerly designated urban and transitional to rural. While most of this "new rural" area was already developed, the redesignation decreased the vacant land base with an urban designation by 12,000 acres, to approximately 40,000 acres countywide.

Rural unincorporated areas contained approximately 63,400 acres of residentially zoned vacant land in 1991.

### **Commercial and Industrial Lands**

Between 1980 and 1990, nonagricultural wage and salary employment in King County increased 39 percent from 679,000 to 942,900 jobs. This growth served as a powerful stimulus to commercial and

industrial development. Although land data describing this development are not readily available, the general pattern is evident in two related trends.

First, employment has been dispersing outward from central city areas for many years. In the early 1970s, 90 percent of leased commercial office space in King County was located in the central business districts of Seattle and Bellevue. By the late 1980s, this figure had fallen below 70 percent.<sup>2</sup>

Second, at the same time that jobs were decentralizing, land extensive business and office park development (often sited in campus-like settings with very low ratios of floor area to gross parcel acreage) became popular.

These two major trends have consumed commercial and industrially zoned land at an increasing rate. In recent years, commercial lands brokers have expressed alarm at the dwindling supply of large, relatively unconstrained parcels appropriate for new development. In 1990, the King County Economic Development Council undertook a survey of vacant commercial and industrial lands in selected King County jurisdictions. Shortly thereafter an interjurisdictional Data Forum (described in next section) undertook another, more comprehensive analysis based on King County Assessor files. The results are summarized in Table B2 in the Appendix.

The meaning of these numbers with regard to capacity to absorb future commercial and industrial development is addressed below in the impacts section of this chapter.

### **Land Capacity Data**

Land capacity refers to the number of additional dwelling units (for residential uses) or square feet of improved floor space (for commercial/industrial uses) that can be accommodated within a given geographic area under current zoning.

Estimates for land capacity have been developed for residential and commercial/industrial lands in the urban designated portions of King County and its cities by the Data Resources Technical Forum. This Forum is an interjurisdictional work group established in 1991 to develop a coordinated approach to the data and information required for countywide planning efforts.

The Forum's land capacity work was intended to provide policy makers and citizens with a baseline to

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

gauge how far current zoning might take them toward the vision contained in jurisdictions' comprehensive plans required by the state GMA. Capacity under current zoning is distinct from (and preliminary to) the planned capacity that jurisdictions will need to provide in order to realize the vision contained in their plans.

The Data Forum relied heavily on the only source of comprehensive data describing the characteristics of the King County land base: the computerized files of the King County Assessor. In several cases, jurisdictions used databases developed as a result of their own parcel-specific land inventories. Residential capacity estimates were received from all jurisdictions except the new cities of Burien and Woodinville. Commercial/industrial capacity estimates were received from one-half of the County's 34 jurisdictions (16 cities plus King County), including information for all but three of the jurisdictions with more than 10,000 residents: Bothell, Burien, and Mercer Island.

Capacity estimates for the land areas now in the new cities of Burien and Woodinville are included in the unincorporated estimates for the Highline and Northshore community planning areas, respectively. Capacity figures for the new cities will be available in the near future.

Land capacity calculations estimate potential buildout under specific assumptions about the land base and the character of potential development. To estimate capacity for additional dwelling units, the Forum assumed maximum yields under current zoning after discounting for critical area constraints such as steep slopes and wetlands, right-of-way, and land needed for other public purposes such as schools and parks. To estimate the capacity of commercial and industrial lands, the Forum estimated the additional square feet of floor space allowable under current zoning, assuming floor area ratios (FARs) based on recent market trends (code adopted FARs in the case of Seattle) and discounts for critical areas and right-of-way. Estimates for both vacant land and redevelopment potential were prepared. These methods are detailed in a draft report entitled, "Draft Data Resources Technical Forum Preliminary Report on Land Capacity" dated September 3, 1992.<sup>3</sup>

With one exception, the methods used by the Data Forum conformed to the procedure recommended by the state Department of Community Development (DCD) guidebook entitled "Issues in Designating Urban Growth Areas (Part I): Providing Adequate

Urban Area Land Supply" (March 1992). The exception is that the estimates as initially prepared did not take market factors fully into account. For example, all jurisdictions indirectly considered market factors in their commercial/industrial land capacity when they excluded from redevelopment calculations all parcels with improvements-to-land assessed values above 50 percent. In addition, Seattle and King County excluded residentially zoned parcels with relatively high improvements-to-land values.

Market factors address realities having to do with the availability, acceptance, and financing of land development transactions within a given period of time. Unlike land capacity, market factors are time-sensitive. Land capacity calculations address potential buildout, not the rate of utilization or absorption of capacity.

In an effort to respond to market realities, the Data Forum convened a series of discussions with representatives of private sector organizations knowledgeable about land development and real estate. These discussions resulted in the formulation of an approach that is used in this SEIS to further discount the land capacity data for market factors. These factors, along with detailed recommendations, are described in a King County revised draft paper, "Adjusting Land Capacity Estimates for Market Factors."<sup>4</sup>

In that paper, the Data Forum recommends to jurisdictions that they consider discounting their land capacity estimates under current zoning an average of 15 percent for market factors, 5 percent to 15 percent for vacant land and 15 percent to 25 percent for redevelopment. These market discounts are for the 20-year GMA planning horizon and would be in addition to discounts already made for critical areas, right-of-way, and public purpose lands.

The group also recommended that jurisdictions' future planned capacity exceed its adopted growth target by 25 percent. This "cushion" is intended to allow the markets to operate without significant upward pressure on land prices. Establishing the size of the cushion clearly involves judgment. Providing too small of a cushion will not provide sufficient mitigation of price pressures. Too large of a cushion, on the other hand, would encourage continuation of inefficient, lower density urban development sprawling outward from urban centers.

The 25 percent cushion chosen by the Data Forum is recommended in the March 1992 DCD guidebook and

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

is based on practice in other states with growth management programs (Oregon and Florida). To safeguard against possible price impacts, the cushion is recommended for use as a complement to ongoing monitoring of development trends and residual land capacity.

### **Summary Findings**

Initial Data Forum estimates of residential and commercial/industrial capacity are contained in Tables B3 and B4 in the Appendix. These tables include data for all cities and unincorporated areas in King County, including estimates for rural city expansion areas contained in adopted community plans. Prepared in accordance with the method described in the preceding section, these data have been discounted for market factors for purposes of this SEIS. By agreement of the Data Forum, individual jurisdictions will make their own judgments about market factors. These may be different from those assumed in these tables, where vacant land has been discounted 10 percent for market factors and redevelopment potential, 20 percent.

When reviewing the land capacity findings, two general qualifications should be taken into account:

- 1) These findings are based on initial estimates. Refinement of numbers is expected to occur as jurisdictions develop the comprehensive plans required by the GMA. Blanks in Table B4 (in the Appendix) represent missing data that would add to reported commercial and industrial capacity countywide.
- 2) These estimates do not indicate whether infrastructure capacity for water, sewer, transportation, or schools exists in those areas reporting land capacity under current zoning. This is important because the GMA requires concurrency for selected infrastructure (with transportation being mandatory) to bring capacity "on line" in support of future development. Data on the capacity of these systems, providing a fuller, more realistic sense of land capacity, will only be introduced as policy discussions advance and comprehensive plans are prepared.

### **Urban Areas**

1991 Urban and rural residential capacity estimates are provided in Table B3 in the Appendix. Urban

areas include all cities, including rural city expansion areas, and unincorporated areas west of the urban-rural line adopted in the CPPs in July 1992. These are the areas -- about 457 square miles in total -- where the vast majority of new growth is expected to go.

Based on 1991 data, with market discounts for the 20-year planning horizon, there was residential capacity under current zoning in these areas for an estimated 291,000 new dwelling units, including rural city expansion areas. About two-thirds of this capacity was in the cities, with the balance in unincorporated urban areas west of the urban-rural line. Slightly less than half of the available capacity (48 percent) was estimated to reside in redevelopment potential, not on vacant land.

The City of Seattle represented about one-third of available urban residential capacity countywide. In unincorporated King County, the Soos Creek community planning area contained more urban residential capacity than any other community planning area west of the urban-rural line (about 6 percent of the countywide urban total).

Commercial/industrial 1991 land capacity estimates are provided in Table B4 in the Appendix. As shown in Table B4, commercial and industrial lands capacity under current zoning existed for an estimated 319 million square feet of additional floor area in 1991. Approximately 314 million square feet of this floor area was in urban areas, and the balance in unincorporated rural areas. Upwards of 95 percent of the 319 million total was in the cities, with the City of Seattle representing 46 percent of total unused capacity.

About three-fifths of all unused non-residential urban capacity was in commercial zones, which include retail and office uses; two-fifths was in industrial zones. About 47 percent of unused urban commercial and industrial capacity resided in redevelopment potential, not vacant land.

### **Unincorporated Rural Areas**

Residential capacity estimates for King County's unincorporated rural areas also are available. These areas cover about 334 square miles and include approximately 285 square miles that were designated rural as of June 1992 plus 49 square miles (formerly unincorporated urban and transitional areas, that were proposed for rural designation by the CPPs in July 1992).

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

The rural area estimates were not prepared as part of the Data Forum process. They were prepared by County staff in 1992 based on its own work and the environmental impact statements prepared by consultants for adopted community plans. The methods used in preparing these statements vary but generally follow the same logic used by the Data Forum.

As based upon information provided in Table B3 in the Appendix, there was capacity during the 20-year planning horizon for approximately 29,300 additional dwelling units in King County rural areas under existing zoning, 18,700 in areas that were already rural in June 1992 and the remainder in the "new" rural areas designated by the CPP.

This estimate excludes the growth possible in the seven square miles that are included in the rural city expansion areas contained in adopted community plans for the Snoqualmie Valley and Enumclaw community planning areas. The higher density zoning possible in these areas upon annexation (assuming four dwelling units per acre, net of all factors addressed in the Data Forum procedure) would allow an additional 6,550 dwelling units to augment the residential capacity of selected rural cities.

The figures presented in Table B3 (in the Appendix) do not take into account the downzoning that would be required to preserve rural character in the 49 square mile area that was redesignated rural by the CPP in July 1992. This downzoning would reduce capacity by about half in that area, to approximately 5,000 to 6,000 new dwelling units. Overall, excluding rural city expansion areas, there would then be residential capacity in King County's unincorporated rural areas for about 24,000 additional dwelling units for the 20-year planning horizon.

As suggested above, there was discounted capacity for an estimated five million square feet of commercial and industrial floor space in King County's unincorporated rural areas in 1991.

### **URBAN GROWTH AREAS AND URBAN CENTERS**

#### **Urban Growth Areas**

The Washington State GMA requires King County to designate a UGA where growth is to be encouraged. This area is characterized as being suitable for urban growth, containing existing or planned facilities and public services to serve development. 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 or fiber, or the extraction of mineral resources. When allowed to spread over wide areas, urban growth typically requires urban governmental services" (RCW 36.70A.030). The UGA is a permanent designation. Land outside the UGA is designated for permanent rural and resource uses, except for the cities in the rural area. All cities are to be included within an UGA.

In July of 1992, the King County Council adopted the CPPs. These policies and the map included with the policies established the framework for designating the UGA and methods to phase development within this area in order to bring certainty to long-term planning and development within the County.

The UGA is largely based on the urban area established by the 1985 King County Comprehensive Plan as amended through 1992 (except for 49 square miles designated as new rural areas). The new UGA boundary, including the Technical Review Areas, has not been formally adopted. The Technical Review Areas are still under consideration by the GMPC. By July 1994, the Technical Review Areas, as defined by the CPPs, will be formally acted upon. Presently, the map adopted by the GMPC contains approximately 447 square miles of urban area, and approximately 331 square miles of rural area. The balance of the County's lands are in resource lands.

#### **Centers**

The CPPs envision urban centers as areas of concentrated employment and housing, with direct service by high capacity transit, and a wide range of other land uses such as retail, recreational, public facilities, parks, and open space. None of the areas proposed to be urban centers in the future currently meet the urban center criteria for both employment and housing with the exception of the University District in Seattle.

The 1985 King County Comprehensive Plan established general guidelines for lower density activity centers. Policies in the comprehensive plan encourage the development of a variety of activity center types, from urban and rural activity centers, to community and neighborhood centers. These centers are in existing urban areas and are intended to provide employment, shopping, service, leisure, and

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

community and neighborhood centers. These centers are in existing urban areas and are intended to provide employment, shopping, service, leisure, and community needs to King County residents. These centers theoretically already existed in cities and towns when they were designated by the comprehensive plan. Some of the urban activity centers' boundaries have been refined and have expanded over time. There was never an attempt to designate any further centers. For the most part, the centers designated by the 1985 Comprehensive Plan reflect reality with perhaps the exception of Preston. Preston is presently designated as a rural neighborhood center and appears to be functioning as a rural town center.

### **RURAL LANDS AND RURAL CITIES**

King County identified, designated, and zoned a permanent rural area through its 1985 Comprehensive Plan and subsequent community plans and regulations. Overall, rural lands tend to be characterized by large amounts of undeveloped land, low land use density, and minimum service levels. Small farms, woodlots, and single-family homes on large lots tend to dominate the rural landscape.

The 1985 King County Comprehensive Plan designated about 207 square miles (132,782 acres) of rural area (about 10 percent of King County's total land area). On these lands, some residential development has occurred on parcels of 2.5, 5, and 10 acres, consistent with the comprehensive plan. However, most existing residential development occurred prior to 1985 in the form of 12,000 lots of less than 2 acres on 13 square miles (or covering 6 percent of the rural area). An additional 7.7 square miles, or just under 4 percent, is subdivided into undeveloped lots of under 2 acres. The "new" rural areas designated by the CPPs add 49 more square miles of rural area, including 14 square miles (or 47 percent of the land in question) with over 14,000 lots 2 acres or smaller already platted or developed with houses.

While counties are the jurisdictions specified by the GMA as responsible for designating and regulating rural areas through their comprehensive plans, the protection of King County's rural area is a countywide issue and a fundamental objective of the CPPs. Under the CPPs King County's UGA would be reduced by some 49 square miles, expanding the rural area by the same amount.

The CPPs also include resource lands. Resource lands include agriculture, forest, and mineral areas (sand, gravel, and other mined minerals) having long-term commercial value. Although King County already has designated resource lands and restrictively zoned extensive portions of its territory as Agricultural Production Districts or Forestry Production Districts, a significant part of the rural area land base is still in farming or forestry uses. For example, out of the 132,782 acres designated rural by the 1985 King County Comprehensive Plan, almost 55,000 acres, or 42 percent, are enrolled in property tax incentive programs intended by Washington State law to preserve viable farming and forestry (RCW Chapters 84.33 and 84.34).

### **Agricultural Lands**

In November 1979, County voters overwhelmingly approved a \$50 million land sale to finance the purchase of development rights to voluntarily offered farmlands. The implemented program to buy and protect farmlands is known as the Farmlands Preservation Program. Once acquired under the program, the farmland can only be used for farming since the development rights have been purchased from the property owner. Since adoption of the 1985 Comprehensive Plan over 10,000 acres of farmland (about 30 percent of total King County farmland) has been acquired by King County.

After the adoption of the 1985 Comprehensive Plan the County enacted new resource and rural zone classifications. The agricultural classifications (A-35, A-10) were applied to the comprehensive plan agricultural resource designated lands (which include most of the Farmlands Preservation Program lands) and rural zone classifications (AR-10, AR-5, AR-2.5) were applied to the rural designated lands. The rural zone classifications recognize agriculture and forestry as preferred land uses (with other uses allowed which are compatible with this preference). The Resource Areas Zoning was applied in 1989 with the adoption of King County Ordinance #8848. Rural area zoning classifications are applied as each community planning area is updated. The new County zoning code (adopted 1993) will now be applied to the resource areas and rural areas during the next few years.

### **Forest Land**

King County does not have a forest land protection program similar to the County's Farmland Preservation Program. Forest lands (of which about

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

40 percent of King County is privately owned commercial forest) is primarily protected by the 1985 Comprehensive Plan rural or resource land designation and rural AR-10, AR-5, AR-2.5 or forest F zone classifications. The F zone classification calls for a minimum lot size of 80 acres. Approximately 95 percent of the private owned forest lands are in current use taxation programs which also encourage retention in forest land use. Current use taxation allows for taxing land at a current use value rather than at the higher market value.

Most of King County forest land is held in large parcels conducive to commercial forestry. Approximately 90 percent of the forest land base (1,200 square miles) is held in 1,700 large parcels. An exception to this is the 16,000 privately owned acres that are fully taxed. In 1990, the average size of the 1,400 parcels in this category was just over eleven acres, which is considered too small for efficient management of land for commercial forestry. Commercial forest land has remained relatively constant in King County since adoption of the resource land area zoning in 1987 and application of rural area zoning through community plan updates. However, some land has been lost due to primarily residential development and golf course development.

### **SHORELINE USE**

Shoreline areas encompass several different and sometimes overlapping land uses. In King County, shorelines consist of water bodies and their associated wetlands, such as lakes, streams, rivers, and reservoirs as well the lands underlying them. Within unincorporated and incorporated King County, a variety of uses exist in shoreline environments--residential, commercial, parks and open space, industrial, and institutional uses.

To protect shoreline environments, the Washington State Shoreline Management Act was passed in 1971. The Act identifies seven land and water use elements that are required to be included in areawide shoreline goals. These elements include the following: shoreline use, economic development, public access, conservation, historical/cultural, and recreation. To implement the act, the King County Shoreline Management Master Program was developed. King County Ordinance 3688 followed the 1971 Shoreline Management Act. This ordinance created a new title in the King County Code providing for the regulation of development impacting shoreline areas of the County, the implementation of the Shoreline Management Act, and the implementation of the

goals, policies and objectives of the King County Shoreline Management Master Program.

In 1977, King County Council adopted Ordinances 3689 and 3692, thus adopting the goals and policies of the Shoreline Management Master Program as an addendum to the comprehensive plan. Written descriptions of the boundaries of the various shoreline environments along the shorelines of the state were also adopted.

However, even with the passage of these regulations, the size and number of parcels in King County with shoreline access have diminished considerably during the last 20 years because of continued growth pressures and desirability of shoreline property. Much of the developed shoreline in King County is in private ownership, subdivided into small lots and presently zoned for residential use. There are also commercial and industrial uses on the shoreline, especially in the urban areas. This has significantly reduced the quality and amount of shoreline available for fish and wildlife habitat, public recreation, or shoreline public access.<sup>5</sup>

To date, the King County Shoreline Management Program has not been amended. A proposed ordinance is currently under review by King County Code Development and other agencies to update some sections of this document. Some cities will be revising their Shoreline Management Program to reflect changes in their comprehensive plans being developed under GMA.

## **SIGNIFICANT IMPACTS**

### **LAND DEVELOPMENT AND LAND CAPACITY**

#### *Introduction*

The analysis of the environmental impacts of the CPPs and their proposed alternatives and other policy options assumes that the policies will be implemented as adopted or proposed, unless otherwise specified. This analysis does not examine feasibility issues in any direct sense, nor does it address fiscal impacts. The analysis provides quantitative estimates of impact where there are credible data. Where such data are lacking, the analysis provides a qualitative assessment regarding the direction and rough order of magnitude of significant impacts.

The principal approach used in this section compares discounted land capacity figures for dwelling units and jobs with specified growth targets. The document

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

also explores the adequacy of urban designated vacant land to support future growth.

The analysis addresses the following questions regarding land capacity:

- 1) "Is net land capacity under current zoning, discounted by market factors for the 20-year planning horizon, sufficient to accommodate specified growth targets?"
- 2) Would additional capacity be needed to provide a 25 percent cushion for the targets, so that markets might work more effectively?"

It should be stressed that a finding of insufficient capacity under current zoning does not invalidate the CPPs and the proposed alternatives. Rather, the analysis is intended to provide public policy makers and citizens with a rough sense of how much zoning might have to change under the alternatives in order to accommodate the alternatives.

### Growth Impacts of the Alternatives

The alternatives will have significant impacts on land development patterns and land capacity in King County. They may have impacts which are felt beyond County borders. Before systematically examining land capacity across the alternatives, several general statements can be made.

All of the alternatives will consume vacant land. How much additional vacant land will be needed is uncertain, for at least three reasons:

- (1) The share of new development that will come in the form of redevelopment or reuse of underutilized sites is not known.
- (2) The densities that will be achieved by new development are uncertain at this time.
- (3) The share of new development that will be devoted to multifamily or office uses (higher density types for residential and commercial development, respectively) is not known.

For these reasons, a definitive quantitative, comparison of alternatives in terms of vacant land consumption is not possible. However, some broad, comparative statements are possible. One would expect significantly less vacant land consumption in the Centers Alternatives, given the higher shares of new growth targeted for centers where most new

development will require reutilization or redevelopment of already developed parcels. In comparison, one would expect a higher degree of vacant land consumption in the Pre-Countywide Planning Policies Alternative, which is reflected in existing trends (comparatively low single family densities). The No Action and Magnet Alternatives would fall somewhere in between these "bookends."

Rough quantitative estimates of vacant land consumption for the bookend alternatives can be presented and may be helpful, as long as one does not lose sight of the assumptions made. Beginning with the bookend that is closest to existing trends, the Pre-Countywide Planning Policies Alternative might achieve the following, using 1980s trends as assumptions:

- Ten percent to 30 percent of new development will be redevelopment: the lower percentage for single-family and the higher percentage for multi-family or office development (or 20 percent on average).

- Twenty dwelling units per gross acre for multi-family and 2.5 dwelling units per gross acre for single-family; .2 to .3 floor area ratios (floor area to gross parcel area) for commercial and .1 to .2 for industrial uses.

- Fifty percent of new development will be multi-family. Five percent of new development will be heavy manufacturing uses.

- For residential uses, 226,000 dwelling units are needed for the 20-year targeted household growth of 215,000 (5 percent vacancy rate allowed). For commercial/industrial uses, 142.8 million square feet of floor space are needed for the 20-year targeted job growth of 340,000 (assuming an average 400 square feet per employee and 5 percent vacancy rates).

Rounded to the nearest 100 acres, the results based on these assumptions are:

- A total of 44,600 acres of vacant land would be consumed for residential uses (3,900 acres for multi-family, 40,700 acres for single-family).

- A total of 10,100 acres of vacant land would be consumed for commercial uses (1,800 acres

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

for heavy manufacturing, 8,300 acres for commercial, including business/office parks).

By way of comparison, the 14 Centers Alternative might achieve a more compact development pattern based on the following assumptions:

For both residential and commercial/industrial uses, 35 to 65 percent of new development will be redevelopment. The lower end of this range would be for single-family and higher end for multi-family or office development (about 60 percent on average). Redevelopment is assumed greater than the 10 percent to 30 percent in the Pre-Countywide Planning Policies Alternative because of the greater shares of residential and commercial development in centers, where most new development will consist of redevelopment.

Thirty dwelling units per gross acre for multi-family and 5.0 dwelling units per gross acre for single-family uses. For commercial, .3 to .4 floor area ratios and for industrial .2 to .3 floor area ratios. The higher densities assumed in this alternative when compared with the Pre-Countywide Planning Policies Alternative are logical in view of the greater shares of growth going into centers, accompanied by greater emphasis on efficient land use.

Sixty-five percent of residential growth will be multi-family. Five percent of commercial/industrial growth will be heavy manufacturing uses. The greater share for multi-family in this alternative compared with Pre-Countywide Planning Policies Alternative is explained, again, by the greater share of residential growth targeted to centers.

226,000 dwelling units are needed for 215,000 targeted household growth (5 percent vacancy rate allowed). 142.8 million square feet of floor space are needed for 340,000 targeted job growth (assuming an average 400 square feet per employee and 5 percent vacancy). These assumptions are the same as for the Pre-Countywide Planning Policies Alternative.

Rounded to the nearest 100 acres, these assumptions yield the following rough estimates for the 14 Centers Alternative:

A total of 11,600 acres of vacant land would be consumed for residential uses (1,700 acres for multi-family and 9,900 acres for single-family).

A total of 3,700 acres of vacant land would be consumed for commercial/industrial uses (700 acres for heavy manufacturing and 3,000 acres for commercial, including business/office parks).

Rough estimates for the two bookend alternatives suggest that the burden on the vacant land base is greater for the Pre-Countywide Planning Policies Alternative when compared with Fourteen Centers. For example, the Pre-Countywide Planning Policies Alternative requires nearly four times as much vacant residential land and two and one-half times as much vacant commercial/industrial land as is needed under the 14 Centers Alternative.

As based upon the information provided in Table B1 in the Appendix, the Pre-Countywide Planning Policies Alternative would consume about 85 percent of all remaining urban designated vacant land zoned for residential use. This assumes, consistent with this alternative, that the CPP basis for the "new" rural area is not implemented and that the low-density development patterns of the 1980s continue into the future. Without adding in the 12,000 vacant acres in the "new" rural area, the Pre-Countywide Planning Policies Alternative consumption of vacant urban lands would exceed the total amount available by about 10 percent (44,600 vacant acres needed vs. about 40,000 acres available).

As based upon the information provided in Table B2 in the Appendix, the Pre-Countywide Planning Policies Alternative would consume about 10 percent more land than all remaining vacant lands in King County bearing a commercial/industrial zoning designation, including rural areas (10,100 vacant acres needed vs. 9,200 acres available).

In comparison, the 14 Centers Alternative falls comfortably within the vacant lands available. For residentially zoned lands, Fourteen Centers would require about 30 percent of the remaining vacant urban designated acreage (without the "new" rural area). For commercial/industrially zoned lands, this alternative would claim about 40 percent of the available vacant acreage.

All of the alternatives that derive from the CPPs, but especially the Centers Alternatives, will necessitate a

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

occur within high density urban centers as defined in LU-29 through LU-34. How much new growth will go into centers will vary depending upon the alternative selected.

How much new growth will come in the form of infill and redevelopment is uncertain but will depend on subsequent actions taken by jurisdictions to implement the policies. The actions called for in the CPPs include both regulatory changes, such as establishing minimum residential densities (LU-51) and maximum floor area ratios for some commercial development (LU-61), and provision of incentives for compact development (e.g., the urban centers incentives in LU-35 to LU-38).

As discussed earlier, the share of redevelopment in the new development mix is likely to vary from 10 to 30 percent on the low side with the Pre-Countywide Planning Policies Alternative to 35 to 65 percent on the high side in the 14 Centers Alternative. The other three alternatives are likely to fall somewhere in between, with the probable ordering from high to low on redevelopment being Eight Centers, Magnets, and No Action.

Compact development will have consequential impacts, both adverse and positive. Principal among the adverse impacts are the following: increased land prices, increased localized traffic congestion, and increased public safety concerns.

It should also be noted that there are probable positive impacts to be had from more compact future development. Significant among these positive elements are:

- Less vacant land needed to accommodate new development.
- Less development pressure on resource lands and unincorporated rural areas. This follows from the achievement of higher urban densities in conjunction with the growth phasing policy in the CPPs (LU-16).
- Enhanced access to employment, shopping, and other services. Development at higher densities in and nearby urban centers should place people closer to employment, shopping, and other services.
- Enhanced sense of shared public purpose and commitment to neighborhood values through closer community ties. This impact can be

expected to follow from a commitment to higher densities when supported by good urban design and a well-conceived program of public incentives and education.

- Reduction in vehicle miles travelled (VMT), with resultant savings in regional traffic congestion, energy costs, and improvements in air quality. Higher density, particularly in the Centers Alternatives, should encourage greater use of public transit and other nontraditional mobility options, therefore reducing VMT.

- Possible reduction in long-term public costs of serving new development. The research literature leads to no firm conclusion on this complex issue.<sup>6</sup> There is a substantial body of work which suggests that the per unit costs of serving new growth are lessened at higher densities.<sup>7</sup> Other work suggests, however, that compact development may require high costs for rehabilitation of existing infrastructure in already developed areas.<sup>8</sup> Others have pointed out that, while per unit costs may be somewhat less in denser developments, more public services are required to support these areas.<sup>9</sup> Additional analysis of these questions is being undertaken in work contracted for by the Fiscal and Economic Development (FIS/ED) Task Force of the Growth Management Planning Council.

### Impacts Across County Borders

Implementation of the CPPs could have impacts on land development and capacity that extend beyond the borders of King County. Some developers have argued that the CPPs will "chase" new development to adjoining counties in Washington State, thereby undermining the local economy and tax base and increasing prices of the County's housing stock.

It is difficult to test these assertions because other factors, such as higher land prices existing in King County prior to GMA, could push development into adjoining counties where land prices are lower. To some extent as well, cross-county impacts will depend on the policies adopted in those counties and on the degree of cooperation that King, Pierce, and Snohomish Counties are able to achieve through the multicounty planning policies required by the GMA.

Tracking of new housing units receiving permits in the broader Puget Sound Region from 1984 through 1992 provides some baseline evidence which does

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

suggest that King County's share of total regional development is on the decline. Mason, Skagit, and Thurston counties are included in the broader region along with the Central Puget Sound counties of King, Kitsap, Pierce, and Snohomish. King County's share of the new units built in the broader region (including units authorized for construction by cities as well as counties) declined from 49.8 percent in 1984-1985 to 47.7 percent in 1989-1990. King County's share then dropped to 37.5 percent during 1991-1992.

Information on the King County share of lots applied for and recorded in new formal subdivisions in the four Central Puget Sound counties provides additional support for this trend. In 1990, King County's share of new lots applied for and recorded was 45 percent and 51 percent, respectively. By 1992, this share had fallen to 22 percent and 29 percent, respectively. Through the first six months of 1993, King County's share of the new lots applied for had declined to just 5 percent of the regional total. Pierce County was the clear beneficiary of King County's declining shares of new formal subdivision activity.

These changes in building and subdivision activity have occurred in advance of implementation of the CPP and are most likely due to other factors.

### *Impacts of the Alternatives*

The analysis of the alternatives in this section is based upon information provided in Tables 2 and 3, which compare discounted capacity for dwelling units and jobs with growth targets for specified land use categories across the five SEIS alternatives.

#### No Action Alternative

The No Action Alternative assumes that the CPPs are in force but that no additional interjurisdictional action will be taken to implement them. This means there will be no formal designation of urban centers or manufacturing/industrial centers. Each jurisdiction is expected to pursue the vision contained in its comprehensive plan, acting individually within the parameters set forth in the CPPs.

As shown in the third column of Tables 2 and 3, the discounted capacity for households and jobs in the No Action Alternative can accommodate the growth targets which have been specified for all of the land use categories established to frame the analysis.

The fourth column in Tables 2 and 3 shows that discounted capacity exceeds growth targets by 25

percent or more with three exceptions. In these three, the fit between targets and capacity is tight.

Rural cities, including the expansion areas in adopted community plans, have insufficient cushion for their growth target. As a group, they have a 21 percent cushion for growth, four percent short (about 400 dwelling units) of the recommended 25 percent buffer recommended by the Data Forum to support good market function. Capacity estimates for the rural cities include 6,500 dwelling units within city boundaries, and 6,550 units in approved expansion areas. The portion of capacity within expansion areas assumes four dwelling units per acre, per adopted community plans, and then applies discounts for critical areas (20 percent), right-of-way (20 percent), public purpose lands (10 percent), and market factors (15 percent) as explained earlier in the text.

Auto-friendly areas, overall, also have 21 percent excess dwelling unit capacity against their growth target for households (111,800), four percent short (about 4,000 dwelling units) of the 25 percent cushion recommended by the Data Forum to support good market function. It is not possible to specify the relative "comfort zone" in the two auto-friendly subcategories, those with and those without full urban services (other than transit). These subcategories have not been mapped, pending a decision on which services to include in the basic definition.

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

**TABLE 2**  
**Comparison of 20-Year Household Growth Targets with Dwelling Unit Capacity by Land Use Designations: Five SEIS Alternatives**

Land Use Designation	Household Growth Target					Discounted Dwelling Unit Capacity					Target Fits Discounted Capacity?					Target Fits Discounted Capacity Plus 25%?				
	No Action	8 Centers	14 Centers	Pre-CPP	Magnets	No Action	8 Centers	14 Centers	Pre-CPP	Magnets	No Action	8 Centers	14 Centers	Pre-CPP	Magnets	No Action	8 Centers	14 Centers	Pre-CPP	Magnets
	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.	Alt.
Urban Centers	15,050	51,600	86,000	6,450	15,050	31,700	54,000	72,000	31,700	31,700	YES	YES	NO	YES	YES	YES	NO	NO	YES	YES
<b>Non Center Urban Areas</b>																				
- Transit Friendly	62,350	77,400	73,100	55,900	62,350	110,500	136,100	118,100	110,500	110,500	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
- Auto Friendly	111,800	73,100	45,150	120,400	109,650	135,800	87,900	87,900	135,050	135,800	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO
w/ full services	(83,850)	(55,900)	(34,400)	(75,250)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
w/o full services	(27,950)	(17,200)	(10,750)	(45,150)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
Rural Cities	10,750	8,600	6,450	12,900	12,900	13,050	13,050	13,050	13,050	13,050	YES	YES	YES	YES	YES	NO	YES	YES	NO	NO
<b>Uninc. Rural Areas</b>																				
- Added by CPP	6,450	2,150	2,150	8,600	6,450	10,600	10,600	10,600	10,600	10,600	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES
- Existing before CPP	6,450	2,150	2,150	8,600	6,450	18,700	18,700	18,700	18,700	18,700	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Resource Lands	2,150	0	0	2,150	2,150	NA	NA	NA	NA	NA	?	YES	YES	?	?	?	YES	YES	?	?
<b>TOTALS</b>	<b>215,000</b>	<b>215,000</b>	<b>215,000</b>	<b>215,000</b>	<b>215,000</b>	<b>320,350</b>	<b>320,350</b>	<b>320,350</b>	<b>320,350</b>	<b>320,350</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>

Note: Dwelling unit capacity allocations are estimates based on map analysis and existing conditions data presented in Table 6. No estimates are available for full service and non-full service areas of the auto-friendly category because they have not been mapped. Capacity data for resource lands are not available. Rural city data include expansion areas in adopted community plans. Pre-CPP Alt. = Prior to Countywide Planning Policies Alternative

nm/table-a.wk3

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

TABLE 3

## Comparison of 20-Year Employment Growth Targets with Employment Capacity by Land Use Designations: Five SEIS Alternatives

Land Use Designation	Employment Growth Target					Discounted Employment Capacity					Target Fits Discounted Capacity?					Target Fits Discounted Capacity Plus 25%?				
	No Action Alt.	8 Centers Alt.	14 Centers Alt.	Pre-CPP Alt.	Magnets Alt.	No Action Alt.	8 Centers Alt.	14 Centers Alt.	Pre-CPP Alt.	Magnets Alt.	No Action Alt.	8 Centers Alt.	14 Centers Alt.	Pre-CPP Alt.	Magnets Alt.	No Action Alt.	8 Centers Alt.	14 Centers Alt.	Pre-CPP Alt.	Magnets Alt.
Urban Centers	102,000	166,600	251,600	68,000	102,000	110,300	233,300	312,000	110,300	110,300	YES	YES	YES	YES	YES	NO	YES	NO	YES	NO
Manu. Centers	6,800	17,000	17,000	3,400	17,000	80,000	80,000	80,000	80,000	80,000	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Non Center Urban Areas	221,000	146,200	64,600	255,000	210,800	512,500	389,500	310,800	512,500	512,500	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
- Activity Areas	(119,000)	(91,800)	(30,600)	(129,200)	(129,200)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
- Business/Off. Pks	(40,800)	(27,200)	(17,000)	(51,000)	(51,000)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
- Other Urban	(61,200)	(27,200)	(17,000)	(74,800)	(30,600)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
Rural/ Resource Areas																				
- Rural Cities	6,800	6,800	3,400	10,200	6,800	NA	NA	NA	NA	NA	?	?	?	?	?	?	?	?	?	?
- Other Rural	1,700	1,700	1,700	1,700	1,700	8,500	8,500	8,500	8,500	8,500	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
- Resource lands	1,700	1,700	1,700	1,700	1,700	NA	NA	NA	NA	NA	?	?	?	?	?	?	?	?	?	?
<b>TOTALS</b>	<b>340,000</b>	<b>340,000</b>	<b>340,000</b>	<b>340,000</b>	<b>340,000</b>	<b>711,300</b>	<b>711,300</b>	<b>711,300</b>	<b>711,300</b>	<b>711,300</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>

Note: Employment capacity allocations are estimates based on map analysis and existing conditions data presented in Table 7. Job estimates for the floor area data presented in Table 7 were derived based on standards for selected land use types in the 1991 Trip Generation manual published by the Institute of Transportation Engineers: 400 square feet per commercial zone employee; 550 square feet per industrial zone employee. Estimates are not available for subcategories of non center urban areas because they have not been mapped. Capacity data for rural cities and resource lands are not available. Pre-CPP Alt. = Prior to Countywide Planning Policies Alternative

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

The three urban centers included in this alternative are those expected to meet CPPspolicy criteria by 2010 even in the absence of formal designation -- Seattle's CBD, First Hill/Capitol Hill, and University District. These centers have eight percent excess employment capacity (total of 110,300) over the 20-year jobs growth target of 102,000. This is 17 percent short (about 17,200 jobs) of the 25 percent recommended cushion. Capacity for additional jobs under current zoning is tightest in the University District. In addition, it should be noted that the Centers targets assume a 20-year buildout to the 50 jobs per gross acre criterion specified in the CPPs. Urban centers numbers have been discounted 20 percent for market factors because most new development there would entail redevelopment, not vacant land. Seattle and other jurisdictions also made indirect allowance for market factors in the basic calculation for employment capacity via redevelopment, prior to application of the formal 20 percent discount. This was done by excluding those parcels where the assessed value of improvements was more than half the land value. If one assumes a target buildout to CPPs criteria takes longer than 20 years, or if one discounts less deeply for market factors, these centers might have an adequate capacity cushion, even under current zoning.

The No Action Alternative will produce a growth pattern that is more compact than the Pre-Countywide Planning Policies Alternative, but less so than the other three alternatives. As stated in the Affected Environment section of the SEIS, residential densities countywide have averaged about 20 dwelling units per gross acre for multifamily and about two to three units per gross acre for single family in recent years. Floor area ratios for commercially zoned areas have typically averaged .2 to .3 (ratio of floor space to gross parcel size) and .1 to .2 for industrially zoned lands. As suggested above, this alternative will consume less vacant land than the Pre-Countywide Planning Policies option, but more than the Centers or Magnets Alternatives.

### Eight Centers Alternative

This Alternative assumes that eight urban centers will be developed per CPP LU-28 as a result of further interjurisdictional action: five in Seattle (CBD, First Hill/Capitol Hill, Seattle Center/South Lake Union,

Northgate, and University District), Bellevue CBD, Renton CBD, and SeaTac CBD.

As shown in the third column of Tables 2 and 3, the discounted capacity for households and jobs in the Eight Centers Alternative can accommodate the growth targets which have been specified for all of the land use categories established to frame the analysis.

The fourth column in Tables 2 and 3 shows that discounted capacity exceeds growth targets by 25 percent or more with two exceptions, both in Table 2. In these two, the fit between household targets and dwelling unit capacity is tight.

Auto-friendly areas, overall, have 20 percent excess dwelling unit capacity against their growth target for households (73,100), five percent short (about 3,500 units) of the 25 percent cushion recommended by the Data Forum to support good market function. Again, for reasons noted above, it is not possible to specify the relative "comfort zone" in the two auto-friendly subcategories, those with and those without full urban services (other than transit).

The eight urban centers included in this alternative have 5 percent excess discounted dwelling unit capacity (total of 54,100) over the 20-year household growth target of 51,600. This is 20 percent (about 10,400 units) short of the recommended cushion of 25 percent. The Renton and SeaTac CBDs, under current zoning, are well short of the capacity required to support center development. In addition, it should be noted that the Centers targets assume a 20-year buildout to the 15 dwelling units per gross acre criterion specified in the CPPs. Urban centers numbers have been discounted 20 percent for market factors because most new development there would entail redevelopment, not vacant land. It should also be noted that Seattle made indirect allowance for market factors in the basic calculation for multifamily residential capacity via redevelopment, prior to application of the formal 20 percent discount. This was done by excluding those parcels where the assessed value of improvements was more than half the land value. If one assumes a target buildout to CPPs criteria takes longer than 20 years, or if one discounts less deeply for market factors,

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

these centers might have an adequate capacity cushion, even under current zoning.

The Eight Centers Alternative will produce a growth pattern that is more compact, and will consume less vacant land, than all but one of the five SEIS alternatives -- the 14 Centers Alternative.

### **14 Centers Alternative**

This Alternative assumes that fourteen urban centers will be developed per CPP LU-28 as a result of further interjurisdictional action: the eight centers of the previous alternative plus six additional -- Federal Way CBD, Kent CBD, Redmond CBD, Overlake, Totem Lake, and the Tukwila CBD.

As shown in the third column of Tables 2 and 3, the discounted capacity for households and jobs in the 14 Centers Alternative can accommodate the growth targets which have been specified for all but one of the land use categories established to frame the analysis.

The household growth target for the fourteen centers, 86,000 for the group, exceeds their collective discounted capacity estimate of 72,000 dwelling units by almost 20 percent. Of the six additional centers in this Alternative, only the Kent CBD, as currently zoned, has sufficient dwelling unit capacity to meet the household criterion for centers development. In addition, it should be noted that the Centers targets assume a 20-year buildout to the 15 dwelling units per gross acre criterion specified in the CPP. Urban centers numbers have been discounted 20 percent for market factors because most new development there would entail redevelopment, not vacant land. If one assumes a target buildout to CPP criteria takes longer than 20 years, or if one discounts less deeply for market factors, many of these centers might not be short of capacity, even under current zoning.

The fourth column in Tables 2 and 3 shows that discounted capacity exceeds growth targets by 25 percent with two exceptions. In these cases, discounted capacity is either insufficient or tight with respect to specified growth targets.

As explained above, the 14 urban centers included in this alternative have no cushion for their growth target. As a group they do not

have the minimum discounted capacity needed to accommodate their 20-year household growth target.

The 14 Centers as a group have 24 percent excess employment capacity beyond their specified target of 251,600. This is just one percent (about 2,500 jobs) short of the 25 percent cushion recommended by the Data Forum to support good market function.

The 14 Centers Alternative will produce the most compact growth pattern of the five SEIS alternatives and consume the least amount of vacant land. It will require an increment in densities of new development well beyond existing conditions.

In the example developed earlier, it was assumed that residential densities would increase, on average, to about 30 units per gross acre for future multifamily development and to about 5.0 units per gross acre for single family in this alternative. For commercial/industrial development, floor area ratios were assumed conservatively to increase to 3. to .4 for commercially zoned acreage and to .2 to .3 for heavy industrial uses. These assumptions are based on the greater shares of growth targeted for the centers for both households and jobs and a greater emphasis on efficient land use throughout urban designated areas.

### **Pre-Countywide Planning Policies Alternative**

The Pre-Countywide Planning Alternative assumes that there will be no countywide designation of urban centers or manufacturing/industrial centers. Each jurisdiction will pursue the vision contained in its comprehensive plan, acting individually without the parameters provided by the CPPs.

As shown in the third column of Tables 2 and 3, the discounted capacity for households and jobs in the Pre-Countywide Planning Policies Alternative can accommodate the growth targets which have been specified for all of the land use categories established to frame the analysis.

The fourth column in Tables 2 and 3 shows that discounted capacity exceeds growth targets by 25 percent or more with three exceptions. In these three, the fit between targets and discounted capacity is tight.

Rural cities, including the expansion areas in adopted community plans, have insufficient

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

cushion for their growth target. As a group, they have virtually no cushion for growth in this alternative. About 1,300 additional dwelling units would be needed to provide a capacity cushion. Capacity estimates for the rural cities include 6,500 dwelling units within city boundaries, and 6,550 units in approved expansion areas. The portion of capacity within expansion areas assumes four dwelling units per acre, per adopted community plans, and then applies discounts for critical areas (20 percent), right-of-way (20 percent), public purpose lands (10 percent), and market factors (15 percent) as explained earlier in the text.

The 49 square mile "new" rural area proposed in the CPP has a 23 percent capacity cushion beyond its specified household growth target of 8,600 in this Alternative. This is just two percent (150 dwelling units) below the 25 percent cushion recommended to support proper market function.

Auto-friendly areas, overall, have 13 percent excess dwelling unit capacity against their growth target for households (120,400), well short (about 14,700 dwelling units) of the 25 percent cushion recommended by the Data Forum to support good market function. For reasons noted previously, it is not possible to specify the relative "comfort zone" in the two auto-friendly subcategories, those with and those without full urban services (other than transit).

The Pre-Countywide Planning Policies Alternative will produce a growth pattern that is least compact, and consumes more vacant land, than any of the other four SEIS alternatives. It may be expected to produce a continuation of recent trends.

### The Magnet Alternative

The Magnet Alternative is a "strategy that seeks to make urban growth areas and urban centers magnets for future growth." It emphasizes incentives as opposed to regulations and sets forth the notion of "least cost planning," which is "a process that defines a series of quantifiable and measurable goals that create an overall target quality of life, measured by benchmarking."

Growth targets presented by the Magnets team suggest that, across most land use categories, the Magnet Alternative is most similar to the No Action

Alternative. For this reason, the discounted land capacity numbers for the Magnet Alternative are assumed to be distributed like those of the No Action Alternative.

As shown in the third column of Tables 2 and 3, the discounted capacity for households and jobs in the Magnet Alternative can accommodate the growth targets which have been specified for all of the land use categories established to frame the analysis.

The fourth column in Tables 2 and 3 shows that discounted capacity exceeds growth targets by 25 percent or more with three exceptions. In these three, the fit between targets and capacity is tight.

Rural cities, including the expansion areas in adopted community plans, have insufficient cushion for their growth target. As a group, they have virtually no cushion for growth in this Alternative. About 1,300 additional dwelling units would be needed to provide a capacity cushion. Capacity estimates for the rural cities include 6,500 dwelling units within city boundaries, and 6,550 units in approved expansion areas. The portion of capacity within expansion areas assumes four dwelling units per acre, per adopted community plans, and then applies discounts for critical areas (20 percent), right-of-way (20 percent), public purpose lands (10 percent), and market factors (15 percent) as explained earlier in the text.

Discounted dwelling unit capacity in the auto-friendly land use is 22 percent above the households growth target of 109,650 in this alternative. This is just 3 percent short (about 1,300 units) of the 25 percent cushion recommended to support good market function.

Discounted capacity for employment in urban centers is 15 percent greater than the 102,000 jobs target specified in the Magnet Alternative. This is well short (about 17,200 jobs) of the 25 percent cushion recommended to support good market function. In addition, it is important to remember that the capacity numbers in this alternative are assumed to resemble the No Action Alternative. If the Magnets team were to assume more than the three centers specified in the No Action Alternative (and no specific number of centers have been designated by the Magnets team), then this conclusion might not be valid.

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

Additionally, the Centers targets assume a 20-year buildout to the 50 jobs per gross acre criterion specified in the CPPs. Urban centers numbers have been discounted 20 percent for market factors because most new development there would entail redevelopment, not vacant land. If one assumes a target buildout to CPP criteria takes longer than 20 years, or if one discounts less deeply for market factors, these centers might have an adequate capacity cushion, even under current zoning.

The Magnet Alternative will likely produce a pattern of growth more compact than the Pre-Countywide Planning Policies Alternative, but less compact than the Eight and 14 Centers Alternatives. The Magnet Alternative would most likely resemble the No Action Alternative in compactness. It might produce a pattern somewhat more compact, and consume less acreage, than No Action because it proposes clear benchmarks for the share of higher density redevelopment and infill in the overall development mix -- at least 25 percent of all new development as either redevelopment or infill by the year 2000, and at least 50 percent by 2010.

### Summary of Findings for the Alternatives

Looking over the results presented in Tables 2 and 3, there is a single case in which discounted land capacity under existing zoning falls short of the specified 20-year growth target.

- Urban centers show a shortfall (about 14,000 dwelling units) against current zoned capacity in a single alternative (14 Centers).

There are no shortfalls against current zoned capacity that can be documented for commercial or industrially zoned uses. In every case, for each alternative, the specified growth target is accommodated by discounted capacity under the current zoning.

When one looks at the capability of existing zoned capacity to provide a 25 percent cushion on top of targeted growth, however, tight market conditions appear in one-quarter of the cases. Inadequate cushion appears in 13 of 52 comparisons (25 percent) for which estimates could be made:

- Urban Centers -- 5 instances
- Auto-Friendly Urban Areas -- 4 instances
- Rural Cities, with expansion areas -- 3 instances
- Unincorporated "New" Rural area -- 1 instance

These cases of inadequate cushion for new growth are distributed fairly evenly across the five SEIS alternatives:

- No Action -- 3 instances
- Eight Centers -- 2 instances
- 14 Centers -- 2 instances
- Pre-Countywide Planning Policies Plans -- 3 instances
- Magnet -- 3 instances

In most cases, fairly minor adjustments to zoning could mitigate the cushion shortfall.

Three important qualifications must be noted here:

- First, these conclusions are in part a product of the assumptions used by local planners in preparing and discounting their capacity estimates, as described in the text. They also are affected by the assumptions implicit in the growth target numbers themselves. Given the sensitivity of the conclusions to assumptions, it is probably wise to pay little attention to findings that show a shortfall of less than five or ten percent.

- Second, the findings conceal considerable variation within land use categories. The status of Seattle's and Bellevue's proposed urban centers, for example, is quite different from those in places like Federal Way, Totem Lake, and Tukwila, to name a few. Detailed jurisdictional analysis is beyond the scope of this analysis because, for the most part, jurisdictions have yet to specify targets for themselves. This step will come soon.

- Finally, it is important to stress that these findings are based on conditions under current zoning. Shortfalls do not invalidate the CPPs. They simply provide a sense of how much zoning and associated regulations might have to change to accommodate the growth target assumptions.

### *Other Policy Options*

The policy options to the alternatives contained in the proposed policies of the three Task Forces would, if implemented, affect the alternatives analysis with respect to land capacity and development issues as follows:

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **Technical Review Areas**

Recommended changes to land use in the five technical review areas around Renton and Issaquah would result in a cumulative shift of slightly more than one square mile (645.8 acres) from rural to an urban designation. This would have a negligible increase in the overall countywide capacity of urban areas to absorb growth, particularly in view of the fact that staff are recommending that much of the area be zoned to function as low density Urban Separators that would have little future development.

### **No Rail Option**

The land development and capacity analysis was based on existing zoning and specified growth target assumptions. The No Rail Option would not affect this analysis.

In the long run, probably well beyond the 20-year planning horizon of the CPP, the presence or absence of rail would have an effect on the location and compactness of future development. The number and the densities of new developments along the rail corridor would likely be greater than would occur in the absence of rail. The magnitude of this difference, when compared with the transit initiatives that would be assumed in the absence of rail (e.g., more bus and HOV lanes), is uncertain.

### **Affordable Housing Policies**

The options to the policies proposed by the Affordable Housing Task Force, particularly the modifications to AH-1, may require a shift of zoned capacity to allow more small lot single family and multifamily development during the 20-year planning horizon. However, zoning for added multifamily capacity will not ensure that units are built, nor that they will be affordable to low and moderate income households.

There is substantial unused capacity for multifamily units under current zoning. As illustrated in Table B5 in the Appendix, which has been discounted for market and other factors per the Data Forum methodology, the vacant portion of the urban designated land base alone could provide housing for 66,600 additional households. Although comparable data are not available for redevelopment potential, one might assume a similar or even greater yield for multifamily based on the character of recent residential redevelopment. Conservatively, if half of the redevelopment total in Table B3 in the Appendix

is multifamily, an additional 71,150 units might be realized, for a combined multifamily capacity of 137,750.

This very rough estimate represents approximately 61 percent of the 226,000 dwelling units that will be needed (allowing 5 percent vacancy) to accommodate the 20-year countywide growth target of 215,000 households. Compared with the 55 percent multifamily share of new development that King County experienced during the 1980s, these figures cast doubt on whether a change in aggregate zoned capacity to include more multifamily will be needed during the next 20 years.

This information does not indicate, of course, that zoned capacity for higher density housing is located in appropriate locations to meet community needs. It says nothing about the mix of unit types (e.g., townhouse vs. apartment-type units, low-rise vs. high-rise) and density ranges provided for in the existing zoning. All of these factors deserve scrutiny because they are important to producing higher density housing that is both attractive to prospective tenants and buyers as well as to existing community residents.

Also, the availability of capacity for higher density units, including small lot single family as well as multifamily structure types, is only part of the solution to the housing affordability problem. As described elsewhere in this SEIS many multifamily units are not affordable to lower income households (below 50 percent of median income). While higher densities are probably a necessary condition for housing affordable to lower income households in King County, they are not of themselves sufficient to ensure affordable housing. Providing subsidies, other incentives, and appropriate regulatory relief for higher density construction is equally if not more important.

### **Economic Development Policies**

Two issues relevant to land capacity are brought to light in the policy options to the CPPs proposed by the FIS/ED Task Force. These issues involve:

- 1) Change in manufacturing jobs during the 20-year planning horizon.
- 2) Policies with respect to business/office parks (BOPs).

With respect to the first issue, the FIS/ED Task Force has proposed a change to CPP LU-39 that would

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

assume a 10 percent growth in manufacturing employment over the 20-year planning horizon. This proposed change, amounting to an increase of 17,000 manufacturing jobs, has been factored into the analysis of three alternatives -- Eight and 14 Centers and the Magnet Alternative.

The 17,000 jobs, 5 percent of all employment growth, are reflected in the manufacturing centers category in these three alternatives, despite the fact that not all of these jobs would site in these centers. It is assumed that manufacturing jobs locating outside these centers (for example, in BOPs) would be balanced by a like number of nonmanufacturing jobs (for example, in retail and transportation-related activities) that would be attracted into the centers by the new manufacturing activity.

In comparison with these assumptions, the No Action and Pre-Countywide Planning Policies Alternatives assume considerably less growth in manufacturing, as reflected in the small growth figures in manufacturing centers in those alternatives (2 percent and 1 percent, respectively).

As shown in Table 3, there appears to be adequate land capacity to accommodate the manufacturing targets assumed in the alternatives. In reviewing the comparisons of targets to discounted capacity in manufacturing centers, it is important to remember that most jurisdictions reporting industrial capacity used conservative floor area ratio (FAR) assumptions based on already developed industrial land (.1 to .2 FAR). Discounts for critical areas and right-of-way were also made by most cities, in addition to the market discounts applied in this SEIS.

One noteworthy exception to this methodology is the City of Seattle, which based its floor area assumptions on higher code-adopted FARs (which would allow multistory industrial uses) and did not discount for critical areas (because critical areas are not precluded from development under city codes). At the same time, Seattle's estimate is conservative in that it did not include any redevelopment potential in its industrial lands capacity estimate.

The conclusion derived from Table 3 regarding the adequacy of discounted land capacity to absorb manufacturing center job targets receives added support from a 1993 study of Seattle's industrial land base, which comprises at least one-third of King County's capacity for new industrial development (see Table B4 in the Appendix). This study concludes that industrial land capacity is adequate while

acknowledging that there are significant problems facing any industrial development in Seattle (e.g., parcel aggregation and toxic waste clean-up).

In terms of the second issue, the FIS/ED Task Force, the Suburban Cities Association (SCA), and the City of Seattle all have proposed changes to the CPPs regarding BOPs. CPP FW-2(c) and LU-59, which prohibited cities from expanding land area zoned for BOPs, were remanded to King County Council for action by the Central Puget Sound Planning Hearings Board in March 1993. The King County Council subsequently removed both policies from the CPPs. The proposed changes are suggested within this context.

The FIS/ED Task Force appears to call for increased land availability for BOPs in its proposed change to LU-59. The SCA proposes to leave the matter to individual jurisdictions and their local plans. The City of Seattle proposes to allow BOP development in manufacturing centers and, possibly, even urban centers in the event that proposals could meet urban centers' density criterion for employment (50 jobs per gross acre).

The competing proposals are difficult to compare because they make different assumptions concerning the kinds of jobs that typically site in BOPs, and empirical evidence on this question is in short supply. The FIS/ED Task Force believes jobs that go into BOPs are largely unable to site in urban centers. These are jobs that require extensive land area for light manufacturing, assembly, storage, and movement of goods. In this view, BOPs often serve as "incubators" for new, small businesses that cannot afford the high rents of urban centers. In the view of the FIS/ED Task Force, there is little or no competition within urban centers for this kind of employment.

The cities see the situation differently, with Seattle perceiving a clear and direct threat to urban centers employment targets from BOPs and the SCA a bit less so. The SCA attempts to distinguish between traditional office jobs, which should go to urban centers in its view, and "Business/Technology/Warehouse" jobs which might legitimately require extensive land area.

The FIS/ED proposal would likely increase competition for jobs. The City of Seattle proposal to encourage BOPs in existing manufacturing centers would, if feasible, reduce the potential competition for jobs between BOPs and centers. The SCA proposal

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

would have an uncertain impact on competition for jobs, depending on how effectively traditional office jobs could be encouraged or required to go into urban centers.

Full data are not available to assess the present capacity for BOP-type employment in King County. Data Forum work, based upon a definition of BOPs provided by a member of the FIS/ED, showed that 15 to 35 percent of four cities' zoned capacity for future commercial and industrial development could be used to accommodate BOPs:

- Bellevue, 15 percent (4.5 million of 30.5 million potential square feet of floor space);
- Kent, 23 percent (6.4 million of 28.1 million square feet);
- Kirkland, 35 percent (2.1 million of 6.0 million square feet); and
- Seattle, 15 percent (26.3 million of 171.1 million square feet).

Cumulatively, if one assumes 300 to 500 square feet per employee in BOPs (based on the Institute of Transportation Engineers 1991 Trip Generation Manual), it would be possible to accommodate between 78,600 and 131,000 additional BOPs jobs in these four cities, a range more than sufficient to handle the BOP targets in all of the alternatives. It must be noted, however, that two-thirds of this capacity is in the form of potential redevelopment, a proposition which many consider highly dubious given problems such as toxic wastes and parcel fragmentation. In addition, only 1.3 million square feet of these four cities' commercial and industrial capacity is in vacant parcels ten acres in size or larger. Only 2,600 to 4,300 BOPs jobs could be accommodated on these parcels.

In summary, the data lead to no firm conclusion regarding the capacity or the availability of lands zoned for BOPs in King County.

### **Rural Character Policies**

The policy changes proposed by the Rural Character Task Force appear to call for a reduction in the zoned residential land capacity of rural areas. In RU-FWa(f), the Task Force declares that "The rural areas shall offer important alternative and/or qualitative housing choices but shall not be considered

a quantitatively significant part of the county's residential growth capacity."

As based upon the information provided in Table B3 in the Appendix, unincorporated rural areas together comprise an estimated 29,300 dwelling units of additional discounted capacity, not counting Rural City expansion areas, about 9 percent of the countywide total. About one third of this added capacity resides in the "new" Rural Area of about 49 square miles that is proposed for rural redesignation in the CPPs. The balance is in rural areas as they existed prior to adoption of the CPPs.

The Rural Character Task Force asks the SEIS to evaluate the effect of downzoning to 20 or 35 acre minimum lot sizes in rural areas, consistent with a vision that emphasizes resource husbandry and encourages stewardship of lands rather than land development. This would result in an overall reduction of approximately 10,000 dwelling units (two-thirds of this in the "new" Rural Area). Substantial residual capacity -- about 18,000 to 20,000 units -- would remain because three-quarters of the approximately 17,700 vacant parcels existing in rural areas are existing lots less than five acres in size.

### **URBAN GROWTH AREAS AND URBAN CENTERS**

#### *Introduction*

This section will roughly compare the alternatives, looking at how much growth is contained within the UGA, the impacts of the distribution and concentration of growth on the built environment and land use pattern, and measures necessary to mitigate these impacts.

#### *Impacts of the Alternatives*

The alternatives call for varying degrees of concentrated development. The following issues are applicable to all of the alternatives: regional context and market response.

There is some uncertainty as to what the *cumulative* impacts the policies of the region (Pierce, Snohomish and Kitsap) will have on King County's pattern of development. The impacts of the policies will depend on the level of cooperation achieved between the counties through implementation.<sup>10</sup> Policies which are perceived to call for specific types of land use patterns may be negated or their impacts mitigated by the land use activities of other counties. Under the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

PSRC's Multicounty Policies (VISION 2020 as amended)<sup>11</sup>, there should be coordinated action that supports centers development while providing adequate land regionally for the forecast residential and employment needs.

Market forces and personal preferences play an important role in where, when, and how development occurs.<sup>12</sup> On their own, policies, zoning, and land use designations may not be able to achieve the high density residential and employment targets for the urban centers. In recognition of this, the CPPs recommend the use of funding strategies and incentives, as well as utilizing public-private partnerships, to achieve design and density goals for the urban centers.

However, if people do not change their desire for living in a single family home on larger lots, then they will not purchase homes in areas of higher density. The market will respond by striving to provide more of the types of homes people will buy in the locations that people prefer.

A shift in peoples' general *attitude* must occur in order for this more concentrated pattern of development to happen. That this shift is already beginning to take place is apparent in the increase in public concern over the impacts of the pattern of sprawl development, as well as in their participation in the evaluation of the impacts of regional and local plans and programs.<sup>13</sup> However, the recent market trends discussed under Affected Environment showed a shift to lower density development in the 1990's from the 1980's. To the extent that shifts in attitudes do not correspond with the County's desired allocation of growth, development may begin to leave the County and locate elsewhere in the region.

### **No Action Alternative**

The No Action Alternative assumes no action will be taken by the GMPC on any of the recommendations of the CPPs, such as designating urban or manufacturing centers. This will encourage a more dispersed pattern of lower density development throughout the UGA than would occur in the Centers Alternatives.

Under this alternative, a lower percentage of growth is accommodated within urban centers and a larger amount of development is allocated to undeveloped areas of the UGA. This could pose a significant impact on these areas in terms of the availability of

infrastructure necessary to accommodate additional development.<sup>14</sup>

Under this alternative, only one third of the total growth in employment would take place in the urban centers, compared to the Centers Alternatives which allocate 49 percent and 74 percent, respectively. The majority of employment growth would occur outside the centers in the UGA, resulting in commercial development along major arterials, in shopping malls and existing downtown centers, or in low density business/office parks. There would be a greater demand on the conversion of open spaces and environmentally sensitive lands for higher intensity development within the UGA than in the Centers Alternatives.

Urban centers would not be formally designated under this alternative. However, cities could choose to meet the recommended employment and population targets for urban centers, as stated in the CPPs. Currently, there is only one area meeting the households and employment density criteria in Seattle -- the University District. Under current trends and planned capacity, Seattle's Central Business District (CBD) and First Hill/Capitol Hill are forecasted to qualify as urban centers in the future and are assumed to do so in this alternative. First Hill/Capitol Hill nearly meets both the employment and population criteria presently and modest change would be necessary. Seattle's Central Business District already meets the employment requirements. The households living downtown would need to more than double to achieve the minimum 15 households per gross acre. This would require new construction. In a built city such as Seattle, new construction implies the need to demolish existing structures, possibly displacing current residents or jobs.<sup>15</sup>

In the remainder of the urban growth area, the CPPs provide guidelines which encourage the concentration of growth in the No Action Alternative. Policies require jurisdictions to meet their future residential requirements by encouraging infill development has both positive and negative impacts on UGAs for the No Action Alternative. While this could assist in decreasing the overall amount of land consumed for residential purposes, it would also tend to increase densities in existing neighborhoods. Increased densities from infill development could have a critical impact on the urban form and the quality of life.<sup>16</sup> The character of development in the neighborhood may change significantly.

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

retain features which contribute to the overall quality of life, concentrate development near services and facilities, and provide sufficient urban services for development. These policies should mitigate the adverse effects of concentrated development.

One policy redirects the location of future office building development from outside to inside urban centers. In addition to increasing densities within urban centers, this policy may create adverse impacts on the cost of available land for future business/office uses. It must be recognized that some businesses may need to acquire large amounts of office space for their operations. Typically, areas outside of cities have been the only places that could provide a land base large enough to support this type of development and at a lower cost.<sup>17</sup> Start-up businesses will also need to be able to locate inexpensive space for their operations within urban centers. For business/office parks locating outside urban centers, jurisdictions are encouraged to foster a mixed-use approach to designing business/office parks, versus creating an employment destination. This could have significant impact on the character of land use under the No Action Alternative. The No Action Alternative allocates approximately 41,000 new jobs to business/office parks. Therefore, the net impact on the No Action Alternative will be greater than those for both the Centers Alternatives which allocate lower numbers of new jobs to these areas.

### **Eight Centers Alternative**

Compared to the No Action Alternative, the Eight Centers Alternative is expected to produce more adverse impacts on character of the urban centers, and the built environment and less impacts on other areas inside the UGA. The Eight Centers Alternative differs from the No Action Alternative in that all of the recommendations contained within the CPPs are acted upon by the GMPC. As part of these actions, eight urban centers are formally designated to receive significant portions of future household and employment growth. New growth is targeted first to these centers, and next to other urbanized areas with available infrastructure capacity.

Second only to the 14 Centers Alternative, the Eight Centers Alternative targets the greatest amount of residential and employment growth to urban centers with high capacity transit and multi-modal transportation options. Areas outside the urban centers without a full range of urban services, but within the UGA, are allocated less growth than in the

No Action, Pre-Countywide Planning Policies, or the Magnet Alternative.

Under the Eight Centers Alternative, an additional 167,000 new jobs and 51,600 new households are allocated to the places nominated as the eight urban centers: Seattle central business district (CBD), University District, Northgate, South Lake Union, First Hill, Bellevue CBD, Renton and SeaTac. The CPPs call for these urban centers to accommodate a minimum of 15,000 jobs within .5 miles of a transit center, and, at a minimum, an average of 50 employees and 15 households per gross acre, all within 1.5 square miles. For purposes of comparison, currently Renton's CBD, South Lake Union, University District, and First Hill all contain approximately 50 jobs per acre. Seattle's CBD contains 123 jobs per acre, Bellevue's CBD contains 60 jobs per acre, and Northgate only 23. In terms of households per acre, First Hill contains 21, University District 15, Seattle's CBD 10, Northgate and South Lake Union 7, and Renton's CBD only 2.

Since there is very little vacant land within centers, the majority of new development must take place through infill and redevelopment of existing areas. The result could be a dramatic change in the urban form and potentially the quality of life in these centers.<sup>18</sup> For example, in Renton's CBD, the pattern and scale of housing will potentially change from low density, single family homes at an average of 2 units per acre, to small scale or low rise apartment buildings at an average of 15 units per acre within a 1.5 square mile area. Higher density residential, employment and mixed use development would have to be carefully designed with the city's vision for their future character in mind.

Of the eight centers, Northgate and SeaTac would require near doubling of their employment base to achieve the minimum employment for a center. All of the eight centers require major increases in households except First Hill and the University District. These changes imply new construction, which could require demolition of existing buildings or redevelopment of vacant tracts. Unmitigated, the increased densities could potentially lead to degradation of environmental quality in the surrounding area, a change in the character of the neighborhood or area, and a decrease in the general quality of life.<sup>19</sup> Increased competition for a constrained supply of land within the urban centers may also cause the cost of land and subsequently housing and office space to increase.<sup>20</sup>



---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

The Eight Centers Alternative assumes implementation of the Regional Transit System Plan. Implementation of the Regional Transit System Plan would significantly increase the attractiveness of certain areas for development, thus increasing the potential to achieve the target employment and population densities in urban centers allocated by the Eight Centers Alternative. Outside of urban centers, land use could intensify in smaller activity centers served by rail. This displacement of uses out of the center and potential increase in growth and density within UGA could work against the pattern of growth allocated by the Eight Centers Alternative.

The assessment of general impacts in the UGA outside of centers are similar to those of the No Action Alternative, although the amount of the potential impact is less. Under the Eight Centers Alternative, very few office parks are expected to occur (only 27,200 new jobs), therefore these policies will result in very little change in the urban form outside of the urban centers. Hence, the net impact on the Eight Centers Alternative will be less than those for the No Action, the Pre-Countywide Planning Policies, or the Magnet Alternatives, which allocate higher numbers of new jobs to these business/office parks. The impact on office space costs may be higher than in the No Action Alternative, however, because of the increased competition for space caused by The Eight Centers Alternative's allocation of approximately 167,000 new jobs to urban centers.

The CPPs which are a part of this alternative mitigate the impacts associated with increased population growth and new development associated with the development of urban centers. For example, one policy provides for urban centers to be characterized by superior urban design which reflects the character of the local community, sufficient open spaces and recreational opportunities, and a pedestrian emphasis. Other policies ensure that urban centers are served by transit, and that land use designs facilitate pedestrian orientation. Another policy requires each jurisdiction designating urban centers to conduct a SEPA analysis of the impacts from the centers designation action. It is assumed that the SEPA analysis will be based on more information at a higher level of detail than was available during this analysis.

Several policies provide requirements on retaining many of the elements which contribute to quality of life -- diversity, neighborhood urban design, human and social services, and significant cultural, historical, architectural and environmental features. Providing

these elements in the face of increasing densities is critical to preserving quality of life in urban centers.

### 14 Centers Alternative

The 14 Centers Alternative is expected to produce the greatest number of impacts on the character of the urban centers, the built environment and the least impacts on the remainder of the UGA. The 14 Centers Alternative allocates the majority of new jobs to urban centers and the largest amount of new housing to urban centers and areas within the UGA served by urban facilities and transit. This Alternative differs from the Eight Centers Alternative by designating fourteen urban centers to receive future growth. The 14 Centers Alternative also assumes implementation of the Regional Transit System Plan. It is assumed as part of the definition of centers, that all centers would be served by rail. Impacts in the designated 14 centers would be similar to those described for the eight centers under the Eight Centers Alternative.

In addition to the eight centers proposed in the Eight Centers Alternative, the urban centers would include Overlake, Totem Lake, and the CBDs of Federal Way, Tukwila, Kent, and Redmond. The character of development in these urban centers would also dramatically change to accommodate a minimum of 15,000 jobs within .5 miles of a transit center, and, at a minimum, an average of 50 employees and 15 households per gross acre, all within 1.5 square miles. For purposes of comparison, Kent currently has only six jobs per acre, and Redmond's CBD ten jobs per acre. In terms of households, Redmond's CBD has only one house per acre. Similar to the Eight Centers Alternative, the majority of new development would take place through infill and redevelopment of existing areas. This would result in a dramatic shift in character from lower density to higher density development within a relatively small geographic area. Higher density residential, employment and mixed use development would have to be designed with the vision of the neighborhood and pedestrian mobility in mind.<sup>21</sup>

Undeveloped lands outside the urban centers without urban services are allocated less growth by this alternative than in the other four Alternatives. Manufacturing centers, activity areas, office/business parks and other urban areas are allocated a total of only 24 percent of the future growth. This is one-half of the amount targeted by the Eight Centers Alternative, and one-third of the amount allocated by the No Action Alternative. As a result, the impacts

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

associated with business/office parks and manufacturing centers in the UGA would be less than the Eight Centers Alternative, since less new jobs are allocated to these areas in the 14 Centers Alternative.

Of all the alternatives, the 14 Centers Alternative concentrates the most growth in urbanized areas. In addition, it has the lowest amount of development targeted for rural and resource lands.

The positive and negative impacts of the CPPs outlined in the Eight Centers Alternative apply to the 14 Centers Alternative. Adverse impacts associated with significant increases in density, as described in the Eight Centers Alternative, will occur across the region in the 14 Centers Alternative's fourteen centers. Limited amounts of residential growth at higher densities will occur in transit oriented areas outside of urban centers. Thus, there will be negative impacts associated with concentrating growth in these areas, but the impacts will be felt with less intensity than in the Eight Center Alternative because there is less total new development outside of centers.

### **Pre-Countywide Planning Policies Alternative**

This alternative will result in a pattern of growth that is the least compact of the five alternatives. The allocation of growth in this alternative would most likely have the greatest number of negative impacts on the urban growth area outside of centers. This alternative will not be expected to achieve the densities for employment and housing that are required by the CPPs. Instead of concentrating growth, large amounts of land would be consumed for residential and employment purposes. Although growth is allocated to areas within the UGA, that growth is not concentrated within urban centers. Instead, the growth will occur similar to the existing trends in a pattern of lower density development guided by a more general policy encouraging urban activity centers without minimum thresholds.

Under this alternative, approximately 89 percent of the residential growth will occur within the UGA. However, only 3 percent of this growth will be allocated to urban centers. This figure is significantly lower than the other alternatives. The majority of the residential growth will occur in low density suburban development located first in areas oriented towards travel by automobile, and second in areas characterized by transit use. The allocation of employment within the County is similar to that of housing.

The plan designates UGAs and urban activity centers with the intent of concentrating development within urban areas. The policies allow additional activity centers to be designated, subject to public review and provision of adequate infrastructure. The policy states that centers should be located no closer than three to six miles apart from each other.

Compared to the CPPs, the King County Comprehensive Plan policies consist of general recommendations and lack the stringency necessary for guiding development in a proactive manner. Instead, they serve to function as weaker guidelines for mitigating the anticipated adverse effects of sprawl, consumption and conflicting uses within the UGA, compared to the other alternatives. In addition, a lack of coordination between jurisdictions could have negative impacts on developing urban centers, although this would be slightly mitigated by policies under VISION 2020.<sup>22</sup>

### **Magnet Alternative**

The Magnet Alternative is a growth strategy that will result in a pattern of development which is more compact than the No Action and the Pre-Countywide Planning Policies Alternatives, and less compact than the Centers Alternatives. There would be fewer new jobs and significantly less residential growth allocated to urban centers (or magnet areas) than in the Centers Alternatives. In general, the Magnet Alternative's allocation and concentration of residential growth to urban centers, areas served by transit, and areas provided with infrastructure is most similar to the No Action Alternative. In addition, this alternative's low allocation of new jobs to urban centers is also the same as the No Action Alternative. The differences lie in the higher allocation of employment to activity areas and business/office parks outside of the urban centers, making it more comparable to the Pre-Countywide Planning Policies Alternative. The Magnet Alternative also allocates an amount of new job growth to manufacturing centers which is similar to the Centers Alternatives. Compared to other alternatives, the Magnet Alternative allocates the largest amount of growth to rural cities.

This alternative does not try to force growth into centers. Instead, it treats existing cities as magnets for future development. The policies, benchmarks and strategies developed for this alternative were based on the premise that growth, at the densities required for urban centers, will not occur on its own without incentives. Therefore many of the policies incorporate incentives rather than penalties for

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

attracting development. Monitoring and benchmark programs play a key role in ensuring that the elements necessary for development are available over time, and that appropriate targets or goals are being met. Results from these programs can be used as feedback to revise policies or estimates.<sup>23</sup> For example, the Magnet Alternative allows higher density residential growth to occur within the UGA, and attempts to maintain the quality of life through monitoring selected benchmarks.

This alternative proposes the use of "least cost planning" as a means of developing or evaluating strategies which can be used to achieve the benchmarks, such as the extension of infrastructure to serve residential development. This concept could result in a dramatic shift away from the current trend of each city increasing the capacity of its infrastructure to serve forecasted development. Instead, development would be directed to those cities with available capacity, or those where infrastructure improvements would be the least expensive.

Although the allocation of growth in this alternative is similar to the No Action and the Pre-Countywide Planning Policies Alternatives, there are a number of goals, policies, benchmarks and strategies which would result in a different character of land use.

Principle Countywide Benchmarks for UGAs produce both positive and negative impacts on land use within the UGA for this alternative. These benchmarks call for specific amounts of new development to be accommodated through infill, renovation and redevelopment of land within existing developed areas. Rapid increases in densities may cause increases in impervious surfaces and potential degradation of environmental quality in the surrounding area, a change in the character of the neighborhood or area associated with the impacts of infill and redevelopment, and a decrease in the general quality of life.<sup>24</sup> However, these impacts will be felt less than in the Centers Alternatives because less growth will be concentrated within magnet areas in the Magnet Alternative.

A principle Countywide Benchmark under Affordable Housing provides another potentially negative impact. It requires by the year 2000, that the amount of land required for housing be decreased on a per capita basis. Without additional policies regarding design standards, density requirements, siting criteria, or provision of services, this policy could affect the quality of life in the UGA. There is a more positive

impact: this policy would reduce the overall consumption of land in the Magnet Alternative.

There are a number of policies which will have positive impacts on the less concentrated pattern of growth allocated by this alternative. Benchmarks under the Quality of Living section can be used to mitigate the negative impacts of increasing urban densities within magnet areas. They call for an increase in the acreage of regional parks, recreation facilities, and open space per capita by the year 2010. They also recommend implementing a monitoring program to follow trends in crime, health care and education. However, there are no recommendations for ensuring that design standards for infill or redevelopment are in place.

The goals, benchmarks, and strategies proposed under the Provision of Public Services section all provide a positive impact on land use in the areas outside of magnet areas. They ensure that the availability of services and infrastructure are a requirement for development, thereby controlling and limiting the location of higher densities of development. These benchmarks also advocate the use of the "least cost analysis" to account for "hidden costs" in the provision or extension of these services.

### *Impacts of the Other Policy Options*

#### **Technical Review Areas**

The following analysis is applicable to both the Centers Alternatives and the Magnet Alternative. The Technical Review Areas are five areas that were called out for further analysis prior to a final designation as urban or rural. The level of detail provided in the CPPs is not sufficient to perform a site specific analysis. Further, the comprehensive plans for Issaquah and Renton have not been completed to date; thus, these jurisdictions' future plans for these areas have not been considered in terms of adjacent land use compatibility.

Recommended changes to land use in the five technical review areas around Renton and Issaquah would result in a cumulative shift of slightly more than one square mile from rural to an urban designation. This would result in a minimal impact on the UGA, since staff has recommended that much of the area be zoned to function as low density urban separators that would have little development in the future.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **No Rail Option**

Under the Centers Alternatives, rail transit would be effective in supporting higher density development in centers of at stations because it offers: fixed station locations through which larger numbers of people travel, thereby providing a focused market for business and urban design investments in the capital facilities in the center -- the stations can be attractive additions to the urban fabric and serve to stimulate the upgrading of the surrounding buildings.

Bus transit, if it is developed with the above attributes, may be equally effective in stimulating and supporting concentrated development in centers. As bus service has historically not been developed using these attributes, the evidence is less compelling that the No Rail Option fully supports the Centers Alternatives.

The Magnet Alternative does not result in the high population and employment concentrations in specific nodes throughout the region that do occur in the Centers Alternatives. If transit service was designed using improvements similar to rail (i.e. fixed station locations, urban design investment) it would act as an incentive under the Magnet Alternative for development in centers.

### **Affordable Housing Policies**

This analysis applies to the Centers Alternatives and the Magnet Alternative. Task Force Policies would affect the location and type of affordable housing within the UGA. Policy AH-1 may result in an increase in densities in portions of the UGAs outside of urban centers for additional multi-family development. Alternative forms of housing may be allowed which may contribute to an overall change in the character of existing neighborhoods. In addition to manufactured homes, small-lot single family, zero-lot line development, mobile home parks, apartments and condominiums this shall include group homes and foster care facilities.

Under AH-2, slower growing jurisdictions may be able to meet their affordable housing targets by locating their affordable housing cooperatively in another jurisdiction or by selecting specific locations within the jurisdiction where this type of housing can be accommodated. The result may also be a change in the community or neighborhood character of the area receiving the required affordable housing.

### **Economic Development Policies**

In general, policy options recommended by the FIS/ED Task Force provide more detail to those proposed under the CPPs. Some of these policies strengthen their mitigating aspects, while some may cause adverse impacts.

Under the Centers Alternatives, Economic Development policies require jurisdictions to provide an adequate supply of land to ensure that the jurisdictions' economic development goals are met. (Note: CPP LU-59 was revoked by King County Council in March 1993). In addition, these policies require that: 1) industrial-zoned land is maintained through appropriate zoning and supporting redevelopment; and 2) land suitable for business/technology/warehouse parks is provided. These policies could impact the character of lands in the UGA outside the urban centers if the siting of these uses is not compatible with the other uses or character of the area.

To meet goals for economic development, ED-14 and ED-15 and the Suburban Cities Association Alternative ED-14 add incentives for developers by decreasing the processing times and streamlining permit review.

The FIS/ED Task Force Policies LU-58 through LU-62 and City of Seattle's recommended alternative LU-59 address the location and character of business/office parks. These policies could be inconsistent with the Centers Alternatives' vision of accommodating growth within multiple centers, if these recommendations were used by many jurisdictions in developing and promoting business/office parks outside of centers. The policies recommending the conversion of business/office parks into mixed use developments could impact the character of the UGA by increasing the amount and types of development which may not be compatible with the scale and density of the surrounding area. Successful conversion of these parks should be implemented using design standards to mitigate these effects of this type of development and create a pedestrian oriented environment.

The policy recommending locating business and office parks within manufacturing centers may have a positive impact on land use in the UGA. In this case, if there is some connection between the types of manufacturing and business employment, the siting of the two together may be more appropriate than having an "island" of business/office parks in the UGAs.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

However, since the Eight and 14 Centers Alternatives do not allocate much growth to business/office parks, the net impacts will be less than compared to the Magnet Alternative.

For the 14 Centers Alternative, there would be very few new jobs allocated to areas outside the urban centers, since the majority of jobs are funneled into the fourteen urban centers. Since most of the Economic Development policy options address growth in manufacturing and business/office parks, there would be little effect on these areas.

The analysis of impacts for these policies on the Magnet Alternative is similar to that of Eight Centers Alternative. There were no economic development benchmarks or strategies proposed under the Magnet Alternative. The majority of these policy options mitigate much of the development associated with manufacturing centers and business/office parks.

Task Force policies support the larger amount of new jobs allocated to manufacturing centers in the Magnet Alternative, compared to the No Action and Pre-Countywide Planning Policies Alternatives. The policies require local jurisdictions to provide an adequate supply of land to ensure that sufficient land is maintained for manufacturing uses. In addition, they require that land suitable for business, technology and warehouse parks is provided.

### **Rural Character Task Force Policies**

The Rural Character Task Force has recommended additional policy language and revisions to the CPPs. These policies are applicable to the Centers Alternatives and the Magnet Alternative. The Suburban Cities Association and the City of Seattle have recommended revisions to the Rural Character Task Force Policies. The general intent of these policies is to limit development within rural areas. These policies support the Alternatives' growth allocations by funnelling jobs and housing out of the rural areas and into UGAs, and potentially increasing development within the urban centers.

## **RURAL LANDS AND RURAL CITIES**

### *Introduction*

This section examines the effects of the five alternatives and the policy options on rural character. Rural land, for the purposes of this analysis, consists of rural areas located in unincorporated King County. Rural cities, and their UGAs, are also considered as part of this analysis.

### **Growth Impacts**

One of the primary objectives of controlling growth is to restrict urban development to specified geographic locations in order to protect threatened rural, open space, and agricultural areas from the pressures of conversion and potential clashes between conflicting land uses. Areas within the UGA are allowed to become more urbanized and areas outside of the UGA are protected from urban development. Thus, through the development of an UGA, rural lands are reserved for a variety of rural development purposes and open space lands are preserved for their environmental or social value, or excluded from development due to physical hazards. The result of a UGA is a well-defined urban area, available and ready for development and, through growth controls, a rural area protected from sprawl outside of the UGA.<sup>25</sup>

Maintaining "rural character" is important to preserving a certain quality of life in King County. However, growth occurring in the rural areas outside of the UGA will require a supply of developable land. Lands suitable for development are typically also those which are important to defining the rural character -- open space, environmentally sensitive lands, and lands used for agriculture, forestry, and recreation. Increased competition and consumption of these lands for residential and non-residential purposes will reduce their supply and gradually erode the rural character.<sup>26</sup>

### *Impacts of the Alternatives*

The following issues are applicable to all of the alternatives:

Across the alternatives, many of the policies attempt to produce a positive impact on rural land while still accommodating higher density or intensity activities that are compatible with rural areas. However, there seems to be a "grey area" as to what is and what is not to be considered rural. Higher density urban lands served by urban services are not typically seen as rural, but clustered residential development with septic systems may be acceptable. Manufacturing, normally not considered a rural use, is allowed in rural lands if it is resource-based. These activities could have a significant adverse impact on rural character if they are not mitigated with buffer, site or design requirements which are consistent with maintaining rural character.<sup>27</sup> As another example, are subdivisions of "chateau style" homes with manicured lawns on five acre lots considered more or

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

less "rural" than residences on five acre lots with cows, orchards or a barn?

Another issue is the effect of limiting development in rural areas on the cost of land and housing in these areas. Rural areas typically provided what once was an "affordable" land to build homes. As development in rural areas becomes restricted, competition for the remaining areas which are suitable for housing may increase, causing the price of land and eventually, the cost of housing to increase.<sup>28</sup> This could create an exclusionary situation where only the wealthy will be able to afford homes "in the country".

### **No Action Alternative**

The allocation of growth under the No Action Alternative would result in a continuation of existing development trends, with local jurisdictions developing their own policy for planning efforts using the CPPs as a guide. The No Action Alternative is expected to produce a negative impact on rural character. Less growth will be concentrated inside the UGA, resulting in a more low-density, dispersed land use pattern in the rural areas than either the Centers Alternatives.

The No Action Alternative targets a significant amount of future residential development to the resource lands, rural areas, and rural cities. The anticipated residential growth outside of the urban growth boundary will require a large supply of developable land in the rural area. Increased competition and consumption of these lands for residential purposes may reduce their supply and gradually erode the rural character.<sup>29</sup>

Under the No Action Alternative, the rural cities are allocated a household growth target of 10,750 households. In terms of discounting dwelling unit capacity, this number falls below what is available. However, the No Action Alternative does not meet household growth targets under an additional discount of 25 percent. (Refer to the SEIS section on Land Capacity and Land Development for further discussion.) In addition, it is not known (due to a lack of employment capacity data) if the rural cities could accommodate the targeted amounts of new jobs. To accommodate targeted residential growth, higher density zoning may be required within rural cities, or growth may be forced elsewhere in the County or the region.

As these cities grow, so does the potential for conflict between the more concentrated, intensive land uses of

the cities and the lower density, less intensive activities of the rural lands and resource areas.

An increase in residential development in rural lands and cities could result in an increase in a number of adverse impacts. Increased densities could cause a decrease in the quality of life due to a substantial change or loss of community character, unmitigated traffic increases, or insufficient levels of service. In addition, an increase in surface water runoff is associated with an increase in impervious surfaces. This could cause a decrease of water quality in rivers, lakes and streams, as well as negatively affect the flora and fauna whose habitats depend on these bodies of water. All of this would impact the recreational aspects of the rural areas.<sup>30</sup> Refer to SEIS sections on Stormwater Management and Plants, Animals and Fish for further discussion.

Under this Alternative, lack of any further action by the GMPC on recommended CPP actions will result in a partial implementation of the CPPs, and allow more dispersed development than in the Eight Centers and the 14 Centers. The GMPC will not formally define rural character or identify incentives for preserving it. This policy could have served to mitigate many of the impacts associated with the more dispersed, lower density development in rural areas characterized by this alternative. Instead, other mitigation measures of this type will have to be provided.

Under this Alternative, UGAs will not be formally established around cities in rural areas. Therefore, the policies regarding development within the rural cities UGAs will only be used as policy guidelines rather than directives. While the policies will assist in guiding growth and development into the cities and away from rural areas, they will not be as effective as if UGAs were formally established; decisions on annexations and/or urbanization or rural land would rely heavily on a case-by-case analysis.

Lands currently zoned for more urban levels of development and not receiving a full range of services, such as sewer, will be downzoned by the County and assigned more rural densities. These will include small scale "hobby farms" and forestry uses that do not qualify for the resource land designation, areas with outstanding scenic, historic or aesthetic value, and rural lands which currently serve as buffers for designated resource lands or sensitive areas. It also includes lands which are not necessary for inclusion in the UGA to meet regional goals. This represents an addition of approximately 50 square

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

miles of rural land. Including these areas as rural lands will result in a buffer between resource and critical lands and more urbanized areas, and help to retain rural character.<sup>31</sup> However, the No Action Alternative allocates more growth to these "New Rural" areas outside of the UGA than either of the Centers Alternatives.

The pattern of residential development in the rural areas will remain consistent with those densities currently allowed in existing comprehensive plans and zoning codes. Under this alternative, these will not be revised by the GMPC. The dominant pattern of development will be at the current trend of one home on less than 3 acre lots. Otherwise, allowable densities are for one home per 2.5, 5, or 10 acre lot. Policy LU-12 provides additional protection for traditional uses in rural lands by requiring clustering of new development on all existing parcels of contiguous ownership of greater than 10 acres. The impacts associated with higher density development in a rural area are mitigated by the same policy, which recommends that the clustering be designed and scaled to ensure consistency with the surrounding rural character.<sup>32</sup>

Many of the CPPs provide mitigation to the potential impacts of the trends in development for the No Action Alternative, rather than causing negative impacts. These policies separate urban lands from rural and resource lands, and focus on using land use designations which protect lands that are important in defining rural character for the unincorporated areas, such as critical lands, historic lands, etc. They also state that only low density development not requiring provision of urban services will be allowed in rural areas.

### **Eight Centers Alternative**

Unlike the No Action Alternative, the Eight Centers Alternative requires action on all of the recommendations contained within the CPPs as adopted by the GMPC. Next to the 14 Centers Alternative, the Eight Centers Alternative targets the second largest amount of residential and employment growth to urban centers and other areas within the UGA served with high capacity transit and multi-modal transportation and least growth to rural areas.

Since new growth is accommodated within UGAs and eight urban centers, minimal amounts of new residential growth are allocated to rural unincorporated County lands. Hence, there would be less demand for lands which are suitable for

residential growth in the rural areas. As a result, this alternative protects and conserves a greater amount of rural land and character than do the No Action, the Pre-Countywide Planning Policies, or the Magnet Alternatives.

Similar to the No Action Alternative, the County's comprehensive plan would include a redesignation of an additional 50 square miles of land from urban to "New Rural" uses. This area would buffer lower density rural areas from urbanized lands.

The Eight Centers Alternative's household growth target of 8,600 household meets both discounted capacity and discounted capacity plus 25 percent (refer to the SEIS section on Land Capacity and Land Development for further discussion). It is not known (due to a lack of employment capacity data) if the rural cities could accommodate the targeted amounts of new jobs. To accommodate targeted residential growth, higher density zoning may be required within rural cities, or growth may be forced elsewhere in the County or the region.

The overall effect of the CPP's on rural areas for the Eight Centers Alternative are positive in that they support the preservation and enhancement of the existing rural character in the unincorporated area by conserving lands which are critical to maintaining "rural character", and regulating the pattern of development and the extension of infrastructure. Many of the CPPs provide mitigation to the potential impacts of increasing densities in the rural cities on rural lands, rather than causing negative impacts. They also state that only low density development not requiring provision of urban services will be allowed in rural areas, to protect environmentally sensitive land.

In addition, one policy requires clustering of new development on all existing parcels of contiguous ownership of greater than 10 acres. The impacts associated with cluster development in the rural area are also mitigated by the same policy, which recommends that the clustering be designed and scaled to be consistent with the surrounding rural character.<sup>33</sup>

### **14 Centers Alternative**

Of all the alternatives, the 14 Centers Alternative can be expected to produce the least amount of adverse impacts on rural lands and rural cities. It is expected to produce the least impact because compared to all of the alternatives, the 14 Centers Alternative targets

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

the greatest amount of residential and employment growth to the urban centers and other areas within the UGA served by transit and urban services. The major difference between the 14 and the Eight Centers Alternatives is the decision to concentrate growth in fourteen urban centers versus eight. It is similar to the Eight Centers Alternative in its allocation of new housing to "New Rural" areas and resource lands. Under the 14 Centers Alternative, rural cities have more than enough capacity (13,050) to absorb its targeted household growth of 6,450 households over the next 20 years.

The CPPs analysis conducted under the Eight Centers Alternative is applicable to the 14 Centers Alternative. The overall effect would be to preserve and enhance the existing rural character of the unincorporated area by conserving lands which are critical to maintaining "rural character", and regulating the pattern of development and the extension of infrastructure into these lands.<sup>34</sup> Within rural cities, the intensity of impacts resulting from increasing densities and rates of growth will be less than those experienced in the Eight Centers Alternatives, since less growth is allocated. However, the nature of the impacts will remain the same. Under this alternative, the concentration of growth combined with strict environmental, development and annexation regulations contained in the CPPs is expected to produce the greatest positive impact on rural character and rural lands of all the alternatives.

### **Pre-Countywide Planning Policies Alternative**

This alternative will result in a pattern of growth that is the least compact of the five alternatives. As a result, the allocation of growth in this alternative would most likely have the greatest number of negative impacts on rural cities and their UGAs, and rural lands. Although the majority of new jobs are allocated within the western portion of the County, this alternative will not be expected to achieve the densities for employment and housing that are required by the CPPs. Four percent of total employment in the future would be targeted for the rural cities, resource and rural lands. This amount is comparable to the No Action, the Eight Centers, and the Magnet Alternatives.

Instead of concentrating growth, large amounts of land would be consumed for residential and, to a lesser extent, employment purposes in the rural lands and rural cities. Under the 1985 plan, the overall size of the UGA encompassing the urbanized portions of western King County is larger than in the other

alternatives. As a result, the overall amount of land actually included under the rural lands designation is less than in the other alternatives.

Future residential growth allocations will have more of an impact on rural areas than employment. In general, lot sizes in the rural areas would be five acres or greater in size. Because of a lack of policies concentrating residential growth into the UGA, this alternative would direct the largest percentage of residential growth to the rural areas, resource lands and rural cities. The cities in the rural areas are allocated more growth than in the No Action or both of the Centers Alternatives. Under the Pre-Countywide Planning Policies Alternative, the household growth target of 12,900 households just fits the discounted dwelling unit capacity (13,050 households). However, the household growth target exceeds the discounted capacity plus 25 percent. Thus, to accommodate the discount capacity plus 25 percent, higher density zoning or more land for growth may be required within rural cities, or growth may be forced elsewhere in the County or the region.

The 1985 Comprehensive Plan designates rural areas with the intent of maintaining rural community character, providing a choice in housing, allowing small scale farming and forestry, and buffering natural resources. However, the policies consist of general recommendations and lack the stringency necessary for guiding development in a proactive manner. Instead, they are weaker guidelines than those in the CPP for mitigating the anticipated effects of sprawl and consumption of environmentally sensitive areas, resource lands and open space for residential purposes.

There are a number of policies that could result in positive impacts to rural lands and rural cities. These policies attempt to mitigate the effects of dispersed development on rural lands and resource lands, maintain rural character through site development, clustering and design standards, and recommend level of service standards.

### **Magnet Alternative**

The Magnet Alternative incorporates a growth pattern that is more dispersed than for the Center Alternatives. Rural Cities are treated as magnets for urban growth, the same as other cities in the County.

Of significance is an increase in housing allocations to rural cities, compared to the No Action Alternative. Both the Magnet Alternative and the Pre-Countywide

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

Planning Policies Alternative allocate the largest amount of housing to rural cities of all the alternatives and at lower densities. However, household growth targets of 12,900 households fall under the discounted unit capacity calculated to be available (13,050 households). (See Land Development Section for more information). Yet, the household growth targets do not fit the discounted capacity plus 25 percent. Just as under the Pre-Countywide Planning Policies Alternative, to accommodate the discounted capacity plus 25 percent, rural cities could require higher density zoning or more land to accommodate the growth targets.

The increase in population, and densities in rural cities from the current trend may impact the character of the rural cities, degrade environmental quality, and create conflicts between adjacent rural and more urban uses.<sup>35</sup> Benchmarks under the Quality of Living section will serve to mitigate the negative impacts of increasing urban densities in rural cities on rural city character and environmentally sensitive lands in the areas surrounding rural cities. They call for an increase in the acreage of regional parks, recreation facilities, and open space per capita by the year 2010.

Under the Provision of Public Services section, the proposed goals, benchmarks, and strategies ensure that available services and infrastructure capacities are a requirement for locating new development. This requirement helps to control and limit the location of higher densities of future development. Subsequently, this could potentially produce a "no growth" scenario in many rural cities since they may be experiencing deficiencies in their infrastructure or are reaching capacity. Since public capital investments would be targeted to urban areas that allow other benchmarks to be achieved on a "least cost" basis, this could imply that rural cities would be less likely to receive grants to improve their facilities.

A potentially negative impact could occur due to a principle Countywide Benchmark policy under Affordable Housing. The benchmark requires that by the year 2000, the amount of land required for housing be decreased on a per capita basis. For example, without additional policies regarding design standards, density requirements, siting criteria, or provision of services, this policy could affect the quality of life in the rural cities' UGAs.<sup>36</sup> However, this policy would reduce the overall consumption of land in rural areas and make provision of public services and facilities more economical.

The Magnet Alternative builds upon the King County CPPs regarding economic development. For example, two of the policies require using incentives, streamlining the permitting process, and reducing regulatory constraints on development in order to increase the rate at which new business may form and existing businesses expand. This would have a positive impact on the economic climate in the rural cities. However, without additional mitigation such as design standards or density requirements, this policy calling for increasing amounts of development at a faster rate could negatively affect the quality of life.

### *Impacts of the Other Policy Options*

#### **Technical Review Areas**

The following analysis applies to both Centers Alternatives and the Magnet Alternative. Recommended changes for the five technical review areas would result in a cumulative shift of slightly more than one square mile from a rural to an urban designation. Because of the environmental sensitivity, open space and wildlife benefits contained in these areas, this land may be designated as urban separators under the joint planning process, as recommended by King County staff. Urban separators are permanent low density lands and shall not be redesignated in the future to urban uses or higher density development. Inclusion of these areas within the UGA, if designated as an urban separator, would therefore provide positive impacts on rural lands, since they would buffer adjacent rural or environmentally sensitive lands from urbanized areas.

#### **No Rail Option**

Under both of the Centers Alternatives and the Magnet Alternative, the no rail option would not result in any significant impacts to rural lands or rural cities because rail service could not have served these areas initially. Both the No Rail Option and the Rail Option would provide similar levels of transit service to rural areas; but there are probably insufficient densities to support transit service in rural areas under any of the alternatives.

#### **Affordable Housing Policies**

The following analysis applies to both Centers Alternatives and the Magnet Alternative. Policy AH-1 requires all jurisdictions in King County to provide specific housing targets for all economic segments of the population. This could result in an increase in allowable densities in portions of the cities' or their UGAs for additional multi-family development. The

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

comprehensive plan and zoning may need to be revised. In addition to changes in density, alternative forms of housing may be allowed in the rural areas, cities and their UGAs. These policies could result in impacts to existing local character.

Policy AH-2 states that the distribution of housing affordable to low and moderate income households shall consider the adequacy of infrastructure to support housing development. In the rural areas, this will potentially limit the location of affordable housing to areas within cities and their UGAs.

### **Economic Development Policies**

In general, the recommended Task Force policy options provide more detail to those proposed under both Centers Alternatives. Some of these policies strengthen their mitigating aspects, while others may produce adverse effects on rural character. Policies strive to produce a positive impact by maintaining rural character while still accommodating regional economic development activities.

Policies ED-7 through 9, ED-13 and LU-39 require jurisdictions, including rural cities, to provide sufficient lands and zoning for a wide mix of uses and monitor the supply of land to ensure their availability into the future. Policies FW-20 and 22, and CC-1 through 3 also provide requirements to keep community character intact.

ED-10 is a two-part policy encouraging jurisdictions to site resource and agricultural based industrial activities in close proximity to the resource. This policy could have a potential adverse impact by weakening the economic viability of rural cities if the industries were to be located in rural areas outside of the cities. It could also have significant impact on rural character, if rural character is not defined to include resource based industrial activity. In addition, this policy implies that existing industries located on either side of the UGA, such as lumber mills, would be protected.

The analysis of impacts for these policies on the Magnet Alternative is similar to that of the Centers Alternatives. The differences are described below.

The FIS/ED Task Force Policies LU-58 through LU-62 address the location of business/office parks. These policies would support the Magnet Alternative's larger allocation of employment growth outside the urban centers and increasing employment within rural cities. At the same time, they provide

guidelines for improving the siting of these areas, as well as encouraging the provision of incentives for conversion into mixed use areas. In addition, these policies may cause even more employment growth to be diverted from urban centers and directed to low density business/office parks within rural cities than are already targeted in the Magnet Alternative.

### **Rural Character Task Force Policies**

The following analysis applies to both the Centers Alternatives and the Magnet Alternative. The Rural Character Task Force has recommended additional policy language and revisions to the CPPs. In addition, the Suburban Cities Association and the City of Seattle have recommended revisions to the Rural Character Task Force policies. Those policy refinements from both groups with significant impacts to the rural character or lands are described below. To facilitate the discussion, Rural Character Task Force policies are prefaced with the RU designation, and the Suburban Cities Association policies with SRU. Overall, the Rural Character Task Force policies are more definitive than the CPPs in specifying the type and extent of activities which are allowed in rural areas.

Policies RU-1, RU-2, RU-11 and FW-RUa provide for a positive impact on rural character by tightening the definition of what types of activities are allowed in rural lands and calling for a reduction in the zoned residential land capacity for the rural area.

RU-6 and SRU-6 enhance the CPPs by adding more criteria. RU-6 states that clustering may be required on very large lots of 5 acres or more, if the development meets certain criteria which preserve rural character. SRU-6 is more vague, stating that clustering may be required on very large parcels, if it meets specific criteria. Clustering also allows flexibility in considering site specific constraints.

Policies RU-8 through 10 help mitigate the impacts from development. RU-8 recommends that the long term integrity of the ecosystem be considered as a guiding principle in determining the location and intensity of land uses and public facilities in rural areas. RU-9 outlines the types of rural development standards which could be used to protect the natural environment. Using these tools and guidelines will have a positive impact on the character of the rural area. RU-10 protects aquifer recharge areas and surface waters.

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

RU-4 requires that development in urban areas not result in any increases in floods or pollution in rural areas, and that urban generated traffic not cause rural roads to be upgraded to urban standards. However, SRU-4 recommends removal of RU-4, stating that policy RU-4 may be difficult to implement and unfavorable to many rural cities in need of improved facilities, particularly in response to recent growth. These two policies need to be considered with the understanding that rural cities are urban by GMA definition.

FW-RUa, RU-3 and RU-12 through RU-16 aim to reinforce the preservation of appropriately-scaled, low density development in rural areas by limiting the provision of urban levels of infrastructure, services and facilities in these areas. SRU-14 recommends deleting portions of RU-14 regarding rural standards for water systems, and replacing it with CPP CO-16. Language stating that rural water systems may be provided through private wells or community systems would be removed. This would cause both positive and negative impacts on the rural lands. Of particular concern currently to rural area residents is the absence of fire flow in their area because urban levels of water service are not provided. If rural water systems were operated at urban levels, it would create incentives for urban levels of development outside the UGAs.<sup>37</sup>

FW-RUa and RU-3 relate to rural levels of service. Both policies have removed CPP language which require setting levels of service standards that take into consideration environmental protection. The corresponding Suburban Cities Association policies recommend inclusion of this type of protection in the policies. The basic difference between the policy recommendations is that one requires considering the protection of the environment and one does not. If the language were revised, mitigation could be provided through other environmental legislation.

RU-19 recommends that revisions be made to King County land development regulations to create incentives for reconsolidating lots and minimizing conflicts to farming and forestry through subdivision design. The policy also recommends developing a strategy to make it financially feasible to retain rural character. These are all positive impacts on the rural character.

RU-26 and SRU-26 address rural cities' UGA issues. The additional language suggested by the Rural Character Task Force recommends that land in the rural cities' UGAs be maintained in large lots with

mandatory clustering provisions until the city annexes the area. Once annexed, large lots would still be available to allow for an efficient subdivision of the land into higher densities and extension of urban services.<sup>38</sup> This is an important concept for achieving the population and density targets proposed in the Centers Alternatives. SRU-26 suggests dropping the mandatory clustering element, and "recommending" clustering instead.

Both the Suburban Cities Association and the Rural Character Task Force provided supplemental language to the rural CPP. The groups' comments are conflicting and a decision should be made on using either one statement or the other. The Rural Character Task Force endorses the language as is, while the Suburban Cities Association revised some of the wording. Following is the original text in regular print; the revised text is in italics.

The original text reads as follows (supported by the Rural Character Task Force):

"In its comprehensive plan update, King County should reevaluate its maximum density policies. Maximum densities of one unit per 20 acres and one unit per 35 acres are recommended."

The revised text reads as follows (the Suburban Cities Association rewording):

"In its comprehensive plan update, King County should reevaluate its *minimum density policies*. *Minimum* densities of one unit per 20 acres and one unit per 35 acres are recommended."

The Rural Character Task Force wording implies a density policy which would prevent the area from becoming more dense than one dwelling unit per 20 or 35 acres. For example, only one unit would be allowed on 35 acres. A density of one unit per 5 acres would not be allowed as this results in exceeding the maximum of 1 unit per 35 acres by allowing 7 units on that same 35 acres. Thus, the Rural Character Task Force wording supports a very large lot development pattern, consistent with rural land uses. The Suburban Cities Association wording implies a density policy allowing one unit per 20 or 35 acres to be the *lowest* possible density. This means that there must be at least one unit per 20 or 35 acres, but you can develop many more units on that same 20 or 35 acres. Thus, the Suburban Cities Association wording supports a more dense, urban

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

development pattern in the rural area. This may negatively impact rural character. (Note that the meaning would be changed to be consistent with the meaning of the Rural Character Task Force working if the words "lot size" were inserted instead of "minimum density." This may have been a technical error.)

However, the Suburban Cities option would retain more rural land given the same amount of total growth. What does the higher density development do to rural character? Is one unit per acre, 2.5, or per 5 acres considered rural? The County should work with rural area residents to further define what activities are considered rural, then apply them as mitigation to these development scenarios.

### **SHORELINE USE**

#### *Introduction*

This section examines the effects of the five alternatives and the policy options on shoreline use. Overall, as urban growth continues and new shoreline access locations become scarcer, emphasis will be placed on infill, redevelopment, and revitalization of existing urban shoreline areas with uses and activities which are water-dependent or water-related and appropriate for these areas. Some natural displacement of existing uses will occur as pressures for development increase. The extent to which the five differing alternatives can direct growth to reduce impacts on shorelines is the focus of this analysis.

#### *Impacts of the Alternatives*

All of the alternatives call for concentrating most growth west of the county's UGA, which could result in positive impacts on shoreline use in designated rural and resource areas. An underlying assumption of this analysis is that uncontrolled growth which can sprawl to the upper reaches of watersheds will probably have a greater negative impact on shorelines, especially downstream, than if it were more concentrated in the lower reaches of urban areas.

Conversely, urban areas, urban/transit areas, and activity areas where growth will be concentrated under both Centers Alternatives and the Magnet Alternative, could experience more adverse impacts due to increased development pressures. Both the Centers Alternatives and the Magnet Alternative will create more pressure for infill and redevelopment on urban shorelines, thereby potentially impacting a greater number of shorelines in these areas and

potentially reducing the negative impacts to rural and resource shoreline areas.

#### **No Action Alternative**

The CPPs applicable to the No Action Alternative could have significant positive impacts to shorelines. One policy would assist in mitigating adverse impacts to shorelines by requiring jurisdictions to protect visual access to water bodies and rivers, and provide for physical access where appropriate.

The negative impacts of the No Action Alternative on shorelines would be greater than both Centers Alternatives respectively, but less than the Magnets and Pre-Countywide Planning Policies Alternatives respectively. Since the No Action Alternative does not designate centers, it has the potential of greater negative impacts on a larger number of shorelines within the UGA because of this dispersed growth pattern.

#### **Eight Centers Alternative**

This alternative could result in fewer impacts on shoreline use than the No Action Alternative because it concentrates growth in urban centers, urban/transit and urban auto areas thereby identifying the general locations for growth and consuming less undeveloped land, including shorelines. All of the positive impacts associated with the No Action Alternative apply to the Eight Centers Alternative. However, in the Eight Centers Alternative, urban centers, urban/transit and urban auto would receive the majority of growth which could negatively impact shoreline use in these areas. Rural and resource areas would be positively impacted by this alternative assuming that growth impacts on shorelines would be concentrated into urban centers.

The Eight Centers Alternative assumes implementation of the Rail/TSM option of the Regional Transit System Plan. Construction equipment, materials, demolition, clearing and dust may temporarily affect shoreline use environments. New or expanded transportation corridors, stations, and access facilities may require shoreline environment right-of-way. New transit corridors may affect shoreline access and usability. Transit infrastructure (e.g. wires, rights-of-way, stations) may physically or visually separate shoreline use areas from neighborhoods. Aerial structures might create a visual barrier.<sup>39</sup>

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

### 14 Centers Alternative

This alternative would result in fewer negative impacts on shoreline use in rural areas than the No Action or Eight Centers Alternative because it further concentrates growth, thereby identifying general locations for development and consuming less developed land and shoreline resources. All of the positive impacts associated with the No Action Alternative apply to the 14 Centers Alternative. However, in the 14 Centers Alternative, urban centers, urban/transit and urban/auto areas would receive the majority of growth which could negatively impact shoreline use in these areas. Rural and resource areas would be positively impacted by this alternative assuming that growth impacts on shorelines would be concentrated into urban centers.

The 14 Centers Alternative assumes implementation of the Rail/TSM policy option. Impacts would be similar to those described under the Eight Centers Alternative.

### Pre-Countywide Planning Policies Alternative

Future growth would be the least concentrated under the Pre-Countywide Planning Policies Alternative. This alternative would consume the most undeveloped land, and would result in the greatest impacts on shoreline use in urban/auto, urban/transit and rural areas. The estimated growth impacts on shorelines in rural and resource areas from this alternative would be a total of 15 percent of the entire projected household growth, or 32,250 more households during the next 20 years. There would also be limited requirements for jurisdictional coordination resulting in potentially more adverse impacts on shorelines in both urban and rural areas.

This alternative assumes the CPPs would be replaced by the policies in the pre-existing plans. However, the King County Shoreline Management Master Program (1977), SEPA, and the King County Sensitive Areas Ordinance (1990) would all still apply. The Pre-Countywide Planning Policies Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the Pre-Countywide Planning Policies Alternative regarding TSM are similar to those described under the No Rail Option.

### Magnet Alternative

Under the Magnet Alternative future household growth would be most concentrated in the urban/auto, urban/transit, and urban centers respectively. Future employment growth would be most concentrated in activity areas, urban centers and other office/business parks respectively. Unlike both Centers Alternatives, the Magnet Alternative does not designate the location of urban centers, but rather establishes goals for allocation of urban growth as measured by benchmarks and strategies. Impacts on shorelines would be the greatest in the urban areas under the Magnet Alternative. The Magnet Alternative also allocates the greatest amount of growth to rural and resource areas than the No Action and both the Centers Alternatives. Consequently, similar to the Pre-Countywide Planning Policies Alternative, shorelines would have more growth impacts in rural areas under this alternative.

The UGAs' policies of the Magnet Alternative could have adverse impacts on shoreline use in urban areas. A benchmark associated with this policy would be to utilize opportunities for infill, renovation and redevelopment within existing developed areas to increase countywide average rate of development activity in these areas. This policy could negatively impact urban shoreline use while positively impacting shoreline use in rural areas. The King County Shoreline Management Master Program (1977), SEPA, and the King County Sensitive Areas Ordinance (1990) would all still apply under this alternative.

The Magnet Alternative assumes the following policy options to the Regional Transit System Plan: a commuter rail from Everett to Tacoma, HCT rail, benchmarks incorporating King County Commute Reduction Plan targets, improvements to existing HOV system, public transit, and regionally coordinated pedestrian and bicycle routes.

Impacts to shoreline use under this policy option would be similar to those described under both the Centers Alternatives.

### *Impacts of the Policy Options*

#### Technical Review Areas

N/A.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **No Rail Option**

The impacts on shoreline use regarding TSM are that equipment, materials and dust from construction of HOV facilities, transit hubs and park-and-ride lots may temporarily affect access to and usability of adjacent shoreline environments.<sup>40</sup>

### **Affordable Housing Policies**

In general, all of the Affordable Housing Task Force policies would have impacts on shoreline use located in urban areas. There will be tradeoffs as the urban areas become more dense with affordable housing and associated services. This will cause some adverse impacts on shoreline use as density increases. However, this alternative assumes a greater concentration of development in urban areas, thereby reducing impacts from housing on shorelines in rural or resource areas.

### **Economic Development Policies**

Both the Centers Alternatives and the Magnet Alternative include the FIS/ED policy which calls for the GMPC to adopt economic development policies to protect the natural environment as a key economic value in this region. This policy could have significant positive impacts on natural areas, including shorelines.

### **Rural Character Task Force Policies**

In general, all of the rural character task force policies would have positive impacts on shoreline use in rural and resource areas. Low density land uses and activities would provide positive impacts to shoreline use in rural and resource areas assuming they utilized "best management practices". In turn, less development at the upper reaches of the watersheds could create less negative impacts downstream. However urban areas, where growth will be concentrated through implementation of the rural task force policies, could experience more adverse impacts due to increased development pressures.

## **MITIGATION MEASURES**

### **LAND DEVELOPMENT AND LAND CAPACITY**

All of the alternatives have areas which do not have enough land capacity to achieve household growth targets with a discounted land capacity of 25 percent. Mitigation measures relating to land development and capacity are of two kinds: substantive and procedural.

Substantive measures to address possible negative impacts to development patterns and land capacity are the following:

1) Measures to provide adequate land capacity to accommodate growth targets for various categories of land use within urban designated areas and cities. Specific mitigation might include:

A) Providing more higher density zoning for apartments, townhouse, and small lot single family development in residential zones and for increased floor area ratios and mixed use development in commercial areas.

B) Increasing the capacity of existing zoning by selective easing of standards that affect site yields. For example, easing building setback requirements, consistent with maintenance of public safety and environmental safeguards.

2) Measures to mitigate the negative effects of higher densities. These will be needed in direct proportion to the compactness of the development scheme envisioned in each of the alternatives, with the Pre-Countywide Planning Policies Alternative posing the least need for mitigation and the 14 Centers Alternative the most. Mitigation measures could include (but not be limited to) the following: the implementation of housing grants and low interest loans for lower economic groups, and the development of design guidelines.

Procedural measures to address possible negative impacts to development patterns and land capacity are the following:

1) Enhancement of jurisdictions' capability to monitor and report accurately on land development and capacity. This mitigation measure responds to the possibility that land capacity and development data may be incomplete or contain errors. If jurisdictions closely track land development and capacity and report regularly, errors that might have a negative impact can be caught and adjustments can be made to bring jurisdictions back on track toward established policy goals and targets.

2) Adoption of quantifiable benchmarks, with specific timelines for accomplishment, for key land development, housing price, and land capacity indicators. The benchmarks concept -- calling on public officials to adopt objective performance targets with specific timelines -- is an extension of the

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

monitoring concept. It is proposed by the FIS/ED Task Force and in the Magnet Alternative.

3) Integration of land capacity assessment with capital improvement programs (CIPs), to ensure that capacity is available for development and supported by necessary infrastructure. This procedural measure would address concerns that capacity might not be capable of realization because infrastructure is not present to allow its use.

In addition to planning for and then monitoring land capacity for a 20-year comprehensive plan horizon, this proposal would ensure that jurisdictions provide a regularly verified supply of land capacity for residential and commercial/industrial development that matches the time horizon used for capital facility programming (six years in many jurisdictions). By bringing land capacity together with decisions regarding capital facility provision, this measure would bring more certainty to the land development process and mitigate concerns surrounding the land capacity question.

### **URBAN GROWTH AREAS AND URBAN CENTERS**

For all of the alternatives except the Pre-Countywide Planning Policies Alternative, many of the policies regarding development in urban centers and UGAs provide mitigation strategies needed to offset the adverse impacts on the built and natural environment and quality of life associated with these alternatives' patterns of development. For example, rather than causing negative impacts, the CPPs mitigate the impacts associated with high density development in urban centers by addressing transit and pedestrian orientation, design considerations, and appropriate types of land uses.

Additional mitigation measures, applicable to these alternatives, include the following:

- Insisting on high quality urban design in urban centers to enhance liveability and public acceptance of higher densities, including measures to promote integration of open space, landscaping, amenities and public art into development plans.<sup>41</sup>

- Providing increased spending for public infrastructure and services required to support new development in urban centers and designated portions of the UGA.

- Supporting public and private efforts to offset higher land prices that come with higher densities in urban centers, to keep housing and opportunities for smaller businesses affordable.<sup>42</sup>

- Using concepts proposed under the Magnet Alternative, reduce uncertainties surrounding the effects of the various policies in urban centers and UGAs by enhancing the jurisdictions' capability to monitor and report accurately on land development, land costs, land availability/capacity, business and office space, housing and small office costs, and quality of life indicators. This data can be used to bring the region back on track towards established goals and policies.<sup>43</sup>

Another option for mitigating the impacts on urban form is to provide the cities with more flexibility in defining the geographic extent of the urban centers. The CPPs may be too prescriptive in attempting to accommodate such a large amount of growth within a constrained amount of land. Within a particular jurisdiction, there may be a larger area than 1.5 square miles which is suitable for redevelopment. In addition, important buildings, parks, or other elements of the community might feel less pressure for redevelopment to accommodate the higher densities. By providing more flexibility in the definition of these areas, the likelihood of each urban center achieving its population and employment targets may increase. For example, criteria for the size of each urban center could be based upon actual pedestrian access needs. Expansion of the urban center area must be mitigated by concepts such as ensuring pedestrian orientation, access to transit or rail, and appropriate design standards.

The impacts associated with the Pre-Countywide Planning Policies Alternative's pattern of dispersed growth in the UGA may be significant. In comparison to the other alternatives, the King County Comprehensive Plan's policies consist of weak recommendations and lack the stringency necessary for guiding development in a proactive manner. Instead, they serve as minimal guidelines encouraging mitigation of the anticipated effects of dispersed development. Additional policies, such as those found in the CPPs or the Task Force policy options, would be required to counteract the type of development pattern inherent in this Alternative.

The package of policies, benchmarks, and strategies for the Magnet Alternative are not as specific as those

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

in the CPPs. As a result, on their own they may not be as effective in controlling the potential for dispersed development outside urban centers in the Magnet Alternative as the CPPs were for the allocation of growth proposed in the No Action Alternative. As mitigation, this alternative's benchmarks and strategies could be combined with some of the more effective CPPs and policy options to control and manage growth more appropriately for this Alternative.

### **Policy Options**

The No Rail option, in order to be more effective in stimulating and supporting higher density development in centers, should be mitigated by constructing improvements typically associated with rail transit -- fixed station locations, exclusive rights of way, and urban design investments.<sup>44</sup>

The Economic Development Task Force policies addressing manufacturing centers and business parks attempt to mitigate impacts associated with location, siting, increases or decreases in density, conflicting adjacent uses, and traffic. However, these policies may weaken the ability of the urban centers under the Centers Alternatives to attract employment growth if a proliferation of these parks occurs in the UGA. As mitigation, a program should be implemented to monitor employment growth both in the centers and in the UGA to be able to evaluate whether or not targets are being met.

The Rural Character policy alternatives do not create significant impacts on urban centers or UGAs, other than to increase densities within these areas indirectly through policies which limit development in rural lands and re-allocate it into the urbanized areas. Increasing densities in urban areas are then adequately mitigated by the CPPs. Refer to the SEIS sections on Rural Lands for an analysis of these policies on rural cities' UGAs and rural areas.

### **RURAL LANDS AND RURAL CITIES**

There are a number of existing plans, programs and regulations which would apply mitigation to impacts associated with sprawl or increasing development in rural areas, and which are applicable to all of the alternatives. These regulatory documents include the following: the King County Sensitive Areas Ordinance, the King County Open Space Plan, the King County Agricultural Preservation Plan, VISION 2020, SEPA, implementation of the Shoreline

Management Act, and Washington State Legislation on Annexation.

By July, 1994, the following plans, programs and regulations will be revised for consistency vertically with GMA requirements and the adopted King County CPPs, and horizontally between themselves. Revisions of these plans and programs should also include an analysis of the environmental impacts associated with their specific actions as well as recommended mitigation measures. These regulatory documents include the following: the King County 1985 Comprehensive Plan Land Use Designations, the King County Zoning Code, and the Comprehensive Plans and Zoning Codes of Local Jurisdictions.

For the No Action Alternative, both Centers Alternatives, and the Magnet Alternative, many of the rural policies contained within the CPP and the policy options (policy options are not applied to the No Action Alternative) provide mitigation strategies needed to offset the adverse impacts on consumption of rural lands and degradation of rural character and quality of life created as a result of these alternatives' allocation of growth. For example, rather than causing negative impacts, the CPPs and rural policy options mitigate the impacts associated with development in a rural landscape, requiring mechanisms such as clustering on large parcels, and provision of rural levels of service.<sup>45</sup> In addition, buffering requirements could be added to protect the adjacent lower intensity uses, and maintain rural character.

The impacts associated with the Pre-Countywide Planning Policies Alternative's pattern of dispersed growth in rural areas and rural cities may be significant. In comparison to the other alternatives, the policies under the Pre-Countywide Planning Policies Alternative consist of general recommendations and lack the stringency necessary for regulating development in a proactive manner. Instead, they serve as minimal guidelines for mitigating the anticipated effects of sprawl and consumption of rural lands, resource lands and open space in rural areas for residential purposes. Additional policies, such as those found in the CPPs or Rural Task Force policy option would be required to counteract the development pattern inherent in this alternative, and to ensure mitigation of impacts such as the increased consumption of rural land.

The Magnet Alternative provides a set of policies, benchmarks, and strategies which begin to mitigate some of the adverse impacts associated with its high

allocation of residential growth to rural cities. On their own, they may not be as effective in controlling the potential for sprawl in rural areas or preserving the quality of life in rural cities as the CPPs were for the allocation of growth proposed in the No Action Alternative. However, there are many positive concepts for monitoring the quality of life in the Magnet Alternative which could be used in conjunction with the CPPs to control and manage growth more appropriately for this alternative. In addition, a program to monitor rural cities available infrastructure capacities should be implemented to assist in determining which cities will be suitable for additional growth under the "least cost" planning strategy for infrastructure extensions.

The recommendations in the Magnet Alternative for implementing monitoring programs could be used in conjunction with the CPPs or policy options for all of the other alternatives. Monitoring through the use of a series of performance indicators can be an effective tool in measuring the impacts (positive, negative or neutral) as well as measuring desired outcomes.<sup>46</sup> Increases in land development and consumption, decreases in available land capacity, increases in land and housing costs in the rural areas and rural cities, and degradation of quality of life or rural character could be adequately mitigated by regular performance monitoring. Results could be integrated into the review and revision of the CPPs should they fall short of the established goals.

Many of the rural character and economic development policy options are more specific than those proposed by the CPP. In addition, they attempt to produce a positive impact on rural lands while still accommodating higher density or intensity activities not normally associated with rural areas. For example, Policy ED-10 may encourage the siting of resource based manufacturing uses in close proximity to the resource. Other rural character policy options allow clustering of development into higher density areas to consume less rural land. These activities could have a significant adverse impact on rural character if they are not mitigated with buffer, site or design requirements which are consistent with maintaining rural character. King County should work with rural area residents to further define what types of land uses or siting requirements contribute or detract from rural character, then apply this as mitigation to higher intensity activities in rural areas.

## **SHORELINE USE**

King County is in the process of amending its Master Program to better define standards and regulations for the following: public access (visual and physical), biofiltration strips and swales, vegetation management, including commercial, industrial and recreational development, rip rap enhancement standards, dams and hydroelectric facilities, and residential variable setback standards. Upon adoption, the proposed amendments will clarify visual, physical and limited public access development requirements and standards. This will mitigate some of the inevitable loss of shoreline public access from future development and growth.<sup>47</sup> The spatial pattern in which growth is allocated in several of the alternatives will also serve to mitigate some of these adverse growth impacts to some degree.

Under all alternatives, the Washington State Shoreline Management Program (1971) and King County Shoreline Management Master Program (1977) would provide some degree of mitigation for adverse impacts to shoreline use. The proposed King County Shoreline Management Master Program Amendments (March 1992) will also provide some additional mitigation measures upon adoption.

Acquisitions under the King County Open Space Program (1988), King County conservation easements for shoreline public access, and other park and recreation programs could all provide some mitigation for adverse impacts to shoreline public access.

SEPA requires that adverse impacts to shoreline areas be disclosed, but does not prohibit activities that have unavoidable impacts.

## **UNAVOIDABLE IMPACTS**

### **LAND DEVELOPMENT AND LAND CAPACITY**

Development during the next 20 years will consume additional vacant land and reduce the capacity of King County jurisdictions to absorb the growth of future generations. This is true of all of the alternatives, to varying degrees, with the Centers Alternatives causing least impact and the Magnets, No Action and Pre-Countywide Planning Policies Alternatives (in probable increasing order) greater impact to the vacant land base.

**URBAN GROWTH AREAS AND URBAN CENTERS**

In general, additional supplies of developable land will be required to accommodate anticipated increases in jobs and housing throughout King County. The majority of this development will be guided to lands within the UGA in the western portion of the County in order to preserve the rural lands outside of the UGA. The overall goal is to try and minimize the extent of impacts on the environment and quality of life associated with increasing development in urban centers and the UGA.

All of the alternatives will result in an increase in density in urban centers through infill and redevelopment. Increased density creates a number of unavoidable impacts. Existing buildings may be torn down and replaced by higher density development. Vacant land or open spaces may be developed. This could create a dramatic change in the character of the center.<sup>48</sup> There is some question as to whether or not the targeted density of development recommended by the CPPS will actually occur, due to people's preferences for lower density development.<sup>49</sup>

Local jurisdictions should work closely with residents and business people located in the urban centers to define a vision for this area before this type of development occurs. Taking a proactive stance on the character of this area will assist in creating an environment that is attractive to both residents and business people. By increasing the area's attractiveness, this may subsequently increase the chance of actually being able to achieve the high population and employment targets.

**RURAL LANDS AND RURAL CITIES**

In general, additional supplies of developable land will be required to accommodate anticipated increases in jobs and housing throughout King County in the future. While the majority of development will be guided to areas within the large UGA in the western portion of the County, some development will still occur in rural cities and rural lands. The goal is to try and minimize the extent of the impacts on the environment, rural character and quality of life associated with development in these areas, through clustering, design guidelines, and extension of infrastructure and services policies. Effects of policies on rural areas and cities can be identified and mitigated to the best extent possible by implementing a program monitoring development, land capacity and quality of life benchmarks.

**SHORELINE USE**

There will be a certain amount of inevitable loss of shoreline public access from future development and growth. There will also be a certain amount of negative impacts on some shorelines due to lack of "best management practices" implemented during development. This includes landowners who do not assume responsibility for proper shoreline development activities as well as public agency responsibility for effective code enforcement of permit requirements.

---

***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

ENDNOTES

1. King County Planning and Community Development Division, King County Annual Growth Databook, Seattle, WA, 1993.
  2. Gary Pivo, "The Net of Beads: Suburban Office Development in Six Metropolitan Regions," Journal of the American Planning Association, 56(4), 1990.
  3. King County Data Resources Technical Forum, "Draft Data Resources Technical Forum Preliminary Report on Land Capacity," September 3, 1992.
  4. King County Data Resources Forum, "Revised Draft Adjusting Land Capacity Estimates For Market Factors," August 27, 1993.
  5. King County, King County Shoreline Master Program Draft Amendments, Department of Building and Land Development-Land Use Controls Division, King County, Seattle, WA, March 1992.
  6. James E. Frank, The Cost of Alternative Development Patterns: A Review of the Literature, The Urban Land Institute, Washington, DC, 1989.
  7. James E. Frank, The Cost of Alternative Development Patterns: A Review of the Literature, The Urban Land Institute, Washington, DC, 1989.
- Real Estate Research Corporation, The Costs of Sprawl, Vols. I-III, U.S. Government Printing Office, Washington, DC, 1975.
8. Pat Choat and Susan Walter, America In Ruins, Council of State Planning Agencies, Washington, D.C., 1981.
- Arthur C. Nelson, "Blazing New Planning Trails in Oregon," Balanced Growth: A Planning Guide for Local Government, Edited by John M. DeGrove, International City Management Association, Washington, D.C., 1990.
9. Alan Altshuler, "The Costs of Sprawl," Book review in Journal of the American Planning Association, 43(2), 1977.
- Battelle Human Affairs Research Centers and Economic Databank Consultants, "Impacts of Regional Transportation Alternatives on Public Costs of Services in the Puget Sound Region," Supplementary Report to the Draft Environmental Impact Statement for VISION 2020, Puget Sound Council of Governments, Seattle, WA, March 1990.
10. Jeffrey H. Leonard, Managing Oregon's Growth: The Politics of Development Planning, The Conservation Foundation, Washington, D.C., 1983.
  11. Puget Sound Regional Council, Environmental Impact Statement Addendum for the Multicounty Planning Policies for King, Kitsap, Pierce, and Snohomish Counties, Seattle, WA, February 17, 1993.
  12. King County Planning Division, "Proposed King County Comprehensive Plan 1985," King County Environmental Impact Statement, March 1985, p. 38.
  13. James Duncan and Associates, Growth Management Techniques: A Report to the Puget Sound Council of Governments, Puget Sound Regional Council, Seattle, WA, March 1990.

---

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

14. James E. Frank, The Costs of Alternative Development Patterns: A Review of the Literature, Urban Land Institute, Washington, D.C., 1989.
15. City of Seattle, Seattle's Plan For Managing Growth Draft Environmental Impact Statement, Spring 1993, p. 35.
16. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Impact Statement, 1990, pg. 222.
17. David R. Godschalk and Scott A. Bollens, Land Supply Monitoring, Lincoln Institute of Land Policy, Cambridge, MA, 1986.
18. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Environmental Impact Statement, September 1990, p. 222.
19. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Environmental Impact Statement, September 1990, p. 222.
20. Elizabeth Deakin, "Growth Control: A Summary and Review of Empirical Research," Urban Land 48(7), July 1989, pp. 16-21.
21. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Environmental Impact Statement, September 1990, p. 222.
22. Jeffrey H. Leonard, Managing Oregon's Growth: The Politics of Development Planning, The Conservation Foundation, Washington, D.C., 1983.
23. Oregon Progress Board, "Oregon Benchmarks: Standards For Measuring Statewide Progress and Governmental Performance," Report to the 1993 Legislature, Oregon, December 1992, and David R. Godschalk, and Scott A. Bollens, Land Supply Monitoring, Lincoln Institute of Land Policy, Cambridge, MA, 1986.
24. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Environmental Impact Statement, September 1990, p. 222.
25. Metropolitan Service District Planning and Development Department, Urban Growth Boundary--Periodic Review Workplan, METRO, Portland, OR, December 1988.
26. Robert G. Healy, Land Use and the States, Second Edition, John Hopkins University Press for Resources for the Future, Baltimore, MD, 1979.
27. Samuel N. Stokes and A. Elizabeth Watson, Saving America's Countryside: A Guide to Rural Conservation, The John Hopkins University Press, Baltimore, MD.
28. David E. Dowell, "Reducing The Cost Effects of Local Land Use Controls (Excerpts)," Growth Management: Keeping On Target? Edited by Douglas R. Porter, The Urban Land Institute with the Lincoln Institute of Land Policy, Washington, D.C., 1986, pp. 179-186.

Gerrit-Jan Knapp, The Price Effects of an Urban Growth boundary: A Test for the Effects of Timing, A Dissertation, University of Oregon, 1982.

29. V. Gail Easley, "Staying Inside the Lines: Urban Growth Boundaries," Planning Advisory Service, Report Number 440, American Society of Planning Officials, Chicago, IL, November 1992.

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

30. V. Gail Easley, "Staying Inside the Lines: Urban Growth Boundaries," Planning Advisory Service, Report Number 440, American Society of Planning Officials, Chicago, IL, November 1992.

Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Environmental Impact Statement, September 1990, pp. 222.

31. Robert D. Yaro, et al, Dealing with Change in the Connecticut River Valley: A Design Manual For Conservation and Development, The Lincoln Land Institute and the Environmental Law Foundation, Washington, D.C., December 1990.

Fred Heyer, "Preserving Rural Character," Planning Advisory Service Report Number 429, American Society of Planning Officials, Chicago, IL, December 1990.

32. Robert D. Yaro, et al, Dealing with Change in the Connecticut River Valley: A Design Manual For Conservation and Development, The Lincoln Land Institute and the Environmental Law Foundation, Washington, D.C., December 1990.

Fred Heyer, "Preserving Rural Character," Planning Advisory Service Report Number 429, American Society of Planning Officials, Chicago, IL, December 1990.

33. Robert D. Yaro, et al, Dealing with Change in the Connecticut River Valley: A Design Manual For Conservation and Development, The Lincoln Land Institute and the Environmental Law Foundation, Washington, D.C., December 1990.

Fred Heyer, "Preserving Rural Character," Planning Advisory Service Report Number 429, American Society of Planning Officials, Chicago, IL, December 1990.

34. V. Gail Easley, "Staying Inside the Lines: Urban Growth Boundaries," Planning Advisory Service, Report Number 440, American Society of Planning Officials, Chicago, IL, November 1992.

35. Lawrence B. Burrows, Growth Management, Center for Urban Policy Research, Rutgers University, New Brunswick, NJ, 1988.

V. Gail Easley, "Staying Inside the Lines: Urban Growth Boundaries," Planning Advisory Service, Report Number 440, American Society of Planning Officials, Chicago, IL, November 1992.

36. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Environmental Impact Statement, September 1990, p. 222.

37. V. Gail Easley, "Staying Inside the Lines: Urban Growth Boundaries," Planning Advisory Service, Report Number 440, American Society of Planning Officials, Chicago, IL, November 1992.

38. V. Gail Easley, "Staying Inside the Lines: Urban Growth Boundaries," Planning Advisory Service, Report Number 440, American Society of Planning Officials, Chicago, IL, November 1992.

39. Metro et al, Final Environmental Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle (METRO), Regional Transit Project, Seattle, WA, 1993.

40. Metro et al, Final Environmental Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle (METRO), Regional Transit Project, Seattle, WA, 1993.

---

***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

41. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Environmental Impact Statement, September 1990, p. 222.
42. Christopher B. Leinberger, and Charles Lockwood, "How Business Is Shaping America," The Atlantic Monthly, October 1986.
43. Oregon Progress Board, "Oregon Benchmarks: Standards For Measuring Statewide Progress and Governmental Performance," Report to the 1993 Legislature, Oregon, December 1992.
44. Sno-Tran, A Guide to Land Use and Public Transportation, December 1989.
45. V. Gail Easley, "Staying Inside the Lines: Urban Growth Boundaries," Planning Advisory Service, Report Number 440, American Society of Planning Officials, Chicago, IL, November 1992.
46. Oregon Progress Board, "Oregon Benchmarks: Standards for Measuring Statewide Progress and Governmental Performance," Report to the 1993 Legislature, December 1992.
47. King County, King County Shoreline Master Program Draft Amendments, Department of Building and Land Development--Land Use Controls Division, Seattle, WA, March 1992.
48. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Impact Statement, 1990, pg. 222.
49. King County Planning Division, Proposed King County Comprehensive Plan-1985, Final Environmental Impact Statement, King County, March 1985, p. 38.

**2.0 AFFORDABLE HOUSING**

**MAIN FINDINGS**

- Market factors have significantly greater impact on housing costs and affordability than housing policies.
- Distinctions in impacts between the alternatives are minor because of the far greater importance of market factors, including demand and other supply factors.
- The refined affordable housing policies are likely to be more effective in promoting housing than the adopted CPPs because they are more specific and include a monitoring program.
- Mitigation measures include additional detailing of the zoning and monitoring programs in the affordable housing strategies, inclusionary zoning, public subsidies, greater responsibilities for fully developed communities, and volunteer assistance programs.

**AFFECTED ENVIRONMENT**

*Housing Stock, Quantity, and Type*

There are currently a total of 668,118 housing units throughout King County; 388,136 are single-family, 261,862 are multi-family and 18,120 are mobile homes. 66,335 single-family units (17 percent) and 62,607 multi-family units (24 percent) have been built in the last ten years. The building boom of the last ten years has yielded 20 percent of the total stock.

Approximately 225 of the units have 3 rooms or less (one bedroom and efficiency units) and 78 percent have more than 3 rooms.

*Housing Condition and Quality*

Throughout the last decade, overall housing condition in King County has improved. This is to some degree the result of the County housing boom of the 1970s and 1980s which produced more than half of the existing units. Improvements in housing condition likely reflect the increased proportion of newer units in the total supply of housing as well as upgrades of existing units through private investment and local housing rehabilitation programs for lower income households. A survey of housing conditions in King County suggests that 5.9 percent of the rental stock and 8.7 percent of the owner stock is inadequate and requires major home repair. This affects about 24,000 households. Over half are low income

households and of these, about three out of four are homeowners.

*Housing Tenure*

Of the occupied housing in King County, approximately 60 percent is owner occupied and 40 percent is renter occupied. Vacancy rates for apartment complexes containing 20 or more units average 4.8 percent in King County in March 1993. Vacancy rates over the past ten years have averaged 4.7 percent with a high of 7.3 percent in 1983 and low of 3.6 percent in 1989.

*Housing Development Trends*

The number of units authorized by building permits increased 18 percent Countywide in 1992 over the previous year. The 9,658 new units permitted in 1992 were just over half the 19,275 units authorized in 1989 at the peak of the 1980s building boom. Multi-family unit authorizations increased almost 40 percent from 1991 to 1992, with the city of Bellevue alone accounting for 60 percent of the growth. Among the cities, Seattle continued to lead the way in 1992 with more than 1,700 multi-family units permitted, followed by Bellevue with 767. The Highline and Soos Creek community planning areas combined had nearly half of the 583 multi-family units permitted in unincorporated King County.

Single-family permits grew by 6 percent to more than 5,500 units between 1991 and 1992. Cities with the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

largest number of new units authorized were Seattle (528), Federal Way (245), and Bellevue (230). In unincorporated King County, Soos Creek (796), East Sammamish (575), and Tahoma/Raven Heights (525) continued to lead in single-family construction, as they have since the late 1980s.

King County's forecast population growth will require additional residential development of about 190,000 dwelling units between 1992 and 2010. This means that an average of more than 10,000 units a year will be needed. (Development during the 1980s averaged more than 14,000 units annually.)

### *Housing Development Trends*

#### **Homeownership**

The affordability of the average priced single-family home in King County declined sharply during the late 1980s, after improving for most of the decade. Homeownership declined from 62 percent to 59 percent during the decade.

Since 1990, home purchase affordability has once again improved, due mostly to sharply falling interest rates.

Affordability refers to the relationship between the price of housing and ability to pay. Key variables in the home purchase equation are the following: the sale price of the house, the income of the purchasing household, and the proposed terms of the sale (i.e., the mortgage interest rate, down payment, and closing costs).

As summarized in Table 4, the average sale price of single-family housing increased 107 percent between 1980 and 1990 (from \$81,600 to \$169,200), with three-quarters of this increase coming during the last three years of the 1980s. The sharp price spike between mid-1987 and mid-1990, with average sale prices increasing 2 percent to 3 percent a month for a good part of this period, as due primarily to strong job growth and immigration into King County.

With the economic downturn of the early 1990s, housing prices have leveled off. Between 1990 and the end of 1992, the average sale price of the single-family house in King County increased just 4 percent, from \$169,200 to \$175,800.

Home purchase conditions vary widely across King County. As shown in Table C-1 in Appendix C, which compares average sale prices in the first quarter of 1993, prices are highest on the Eastside (\$237,400 in the most recent data) and lowest in the Highline area (\$120,300) of South King County.

Affordability patterns mirror countywide price trends fairly closely. Between 1981 and 1987, the affordability gap for the median income household (the difference between the average single-family sale price and a calculated affordable price) narrowed from \$37,100 to just \$9,800. (This calculation assumes 25 percent down for principal and interest and a 30-year conventional loan at prevailing interest rates.) During the next three years, the gap widened to \$58,300 for the median income household, meaning that the affordability gains of the preceding six years were more than wiped out.

Since 1990, conditions have again brightened on the home purchase front, as interest rates on the conventional 30-year loan tumbled. Based on the Puget Sound Multiple List Association (PSMLA) sales data by price range, the median income household could have afforded 65 percent of the single-family sales closed in March 1993, up from 35 percent just two years earlier.

Affordability conditions for first time and low income buyers, while following the trend of the median income household, were much more difficult. The affordability gap facing these households varied between \$56,100 and \$101,000 during the first quarter of 1993. First time buyers could qualify for just 28 percent of the March 1993 PSMLA sales: the low income household, just 5 percent.

---

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Table 4. Average House Price And Rent Trends  
King County, 1980--1992

Year	Average House Sale Price	Average Monthly Rental 2 Bedroom, 1 Bath Apt.
1980	\$81,576	\$312
1981	\$89,884	\$338
1982	\$88,041	\$357
1983	\$92,611	\$380
1984	\$90,785	\$389
1985	\$94,626	\$395
1986	\$98,119	\$411
1987	\$104,855	\$446
1988	\$115,262	\$482
1989	\$138,354	\$516
1990	\$169,202	\$537
1991	\$173,821	\$588
1992	\$175,789	\$609

Source: Housing Affordability in King County. Monitoring Report prepared by the King County Planning and Community Development Division, November 1988; and individual Monitoring Bulletins, 1989--1993.

#### *Rental Conditions*

As shown in Tables C-2 and C-3, located in the Appendix, between 1980 and 1990 the average rental for a two bedroom, single bath apartment in King County increased 72 percent from \$312 to \$537 a month. Rental price increases were moderated by a high rate of multi-family construction, particularly during the second half of the decade. Between 1985 and the end of 1990, nearly 105,000 multi-family units were permitted in unincorporated King County and its cities. Vacancy rates remained well below 6 percent in most places during this period.

From 1991 through 1992, multi-family production fell to less than 9,000 units annually, compared with 17,500 during the 1985-1990 period. Rent increases remained low, reflecting the economic downturn which slowed both immigration and employment growth. From the first quarter of 1992 through the first quarter of 1993, the average rent for a two bedroom rental in King County rose just 2.3 percent, from \$609 to \$623 a month.

Rentals vary considerably throughout King County. As summarized in Tables C-2 and C-3 in Appendix C, which compares two bedroom rentals in 1992 and 1993, the average rent for the two bedroom, single bath unit ranged from a high of \$824 a month in downtown Seattle to under \$450 a month in the Rainier Valley. Among major King County subareas, the City of Seattle had the highest two bedroom rents during the first quarter of 1993 (\$669), followed by the Eastside (\$659) and Northshore (\$624). As with home prices, rents are cheaper in South King County, with the lowest monthly two bedroom rental in the SeaTac area (\$512).

The low income renter without public subsidy, with an estimated annual income of one half the median renter (currently about \$12,700), faces very difficult rental conditions. Countywide, the unsubsidized low income renting household faced an affordability gap in excess of \$300 a month for the average two bedroom, single bath apartment.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### *Regulatory Trends and Impacts to Housing*

Over the last twenty years, nationally and in King County, there have been numerous regulatory changes in response to environmental concerns, energy conservation, etc. Some of these regulatory changes have had incremental, but cumulative impacts to land, infrastructure (site development), and building costs, which in turn has resulted in higher housing costs. Many jurisdictions, including King County, are responding to higher housing costs by studying these regulatory impacts and amending policies, ordinances, and codes to reduce costs. An example of this is King County's new zoning code. It is simpler to understand and more straightforward regarding zoning designations, allowed uses, and development requirements. For example, there is more flexibility for housing development by zoning land based on units per acre to be built versus minimum lot sizes, zero lot line development is allowed, and other cost-saving development standards are allowed without special conditions. Furthermore, there are density bonuses for affordable housing, better definitions of special needs housing and group homes, as well as more flexibility in siting these facilities and mobile home parks. In addition, there is more flexibility in standards for mobile home parks, including allowing duplexes.

### *Housing Needs*

Need has traditionally been defined to include households earning 80 percent or less of area median income who 1) occupy substandard or overcrowded dwellings and/or 2) pay in excess of 30 percent of household income for housing costs or 3) have no permanent housing at all. It is generally assumed that households earning more than 80 percent of median income have better or sufficient housing opportunities provided by the market, as discussed above.

By far the greatest number of households in need are those paying more than they can afford for housing. Approximately 8 percent of all homeowners, approximately 31,140 households, are low and moderate income households which pay more than 30 percent of their income for housing expenses. Approximately 34 percent of all renter households, 86,260 households, are low and moderate income households paying more than 30 percent of their income for rent.

### *Housing Needs of the Homeless*

It is difficult to determine a precise number of homeless in King County outside Seattle. At any one time there are over 3,100 shelter beds available and filled in all of King County. Street counts of unsheltered individuals in Seattle alone indicate another 500 people per night who are unsheltered. Additional data from youth shelter providers indicate an additional 400-500 youth not included in the count above. The figures represent a baseline of about 4,100 homeless in King County on a given day. However, this figure is significant in its failure to account for any unsheltered people outside of Seattle. Although an exact count is unknown, there are large numbers of people sleeping in cars, camping out in campgrounds, parks and rural areas, doubling up with family and friends, and otherwise unseen. Given the size of the population outside Seattle (1 million), it seems likely that there are at least another 500-700 people unsheltered. Over the course of a year, Seattle and King County project a total of 30,000 people will be homeless for some period of time.

### *Housing Needs of Special Needs Populations*

Special needs groups include those with supportive service needs such as the mentally ill, people with developmental disabilities, physical disabilities, runaway and homeless youth, people with AIDS, alcohol and substance abusers, frail elderly, veterans, and victims of domestic violence. In some cases, pregnant and parenting youth and young adults also have special needs. Over the past ten years, it has become increasingly difficult for lower income persons to obtain adequate, affordable housing. The problem is most acute for those persons who are in greatest need due to the inability to care for themselves, the lack of family support, and/or very low or no income.

Recently published studies of housing needs indicate the following:

*Persons with Mental Illness* - It is estimated that 7,500 chronically mentally ill and 67,000 seriously disturbed persons live in King County and are those most likely to need long-term housing assistance coordinated with out-patient treatment and other support services. There are currently

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

about 1,000 beds of community based housing options for the mentally ill. It is estimated that there is currently a need for an additional 1,000-2,000 beds for adults in King County.

*People with Developmental Disabilities* - There are approximately 4,000 people in King County with either mental retardation, cerebral palsy, autism, epilepsy or other neurological impairment. Approximately 775 people currently reside in assisted single or group homes. There are 600 people in State institutions targeted to return to King County, 700 persons waiting for housing with 80 high school graduates added to this waiting list annually.

*People with Physical Disabilities* - Detailed information on the extent of housing needs for lower income, physically disabled individuals is limited. Many live independently but in inappropriate settings or could live independently if more opportunities were available. Easter Seal Society of Washington has assisted approximately 1,750 clients in King County outside of Seattle on an annual basis.

*Runaway and Homeless Youth* - It is currently estimated that there are between 500-800 youth living on the streets of Seattle at any given time, however, youth shelter providers believe the numbers are higher. No count has been attempted for King County as a whole. The State Division of Children and Family Services has estimated that approximately 2,700 adolescent youth will need alternative out-of-home care. The number of beds provided for youth in need of crisis has declined since 1980 from a total of 1,600 to 320 in 1990. Typically, most youth are in need of shelter for two to four days and 400-600 to the total homeless/street youth need housing up to 18 months. Housing for emancipated minors or youth 18-22 is significantly lacking. Little has been done to accommodate the minority, gay, lesbian, handicapped, pregnant/parenting teens, youth with AIDS, and other special populations within the group of

homeless youth. In all, 15 providers are providing 200 youths with shelter, crisis residential beds, group homes, or transitional housing beds. It is estimated that at least another 666 beds are needed immediately.

Homeless pregnant and parenting teens do not fit into existing family or youth shelter systems because of their age and/or family status.

*People with Alcohol and Other Drug Problems* - The relationship between chemically dependent persons and homelessness is complex. It is clear that alcoholics and substance abusers are disproportionately represented among the homeless and are among the most visible and vulnerable. Studies show between 20 percent and 40 percent of the homeless population have alcohol or other drug problems. There are currently less than 100 beds for homeless persons in recovery in King County.

*Veterans* - The importance of veterans as a special needs population is underscored by the fact that this group make up a large percentage (estimated at 40 percent) of the total homeless population. Many at risk veterans are not receiving needed housing and treatment services due to the constricted supply of beds. While there is a need for additional shelter space for veterans, this need is not distinguished from the general homeless population.

*People with AIDS* - It is estimated the number of cases of Class IV AIDS in Seattle/King County will be well over 2,000 by the beginning of 1993. Historically, housing services have been requested by 50 percent of the total Class IV AIDS population. The Northwest AIDS Foundation, along with other providers of AIDS housing, provided housing services to 389 clients in the first quarter of 1992.

*Single Female Heads of Households and Victims of Domestic Violence* - While

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

approximately 3,000 domestic violence victims are annually provided with shelter, counseling, and support groups, in 1990 alone, 11,145 women and children were turned away for lack of space. About 540 additional beds are needed to help fill the gap in resources. County shelter reports show that 43 percent of families served in 1990 were female-headed. Increasing numbers are in shelters as a result of evictions, domestic violence, and family crisis. Female headed households are disproportionately represented among householder families with children under 18 who are living below the poverty line in King County.

*Frail Elderly* - Over one-fifth of the County's 65+ population are identified as frail elderly meaning that they are in need of assistance with at least one daily activity such as bathing, cooking, or dressing. In the next twenty years the number is expected to more than double from 16,786 to 36,353 people. Congregate care facilities and adult family homes are readily accessible to individuals who can afford to pay privately. However, for low-income elderly it can be extremely difficult to find placement.

### **SIGNIFICANT IMPACTS**

#### *Introduction and Growth Impacts*

##### Assumptions

The subject of this SEIS is the impacts of the CPPs and their policy options, as applied to five land use alternatives, on housing. Some basic assumptions govern this analysis. One is that population forecasts are the same under each alternative. [Note: Even with this assumption, the possibility of transfer of housing units is discussed under Eight Centers Alternative.] Second, capacity to meet household growth is expected to be sufficient under all alternatives, even if land capacity is not sufficient under current zoning. Third, it is assumed that the policies are fully implemented, e.g. that some land is upzoned.

##### Definitions of Affordability

King County defines sale housing affordable to median income and one-half median income households using 25 percent of income for principal and interest on a 30 year 20 percent down payment loan at prevailing interest rates. For tenants, units are affordable if they cost no more than 30 percent of monthly household income.

##### Recent King County Land Use and Housing Policies

The thrust of land use policies in King County since the 1985 Comprehensive Plan has been to concentrate growth in cities and activity centers within a defined UGA and rural cities outside the growth area. All other land is intended to remain rural or reserved for agricultural or forest resources. The housing policies are directed to achieve affordable housing goals within various compact development scenarios for each jurisdiction in King County.

##### Limitations on the Analysis

Forecasts of housing prices and affordability are not precise because the factors involved in determining them are many and complex. Market forces, including *demand* factors, such as increases in employment and population, are major factors which drive prices up in any growing region. The principal source for this assertion is the technical analysis conducted for VISION 2020. Several other studies, noted in the literature review, in Appendix C also support this view. A study recently completed by Tom Kirm of the Seattle Planning Department supports the VISION 2020 analysis while also finding significant impacts from *supply* factors, such as geographic constraints, traffic congestion and regulatory restrictiveness.

In Seattle, and a few other cities which experience sharp price increases, supply factors, such as geographic constraints, traffic congestion, and regulatory restrictiveness are of increasing importance as explanatory variables. This still leaves growth management development restrictions as only one aspect of one variable considered.<sup>1</sup>

The nature of supply and demand in the future King County market is uncertain. If there are absolute job losses, demand may shrink. If timber use is limited further, lumber prices may rise. If gasoline prices

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

rise sharply outlying locations may decline in popularity.

Further, consumer response may change if housing costs continue to rise relative to incomes. Smaller houses and smaller lots may become more popular. Then we would be comparing affordability of today's house with the affordability of more modest sized houses.

*All these factors prevent firm conclusions on the results of one factor, housing policies, on housing affordability.*

The affordable housing policies, which have been evolving in specificity and force since the 1985 Comprehensive Plan, operate in an environment which includes market driven cost increases and cost effects of restrictions on residential development in the County. Developers report that residential development sites in King County are very scarce and expensive. The affordable housing policies can encourage affordable housing, but their effects may be overwhelmed by the market forces.

Based on existing analysis and the preponderance of the research, communities may have difficulty meeting affordability goals in any of the alternatives even with the implementation of the affordable housing policies. Many low income households already cannot afford available housing, and incomes are not expected to rise relative to housing costs. Cities with sufficient financial resources, established programs and non-profit developers, such as Bellevue and Seattle, may have an easier time implementing policies, but they have a greater challenge to face because of the higher prices of their housing.

The only example found in the literature where policies may have influenced affordability is the Portland Metropolitan Rule. Here, one regional government had the authority to cause large amounts of land to be zoned for higher density and to set a monitored goal of higher multi-family production. Overall the goal was met: multi-family production increased, and housing was affordable by a larger proportion of the population after the study period than earlier.

Important distinctions exist between Portland and Seattle. First, Portland experienced an economic

slump during the study period. Therefore, it is unlikely that there were significant demand pressures during most of the study period. Second, Portland's regulatory environment is different. They do not have a state environmental protection statute. While they have system development charges for streets, utilities and parks, which are similar to impact fees, these vary from jurisdiction to jurisdiction. There is no readily available information comparing the size of system development charges to impact fees.

### **Focus of Analysis on Housing Affordability**

The analysis which follows focuses almost exclusively on housing affordability. This focus is necessary because of the nature of the housing policies, the need to be objective in the context of SEPA, and the exclusion of fiscal impacts from this analysis. However, it is important to remember that other costs are associated with housing at different densities.

Dispersed housing development imposes related costs on individuals and the community. On the public side, more roads and sewer lines may be needed. A study of fiscal impacts of development in Florida confirmed other research findings that more dense developments have lower fiscal impacts than scattered developments.<sup>2</sup>

On the individual side, costs related to dispersed housing may include an extra car or additional money spent on child care because a long commute keeps parents away from home longer. In addition there are social issues, which may be described as costs, associated with scattered development. Generally, housing is separated from jobs and stores and services in suburban development. Children go off to school never observing adults at work; they may not even be able to stop off at a local donut shop after school.

### ***Impacts of the Alternatives***

#### **No Action Alternative**

The No Action Alternative does not designate new urban centers, and allocates only 7 percent of household growth capacity in areas at the 15 d.u./acre densities. However, there are close to as many households in transit friendly areas as in the Eight and 14 Centers Alternatives and these areas are also suitable for small lot single family, townhouse and

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

multi-family densities. The No Action Alternative also has one of the largest numbers of households in rural and resource areas.

Because of this household distribution, it can be expected that the market forces causing price rises would be somewhat weaker than in the Eight and 14 Centers Alternatives. It is also likely that there will be less new high rise or very dense multifamily housing than in the Centers Alternatives.

The relevant policies under No Action Alternative are the CPPs. Land use policies LU-51 through 54 deal with the development of affordable housing targets in urban neighborhoods to meet the county's overall housing goals. The Affordable Housing policies, AH-1 through AH-5 under FW-24 propose an inter-jurisdictional process to distribute diverse types of housing around the county to meet the variety of needs, that all jurisdictions share in the responsibility to meet the needs of low and moderate income households, develop strategies and guidelines for affordable housing, evaluate existing resources and monitor their progress.

Whether the housing cost impacts are greater under the No Action Alternative than the Centers and Magnet Alternatives depends in part on the mix of housing developed in each alternative. Affordable small lot single family and townhouse style housing could render No Action Alternative the least costly. There might not be as much price inflation of urban center land, since there might be less targeting of population into those centers.

Costs of transportation and other infrastructure improvements may reduce the apparent cost advantages of the more spread development pattern. However, none of the studies reviewed deals with comparable statewide growth management planning.

Implementation of local strategies to promote affordable housing is likely to vary among jurisdictions under the CPPs. Monitoring requirements are not spelled out. The CPPs also do not contain any plan for addressing existing deficiencies. Since the CPPs are less specific and monitoring is inexact, communities may vary widely in their goals and success in meeting the affordable housing needs of their residents.

### **Eight Centers Alternative**

Under the Eight Centers Alternative, centers, as defined in LU-29, would provide capacity for 24 percent of household growth and 36 percent could be accommodated in transit friendly urban areas. The largest number of new households in the Eight Centers Alternative are expected in the transit friendly areas. This alternative and the 14 Centers Alternative suggest a wide variety of possible impacts on land costs.

Land prices under Eight Centers Alternative or 14 Centers Alternative may be less inflationary than other alternatives if capacity is not reduced outside centers, but rather, development is encouraged in centers through incentives.

Further, while land price is a critical factor in housing cost, land per unit may be lower in some urban centers than in suburban locations. Whether the higher land cost is translated into higher housing costs depends on the type of housing which is built in the centers. If it is predominantly high rise multifamily, costs may be higher because of higher construction costs. If it is predominantly attached housing and low rise apartment construction, costs may be lower than in the No Action Alternative because the smaller amount of land required per unit in attached/low rise multifamily vs. single family houses reduce housing costs.

Analysis included in the City of Seattle's Draft Housing Element (April 1993, page 298) indicates that total unit cost is lowest in L1 zones, but is also lower in LDT, L2, L3 and MR (woodframe) than in single family zones. Total costs for highrise construction are comparable to single family costs.

Another possibility, though not analyzed in the SEIS, is that prices might rise high enough to divert some household growth to less costly parts of King County and to other counties.

If the CPPs are the operating policies, they may apply a small moderating influence on housing prices through minimum density zoning (LU-51), changes to land use regulations (recommended in AH-5), preservation and other affordable housing strategies (AH-3, AH-2).

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

See the section on Affordable Housing Policies following the alternatives for discussion of the Task Force Policies.

### **14 Centers Alternative**

The 14 Centers Alternative is very similar in relation to housing affordability to the Eight Centers Alternative. Here, capacity is to be provided for 40 percent of the growth in households in Centers and 34 percent in Transit Friendly areas. The impact of the difference between eight and fourteen centers might move costs in either direction. Since the 14 Centers Alternative increases the number of areas of concentration considerably, if actual densities are sufficient, this alternative might ease any tight supply conditions and thus allow prices to stabilize or decline. However, this alternative concentrates the most households in areas where land prices might be highest.

Pressures and prices may vary between centers, and some smaller outlying centers may have lower costs than others and be comparable to Transit Friendly areas, reducing cost variations between the Eight and 14 Centers Alternatives. The designation of Centers may bring more high density zoning, and if the resulting housing is accepted in the market, may actually increase supply and provide a brake on housing price escalation.

The relative impact of the CPPs and the Refined policies is the same between the Eight and 14 Centers Alternatives.

### **Pre-Countywide Planning Policies Alternative**

The 1985 Comprehensive Plan alternative provides the least concentrated development among the five alternatives. Auto oriented development areas are allocated the largest growth in households, 56 percent, in this alternative. Urban and rural activity centers, including rural cities, might comprise a significant portion of these auto oriented areas. These areas could include small lot single family and multi-family densities. They would be sufficiently spread out to diffuse land price impacts relative to the Eight and 14 Centers Alternatives.

The policies which form the basis for affordable housing initiatives under this alternative are those

found in the 1985 Comprehensive Plan and the 1987 Affordable Housing Policy Plan. They relate to unincorporated King County primarily. The 1985 Comprehensive Plan policies are similar to the CPPs in encouraging a range of housing types and densities. They also include a policy to encourage density credits for innovative low cost housing among other types of developments.

The Affordable Housing Policy Plan was developed as a five year program for affordable housing. The plan's strategies have succeeded in encouraging zoning changes for multifamily and mobile home parks, and housing production and preservation. Policy 4 promotes fair share allocation of housing for low and moderate income households. Even so, housing affordability has declined.

Because the policies applicable in Pre-Countywide Planning Policies Alternative apply principally to unincorporated King County, there are likely to be a variety of approaches to affordable housing by individual jurisdictions--to a greater extent than in other alternatives. This alternative might have a somewhat lower inflationary impact on land prices, except near highway intersections where the increased accessibility to the region may cause land prices to rise.

Also, as discussed in the introduction, land prices alone do not account for housing costs. Even assuming that Growth Management related impact fees would not be applicable here, there might still be substantial and increasing costs attached to housing from SEPA mitigations or other system charges.

### **The Magnet Alternative**

The Magnet Alternative falls in the lower range in terms of household concentration. The largest amount of household growth is allocated to the urban/full service areas: 39 percent. This alternative, along with the Pre-Countywide Planning Policies Alternative, includes more households in rural cities than other alternatives.

The Magnet Alternative includes goals of increasing homeownership to 70 percent "market based" affordable housing for all economic groups, neighborhood control, and decreased per capita consumption of land for housing. Features of the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

Magnet Alternative usually work in opposition to each other. For example, efficient land consumption for housing and increasing homeownership to 70 percent "market based" affordable housing for all economic groups. The combination of goals would typically invite the prospect of a complex administrative structure and an expensive housing subsidy program.

Another aspect of the Magnet Alternative is its espousal of "least cost planning." Possibly the intention here is to remove a significant number of regulations and allow neighborhoods to govern themselves. The expectation may be that increased density, reuse and efficient development patterns will result.

This alternative might need special mitigating actions to achieve its goals. Suggestions are listed following the general mitigation possibilities.

### *Impacts of the Other Policy Options*

#### Technical Review Areas

The Technical Review Areas have the potential to add a small amount of land to urban use. The amounts of land are small compared with the total UGA. Much of the potential addition is in urban separators. Therefore it is not likely that these changes would have significant impacts on housing.

#### No Rail Policy Option

The no rail policy option may have a slight impact on housing in the Eight and 14 Centers Alternatives. It might make the centers slightly less attractive, since they would be served by buses rather than high capacity transit. However, this would not affect the ability of jurisdictions to provide capacity for housing in the centers, so the overall impact is not likely to be significant.

#### Affordable Housing Policies

The Refined Affordable Housing Policies could have a greater impact on housing affordability than the CPPs, since they provide specific targets for low and moderate income housing (AH-2B), a process to overcome existing deficiencies (AH-2A), and more defined monitoring and evaluation programs (AH-5, AH-6). The technical assistance provided to local

jurisdictions (AH-4) should facilitate the adoption of programs and ordinances which promote affordable housing.

AH-2B sets targets for affordability for the expected growth in households between now and 2012. Either 37 or 41 percent (depending on the concentration of jobs and housing) of the housing needed for anticipated household growth should be affordable to people earning under 80 percent of median county income (with at least 20 percent for under 50 percent of median). This housing may be new construction or existing housing. New construction could be directly subsidized or costs of production lowered through regulatory changes and increased density. Existing units could be secured for low income occupancy through transfer to non-profit or public ownership, or other means to assure continued low price or rent.

This policy is likely to have a positive impact on housing affordability by focusing jurisdictions on specific numeric goals. They will have to include these targets in their comprehensive plans.

The Refined Affordable Housing Policies include specific targets authorized to be planned for and reviewed in a monitoring program by the GMPC in AH-1 and AH-2 B. They also contain a plan for addressing existing deficiencies. The precision of these policies is likely to assure greater uniformity among jurisdictions in implementation and a higher probability of success in meeting the affordable housing needs of their residents.

#### Economic Development

The economic development policies which call for the retention and attraction of jobs, if successful, could have several impacts on housing and housing affordability. Increased employment is closely related to rising housing prices, so the policies might cause housing prices to rise. On the other hand, by providing jobs in King County, which might be filled by county residents, the policies could improve residents' ability to pay for housing and make it easier for them to travel between work and home. The complex possibilities of types of jobs and their locations with relation to various types of neighborhoods make conclusions difficult relative to impact on housing affordability.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

The regulatory reforms proposed in ED-14 through ED-17 could also apply to housing development. They might help improve housing affordability by lowering the costs of development.

The other economic development policies do not directly affect housing. They do affect land uses generally, through their impact on the location and amenities associated with residential land uses.

### **Rural Task Force Policies**

As stated in FW-RUa f, "...the rural areas...shall not be considered a quantitatively significant part of the county's residential growth capacity..." The small proportion of growth anticipated in rural areas in the Centers Alternatives supports the assertion. The Magnet Alternative allocates a somewhat larger amount of household growth in rural cities. To the extent that rural development capacity is expanded in the Magnet Alternative, it may have a slightly positive impact on housing affordability.

## **MITIGATION MEASURES**

The CPPs and Refined Affordable Housing Policies can be thought of as mitigating forces working for housing affordability. Some of the mitigation measures listed are expansions of the policies or implementing mechanisms. These are in three groups. The first can apply to all the alternatives, since stronger methods may be necessary to achieve the affordable housing targets for any of the alternatives. A small list is directed to the alternatives which provide significant new capacity in urban centers, since they may experience displacement. Another small list is addressed to the specific goals of the Magnet Alternative. Other policies being developed by the Affordable Housing Task Force and in the update of the King County Comprehensive Plan may also be effective mitigating actions.

### *Mitigation Applicable to All Alternatives*

#### **Minimum Density Zoning**

LU-51 requires in section b. that each jurisdiction establish minimum densities in each residential zone. For this to be effective the maximum densities should allow development appropriate to environmental and

neighborhood conditions, and the minimums should be close to the maximums.

Establishment of minimum densities close to the maximums would prevent land from being developed at less than anticipated densities. Land zoned for multi-family housing could be prohibited from development as single family. A variation on this regulation is setting a maximum lot size for single family developments. One possible way to do this is through a site plan review which would limit the proportion of large lots which could be produced in a development.

#### **Density for Residential Development**

LU-51, Section c, calls for a target mix of housing types. The policy does not extend to recommending a specific proportion of residential land to be set aside for housing. It appears that sufficient up zoning to allow for sufficient capacity for housing is a powerful land use control to mitigate against the upward push of market forces. Higher density does not mean all high rise apartments. They are expensive to build and may be expected only in a few centers. Midrise frame buildings can provide about ten times the density proposed for centers. Much of the development could be encouraged in townhouse (12-20 d.u./acre) developments.

The Portland Metro model, described briefly in Appendix C, could be considered.

#### **Inclusionary Zoning**

All jurisdictions, or a targeted group with strong housing markets, could adopt inclusionary zoning ordinances such as the one which operates in the City of Bellevue. This requires a percentage of lots or units in a development to be affordable to low and moderate income households. This strategy may be effective for increasing affordability for moderate income households. Inclusionary zoning should be accompanied by density bonus provisions so that the market rate proportion of the housing does not have to bear an undue amount of extra cost.

Inclusionary zoning provisions provide some risk of raising prices in the overall housing market. Unless there are controls over the prices of the "non-inclusionary units," they may rise to cover any costs

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

associated with the inclusionary, or price controlled units. If that occurs, it might be expected that existing housing prices will also rise, since prices of existing housing tends to stay in a fairly fixed relationship to new housing prices.

### **Existing Deficiencies**

The CPPs and Refined Housing Policies provide much greater specificity about new housing than existing conditions. The methods of dealing with the existing deficiencies are found in AH-2A of the Refined Housing Policies. The approach seems adequate, but the success of the efforts depends on public acceptance of the funding implications. The policy could be strengthened with more specific proposals and targets.

### **Increased Public Subsidies**

Jurisdictions could allocate local funds to subsidize new development and preservation efforts for housing for low and moderate income households. They could act alone or in concert with other local governments.

### **Fully Developed Jurisdictions**

Some jurisdictions are fully developed and do not have much potential for redevelopment in the near future. They could contribute to meeting countywide goals. For example, if a fully built community has not produced the share of affordable housing proposed in the Refined Affordable Housing Policies, it could take on the obligation to contribute to providing or preserving the same number of units as its share would be.

### **Additional Assistance to Small Communities**

Very small, but growing, communities may not have the capacity to mount a housing program independently. These jurisdictions could work on their needs for new affordable units in the same context (countywide) as is proposed for tackling existing deficiencies. Another possibility is for small jurisdictions in South King County and North King County to form regional housing agencies on the model of A Regional Coalition for Housing (ARCH). ARCH is serving as administrator of pooled funds, developer, and analyst for affordable housing efforts

in Bellevue, Kirkland and Redmond. These cities are allocating block grant and general fund revenues to support a shared housing effort.

### **Fee Limits for Affordable Housing**

Specific maximums for fees could be established to control development costs. These caps might be tied to price or rent caps on the developments. Alternatively fees could be waived for low and moderate income housing.

### **Monitoring**

With further definition, the monitoring system proposed in AH-5 of the Refined policies and the evaluation proposed in AH-6 should be adequate to provide accountability.

Many communities in the county have conducted their housing planning using different data bases and methods of analysis. A good monitoring program would include uniform assumptions and measures. It would allow the county and each jurisdiction to assess its progress toward meeting affordable housing goals both in terms of capacity (density, location and availability of services) and performance on the targets. Only with this information will communities be able to assess the usefulness of the techniques they have adopted. A good monitoring system would use readily available measures. Consistency in application is more important than absolute accuracy. Integration of responses into one regional data base will facilitate intra-county assessments.

### **Additions to the Monitoring Program**

Monitoring will be a major way to determine if the policies are having their desired effects and thus allowing for any needed "mid-course corrections." The addition of a few of the methods used in Metropolitan Portland might be considered. The Portland monitoring program compared the planned vs. actual density of developments. For those with a density shortfall of >20 percent, surveys were conducted to determine the causes for shortfalls.

### **Failure to Plan for Targets**

The success of the housing policies depends on urban centers and other areas within the UGA providing the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

target capacity for growth in households and changing regulations to encourage the target proportion of affordable housing.

Jurisdictions have a great deal of difficulty increasing density, revising development standards or funding housing subsidies, some combination of which are necessary to approach the affordability goals. In some cities and community plans, down zoning has been the direction rather than increased density. However, Growth Management legislation includes a system for review of comprehensive plans. King County could add a local voice by proposing alternative locations for housing capacity for jurisdictions which are unable to meet their targets.

### *Mitigations Measures for Centers Alternatives*

Incentives could be offered to developers for rehabilitating older buildings.

Transfer of development rights could be implemented to encourage preservation of older buildings when the sites have capacity for additional square footage.

Relocation benefits could be offered to tenants dislocated from existing housing.

Preservation and relocation programs could be implemented in all jurisdictions for mobile home park residents.

### *Mitigation Measures for Magnet Alternative*

#### Neighborhood Planning

Jurisdictions could establish neighborhood approval processes for residential land use decisions. They would need criteria for decisions and clear targets for affordable housing by neighborhood.

#### Volunteer Efforts

Programs could be developed through neighborhoods or other community organizations to assist in neighborhood enhancement and housing preservation efforts. Clean up, fix up programs, self-help housing, and targeted CRA investments from lending institutions are examples which might meet the goals of the Magnet Alternative.

## **UNAVOIDABLE IMPACTS OF AFFORDABLE HOUSING POLICIES**

Some increase in land and housing costs is inevitable if the region continues to grow and prosper. However, higher costs may encourage higher density zoning.

Some dislocation may occur in urban centers and other areas where redevelopment is used to expand capacity for affordable housing. Gentrification may also accompany redevelopment and rising rents and prices of existing housing may drive out low income residents.

Affordable housing programs may require increased taxation for county residents or impositions on developers and residents of new housing.

To reduce development costs for affordable housing, regulations which have some public safety component may be removed. For example, while sidewalks may not be needed on both sides of streets, having them on both sides offers safety, particularly to small children and others who are less able to navigate crossing streets safely.

---

***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

ENDNOTES

1. Tom Kirn, "Causes of Metropolitan Area Housing Price Changes 1975-90, Unpublished paper, Seattle, WA: 1993, p. 8.
2. James Duncan et al, The Search for Efficient Urban Growth Patterns: A Study of the Fiscal Impacts of Development in Florida, Florida Department of Community Affairs, 1989.

**3.0 TRANSPORTATION**

**MAIN FINDINGS**

**OVERALL MOBILITY**

Concentrated development reduces vehicle miles travelled. The Eight Centers Alternative and the 14 Centers Alternative with their concentrated development in urban centers are likely to produce fewer vehicle trips than the other alternatives.

**TRANSPORTATION DEMAND MANAGEMENT**

All of the alternatives analyzed are expected to increase the average vehicle occupancy in the County.

Three Alternatives (No Action, Eight Centers, 14 Centers) are expected to increase average vehicle occupancy through parking management strategies that decrease the amount of currently available free parking spaces.

The Economic Development Task Force policies are likely to decrease average vehicle occupancy in comparison to the No Action, Eight Centers and 14 Centers Alternatives. Countywide Planning Policy language referring to parking space limitations in existing business/office parks is deleted. However, siting new business/office parks close to transit routes is expected to encourage transit usage to and from these employment facilities.

**LAND USE/TRANSIT LINKAGE**

By concentrating potential riders along a number of transit-friendly corridors, transit ridership is expected to increase significantly in both the urban centers and in the transit oriented areas outside the urban centers in the Eight Centers and 14 Centers Alternatives.

The 14 Centers Alternative provides the best opportunity for increasing transit ridership. A greater percentage of the growth is allocated to urban centers, which would be linked by the regional transit system.

The Pre-Countywide Planning Policies Alternative has the greatest potential negative impact on transit usage. It allows for development of dispersed employment and household activity areas that are difficult to serve with frequent transit service. This form of development encourages Single Occupancy Vehicle (SOV) use.

Under the Magnet Alternative most new housing development would continue to occur outside of the areas identified as potential urban centers. The number of employment opportunities located in office parks is also expected to increase. These development trends are expected to increase the number of SOV trips produced in the County while diminishing the attractiveness of transit use.

**MAIN FINDINGS**

**ROADS AND FREIGHT**

The 14 Centers Alternative has the strongest potential for reducing vehicle trip length because it has the most growth allocated to urban centers. The Eight Centers Alternative has slightly less growth allocated to urban centers making it the second strongest Alternative. General road usage and freight travel is reduced through shorter trips.

The Pre-Countywide Planning Policies Alternative is the alternative with the most adverse impacts. The land use densities encourage vehicle trips and the 1985 King County Comprehensive Plan policies are not strong enough to mitigate the trip making effects of the Alternative. The dispersed development of the Pre-Countywide Planning Policies Alternative increases intracounty freight travel because the distances between destinations is greater.

The No Action and Magnet Alternatives have lower land use densities than the Eight and 14 Centers Alternative, which will increase demand for roads and freight travel. Under the No Action Alternative, this increased demand is partially reduced by the strength of the Countywide Policies, but under the Magnet Alternative, the transportation policies are not strong enough to counteract the forces of land use distribution on travel, so this alternative will have increased vehicle trips, demand for roadways, and freight travel.

**NON-MOTORIZED TRAVEL**

Most new development under the No Action Alternative and the Magnet Alternative are expected to take place in areas where it is more difficult for pedestrians and bicyclists to reach bus routes or transfer between routes. People in these areas are expected to use their automobiles more frequently than walk or bicycle when making their trips.

Under the Eight Centers Alternative, most development will be concentrated in eight urban centers, thus making walking and bicycling feasible for numerous trip purposes (e.g., shopping and work trips).

The 14 Centers Alternative has the greatest percentage of growth in urban centers thereby, providing the best opportunity for increasing pedestrian and bicycle trips.

The Pre-Countywide Planning Policies Alternative represents the choice with the greatest negative impact. The dispersed growth of Alternative D is likely to encourage people to choose driving over walking and bicycling.

**TELECOMMUNICATIONS**

Telecommuting has the potential to reduce the number of person trips produced in the County.

Programs that promote telecommuting as an option are recommended as mitigation for the increased traffic resulting from population and employment growth.

## **AFFECTED ENVIRONMENT**

### **OVERALL MOBILITY**

An estimated 36,930,320 vehicle miles were travelled each day in 1990 in King County.<sup>1</sup> Regional analysis indicates that vehicle miles traveled increased by more than 80 percent between 1981 and 1991. During the same period, the region's population grew by just over 20 percent and employment in the region grew by 35 percent. Traffic grew by nearly four times the rate of population.

More people have an automobile available to drive. Between 1981 and 1991 the number of registered vehicles increased by nearly 40 percent - double the increase in population. Greater automobile availability leads to more people driving alone to work, more use of automobiles for non-work trips and allows for regional residents to choose to live further from work. Census data and household travel surveys conducted by the Regional Council have shown that the average distance of trips from home to work increased from 9 miles to 9.8 miles between 1980 and 1987.<sup>2</sup>

There is an increase in the number of trips being made per household. The proportion of people who work in King County increased from 74 percent to 77 percent between 1980 and 1990. This increase in the proportion of people making work trips helps explain why traffic grows faster than employment. It also helps explain why there has been an increase in non-work trips. Between 1971 and 1987 the average number of daily trips per household increased from 7.73 to 9.89 according to regional travel surveys. Most of this increase in trips made was for non-work trips (such as trips to daycare or the grocery store). More frequent trips could be the result of a greater need for goods and services because there are fewer households with an adult who stays home. More frequent trips could reflect a decrease in the extent to which people combine errands in a single trip - a reflection of the dispersed pattern of development. More frequent trips could simply reflect an increase in the general level of consumption.<sup>3</sup>

For all of King County, the average commuting time increased between 1980-1990. At least two factors contributed to longer commutes: 1) as residential development has extended into previously

undeveloped areas of the region, more people are living farther from their workplace, resulting in greater commute distances; and 2) with more vehicles on the road, congestion has worsened and slowed the rate of travel, so that even the same trip takes longer than it did ten years ago. The average 1990 commuting time was 48 minutes for all of King County.

### **TRANSPORTATION DEMAND MANAGEMENT**

Transportation Demand Management (TDM) programs encompass any strategy aimed at reducing roadway demand, as measured by a reduction in the number of Single Occupancy Vehicles (SOVs), a reduction in Vehicle Miles Traveled (VMT), and an increase in Average Vehicle Occupancy (AVO). TDM strategies may include: parking charges, parking taxes, fuel pricing, congestion pricing, preferential carpool parking, telecommuting, compressed work weeks, flextime and strategies that promote High Occupancy Vehicles (HOVs), or alternate modes such as walking and bicycling. Metro actively works with King County and the various cities to actively promote implementation of transportation demand management strategies in local plans and development reviews. Metro also provides ridesharing services to individuals and businesses. The Washington State Department of Transportation currently operates an extensive High Occupancy Vehicle lane system on the freeway and highway system in King County.

Fewer commuters are using transit, carpools or bicycles to journey to work. Table 5 shows the change from 1980 to 1990 in the travel mode to work for commuters working in King County.

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

**TABLE 5**  
**Travel Mode to Work in King County**

Year	SOV	Car 2 Persons	Car 3+ Persons	Transit	Walk/Bike	Other	Total Commuters
1980	63.8%	14.0%	4.9%	10.7%	4.8%	1.8%	664,642
1990	73.8%	10.1%	2.3%	8.5%	4.0%	1.4%	884,886

Source: Puget Sound Regional Council, "Puget Sound Trends", No 11, October 1993.

**LAND USE/TRANSIT LINKAGE**

Transit services in King County are provided by three public transit agencies. The Municipality of Metropolitan Seattle (Metro) provides the vast majority of transit service available to King County residents. Pierce Transit and Community Transit both provide express commuter services into King County, mostly to the Seattle central business district. Pierce Transit's services are provided under contract with Metro and Community Transit contracts with a private firm to provide commuter services into King County.

*Transit for Seattle*

Metro provides transit service to all of King County and is the largest transit agency serving Seattle. In 1990, Metro operated about 188 routes over 7,050 miles and carried about 73 million passengers. Metro also provides special transportation services for persons unable to use regular bus service.

In addition to Metro's local and express bus service, Community Transit and Pierce Transit operated express buses to downtown Seattle from Snohomish and Pierce Counties.

Approximately 10 percent of the trips in Seattle and 3 percent of the trips in the region are made on transit.

The Regional Transit System Plan released in October 1992, proposes capital improvements and service changes to increase transit speed, service and reliability, and to encourage the use of transit and high-occupancy-vehicles by giving those vehicles priority on arterials and freeways. A rapid transit system is the central element of the plan. Among the major components of the plan are:

**Regional rail** - A rapid, high frequency, all-day regional rail system connecting activity centers throughout the region, including Rainier Valley, Capitol Hill, the University District, Northgate, and Downtown Seattle.

**Commuter rail** - Peak-period service using existing rail lines between Tacoma, south King County, and Downtown Seattle.

*Regional Transit System Plan*

**Bus** - High-frequency, all-day bus service linking neighborhoods, employment centers, and the regional rail system. Its main focus is on high-ridership arterial streets.

**Local Bus** - Two-way, all-day local bus services connecting Seattle neighborhoods with the regional rail system.

**Regional HOV System** - Completing the freeway HOV system to allow for faster service by buses, carpools, and vanpools.

**Arterial Improvements** - Traffic controls to give priority for moving transit and carpools through congestion.

**Demand Responsive Services** - Services such as dial-a-ride to provide local mobility and connections to the regional system in areas where fixed route service is not feasible.

**Vanpool and Rideshare Services** - Increase vanpool and rideshare services to meet both local and regional commuter needs.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

In the past 20 years, VMT has increased faster than population growth. More households have two workers, new housing and businesses have located in the suburbs, cities have become more dispersed, and the number of vehicles and length of trips per household has increased. As a result, congestion, travel time, and traffic accidents have also increased. "Normal" congestion caused about 30 million person-hours of delay in 1984; by 1990 this figure had risen by 50 percent. The lack of an effective investment program to increase highway capacity in combination with the increase in VMT contributed to the increase in congestion. The average peak hour freeway speed is estimated to be 26 mph in 1990.

Although public transit could provide an alternative to increased congestion, vehicular congestion on roads plus the increasing dispersion of home and work sites have reduced the ability of transit to be a time effective alternative to the automobile. Transit ridership per capita increased significantly during the 1970s, due to two oil supply crises and major public investment in transit operations. In 1990 it is estimated to be about 33 annual rides per capita. Changes in annual transit ridership are presented in Table 6.

### *Transit Operations and Ridership*

Metro operates service within King County, with ridership of 77.2 million in 1990. Local bus service operates daily on a fixed-route, fixed schedule basis with typical peak headways of 10 to 60 minutes and midday headways of 15 to 60 minutes. Express service consists of commuter-oriented peak limited-stop service with typical headways of 20 to 60 minutes. Custom service is express bus service for groups of 40 or more commuters not served by regular transit service. Paratransit service using vans or smaller vehicles is operated on fixed routes or flexibly with advance reservations in areas that cannot support regular bus service.

### *Community Transit*

Community Transit had 4 million riders in 1990. CT operates two types of express service, as well as custom subscription service. Commuter service operates to downtown Seattle, Bellevue, and Redmond Monday through Friday in the peak period and the peak direction, with 5 to 35 minute

headways. Limited off-peak service is provided to downtown Seattle. University service operates to the University of Washington all day Monday through Friday. Typical headways range from 15 to 35 minutes during peak periods. Community Transit also provides all day local service Monday through Saturday with 30 to 60 minute headways. All day suburban service operates between local communities in Snohomish County, as well as to Aurora Village and Bothell in King County.

### *Pierce Transit*

Pierce Transit operates within Pierce County and to King and Thurston Counties. There were 10.4 million riders in 1990. Express routes serve downtown Seattle every 15 to 30 minutes in the peak period. Local routes operate every day on arterials in Pierce County and to Federal Way and Enumclaw in King County. Peak headways range from 15 to 60 minutes. Off-peak headways range from 15 minutes to 2 hours.

### *Existing Modal Splits*

"Modal split" here means the percent of trips that occur by transit as compared to automobiles. Between one and 38 percent of work trips in the region take place on public transit, depending on the location of the work site. Downtown Seattle and the University District have the highest transit shares with 38 percent and 23 percent, respectively. Bellevue, Renton, Northgate, Tukwila, SeaTac, and Tacoma have transit shares between 3 percent and 6 percent. Other major centers have transit shares between 1 percent and 3 percent.

### *Private Bus Service*

Intercity Bus Services in the three-county area include Greyhound, Evergreen Trailways, Cascade Trailways, and Trailways Northwest. Major stations are located in downtown Everett, Seattle, and Tacoma and are well served by public transit in those areas. Airporters and shared-ride vans provide mostly demand-responsive express service to Sea-Tac International Airport. Fixed-route service is available from downtown Seattle.

**TABLE 6  
ANNUAL TRANSIT RIDERSHIP**

Date	Annual Transit Rides per Capita	% Change
1960	34	-
1970	22	-36%
1980	36	+64%
1990	33	-9%

Source: Need Source from King County Staff

*Rail Lines and Monorail*

Amtrak provides one daily train each way from Seattle and Everett to Spokane and runs three trains a day each way in the Seattle-Tacoma-Portland corridor. Stations at Everett, Seattle, and Tacoma are served by public transit. The City of Seattle Monorail links downtown Seattle and Seattle Center every 15 minutes during the day and evenings. The Waterfront Streetcar links downtown Seattle's waterfront and Pioneer Square with 20 to 30 minute headways. Rail transit has no significant role in moving people within the three-county region.

*Ferries*

The Washington State Ferry system provides vehicle and passenger service from Seattle and Fauntleroy to Vashon Island and Kitsap County, and from downtown Seattle to Bainbridge Island and Bremerton. Ferry loading docks include HOV lanes to give priority to buses and carpools at peak commuter periods. There is also passenger-only service from downtown Seattle to Vashon Island and Bremerton. The Victoria Clipper provides a passenger link between Seattle and Victoria, B.C. There is frequent Metro service to Seattle ferries.

*Air Service*

Most regional, national, and international air service is provided at Sea-Tac International Airport. Service to the San Juan Islands and British Columbia is also provided from Lake Union in Seattle and Lake Washington at Kenmore. Metro serves Sea-Tac Airport and Kenmore at least every half hour and serves Lake Union every 15 to 30 minutes.

*Bicycle Connections to Transit*

An extensive designated bicycle route system is envisioned for the region. Most bicycle routes follow existing streets, rather than using exclusive rights-of-way. Major exclusive bikeways include the Burke-Gilman Trail from Seattle to Kenmore, the Sammamish River Trail from Bothell to Redmond, the I-90 trail from Seattle to Bellevue, and the Interurban Trail in the Green River Valley. Most bicycle routes intersect transit routes. Bicycle lock-up facilities are also provided at many park-and-rides. Metro transports up to two bicycles per bus on a few routes connecting Seattle with the Eastside and is currently planning to equip all its coaches with bicycle racks to allow expanded transporting of bicycles.

In spite of the extent of the bicycle circulation system, many regional and local trips are difficult to make by bicycle. In some areas, freeways form barriers to bicycle access from one side to the other. Major arterials often lack bicycle lanes and, although formally available to bicycles, present safety hazards for bicyclists. In some areas, freeways and major arterials are the only direct routes between neighborhoods, which effectively denies access by bicycle.

*Pedestrian Connections to Transit*

Because much of the region has developed in response to the automobile and lacks pedestrian amenities, many areas could be considered "pedestrian-unfriendly." Pedestrian amenities that encourage use of transit include sidewalks, parking strips or trees buffering arterials from walkways, crosswalks at intersections, and laying out commercial

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

areas to allow pedestrians to reach buildings without crossing large parking lots. Many parts of the region lack these amenities. In these areas, it is more difficult for pedestrians to reach bus routes or transfer between routes, even when bus service is available.

### *Linking Land Use and Transit*

The Joint Regional Policy Committee recently adopted the Regional Transit System Plan. The plan calls for coordinating land use and transit planning by three levels: regional-level, corridor-level and community level. The focus will be on areas where zoning and densities support a multi-modal transportation system. Urban densities are to support transit investments. Programmed transit efforts are to allow planning to direct growth to corridors likely to be serviced by transit. Transit improvements may include a rapid rail system, completion of the freeway HOV lanes and increased bus service to feed rail.

### **ROADS AND FREIGHT**

There are two primary uses of a street or road: mobility and access. First, streets provide mobility for the safe and efficient movement of people and goods, and secondly, streets provide access to adjacent property. Roads that are designed for the efficient movement of traffic are very different from those which provide access to a variety of land uses. At one end of the spectrum, a freeway emphasizes mobility by providing efficient movement of large traffic volumes at high speeds, while limiting access. At the other end, local streets provide complete and easy access to residential, commercial or industrial land uses, at the expense of mobility.

Between the extremes of high mobility and high access there is a range of street classifications that reflect the relative emphasis on traffic movement versus access to property. Specific classifications are assigned to each road or section of road depending on the transportation function served by the facility. Determination of the primary function of an individual street is the foundation for classifying King County's roads and highways.

Functional street classifications are an important tool for planning for future transportation needs, as well as in designing and constructing individual facilities. In addition to its practical applications, street

classification is required by Washington State law. State law requires cities and counties to utilize a street classification system that is consistent with state and federal guidelines. These classifications are defined as follows by King County:

**Principal Arterial** - Provides for movement across and between large subareas of the urban region and serves predominantly "through traffic" with minimum direct service to abutting land uses. This category includes freeways and major highways.

**Minor-Arterial** - Provides for movement within large subareas bound by principal arterials. A minor arterial may also serve "through traffic" but provides more direct access to abutting land uses than does a principal arterial.

**Collector-Arterial** - Provides for the movement within smaller areas that are often definable as neighborhoods, and which may be bound by arterials with higher classifications. Collectors serve very little "through traffic" and serve a high proportion of local traffic requiring direct access to abutting properties. Collector arterials provide a link between local neighborhood streets (i.e. non-arterials) and larger arterials.

The High Occupancy Vehicle (HOV) system is an important element of King County's and the region's multi-modal transportation system. The HOV system is made up of special lanes for use by transit, carpools and vanpools on the region's freeway and arterial network. Capital facilities such as park-and-ride lots, bypass ramps, flyer stops and transit centers for buses are an integral part of the HOV system. Coupled with the County's Transportation Demand Management program, HOV facilities are designed to help accommodate growth by moving more people in fewer vehicles, and reducing the need for new road construction or major widening projects on the County's existing arterial system. Since the early 1980's, Puget Sound Regional Council's regional transportation policy has emphasized the benefits of reduced congestion, air pollution, and energy savings associated with a comprehensive HOV system.

**HOV Lanes** - In the early 1970's the first HOV road segments were completed on the Washington State highway. Today over 40 lane miles of operating HOV facilities are available for use in King County

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

by transit, carpools (two or more passengers per vehicle), and vanpools (eight or more passengers per vehicle).

**Transit Flyer Stops** - There are sixteen transit flyer stops within King County along the interstate and state highway system. These stops speed transit travel by allowing riders access, without the bus having to exit and return to the interstate or highway on congested arterials.

**Park-and-Ride Lots** - In King County there are approximately 89 Park-and-Ride or Park-and-Pool lots that account for some 14,000 parking spaces. Forty-two of the operating facilities, containing 13,250 parking spaces are permanent (meaning owned by Metro, WSDOT or other Governmental entity), while 37 are leased lots containing 1,305 spaces. The park-and-ride and park-and pool systems play an integral role in the success of the HOV system. The lots provide commuters a place to leave their vehicles and complete their trip by bus or some other alternative mode, thus enabling commuters that live in suburban areas convenient access to alternative travel modes.

The Arterial High Occupancy Vehicle Plan follows the policy direction of the King County's comprehensive plan -encouraging efficient transportation facilities and services. The goal of the County's HOV program is to increase the average occupancy of vehicles using the County's roadway system in an effort to move more people in fewer vehicles. Instillation of HOV facilities and related Transportation Demand Management programs provide incentives for the traveling public to use transit, rideshare, or other travel alternatives. Incentives are often in the form of travel time savings and/or reduced travel cost. Increasing the Average Vehicle Occupancy (AVO) through HOV measures results in improved traffic flow, thus reducing the need for expansion of the roadway system.

### *Marine Freight Transportation Facilities*

The marine freight transportation system within King County is largely made up of facilities owned by the Port of Seattle. The Port of Seattle is a municipal corporation founded by the voters of King County. Under the direction of a five-member Port Commission, the Port is responsible for the development and management of commerce through

Seattle Harbor, Fisherman's Terminal, and Shilshole Bay Marina. The Port's capital facilities consist of harbor facilities such as berthing and storage facilities, equipment such as cranes, fork lifts, boat hoist, haul-out ramps, and truck and rail access facilities.

## **NON-MOTORIZED TRAVEL**

### *Pedestrian*

The world of the pedestrian today is far more complex and intimidating than it was twenty, thirty, or forty years ago, not just in King County, but across the nation. As our transportation system has developed around the automobile, so too have compromises been made in the facilities we make for pedestrian access and safety in our residential neighborhoods, commercial areas, and sometimes even in our parks.

In King County, the problem is exacerbated by the nature of development that has occurred during the post-war era. While cities tend to have additional development requirements in terms of dedicated sidewalks and design features at the time of development, it has only been fairly recently that the County has started to match these requirements in its own urbanizing areas. Traditionally, the county was rural, and people would build specifically in the rural areas to avoid the costs and requirements of incorporated urban areas. While this hasn't necessarily been a detriment to the character or lifestyles of the County's most rural areas, it remains that much of the County has subsequently become very urban. Newly incorporated areas such as Burien, and unincorporated areas such as Shoreline have developed without sidewalks, paths, or trails, yet have developed levels of traffic which rival any other municipality in the County.

About 5 percent of all trips in the region are made by non-motorized travel modes, primarily walking. In Seattle, where a variety of activities is often found a shorter distance from home and where most neighborhoods have sidewalks, more than 11 percent of all trips are made by walking or bicycling. About 8 percent of Seattle's work force walks to work, while countywide about 4 percent of the work force either walks or bikes. In several of Seattle's neighborhoods, more than 20 percent of the population walks to work.

### *Bicycle*

In Seattle, bicycle commuting to work ranges from 1 percent for some neighborhoods to more than 10 percent in others. In the rest of King County, home to work distance are such that many would be dissuaded from choosing to commute by bike. It is possible, however, to encourage shorter distance cycling to gain access to public transit within residential neighborhoods if adequate facilities are in place within the neighborhood. It is difficult to establish a prototypical "capture area" for bicycle commuting. Past surveys of commuter behavior both in King County and elsewhere establish that the length of the trip can vary in direct proportion to rider skill and the directness of the chosen route. While a trip of two to five miles may appear to be a reasonable capture for many types of bicycling trips, current commuters often ride five to ten miles (occasionally twenty or thirty) to work. The combination of trip purposes (an after-work "fitness ride" for example) can also extend the commute trip.

Facility improvements on-road which encourage commuting would include standardized inclusion of space (bike lane, shoulder, wide curb lane) on arterials, provision of direct by-passes at barriers such as bridges and ramped interchanges, and close coordination of on-road facilities and trails in instances where the latter serves as a direct link between activity centers. The Burke-Gilman Trail is perhaps the most cited trail in America as a combination recreation/commuter facility.

Recreation does represent the reason most bicycle trips are taken in King County. Depending upon the skill level and experience of the cyclist, the trip can involve separated multi-use trails, quiet country roads, local streets, or (most likely) some combination of the three. Many county bicyclists use the trail system as a means to access outlying roads, and similarly use local streets and arterial to gain access to the trail system. Weekend cyclists are noted for meeting at some outlying location as a "jumping off" point for group rides to rural areas and destinations. In urban areas recreational cyclists will use grid streets to gain direct access to the Washington State Ferry System, and thus to quiet country roads on the west side of Puget Sound.

Several areas and roads in King County are notable for their attractiveness to recreational cyclists. The Snoqualmie Valley has long been a magnet for cyclists of a wide range of abilities and skills, as have the roads of the Upper Snoqualmie Valley near North Bend and the City of Snoqualmie. Green Valley Road east of Auburn to Flaming Geyser State Park and May Valley Road in Newcastle are also popular recreational cycling roads.

In urban areas, high traffic volumes provide disincentives to recreational use, but several roads are notable for their use by local cyclists. In south King County, Marine View Drive and Dash Point Road are popular cycling roads, while in Shoreline, a series of roads near Shoreline Community College provide both access to Edmonds as well as views of Puget Sound. Routes such as the signed Lake Washington Loop can provide useful information to bicyclists on roads which may cross a variety of different urban cycling environments.

### **TELECOMMUNICATIONS**

Telecommuting is broadly defined as "organizational work performed outside of the normal organizational confines of space and time, augmented by computer and communication technology, not necessarily in the home. Telecommuting locations include home-based work, satellite centers, local centers, and neighborhood centers.

It is unclear how many people telecommute at present in King County. The definition of telecommuting has varied between surveys and organizations which allow telecommuting do not necessarily have formal policies.<sup>4</sup>

#### *Potential Telecommuters*

A number of indicators exist for telecommuting potential. As of 1988, most information was available for European countries. From this data, the following conclusions were made by Schneider:<sup>5</sup>

- Many jobs can be easily decentralized. In the U.S. about 39 percent of the workforce could be potential telecommuters.

- Many workers are interested in telecommuting.

Managers have been found interested in telecommuting.

The market penetration of personal computers is an indicator of the potential for telecommuting since PC's are an important enabling technology.

Data collected by Schneider in 1988 found that in Washington State, 8 percent of all workers (including farm) over 16 worked at home in 1960; this declined to 3.5 percent in 1970 and 2.6 percent in 1980, about the same rates as the nation as a whole. The decline over the decades chiefly represents a decline in the number of farm workers. For King County, the rates for working at home increased from 2 percent in 1980 to 3.4 percent in 1990. This increase includes both an increase in telecommuters and a growth in small (one person) businesses.<sup>6</sup>

#### *Examples of Existing Programs in King County*

Hundreds of organizations worldwide have tried or currently have telecommuting programs. There exists a number of examples in each category -- home-based, satellite, and local and neighborhood centers.

An example of an existing Work-at Home Program in King County is with the Weyerhaeuser Company. Weyerhaeuser has a program that allows marketing personnel to work out of their homes full time, and in-house personnel may work out of their home part-time on an informal basis.

In the Seattle area, a telephone survey was conducted in 1988 among 20 large law firms to see how many of them had satellite offices in locations other than downtown Seattle. Only 6 of the 20 were found to maintain a single office in downtown Seattle, while 10 maintain more than 3 offices in several locations.

Office parks in suburban areas are also common locations for telecommuters. Further survey research is needed to provide a clearer picture of the role of the office park and similar type locations in accommodating telecommuters.

## **SIGNIFICANT IMPACTS**

### **OVERALL MOBILITY**

#### *Introduction*

This section of the SEIS assesses the impacts that the Alternatives would have on transportation systems, projected into the year 2010. Six categories of impact are addressed: overall mobility, transportation demand management (TDM), land use and transit linkages, roads and freight, non-motorized, and telecommunication.

#### *Methodology*

There are a number of limitations to the transportation impact analysis. Quantitative analysis was not conducted for this SEIS, because the specific facilities and programs which would implement the proposed policies have not been identified by the County or the Cities. Also, the analysis in this SEIS considers employment and household targets that distribute jobs and households by large geographic areas within the County according to the policy vision proposed by each alternative. These large geographic areas are not suitable for transportation modeling. Specific forecasts produced by others (PSRC, Metro, King County and the cities) are not necessarily based on a distribution of growth that corresponds with any of the targets for any of the alternatives.

Although existing travel model forecasts do not represent any of the alternatives, they can be used as indicators of the direction of impact that certain actions would have on travel and mobility. Table 7 provides a summary of four travel model forecasts scenarios for the year 2010 with a comparison to 1990. The scenarios are for the year 2010 using existing development trends without rail transit; existing development trends with rail transit; existing trends with rail transit and increased costs associated with parking and auto operating costs; and the fourth 2010 scenario uses a development concentration that has eight King County centers, rail transit, and the same increased costs.<sup>7</sup> The eight centers in this PSRC forecast do not have the same population and employment concentration as the Eight Center Alternative in this SEIS. The Centers Alternatives in this SEIS have a greater concentration of population.

---

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Table 7  
 Forecast Daily Vehicle Miles Traveled  
 in King County  
 1990 -2010

1990	2010 No Concentration No Rail	2010 No Concentration Rail	2010 No Concentration Rail Congestion Pricing	2010 Concentration Rail Congestion Pricing
36,930,320	47,010,784	46,748,864	45,068,416	43,555,440

Source: Puget Sound Regional Council, Correspondence and Data, May 14, 1993.

While Table 7 does not explain the impacts that the various alternatives will have on travel behavior, it does offer insight into anticipated increases or decreases in the travel behavior variables considered. It shows that:

- Regardless of what measures are taken to mitigate travel in the County (adding rail transit, implementing congestion pricing measures, or concentrating development into transit-supportive environments) that the number of vehicle miles traveled will continue to increase over the next 20 year period.

- Concentrated development reduces vehicle miles traveled (VMT). The number in the column identified as "Concentration/Rail/Congestion Pricing" best approximates the impact of density on vehicle miles traveled and is markedly smaller than the numbers in the other columns where concentration is not a factor influencing VMT.

This documented relationship suggests that the Eight Centers Alternative and the 14 Centers Alternative, with their concentrated development in urban centers, are likely to produce fewer vehicle trips than the other alternatives considered in this analysis. Fewer vehicle trips on the same highway system would mean less traffic congestion. While concentration will reduce the County's overall VMT, it is not expected to reduce or hold constant the number of trips currently produced. VMT will continue to increase over the

next 20 year period. These observations are reinforced with other data that points to similar relationships.

Other anticipated impacts of the various alternatives considered in this analysis are presented in the following mobility matrix (Table 8). The matrix shows anticipated outcomes resulting from the Alternatives on the five transportation systems analyzed.

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

Table 8  
Mobility Matrix

Transportation Issues	SEIS ALTERNATIVES				
	No Action Alternative	Eight Centers Alternative	14 Centers Alternative	Pre-Countywide Planning Policies Alternative	The Magnet Alternative
Transit and TDM	Parking management strategies increase average vehicle occupancy.	Concentration in centers and parking management strategies increase average vehicle occupancy.	Concentration in centers and parking management strategies increase average vehicle occupancy.	Overall congestion increases average vehicle occupancy.	Completing the HOV lane system is expected to increase average vehicle occupancy.
Land Use/Transit Linkage	Is expected to discourage transit, generate more vehicle miles and more vehicle hours traveled than the Eight Centers, 14 Centers and Magnet Alternatives.	<p>By concentrating development in eight urban centers, this alternative is expected to increase transit ridership, decrease SOV usage, and reduce trip-making at the individual, home-based level.</p> <p>By concentrating potential riders along a number of transit friendly corridors, transit ridership is expected to increase significantly in both the urban centers and in the transit oriented areas outside the urban centers.</p>	This alternative provides the best opportunity for increasing transit ridership. A greater percentage of the growth is allocated to urban centers, which would be linked by RTP.	This alternative represents the choice with the greatest negative impact. It allows for sparsely developed employment and household activity centers that are difficult to serve with high quality transit service. This form of development encourages SOV use.	Under this Alternative most new housing development would continue to occur outside of the areas identified as potential urban centers. The number of employment opportunities located in office parks is also expected to increase. These development trends are expected to increase the number of SOV trips produced in the county while diminishing the attractiveness of transit use.

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

Transportation Issues	SEIS ALTERNATIVES				
	No Action Alternative	Eight Centers Alternative	14 Centers Alternative	Pre-Countywide Planning Policies Alternative	The Magnet Alternative
Roads and Freight	The No Action Alternative negatively affects roadways and freight because it generates more trips and longer freight travel.	The Eight Centers Alternative is the second best choice to minimize impacts on roads and freight. There would be localized impacts in the centers.	The 14 Centers Alternative is the strongest alternative for reducing single occupant vehicle travel and for supporting transit use and pedestrian activity. There would be localized impacts in the centers.	The Pre-Countywide Planning Policies Alternative represents the choice with the greatest negative impact. This Alternative allocates the least amount of growth to urban centers. The resulting dispersed development generates more trips and longer trips impacting both roads and freight.	Under the Magnet Alternative, the relationship of future development patterns and transportation systems are not clearly defined. The dispersed land use favors single occupancy vehicle use over transit. But the land use distribution and the transportation goals of this Alternative could be mutually exclusive.
Non-Motorized	No Action Alternative essentially calls for a continuation of existing development trends, which have developed in response to the automobile and lack of pedestrian and bicycle amenities. To the extent that continued auto dependence encourages low density development, bicycle and pedestrian shares of travel are expected to decline.	The Eight Centers Alternative, with its concentration of mixed land uses into urban centers, is expected to increase the use of bicycle and pedestrian modes of travel.	The 14 Centers Alternative, with its concentration of mixed land uses into urban centers, is expected to increase the use of bicycle and pedestrian modes of travel.	The Pre-CPPs Alternative represents the greatest negative impact. The dispersed growth of this Alternative is likely to encourage people to choose driving over walking and bicycling.	The Magnet Alternative expressly states that pedestrian and bicycle travel should be part of the transportation system and developed on a coordinated regional basis. Growth, in this alternative is not expected to occur in urban areas that encourage non-motorized trips.
Telecommunication	No anticipated impact.	No anticipated impact.	No anticipated impact.	No anticipated impact.	No anticipated impact.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **TRANSPORTATION DEMAND MANAGEMENT**

#### *Introduction*

The impact of the various alternatives on TDM is described in terms of their anticipated impact on average vehicle occupancy. Average vehicle occupancy rates are frequently used as performance measures for TDM programs, hence their use in this analysis.

#### *Impacts of the Alternatives*

##### **No Action Alternative**

The No Action Alternative is expected to increase average vehicle occupancy in King County. TDM strategies are called for in all land use categories including: urban centers, manufacturing/industrial centers, UGAs outside of centers, activity areas and office parks. The TDM actions include the development of parking management strategies. Parking management strategies involve tax laws, zoning codes, parking controls, public parking charges and parking regulations. These strategies are found to be very effective at deterring people from using single occupant vehicles, particularly when these strategies are complemented with enhanced transit service.<sup>8</sup> Even though most growth is expected to take place outside of the urban centers in areas typically considered as auto-oriented, people will seek rideshare opportunities, when single occupancy trips are discouraged through parking management strategies and other TDM measures that provide incentives.

##### **Eight Centers Alternative**

The Eight Centers Alternative is expected to increase the average vehicle occupancy in King County for the same reasons identified for the No Action Alternative. Carpooling is further encouraged in this Alternative through the development of regionally consistent policies for implementing countywide transportation demand management actions. The concentration of destinations in centers also facilitates ridesharing.

##### **14 Centers Alternative**

The 14 Centers Alternative is expected to increase the average vehicle occupancy in King County for the

same reasons identified for the No Action Alternative. Carpooling is further encouraged in this Alternative through the development of regionally consistent policies for implementing countywide transportation demand management actions. The concentration of destinations in centers also facilitates ridesharing.

##### **Pre-Countywide Planning Policies Alternative**

The Pre-Countywide Planning Policies Alternative is expected to increase the number of carpooling trips produced in King County due to the increase of overall congestion that would occur through a less concentrated development pattern. This is likely to be less effective than No Action, Eight Centers and 14 Centers Alternatives.

##### **The Magnet Alternative**

The Magnet Alternative is committed to the "reduction in PM peak single occupant vehicles by demand management." It aims to accomplish this by completing the regional HOV lane system. HOV lanes are highway lanes intended for use by vehicles carrying more than one passenger. When properly planned, developed, and enforced, HOV lanes are an effective incentive to rideshare because traffic flows more freely on HOV lanes than on adjacent freeway lanes. As HOV lanes are also part of the No Action, Eight Centers and 14 Centers Alternatives, the Magnet Alternative is likely to be less effective as it does not also include the other TDM strategies.

#### *Other Policy Options*

The policy options to the Alternatives contained in the proposed policies of the three Growth Management Planning Council Task Forces are analyzed for their potential impacts on Transportation Demand Management. The impacts of the variations are similar for all alternatives.

#### *Technical Review Areas*

The Technical Review Areas have no additional negative or mitigating impact on TDM.

#### *No Rail Variation*

The No Rail Variation is the Transportation System Management (TSM) option of the RTSP alternatives.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

The No Rail Variation includes investments to complete the regional HOV lane system as well as other TDM actions. HOV lanes are highway lanes intended for use by vehicles carrying more than one passenger. When properly planned, developed, and enforced, HOV lanes are an effective incentive to rideshare because traffic flows more freely on HOV lanes than on adjacent freeway lanes. The HOV and transit lane development portion of this alternative is expected to increase the average vehicle occupancy in King County.

### *Affordable Housing Policies*

The Affordable Housing Policies variation has no additional negative or mitigating impact on transit and TDM under any of the alternatives.

### *Economic Development Policies*

Originally written to encourage all jurisdictions to establish a charge for SOV parking, and a limit on the number of parking spaces for SOVs within each existing business/office park, the countywide planning policies were amended in this variation. Language referring to parking space limitations on existing business/office parks was deleted. This amendment is likely to increase SOV travel to office/parks.

### *Rural Character Task Force Policies*

The Rural Character Task Force Policies have no additional negative or mitigating impact on transit and TDM under any of the alternatives.

## **LAND USE/TRANSIT LINKAGE**

### *Introduction*

This analysis examines the influence of three different land use characteristics on transit performance: density, mixing of uses, and location of uses. Transit supportive land use development has the following characteristics:<sup>9</sup>

**Density.** A fundamental characteristic of transit supportive development is density, if it results in the concentration of homes and/or jobs within walking distance of transit services. Generally, higher densities support higher levels of transit service. Increasing

the concentration of homes and jobs along transit routes and station areas typically results in increased ridership. Table 9 presents estimated traffic counts for nineteen screenline locations. A map of the screenline locations is in Appendix D. Traffic counts in the column identified as "Concentration/Rail/Congestion Pricing" are lower than the counts identified for the screenlines in the other columns where concentrated development is not a variable influencing travel behavior. In a number of instances, the "Concentration/Rail/Congestion Pricing" column has actually reduced traffic counts below 1990 figures. Estimated counts for the year 2010 for screenlines 19, 35, and 36 show a drop in traffic volume from 1990 data.

**Mixing of Uses.** Mixed land use allows access to range of activities within easy walking distance of a person's place of arrival. Providing a mix of land uses reduces the need to make separate trips to various places, which is harder to do by transit, walking or bicycling. By mixing land uses around transit stops, transit use, walking and bicycling are encouraged.

**Location of Uses.** Transit supportive land use patterns concentrate jobs in major employment nodes, linked to other employment nodes by the region's high capacity transit system. Additional transit corridors radiate from each node, increasing access from residential areas to jobs in the region. Moderate to high density residential areas are encouraged to flourish in designated transit corridors or within major employment nodes to maximize access to the transit system for the County's population.

In this analysis the land use characteristics of the various alternatives were evaluated on the effect they are likely to have on transit ridership, as a percentage of all trips produced in King County.

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

Table 9  
Forecasted Daily Vehicle Volumes at Selected Screenlines in King County (1990 & 2010)

Screenline	1990	2010 No Concentration No Rail	2010 No Concentration Rail	2010 No Concentration Rail Congestion Pricing	2010 Concentration Rail Congestion Pricing
13	70,593	96,930	94,339	94,515	91,724
17	86,828	103,146	103,164	101,088	95,869
19	89,771	94,639	96,054	91,222	87,141
20	241,322	283,250	277,514	269,592	253,552
21	105,310	164,267	162,391	160,759	153,948
26	204,300	236,508	228,326	217,035	217,294
27	253,600	270,359	273,490	257,392	261,174
28	147,794	207,897	210,250	200,790	193,685
29	488,294	499,630	493,698	464,478	470,546
31	77,942	112,149	113,294	111,641	101,825
32	260,868	286,928	276,806	272,089	268,008
33	238,760	304,533	307,596	297,317	287,514
35	571,334	594,001	585,657	547,761	533,342
36	130,107	128,281	121,003	115,721	104,836
37	340,741	465,261	459,392	442,569	427,036
41	357,529	414,936	416,597	397,106	384,809
42	277,238	354,362	356,801	343,082	332,749
45	89,166	124,476	119,607	118,580	114,771
70	136,816	194,699	188,555	184,293	177,764
Total	4,168,313	4,936,252	4,884,534	4,687,030	4,557,587

Source: PSRC, Correspondence and Data, May 14, 1993.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### *Impact of the Alternatives*

#### **No Action Alternative**

The No Action Alternative essentially calls for a continuation of existing development trends, with local jurisdictions developing their own detailed policy for planning efforts. Most new housing development would continue to occur outside of the areas identified as potential urban centers. An estimated 52 percent of all new households will be located in areas characterized as auto-oriented.

Most new employment opportunities would continue to locate in office/business parks, shopping malls, and commercial strip centers throughout the urban growth area. Robert Cervero, a notable researcher of the transportation effects of locating employment centers, found that workers in suburban office centers solo-commute 13 percent more than workers in CBD settings.<sup>10</sup>

The No Action Alternative is expected to discourage transit, generate more vehicle miles and more vehicle hours traveled than the Eight Centers, 14 Centers and Magnet Alternatives.

#### **Eight Centers Alternative**

Under the Eight Centers Alternative, most development would be concentrated in eight urban centers. An estimated 49 percent of all employment opportunities would be located in these centers. Most household growth is expected to concentrate in transit oriented areas (36 percent) outside the urban centers.

Guided by a multi-county Regional Transit System Plan (RTSP), the transportation system would include a combined bus/rail system throughout the region to major employment and commercial centers and major institutions. By concentrating potential riders along a number of transit friendly corridors, transit ridership is expected to increase significantly in both the urban centers and in the transit oriented areas outside the urban centers.

By concentrating development in urban centers, the Eight Centers Alternative is also expected to reduce trip-making at the individual, home-based level. Concentration, reduces existing peak period vehicle trip demand. Work site related midday tripmaking

will also be much more heavily nonmotorized under this Alternative.

#### **14 Centers Alternative**

For the 14 Centers Alternative, the concentration of development along transit friendly corridors served by rail with parking management strategies would produce overall transit usage similar to that projected for the Eight Centers Alternative. This Alternative differs, however, from the Eight Centers Alternative in its allocation of population and employment growth to the respective land use categories.

Under the 14 Centers Alternative, employment and population growth is concentrated in 14 urban centers. By concentrating 74 percent of all employment growth and 40 percent of population growth in the urban centers, this Alternative is expected to increase transit usage to a greater extent than the Eight Centers Alternative. The main reason for increased transit use in this alternative is the concentration of growth in an urban pattern more easily served by transit. This pattern of growth better uses the transit capacity currently in place as well. Travel distances are also expected to decrease by concentrating residences near employment in the centers resulting in an overall decrease in the County's vehicle miles traveled. Work site related midday tripmaking will also be much more heavily nonmotorized under the 14 Centers Alternative.

#### **Pre-Countywide Planning Polices Alternative**

The Pre-Countywide Planning Polices Alternative continues the current development pattern without the mitigating effect of coordinated countywide action to encourage transit and land use linkages.

Under this Alternative, most new housing development would continue to occur outside of the areas identified as potential urban centers and in the unincorporated urban growth areas of King County. A larger share of the new households would locate in the auto oriented areas. Most new employment opportunities would continue to locate in office parks, shopping malls, and commercial strips.

Under this Alternative, the number of single occupant vehicle (SOV) trips would be expected to increase while the number of transit trips would be expected to

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

decrease. Other adverse transit impacts could also be expected including lower ridership on the transit services that are provided due to the dispersed employment and household pattern.

### *The Magnet Alternative*

Under the Magnet Alternative, most new housing development would continue to occur outside of the areas identified as potential urban centers. An estimated 51 percent of all new households will be located in areas characterized as auto-oriented. The number of employment opportunities located in office parks is also expected increase.

In this alternative, the number of single occupant vehicle (SOV) trips is expected to increase while the number of transit trips is expected to decrease. Other adverse transit impacts could also be expected including lower ridership on the transit services that are provided due to the dispersed employment and household pattern.

### *Other Policy Options*

The policy options to the Alternatives contained in the proposed policies of the three Growth management Planning Council Task Forces are analyzed for their potential impacts on land use/transit linkages. The impacts of the variations are similar for all alternatives.

### *Technical Review Areas*

The Technical Review Areas are five areas considered for redesignation from urban to rural. The impacts are the same for each Review Area, though to varying degrees depending on the percentage of rural and urban land. Areas designated urban will have a more pedestrian and transit supportive environment, while the roads in the rural areas are not as transit and pedestrian supportive.

### *No Rail Variation*

Rail service is expected to increase transit ridership marginally without any changes in land use.

The regional transit ridership forecasts from the Regional Transit System Plan are shown in Table 10. Ridership under the Rail/TSM alternative would be

157.3 million annually. This is 96 percent higher than 1990 ridership and 18 percent higher than the TSM alternative (which is used on the basis for the No Rail alternative in this SEIS). Only 42 percent of the increase under the Rail/TSM alternative is due to growth in population and employment. None is due to concentration in centers as this is not assumed in preparing the forecasts. Forty percent is due to improved transit service.<sup>11</sup>

Under the Eight Centers and 14 Centers Alternatives, rail transit would be effective in supporting higher density development in centers or at stations because it offers: station locations through which large numbers of people may travel, thereby providing a focused market for business and exclusive rights of way for the rail vehicle resulting in travel times unaffected by automobile traffic of congestion.

Bus transit, if it is developed with the above attributes, could be equally effective in stimulating and supporting concentrated development in centers. As bus service has historically not been developed using these attributes, the evidence is less compelling. Centers without rail would need to rely on the above attributes, combined with large amounts of bus service, ridesharing and nonmotorized travel to achieve similar effects. Centers without rail are more likely to be smaller in scale and less concentrated. Development is much more likely to spread outside of centers into nearby neighborhoods along arterials served by bus transit and good nonmotorized access (i.e. bikeways, pedestrian paths).

The Magnet Alternative does not result in high population and employment concentrations in specific nodes throughout the region to the same extent as the Eight Centers and 14 Centers Alternatives. Even if transit was designed using improvements similar to rail (i.e. exclusive rights of way, fixed station locations, urban design investment) it would be difficult to support transit between magnet centers because of the lower densities in magnet center areas and more residential development allocated to lower density, auto oriented areas in the UGA outside the centers.

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

Table 10  
Transit Trips Per Capita, 2020  
Regional Transit System Plan (RTSP)

RTSP Alternative	Annual Trips (Millions)	Transit Trips Per Capita	% Change from 1990
1990	80.3	33.0	
TSM (2020)	133.7	35.4	+7
Rail/TSM (2020)	157.3	41.7	+26

*Affordable Housing Policies*

The Affordable Housing Policies Variation has a positive impact on transit/land use linkages. Efforts are made under this variation to ensure that affordable housing is provided in conjunction with regional transportation planning. To promote a fair share of affordable housing in all urban areas and rural activity centers this variation requires each jurisdiction's land use plan to provide for affordable housing. The land use policies and zoning codes must accommodate the number of low, moderate and middle income households expected to reside in the community. A number of strategies have been identified to ensure that affordable housing is provided in close proximity to employment centers, including: removing regulatory barriers, providing a full range of housing types such as accessory dwelling units, manufactured homes on individual lots, apartments, townhouses and attached single family housing.

*Economic Development Policies*

Efforts are made in this policy option to change peoples' tendency to access business/office parks with single occupancy vehicles. Siting business/office parks close to transit routes is expected to encourage transit usage to and from these employment facilities.

By allowing mixed use areas in business/office parks, this variation also reduces the use of single occupancy vehicles for performing mid-day errands and other non-home based trips. Workers may not find it necessary to have their own car at work to accommodate midday trips with restaurants, shops, and banks located nearby, and may be encouraged to commute by carpools and vanpools.

*Rural Character Task Force Policies*

The Rural Character policies associate lower density and larger lots as mechanisms to preserve rural character. However, lower densities and larger lots require more roadway because of the distance between residences. Lower densities and larger lots also have higher trip generation rates, creating more vehicle trips per residence. These trips also tend to be longer because the larger lot sized results in greater spacing between activity areas. Larger lot sizes and lower densities are not transit-friendly. This development type discourages transit use and encourages single occupant vehicle travel.

**ROADS AND FREIGHT**

*Introduction*

The demand for roadways and freight travel is linked to the land use patterns and densities. Lower land use densities increase the demand for vehicle trips, require a large proportion of infrastructure to unit of developed land, and decrease transit trips. The low densities also result in long distances between activity centers, which reduces pedestrian and transit use.<sup>12</sup> Freight travel is also reduced as densities increase, because a larger delivery market can be served in fewer trips.

The following analysis examines the impact of five Alternatives on roads and freight. Comparison of specific criteria, such as vehicle miles traveled (VMT), vehicle hours traveled (VHT), forecast total daily trips, and forecast travel patterns would be the ideal analysis. However, this data was not available and to obtain this data, specific travel forecasts would have to be developed for each Alternative. Travel

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

forecast require jurisdictional population and employment forecasts which are not included under any alternative. The following focuses on the policy implications of each of the five Alternatives.

### *Impacts of the Alternatives*

#### **No Action Alternative**

The No Action Alternative is a continuation of existing development trends. This results in dispersed development and higher vehicle trips and roadways needs. Consequently, the No Action Alternative negatively affects roadways and freight because it generates more trips and longer freight travel.

Under the No Action Alternative, 52 percent of the household growth is allocated to either Urban-Auto/Full Service or Urban-Auto (39 and 13 percent, respectively). Only 7 percent of the household growth is allocated to urban centers. The employment distribution also affects dispersion. Under the No Action Alternative, approximately 70 percent of the growth is located in moderate to low density employment centers and only 30 percent is located in urban centers.

Many of the CPPs contained in the No Action Alternative mitigate the impacts of the growth targets identified for this Alternative. These policies would reduce the demand for vehicle travel by requiring consolidated land use, increasing densities, encouraging transit and multi-occupant travel, and coordinating access. The policies also positively impact freight travel by consolidating delivery destinations. At the same time, however, the higher densities could negatively impact freight travel because there is likely to be more congestion both on the regional transportation system and in urban centers. While the increased congestion will encourage single occupant drivers to take other modes of transportation, the trucking activity may be slowed. Consequently, freight trucking may see a decrease in vehicle miles traveled (VMT), but vehicle hours traveled (VHT) may increase.

#### **Eight Centers Alternative**

The Eight Centers Alternative is the second best choice to minimize impacts on roads and freight. The eight urban centers outlined in the Eight Centers

Alternative limit the areas allowed for development and would be directly served by high capacity transit. This reduces the demand for roadway capacity to serve people movement. Rail is expected to possibly slow the rate at which congestion increases and provide additional person-carrying capacity. By itself, rail may not permanently reduce automobile and freight delay because population and employment growth will result in consumption of road capacity.

Residences are concentrated within an area are more amenable to transit and carpool commute work trips and since many of the CPPs support providing high occupancy travel to the Manufacturing/Industrial Centers, transit and high occupancy commute trips are encouraged and accommodated.

The Eight Centers Policies result in positive impacts on roads. Those policies would assist in mitigating the adverse impacts of future growth by requiring consolidated land use, increasing densities, encouraging transit and multi-occupant travel, and coordinating access. Impacts on freight vary. Regional freight travel would be improved because a larger delivery market could be served in fewer trips.

At the local level, such as from a center to a neighborhood, roads are likely to experience more congestion because of the concentrated activity in the centers. Inside the center, freight trucking is likely to experience difficulty accessing site specific delivery points, such as a loading dock, because of congestion, turning movement conflicts, pedestrian and bicycle conflicts, driveway access or parking problems. These issues, however, can be addressed through concurrency and site specific mitigation.

The Eight Centers Alternative also limits density, by requiring the designation of maximum densities for all activity areas. While activity areas are intended to be moderate density employment sites, placing a maximum on densities inhibits creating transit supportive environments and encourages adding additional roadways or widening roadways to serve these urban areas.

By offering an effective and competitive alternative to the single occupant vehicle, TSM will increase mobility and reduce pressures to expand roadway capacity. However as Tables 9 and 10 indicated earlier there would be more vehicle traffic under the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

no rail option. This would likely result in more traffic congestion and impact interregional, state, and national freight trucking that uses the freeway system.

This Alternative assumes the Regional Transit System Plan. The RTSP is expected to be developed "in a way that ensures continued freight train mobility".<sup>13</sup> At the same time, the Regional Transit System is not intended to improve freight travel.

### **14 Centers Alternative**

The 14 Centers Alternative is the strongest alternative for reducing single occupant vehicle travel and for supporting transit use and pedestrian activity. A greater percentage of the growth is allocated to 14 urban centers, and the urban centers would be linked by the RTSP. This higher growth allocation in the urban centers is expected to further encourage transit and pedestrian activity and alleviate the need for additional roadway capacity.<sup>14</sup>

The concentrations of population and the potential associated increased transit activity does facilitate transit access to Manufacturing/Industrial Centers. In terms of goods movement, the effect of the RTSP would be similar to the effect describe under the Eight Centers Alternative.

The policy analysis conducted under the Eight Centers Alternative is applicable to the 14 Centers Alternative. The alternatives do differ, but not enough to affect the relevance and applicability of the policies. The most significant difference is that the 14 Centers Alternative provides the best opportunity for reducing roadway needs and facilitating efficient mobility of both people and goods.

### **Pre-Countywide Planning Policies Alternative**

The Pre-Countywide Planning Policies Alternative represents the choice with the greatest negative impact. The Pre-Countywide Planning Policies and the No Action Alternatives locates the least amount of growth to urban centers and revokes the CPPs.

The resulting low density development generates more vehicle trips per land use activity and is difficult for transit to serve.<sup>15</sup>

The wide dispersion of development will also increase freight travel, because freight services, particularly trucking, will not be able to deliver the bulk of the freight to a key centers. Rather, the freight goods would have to be delivered to the various dispersed development sites, resulting in increased freight travel. The ultimate impact of the Pre-Countywide Planning Policies Alternative would be the need for more roads, and possibly wider roads, to accommodate additional vehicle and truck activity.

In addition to this aspect of the Pre-Countywide Planning Policies Alternative, the policies included in this Alternative would not provide strong enough guidance and restrictions to mitigate the dispersed development effects on roads. The 1985 King County Comprehensive Plan polices address various aspects of transportation, roads, and freight, ranging from setting level of service standards to avoiding locating transportation facilities in environmentally sensitive areas. However, these policies are not as oriented toward reducing the demand for roadways and for freight travel.

For example one policy states that Urban activity centers should be three to six miles apart. The policy indicates that this dispersion would provide for "distinct and separate centers" while proving short work and shopping trips. The distance requirement between urban activity centers has three negative effects. First, the policy seems to be referring to encouraging short auto trips, not other modes of travel. Second, the relationship between the centers and transit service is unclear. Third, short auto trips contribute to roadway needs, congestion, and parking demand, all of which are negative impacts. Only if transit had quick, efficient access to the urban centers would it be able to compete with the private automobile, but such transit advantages are not mentioned in the policies. Some areas may have efficient transit service to urban centers, but for effectiveness, efficient transit service should be provided to all urban centers.

### **The Magnet Alternative**

The Magnet Alternative uses "Least Cost Planning" (LPC) where a countywide Progress Board monitors local jurisdiction progress in achieving benchmarks and goals. LPC is described as "...a process that defines a series of quantifiable and measurable goals

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

that create an overall target quality of life, measured by benchmarking." Least Cost Planning focuses on avoiding new infrastructure by using existing facilities to their maximum capacity and on reducing demand for the facilities by managing demand.

Monitoring and benchmarks are an effective method to guide planning and implementation. The policies under the Magnet Alternative identify both the goals and the mechanisms for achieving those goals. The mechanisms are sometimes at odds, such as Transportation Policy 7, which calls for both reducing p.m. peak hour SOV travel through demand management and adding new roadway capacity. A general increase in roadway capacity while implementing demand management mechanisms may defeat the effectiveness of the demand management.

Under the Magnet Alternative, the relationship of future development patterns and transportation systems are not clearly defined. The dispersed land use favors single occupancy vehicle use over transit. The land use distribution and the transportation goals of the Magnet Alternative could be mutually exclusive.

### *Impact of the Alternative Policy Options*

#### Technical Review Areas

The impacts of the Technical Review Areas on freight travel are not significant.

#### No Rail Policy Option

The No Rail Policy Option consists of the Transportation System Management (TSM) option from the Regional Transit System Plan. Implementation of the No Rail Alternative will impact roads and freight through increased automobile traffic and transit bus traffic on the county road system.

#### Affordable Housing Policies

The Affordable Housing Policy Option have no additional negative or mitigating impact on roads and freight under the Eight Centers Alternative.

#### Economic Development Policies

Two Economic Development policy options affect roads and freight. One was developed by the Suburban Cities Committee and one by the City of Seattle. Both policies state that employment growth should be targeted

to locations that are effectively served by transit. These policies have beneficial impact because both policy options are intended to reduce demand for the single occupant vehicle and to encourage transit use.

#### Rural Character Task Force Policies

The proposed policies are designed to protect rural character, including regulations on the lot size, development standards, and service standards. All of these characteristics affect roadways. For example, lot size and development standards influence the amount of roadway needed to serve a site. Larger lots place residences farther apart and require more roadway than smaller or more narrow lots. Also the lower densities larger lots generate more vehicle trips per residence and are not transit or pedestrian friendly. These policies could have a negative impact on the countywide roadway system.

The policies also refer to rural roadway design standards and work towards maintaining rural road character. They would restrict roadway volumes by limiting capacity expansions and by establishing rural road service standards. Limited capacity expansions and rural levels of service in combination with the concurrency requirement of GMA will restrict development in the rural area. This is consistent with the low growth target for these areas. The low growth will result in minimal impact on roads. The policies could also have negative impacts because limiting road widths could increase the maneuverability problems for trucks and transit buses.

Small-scale farming, forestry, and active ecological restoration as the designated land use in the rural area can be served with rural design roads. Recreational traffic from urban areas, and suburban residents who locate in the rural areas may be inconvenienced by farm and timber trucks and equipment.

## **NON-MOTORIZED TRAVEL**

### *Introduction*

The non-motorized travel section of the impact analysis documents the anticipated impacts of the Alternatives on both bicycle and pedestrian travel. Although pedestrian and bicycle amenities (e.g., sidewalks, bike lanes, street furniture, etc.) encourage pedestrian movement and bicycle circulation, the land development pattern has the greatest impact from the various alternatives.<sup>16</sup>

### *Impacts of the Alternatives*

#### **No Action Alternative**

While the No Action Alternative is committed to the development of non-motorized travel as part of the transportation system, the pattern of urban development in this alternative will not be conducive to walking and bicycling in many of the new areas targeted for development. This Alternative essentially calls for a continuation of existing development trends, which have developed in response to the automobile and lack pedestrian and bicycle amenities. To the extent that continued auto dependence encourages low density development, bicycle and pedestrian shares of travel are expected to decline.

#### **Eight Centers Alternative**

The Eight Centers Alternative, with its concentration of mixed land uses into urban centers, is expected to increase bicycle and pedestrian travel and increase the demand for facilities to support these modes of travel. Walking and bicycling becomes a more viable commuting alternative when workers are provided with housing opportunities near their place of work.

The pedestrian and bicycle environment is also expected to improve with rail service. The closer people live to a rail station, the shorter will be the access time and the greater their willingness to walk and/or bicycle. The mode split generally peaks near a station and declines extremely rapidly with distance from the station. Thus, development density in the walk- and bicycle-access area is critical to rail ridership.

#### **14 Centers Alternative**

The 14 Centers Alternative is expected to increase the use of bicycle and pedestrian modes of travel and therefore increase the demand for more facilities. The concentration of development along transit friendly corridors served by rail with parking management strategies would produce a pedestrian and bicycle environment similar to that projected for the Eight Centers Alternative.

The 14 Centers Alternative differs, however, from the Eight Centers Alternative in its allocation of population and employment growth to the respective land use categories. By concentrating 74 percent of all employment growth and 40 percent of population growth in urban centers, the 14 Centers Alternative is expected to increase non-motorized trips to a greater extent than the Eight Centers Alternative.

#### **Pre-Countywide Planning Polices Alternative**

The Pre-Countywide Planning Polices Alternative represents the choice with the greatest negative impact. These polices do not guide growth into urban centers or transit serviced areas. It is unlikely that densities will encourage pedestrian and bicycle trips. The Pre-Countywide Planning Polices Alternative also makes no commitment to encouraging pedestrian and bicycle trips.

#### **The Magnet Alternative**

The Magnet Alternative expressly states that pedestrian and bicycle travel should be a part of the transportation system and developed on a coordinated regional basis. While efforts are made in this alternative to promote non-motorized travel through concentrated development, the growth targets in this alternative occur in auto-oriented urban areas that do not encourage non-motorized trips.

### *Impacts of the Policy Options*

In this section, the recommended Task Force refinements to the countywide policies have been analyzed for potential impacts on pedestrian and bicycle travel. The impacts of the variations are similar for all alternatives.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### *Technical Review Areas*

A rural designation will assist in keeping motorized traffic from increasing. An urban designation will increase and have a negative impact on the non-motorized recreational use on certain roads. An urban separator designation would have a positive impact on non-motorized recreational travel.

### *No Rail Variation*

The No Rail Variation is expected to improve the pedestrian and bicycle environment through "investments in pedestrian and bicycle improvements in local neighborhoods."<sup>17</sup> That no rail is included in this alternative diminishes its ability to satisfy numerous person trips that begin as walking and bicycling and then would have become rail trips if such an option were available.

### *Affordable Housing Policies*

The Affordable Housing Policies has a positive impact on the pedestrian and bicycle environment. A number of strategies have been identified to ensure that affordable housing is provided in close proximity to employment centers, including: removing regulatory barriers, providing a full range of housing types such as accessory dwelling units, manufactured homes on individual family housing. This promotes pedestrian and bicycle access to both employment and services.

### *Economic Development Policies*

In this policy option an increased effort is made to change peoples' tendency to access business/office parks with single occupancy vehicles. By providing workers with housing opportunities near their place of work, walking and bicycling becomes a more viable commuting alternative to the single occupant vehicle. Efforts to locate residential and neighborhood commercial land uses and open spaces in existing business/office parks are expected to improve pedestrian and bicycle access to office parks.

### *Rural Character Task Force Policies*

The Rural Character Task Forces Policies identify lower density and larger lots as mechanisms to preserve rural character. Bicycle trips for recreational

purposes are frequently made in rural areas. Preservation of such areas would probably increase such trips. However, lower densities and larger lots require more roadway because of the distance between residences. Lower densities and larger lots also have higher trip generation rates, creating more vehicle trips per residence. These trips also tend to be longer because the larger lot size results in greater spacing between activity areas. Larger lot sizes and lower densities are not pedestrian- and bicycle-friendly. This development type discourages walking trips by residents and encourages SOV travel.

## **TELECOMMUNICATIONS**

### *Introduction*

Telecommuting allows workers to accomplish part of their normal work load at home, rather than at the office, thus eliminating a vehicle trip to work, decreasing overall fuel consumption, and reducing commute time. As a major employer within the San Diego region, the City of San Diego developed a telecommuting pilot project as part of its transportation demand management program. As much as 438,000 vehicle commute miles, 21,000 gallons of fuel and 23,000 hours of commute time a year could be saved from a fully developed telecommuting program for City of San Diego employees.<sup>18</sup>

In general, as densities decrease the attractiveness of telecommuting as a commuting option tends to increase. In the San Diego study cited above, telecommuters were found living slightly farther from work than those who do not telecommute. While distance plays a role in encouraging people to telecommute, people are attracted to telecommuting for many other reasons as well: decreased cost of clothing and food, increased flexibility to handle work/family schedules, and closer bonds with the family and the community.

While the appeal of telecommuting may increase for those people living far from their worksites, for many this commute mode is not an option. A great many work environments require an on-site presence. As such, it is difficult to determine to what extent the alternatives in this study (with their respective land use, TDM measures, and rail characteristics) will

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

influence the attractiveness of telecommuting as a transportation option.

### *Impact of the Alternatives*

A great deal of further research is needed to determine the likely scale, rate of adoption and impacts that telecommuting may generate in King County. The telecommuting industry is largely being driven by decreasing hardware costs and increasing value of this technology. Although some evidence suggests that a large number of workers are interested in telecommuting, it will not occur on a large scale basis until managers are convinced that it will significantly reduce costs and increase efficiency.

The alternatives under analysis are not expected to have a significant impact on the development of telecommuting as a transportation option.

## **MITIGATION MEASURES**

### **TRANSPORTATION DEMAND MANAGEMENT**

The Economic Development Task Force Policies are likely to increase SOV travel to office parks. Encouraging in-fill development at these sites is just one of many measures that can be employed to diminish parking facilities at existing business/office parks. If in-fill is not an option, then a significant percentage of existing parking spaces should be designated for incentive programs such as carpooling and vanpooling.

### **LAND USE/TRANSIT LINKAGE**

The No Action and the Pre-Countywide Planning Policies Alternatives would be likely to result in employment areas locating in office/business parks, shopping malls and commercial strip centers throughout the urban growth area. Office parks tend to have low densities; and, thus, tend not to be supportive of transit. If these developments are allowed, as noted in these two Alternatives, then it is essential they comply with density and intensity standards that support transit. The industry standard for designing transit-friendly office park developments is 20 employees/acre. This standard is, among other places, cited in TRI-MET's Planning and Design for Transit manual.<sup>19</sup>

To diminish the number of single occupant vehicle trips produced by workers at office parks, it is essential that a small amount of on-site retail and service facilities be provided within all office parks to allow employees to take care of standard errands without having to leave the area at mid-day. It has been shown that a net reduction in motorized travel can be achieved through the introduction of uses such as banks, restaurants, and other services into office complexes. Robert Cervero found that a 100,000 square foot office development will generate 18.7 more daily trips than a development of similar size with other uses mixed in as well.<sup>20</sup>

## **ROADS AND FREIGHT**

The Eight and 14 Centers Alternatives have the strongest potential for reducing County vehicle trips due to allocating growth to urban centers. By allocating growth to urban centers, these alternatives inherently promote walking, biking, and riding the bus (which increases mobility).<sup>21</sup> Mitigation for the local impact on roads in and adjacent to the centers includes traffic operation improvements (e.g., signal interconnection, turning lanes, access management), neighborhood traffic calming (e.g., traffic circles, landscaped medians, narrow residential roads), and alternative mode incentives (e.g., bike lanes, transit circulator service).

The No Action, Pre-Countywide Planning Policies, and Magnet Alternatives encourage low land use densities. As mitigation measures, the No Action, Pre-Countywide Planning Policies, and Magnet Alternatives will need to primarily rely on the development of HOV lanes, bicycle routes, pedestrian amenities, and parking management to increase mobility. These Alternatives can also be mitigated by allocating more household and employment growth to higher land use densities. The higher densities would mitigate the need for roads and by reducing vehicle trips and encouraging transit use.

The No Rail Alternative will put more pressure on roadways and reduce mobility. This impact could be mitigated through greater investment in bus transit, including exclusive transit lanes, other forms of preferential treatment and associated service improvements.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

The key feature of the Magnet Alternative is that it uses monitoring and benchmarks to guide planning and development. The potential negative impacts on the roadway system could be mitigated by careful development of benchmarks leading to land use changes to reduce travel demand if transit/TDM incentives are not effective by themselves.

All Alternatives do not mitigate the impacts of growth on freight travel. Mitigating the impacts on freight travel focuses on trucking. Trucking plays a key economic role because most goods are delivered to the stores via truck. And, while congestion may reduce the demand for single occupant vehicle travel, congestion also slows trucks and increase freight travel time.

Mitigation measures for trucking fall into two general categories: regional and local truck travel. Regional mitigation measures focus on regional travel, which connects towns, cities, and other major destinations. Regional travel includes travel on state routes and most major arterials. Local travel focuses on intra-city travel, such as from a port to downtown or from a warehouse district to a neighborhood. Local travel includes site specific travel which addresses truck access to buildings. Trucks can block local travel flow when they are loading or unloading their goods, and appropriate truck access can prevent this congestion from occurring.

Three regional mitigation measures are recommended for consideration. The first is developing a policy on preferential travel and delivery times for towns and cities. The second mitigation measure is developing a truck queue bypass system to alleviate truck and general travel operation conflicts and facilitate truck travel. The third measure is identifying or developing truck only routes.

For local truck travel, mitigation measures include three main types: traffic impact studies, site plan analysis and development, and traffic operations improvements. Traffic impact analysis should include truck counts, travel patterns and site access needs. Concurrency analysis should include trucking needs and funding. Developing site plans for more efficient truck access and maneuverability will also reduce truck conflicts and improve truck travel. The third mitigation measure is developing traffic operations

solutions, such as stripping roads for truck stopping and loading/unloading.

### **NONMOTORIZED TRAVEL**

The Eight and 14 Centers Alternatives are likely to increase use of pedestrian and bicycle facilities. This will create a need for more facilities. The No Action and Pre-Countywide Planning Policies Alternatives are likely to discourage pedestrian and bicycle use due to their low densities and lack of centers. As mitigation, non-motorized travel can be encouraged through the adoption of specific pedestrian- and bicycle-sensitive design standards and guidelines by municipal governments, as illustrated in the following suggested efforts.

1. Eliminate barriers that discourage pedestrian and bicycle access to transit such as walls and berms.
2. Require pedestrian and bicycle access and orientation at street level for buildings in commercial, office, or mixed use areas to stimulate transit activity and interest.
3. Make streets pedestrian- and bicycle-friendly by slowing automobile traffic to give greater priority to non-motorized travel. In places where this is not possible, make provisions for separate pedestrian and bicycle trails.

Pedestrian and bicycle sensitive design guidelines can be incorporated into ordinances requiring that certain amenities be offered to non-motorized travel when development occurs. Such an ordinance can require office and industrial parks to have near-side pedestrian access to dry cleaners, banks, drug or convenience stores, day care centers, and other frequented stores and services. Bonus zoning, the practice of providing additional rights to a developer in exchange for desired pedestrian and bicycle amenities, has also been used effectively. This may consist of adding footage to a building area in exchange for an added entrance or an increase in floor area ratios in exchange for a proportionate area of a pedestrian mall.

**TELECOMMUNICATION**

Encouraging telecommuting is found to reduce the number of people commuting to work. Telecommuting could serve as mitigation for the increased traffic resulting from population and employment growth. To encourage this mode of commuting, programs the County should encourage businesses to establish telecommuting programs.

**UNAVOIDABLE IMPACTS**

An unavoidable impact associated with all of the alternatives considered in this analysis is the increase in anticipated VMT. According to the Washington State Office of Financial Management, King County's population is expected to increase by approximately 325,814 persons between 1990 and 2010, a 21.6 percent increase. While concentrated growth is expected to reduce the County's reliance on SOV usage, a 21.6 percent increase in countywide population is expected to increase the area's overall VMT.

---

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

ENDNOTES

1. Puget Sound Regional Council, Correspondence and Data, May 14, 1993.
2. Puget Sound Regional Council, "Puget Sound Trends", No. T2, October 1993.
3. Ibid.
4. Jerry B. Schneider, "An Assessment of the Potential of Telecommuting as a Work Trip Reduction Strategy for the Central Puget Sound Region," November 1988.
5. Jerry B. Schneider, "An Assessment of the Potential of Telecommuting as a Work Trip Reduction Strategy for the Central Puget Sound Region", November 1988.
6. Puget Sound Regional Council, "Puget Sound Trends", No. T1, October 1993.
7. PSRC, Correspondence and data, May 14, 1993.

The four 2010 scenarios are labeled as follows:

SEIS Label	PSRC Label
2010, No Concentration, No Rail	2010 EPU
2010, No Concentration, Rail	2010 EVE
2010, No Concentration, Rail, Congestion Pricing	2010 EVV
2010, Concentration, Rail, Congestion Pricing	2010 VI

8. Metropolitan Transit Development Board, Designing for Transit, July 1993.
9. Robert Cervero, America's Suburban Centers, The Rice Center, Houston, 1988.
10. Ibid.
11. Regional Transit Project, Final Environmental Impact Statement Regional Transit System Plan, March 1993, pages 3-113.
12. Institute of Traffic Engineers. Trip Generation Handbook. Institute of Traffic Engineers. Washington, D.C. 1991.
13. Regional Transit Project, Regional Transit System Plan, June 1993, page 22.
14. Washington State Transportation Commission Innovation Unit. Land Use-Transportation Linkage. Report 92.1 Draft Unit. April 1992. p. 12.

---

***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

15. Washington State Transportation Commission Innovations Unit, Land Use-Transportation Linkage, pp. 11-13.
16. Metropolitan Transit Development Board, Designing for Transit, July, 1993.
17. RTP Final Environmental Impact Statement, March 1993.
18. John Turner, Final Evaluation of the Telecommuting Pilot Project, City of San Diego, February, 1991.
19. Tri-Met, Planning and Design for Transit, Tri-Met, Portland, Oregon, 1993.
20. Robert Cervero, America's Suburban Centers, The Rice Center, Houston, 1988.
21. Robert Cervero, Suburban Gridlock, Center for Urban Policy Research, 986, p. 49.

## **4.0 HUMAN SERVICES**

### **MAIN FINDINGS**

The alternatives which concentrate growth into designated urban centers, urban/transit areas and activity areas would result in fewer impacts to human services' delivery in rural and resource areas, but conversely could significantly impact human services' delivery in these urban areas.

Population growth, demographic and economic changes determine the need for human services.

Mitigation measures include integrated planning and siting controls, combined with developing and using suitable technology, which could mitigate some of the adverse impacts from growth to human services.

### **AFFECTED ENVIRONMENT**

The Department of Human Services is responsible for planning, management, fiscal accountability and service delivery for programs of the Mental Health Division, Community Services Division, Developmental Disabilities and Fiscal Management, and the Public Defense Division. The Department's program scope includes implementation and monitoring of the following: state mental health and developmental disabilities contracts, Involuntary Treatment Act, public defense contract services, youth and family services, aging services, cooperative extension programs, women's services programs (including services to domestic violence victims), veterans' services, employment programs, and the child care program.

Each human service program is operated and maintained independently. King County's role is to receive federal and state funds and distribute them to the various programs. Programs are based on funds and clients. King County Department of Human Services does not own or operate capital facilities, and therefore does not have an inventory of facilities, forecast of future needs, location and capacity of new and/or expanded facilities, or finance plan. A list of contracts and programs that the Department of Human Services supports is available at the King County Planning and Community Development Division.

The Department of Human Services budget is supported by Current Expense, Human Services, Mental Health, Veteran's Relief, Work Training Program, and Children and Family Services Program funds.

### **SIGNIFICANT IMPACTS**

#### *Introduction*

Human services provide the general population with services which promote independence and well-being. In our society, a good education, solid job preparation, and a healthy job economy (including an affordable housing market in step with wages) offer the majority of citizens the primary means to independence and the pursuit of happiness. Public and private human service providers take up where the economy leaves off for two distinct groups of people: those who are chronically unable to enter mainstream economic and social systems; and those who face some type of dislocation, crisis, or relatively temporary impediment to self sufficiency. At the same time, the human services system offers the general population a set of prevention and support services to help maintain independence and well being.

Different agencies fund, deliver and plan for different services, and sometimes for the same services. Many services are funded by one level of government and delivered by another, or by the non-profit sector. Minimal effective coordination goes on, and human services virtually never coordinate with transportation, land use and other related systems.

Even without dramatic population growth, a set of demographic and economic changes will intensify the demand for human services in the next few years. Many areas will see simultaneous increases in numbers among their oldest and their youngest members and a proportionately smaller group of working-age adults to support them. Many of the

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

youngsters in question will grow up in the "new family" - smaller and more likely to have only one parent or to have both parents employed.

However, more of the available jobs will be in services, and these tend to have lower pay and offer fewer benefits than did full-time work of the past. Together, these trends will increase demands for human services and increase the role human services play in the mainstream economic life of the community. The ongoing shift toward a service economy will increase the numbers of "working poor" and thus the need for cheaper and more widely available housing, health and child care programs among others.<sup>1</sup>

The extent to which the five differing alternatives can direct growth to reduce these types of impacts on human services is the focus of this analysis.

### *Impacts of the Alternatives*

All of the alternatives call for concentrating most growth west of the County's UGA, which could result in positive impacts to the needs for human services in the rural areas. However, areas where growth will be concentrated could experience negative impacts because of increased needs for human services. In general, the alternatives which concentrate growth into designated urban centers, urban/transit areas and activity areas, would result in fewer impacts to human services' delivery in rural and resource areas, but conversely could significantly impact human services' delivery in these urban areas.

The Eight Centers and 14 Centers Alternatives which would provide a more predictable and rational context for human service planners, funders and providers, could improve the reactive and fragmented atmosphere in which the human service system now operates. However, without regulations requiring improved coordination - especially between human services, land use and transportation planning - significant growth could lead to duplication among service providers and an increase in competition for scarce funds.

### *No Action Alternative*

Policies applicable to the No Action Alternative that could have significant positive impacts on human services include CC-4, CC-5, FW-26, FW-27, LU-33g, and FW-32b.

The above policies would assist in mitigating the adverse impacts of future growth on human services by requiring: a) identification of essential community and human services and including them in land use, capital improvement and transportation plans; b) identification of timelines for constructing needed services; c) compliance with urban center criteria to include human service needs; and d) a cooperative regional strategy which ensures a balance of services is available countywide to meet human service needs.

The negative impacts of the No Action Alternative on human services would be greater than the 14 Centers and Eight Centers Alternatives, but less than the Magnets and Pre-Countywide Planning Policies Alternatives, respectively. Since the No Action Alternative does not designate the locations of urban centers, this could adversely impact the types and locations of human service needs, because growth areas would be less predictable. In addition, dispersed growth does not provide concentrated tax bases to aid funding of human services which could create additional adverse impacts.

The No Action Alternative assumes that the implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. See No Rail Policy Option for impacts.

### *Eight Centers Alternative*

This alternative could result in fewer negative impacts overall on human services than the No Action Alternative because it concentrates growth in urban centers and urban/transit areas thereby identifying the general locations for growth and subsequent need for human services. All of the positive impacts associated with the No Action Alternative apply to the Eight Centers Alternative. However, in the Eight Centers Alternative, urban centers, urban/transit and urban/auto areas would be the primary providers of human services, while the rural and resource areas would be providers of regional or sub-regional human services. In addition, some individuals would be displaced in these urban areas and specific neighborhoods could be disrupted by growth concentrations within newly designated urban centers. This could adversely impact the needs for human services.

The Eight Centers Alternative assumes implementation of the Rail/TSM alternative. Construction equipment, materials, demolition, clearing and dust may temporarily affect human

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

services' access and usability. New or expanded transportation corridors, stations and access facilities may affect human services delivery. Transit infrastructure (e.g. wires, rights-of-ways) may physically or visually separate neighborhoods decreasing informal social supports which would impact human services. At the same time, the Rail/TSM alternative would increase accessibility of human services, particularly those within walking distance of stations or transit centers.<sup>2</sup>

### **14 Centers Alternative**

This alternative would result in fewer negative impacts on human services than the No Action Alternative or the Eight Centers Alternative because it further concentrates growth thereby identifying general locations for development and associated populations requiring human services. However, this alternative could have the most significant adverse impacts on human services in the urban centers, urban/transit and activity areas because of the new and increased demand for services.

All of the positive impacts associated with the No Action Alternative apply to the 14 Centers Alternative. The 14 Centers Alternative assumes implementation of the Rail/TSM alternative. Impacts would be similar to those described under the Eight Centers Alternative.

### **Pre-Countywide Planning Policies Alternative**

Future growth would be least concentrated under the Pre-Countywide Planning Policies Alternative. This alternative would consume the most undeveloped land, and would result in the greatest impacts on human services in urban/auto areas, urban transit and rural areas. There would also be limited requirements for jurisdictional coordination resulting in more adverse impacts to the delivery of human services.

This alternative disperses growth, thereby creating a decentralization of services which is more costly and less effective for the delivery of human services. In addition, under this alternative, more users of human services would be required to have automobiles to access services.

This alternative assumes the adopted CPPs would not be implemented; therefore, there would be fewer and weaker policies addressing human services' needs. This alternative would also require less coordination

between human services' planning and land use, transportation and other related systems.

The Pre-Countywide Planning Policies Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the Pre-Countywide Planning Policies Alternative regarding TSM are similar to those described under No Rail Policy Option.

### **The Magnet Alternative**

Under the Magnet Alternative future household growth would be most concentrated in the urban/transit, urban auto and urban centers respectively. Future employment growth would be most concentrated in activity centers, urban centers and office/business parks respectively. Unlike the Eight Centers and 14 Centers Alternatives, the Magnet Alternative does not designate the location of urban centers, but rather establishes goals for allocation of urban growth as measured by "benchmarks" and strategies. Impacts on human services would be the greatest in the urban areas.

The Affordable Housing goal of the Magnet Alternative would positively impact human services. The goal states that affordable housing should be available to all economic segments of the population of this state; that a variety of densities and housing types should be encouraged; and that preservation of existing housing stock should be encouraged. Access to affordable housing will indirectly positively impact human service needs.

The Magnet Alternative assumes the following policy options to the Regional Transit System Plan: a commuter rail from Everett to Tacoma; phased HCT rail; benchmarks incorporating King County Commute Reduction Plan targets; improvements to existing HOV system, public transit and regionally coordinated pedestrian and bicycle routes.

Impacts to human services under this variation would be similar to those described under the Eight Centers and Fourteen Centers Alternatives.

### ***Impacts of the Policy Options***

#### **Technical Review Areas**

No significant impacts.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **No Rail Policy Option**

The impacts on human services regarding TSM are that equipment, materials and dust from construction of HOV facilities, transit hubs, and park-and-ride lots may temporarily affect access to, and usability of, human services. In addition, placement of transit lines may especially divide some neighborhoods, decreasing informal social supports which complement the human service system.<sup>3</sup>

### **Affordable Housing Policies**

Access to affordable housing will indirectly positively impact human service needs. However, all of the Affordable Housing Task Force policies could have potential negative impacts on human services. The effects of increased density on diverse populations in the urban centers, urban/transit and urban/auto areas could impact human service providers. In addition, if there is not an adequate supply of jobs in relation to location of affordable housing, or if there is not adequate transit service, there could also be adverse impacts on human services.

### **Economic Development Policies**

FIS/ED Policy ED-7 requires jurisdictions to cooperatively establish programs which meet job training, retraining and educational needs through new partnerships and funding opportunities. This policy could have significant positive impacts on human services.

### **Rural Task Force Policies**

In general, the Rural Character Task Force policies would have positive impacts on the delivery of human services in the urban areas by establishing a distinction between rural and urban service areas. The policies would positively impact the ability of providers to anticipate and plan for rural and urban service areas.

## **MITIGATION MEASURES**

The mitigation measures discussed here are applicable to all the alternatives. Integrated planning and siting controls, combined with developing and using suitable technology, could mitigate some of the adverse impacts from growth to human services. Integrated planning - combining land use and transportation planning with health and human service planning - would significantly enhance the utility and ensure that

transit accommodates non-commuter trips (for health care, child care, recreation, etc.) both inside and outside of transit hubs.

Private industry could also integrate its planning with trends in transportation and health and human services to meet future needs of workers. For example, employers could include space for educational, recreational and child care activities in new facilities which would mitigate some adverse impacts to public human service providers.

Funding and costs of human services could also be mitigated by the identification of human service revenues which will grow with population and therefore better able to serve their citizenry. Similarly, human service impacts could be mitigated by: a) requiring provision of public space to non-profit providers for human services; b) dedication of federal block grant funds for human service site acquisition; c) co-locating services in multi-purpose facilities which reduce the cost of delivering services; and d) development of genuine public/private partnerships which can offset the chronic underfunding of human services.

Incentives or regulations which result in siting of human services near transit hubs could also mitigate growth impacts while improving access to these services. In addition, zoning and land use development controls to disperse low - and moderate - income housing can mitigate the dislocation associated with increased densities and subsequent greater need for human services.<sup>4</sup>

## **UNAVOIDABLE IMPACTS**

Increased development and population growth would increase the demand for human services. Resources will have to be expended to meet these demands.

---

***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

ENDNOTES

1. Puget Sound Council of Governments, Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Puget Sound Council of Governments, Seattle, WA, 1990, p. 162.
2. Metro et al, Final Environmental Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle, Seattle, WA, 1993.
3. Metro et al., Final Environmental Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle, Seattle, WA, 1993.
4. Puget Sound Council of Governments, Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Seattle, WA, p. 268.

**5.0 POLICE/FIRE/EMERGENCY RESPONSE**

**MAIN FINDINGS**

The rapid growth of population under all alternatives could create social problems adversely impacting police/fire/emergency response services.

Eight Centers and 14 Centers Alternatives could provide a more predictable and rational context for police/fire/emergency service planners and providers, and could improve the reactive atmosphere in which these services are now planned.

The No Action, Pre-Countywide Planning Policies and Magnet Alternatives do not designate urban centers and have the potential of dispersing population growth, thereby adversely impacting the delivery of police/fire/emergency response services in a more predictable and coordinated fashion. In addition, dispersed growth does not provide concentrated tax bases to aid funding of these services which could create additional adverse impacts.

Mitigation measures include architectural design and land use planning which can help build a sense of community and reduce crime. Regulatory measures which create a sense of belonging at the smallest neighborhood level, such as requirements for community centers and low-to-mid-rise buildings, instill social controls which enhance the well-being of residents and reduce demands on formal services. Planning which includes a "people orientation" could also help foster informal social controls within neighborhoods, such as block watches, which in turn complement the needs for, and delivery of, police/fire/emergency response services.

Additional mitigation measures for adverse impacts to police/fire/emergency response services include the on-going commitment by King County (King County Comprehensive Plan 1985) to work with cities, towns and service districts to develop a common set of standards for police/fire/emergency response services, so that areas annexed by cities will have improvements and associated services that are compatible with city standards.

**AFFECTED ENVIRONMENT**

*Police Services*

The King County Department of Public Safety is primarily responsible for the public safety of unincorporated King County. It includes patrol services and the following specialized services: Air support, auto theft, automated fingerprints identification system, bomb disposal, burglary, canine, child find, computer resources, crime analysis, crime prevention, detective support, drug enforcement, emergency management, evidence and supply, homicide and assault, hostage negotiations, internal investigations, major accidents, missing persons, motorcycle pawnshop detail, photo lab, polygraph, robbery, search and rescue, SWAT, traffic and DWI, and vice control.

*Inventory of Facilities*

The Department of Public Safety is currently divided into four precincts. Two are in downtown Seattle, and two others are located in Bothell and Maple Valley.

Precinct I houses the central administrative staff for the Department of Public Safety, and the core resources for all of the special operations listed above. Because of the regional nature of these tasks, this precinct regularly serves all residents of unincorporated King County and the residents of other municipalities as needed. Precinct II contains a headquarters station. In addition, there are other offices in Woodinville, North Bend, Fall City, and the Pine Lake Plateau. There are a total of 98 officers and 12,100 square feet of facilities. Precinct III contains a headquarters station and other offices in Springwood and Fairwood. There are a total of 86

---

## *AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES*

---

officers and 15,862 square feet of facilities. Precinct IV contains a headquarters station and other offices in SeaTac, and Vashon. There are a total of 124 officers and 11,560 square feet of facilities. Precinct V contains a headquarters and another office at Westway. There are a total of 76 officers and 9,661 square feet of facilities.

### *Forecasting of Future Needs*

The estimated demand for police services is based heavily on three factors: growth in unincorporated King County projected in the King County Annual Growth Report, annexation/incorporation activity, and the future of contracting for services. King County continually monitors the public safety arena. Any changes that affect the demand for police services are carefully evaluated and the appropriate modifications are made. Future demand is dependent on other jurisdictions and the public.

### *Location and Capacity of New and/or Expanded Facilities*

The location and capacity of new and/or expanded facilities will depend heavily on the future demand, which cannot be predicted. King County will continue to monitor the growth, annexation/incorporation activity, and contracting efforts to determine the best sites for future facilities.

### *Fire Protection*

King County does not own or operate fire districts. Some of the faster growing fire districts have developed a master plan that includes inventory, forecasting, and a finance plan.

### *Inventory of Facilities*

King County is served by 45 fire protection districts responsible for delivering emergency services, including fire protection and emergency medical services countywide. There are over 75 fire station facilities throughout King County.

### *Forecast of Future Needs*

Most of the fire protection districts project population growth based on King County projections from the Annual Growth Report. In addition, they use response time as the level of service standard to judge when new facilities are needed. New fire stations are planned in fire districts 10, 11, 13, 16, 17, 20, 27, 34,

36, 37, 39, and 45. Existing and planned fire protection districts are listed in Table E-1, located in the Appendix.

### *King County Emergency Response*

The King County Emergency Medical Services Division is responsible for developing, implementing and administering a mobile, intensive care paramedic services program in cooperation with King County fire districts, setting standards for the training and examination of emergency medical service personnel, equipment and facilities in King County, coordinating all aspects of emergency medical services in King County with federal, state and private agencies, implementing emergency medical services training programs, public information procedures and delivery systems, and developing, implementing, and administering a program to coordinate private ambulance company operations in emergency situations.

### *Inventory of Facilities*

The King County Emergency Medical Services (EMS) Master Plan provides a comprehensive review of current services. The EMS system is a complex organizational structure consisting of 37 jurisdictions providing basic life support (BLS) services and four separate agencies providing advanced life support (ALS) services. In addition, the system consists of numerous interrelated functions, including dispatch and communications, service delivery, training and education, medical control, program planning, and evaluation.

### *Forecast of Future Needs*

Through the EMS Master Plan, a steering committee has established workload projections through the ensuing levy period estimated that ALS responses will increase from 20,000 calls in 1990 to approximately 31,400 calls, by 1997. The workload projections for ALS services demonstrated at the present time there is a need for 10 fully staffed ALS units and by 1997, there will be a need for 13 such units.

### *Location of New and/or Expanded Facilities*

No exact locations for new or expanded facilities were contained in the Master Plan. However, the EMS Master Plan Steering Committee established guidelines concerning the appropriate point at which alternative staffing plans and fully staffed ALS units

---

## *AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES*

---

should be employed. The Committee concluded that a balance needs to be established between response times, workload capacity per unit, and the size of the service area covered by each unit. The study findings demonstrate that the EMS system should be routinely monitored on a county-wide basis to better allocate and distribute resources in response to population increases and demographic change.

### *Harborview Medical Center*

Harborview Medical Center consists of 6 primary buildings constructed within roughly a four-block area. The 6 buildings are the following: the hospital building, Harborview Hall, Community Mental Health Center, warehouse, firehouse, and view park parking garage.

Patient volumes were forecasted in the Harborview Medical Center Long Range Capital Improvement Program Plan using a standard health planning methodology and then tested with projections for Harborview's nine priority patient groups. Admissions are projected to increase from 12,355 in 1995 to 13,233 in 2000. Specific areas targeted for above average growth include orthopedics, neurosurgery, and the burn unit. Increasing admissions will be offset by decreasing average length of stay, resulting in a projected need for 331 beds in 1995 and 355 beds in 2000. Given the projected patient volumes and other activity levels, it was determined that the long term need for space at Harborview is approximately 350,000 gross square feet.

The specific projects proposed for implementation in the next six years include construction of a new Trauma Center, replacement of center wing nursing units, renovation and expansion of clinics within the south wing, construction of the Boren Street Garage, construction of education and research building, and expansion of the view park garage.

## **SIGNIFICANT IMPACTS**

### *Introduction*

Population growth which could affect the demand for police/fire/emergency response services under all five alternatives include: a) annexation or incorporation of areas which had previously been included in unincorporated King County; b) increases in population density and associated activities into areas

which had been considered a more rural level of service; and c) the level and type of services which are contracted out to other service providers.

Demands for these services are closely tied to other jurisdictions and the general public's demands. During the 1980's just under 38,000 people annexed to cities and an additional 82,000 incorporated into new cities. Over 54 square miles of unincorporated King County have been annexed or incorporated since 1980. About 80 percent of this annexation and incorporation activity has occurred since the King County Comprehensive Plan was adopted in 1985. Consequently, the demand for police/fire/emergency response services in unincorporated King County has changed dramatically since 1980.

Impacts associated with density also affect police/fire/emergency response. Previous research has no strong conclusions about the effects of density on measures of crime. Contrary to public perception, most violent crime occurs within the home between household members; a relatively small proportion results from assaults by strangers.

Crime is likely to increase along transit corridors, as access to victims and opportunity increases. Further, more personal crimes (assaults, robberies) are associated with public transit than with the use of private automobiles. An increase in such crimes will increase people's overall perception of crime, which has very high social and economic costs.

The rapid growth of diverse populations under all of the alternatives could create social problems adversely impacting police/fire/emergency response services. The type and extent of income and ethnic diversity associated with anticipated growth may create tensions among residents different from those that would come with homogeneous growth. Rapid growth in areas which are currently homogeneous may increase resistance to change, thereby creating social problems between different ethnic populations.<sup>1</sup>

The extent to which the five differing alternatives can direct growth to reduce these types of negative impacts on police/fire/emergency response is the focus of this analysis.

### *Impacts of the Alternatives*

All of the alternatives call for concentrating most growth west of the county's UGA, which could result

---

## *AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES*

---

in positive impacts to the requirements for police/fire/emergency response in the rural and resource areas. However, areas where growth will be concentrated could experience more negative impacts because of increased needs for these services. In general, the alternatives which concentrate growth into designated urban centers, urban/transit areas and activity areas would result in fewer impacts to police/fire/emergency response services in designated rural areas, but conversely could significantly adversely impact the needs for, and delivery of, these services in the urban areas.

The Eight and 14 Centers Alternatives could provide a more predictable and rational context for police/fire/emergency service planners and providers, and could improve the reactive atmosphere in which these services now plan. However, without regulations requiring improved coordination - especially between police/fire/emergency response, the general public, other jurisdictions, land use and transportation planning - significant growth could lead to a reduction in capability to provide these services.

### No Action Alternative

Policies applicable to the No Action Alternative that would have significant positive impacts on police/fire/emergency response include FW-10, FW-25, FW-26, FW-27 and CO-1.

The above policies would assist in mitigating the adverse impacts of future growth on police/fire/emergency response by requiring: a) cities to be the appropriate provider of local urban services and counties to be the appropriate provider of countywide services; b) coordinated planning and financing of these services; c) jurisdictions to identify services per adopted levels of service standards; d) the protection of public health and safety in all decision-making about infrastructure improvements; and e) jurisdictions to identify the full range of urban services and how they plan to provide for them.

The negative impacts of the No Action Alternative on police/fire/emergency response would be greater than the Eight and 14 Centers Alternative but less than the Magnet and Pre-Countywide Planning Policies Alternatives, respectively. Since the No Action Alternative does not designate centers, it has the potential of dispersing population growth, thereby adversely impacting the delivery of police/fire/emergency response services in a more predictable and coordinated fashion. In addition,

dispersed growth does not provide concentrated tax bases to aid funding of these services which could create additional adverse impacts.

The No Action Alternative assumes that the implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. See No Rail Policy Option for description of impacts.

### Eight Centers Alternative

This alternative could result in fewer negative impacts overall to police/fire/emergency response than the No Action Alternative because it concentrates growth in urban centers and urban/transit areas thereby identifying the general locations for growth and subsequent need for police/fire/emergency services. All of the positive impacts associated with the No Action Alternative apply to the Eight Centers Alternative. However, in the Eight Centers Alternative, urban centers, and cities in the urban/transit and urban auto areas would be the primary providers of police/fire/emergency response services, while the rural and resource areas would be providers of regional or sub-regional services. In addition, the increased growth and density in the urban areas could adversely impact the needs for police/fire/emergency response services in these areas.

The Eight Centers Alternative assumes implementation of the Rail/TSM alternative. The adverse impacts of the Eight Centers Alternative on police/fire/emergency services regarding Rail/TSM are that access to, and from, police/fire/emergency response services near construction sites may be impeded by traffic restrictions, displacement of parking or loading areas, or other factors. Permanent relocation of some police/fire/emergency services may also be necessary, although specific impacts of this type have not been determined. Emergency vehicles may also be temporarily impeded along or across roadways directly involved in project construction. At the same time, the Rail/TSM policy option would increase accessibility of police/fire/emergency response services, particularly those within walking distance of stations or transit centers.<sup>2</sup>

### 14 Centers Alternative

This alternative would result in fewer negative impacts to police/fire/emergency response services than the No Action or Eight Centers Alternatives because it further concentrates growth thereby identifying general locations for development and

---

## *AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES*

---

associated populations requiring these services. However, this alternative could have the most significant adverse impacts to police/fire/emergency response services in the urban centers, urban/transit and activity areas because of the new and increased demand for services.

All of the positive impacts associated with the No Action Alternative apply to the 14 Centers Alternative. The 14 Centers Alternative assumes implementation of the Rail/TSM policy option. Impacts would be similar to those described under the Eight Centers Alternative.

### **Pre-Countywide Planning Policies Alternative**

Future growth would be least concentrated under the Pre-Countywide Planning Policies. This alternative would consume the most undeveloped land, and would result in the greatest adverse impacts to police/fire/emergency response services in urban/auto areas, urban transit and rural areas. There would also be limited requirements for jurisdictional coordination resulting in more adverse impacts to the delivery of these services.

This alternative disperses growth, thereby creating a decentralization of services which is more costly and less effective for the delivery of police/fire/emergency response services.

Since this alternative assumes the CPPs would not be implemented there would be fewer and weaker policies addressing police/fire/emergency response services' needs. This alternative would also require less coordination between police/fire/emergency response services' planning and land use, transportation and other related systems.

The Pre-Countywide Planning Policies Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the Pre-Countywide Planning Policies regarding TSM are similar to those described under No Rail Policy Option.

### **The Magnet Alternative**

Under the Magnet Alternative future household growth would be most concentrated in the urban/transit, urban auto and urban centers respectively. Future employment growth would be most concentrated in activity areas, urban centers and office/business parks respectively. Unlike both

Centers Alternatives, the Magnet Alternative does not designate the location of urban centers, but rather establishes goals for allocation of urban growth as measured by "benchmarks" and strategies. Impacts on police/fire/emergency response services would be the greatest in the urban areas.

The Magnet Alternative assumes the following policy options to the Regional Transit System Plan: a commuter rail from Everett to Tacoma; phased HCT rail; benchmarks incorporating King County Commute Reduction Plan targets; improvements to existing HOV system, public transit and regionally coordinated pedestrian and bicycle routes.

Impacts to police/fire/emergency response services under this policy option would be similar to those under both Centers Alternatives.

### *Impacts of the Policy Options*

#### **Technical Review Areas**

Not Applicable.

#### **No Rail Policy Option**

The impacts of TSM on police/fire/emergency services are that access to, and from, police/fire/emergency response services near construction sites may be impeded by traffic restrictions, displacement of parking or loading areas, or other factors. Permanent relocation of some police/fire/emergency services may also be necessary, although specific impacts of this type have not been determined. Emergency vehicles may also be temporarily impeded along or across roadways directly involved in project construction.<sup>3</sup>

#### **Affordable Housing Policies**

The Affordable Housing Task Force policies could have adverse impacts on police/fire/emergency response services if these policies create densities beyond that established in the targets. The effects of increased density on diverse populations in urban centers, urban/transit and urban/auto areas could adversely impact police/fire/emergency response providers in these areas.

#### **Economic Development Policies**

Not Applicable.

---

## *AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES*

---

### Rural Character Task Force Policies

In general, the Rural Character Task Force policies would have positive effects on the delivery of police/fire/emergency services in urban areas. By establishing a distinction between rural and urban service areas, the policies would positively impact the ability to anticipate urban growth areas and their service requirements.

### MITIGATION MEASURES

Architectural design and land use planning can help build a sense of community and reduce crime. Regulatory measures which create a sense of belonging at the smallest neighborhood level, such as requirements for community centers and low-to-mid-rise buildings, instill social controls which enhance the well-being of residents and reduce demands on formal services.

Planning which includes a "people orientation" could also help foster informal social controls within neighborhoods, such as block watches, which in turn complement the needs for, and delivery of, police/fire/emergency response services. In addition, zoning and land use development controls to disperse low and moderate income housing can counter the potential adverse social impacts associated with increased densities, which adversely impact police/fire/emergency response services.<sup>4</sup>

Additional mitigation measures for adverse impacts to police/fire/emergency response services include the on-going commitment by King County (King County Comprehensive Plan 1985) to work with cities, towns and service districts to develop a common set of standards for police/fire/emergency response services, so that areas annexed by cities will have improvements and associated services that are compatible with city standards.

Mitigation measures associated with implementation of the Regional Transit System Plan include planning facilities, equipment and operations requirements to minimize the likelihood of emergency incidents or need for special security services. Requiring emergency communication systems, along with plans for evacuation and emergency access, will also provide some mitigation.<sup>5</sup>

### UNAVOIDABLE IMPACTS

Increased development and population growth will increase the demand for police/fire/emergency response services. Resources will have to be expended to meet these demands.

ENDNOTES

1. Puget Sound Council of Governments, Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Puget Sound Council of Governments. Seattle, WA, 1990, p. 267.
2. Metro et al., Final Environment Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle, Seattle, WA, 1993.
3. Metro et al., Final Environment Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle, Seattle, WA, 1993.
4. Puget Sound Council of Governments, Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, p. 269.
5. Metro et al., Final Environment Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle, Seattle, WA, 1993.



**6.0 SCHOOLS**

**MAIN FINDINGS**

Previous studies have indicated that overall, the impacts of countywide growth in households could be severe on schools. The absence of jurisdictional allocations of growth prevent identification of the specific school districts that would be impacted under each alternative.

For the Eight Centers and the 14 Centers Alternatives, concentrated growth in urban centers could have negative impacts on schools that are at or over capacity within urban centers.

For the No Action, Pre-Countywide Planning Policies, and the Magnet Alternatives increased growth within urban/transit and urban/auto areas could have negative impacts on schools that are at or over capacity within suburban areas.

In order to mitigate education related growth impacts, School Districts and local governments will need to work together closely as future land use maps are being prepared. All alternatives contain policies or strategies that call for this action. Overall, public officials will need to ensure that areas designated for growth include or will be given funding to develop and upgrade school facilities to meet the needs of students in the year 2000 and beyond.

**AFFECTED ENVIRONMENT**

King County does not own or operate school facilities. In order to ensure that educational facilities are provided to County residents, King County Code 21.61.065 created and gives authority to the School Technical Review Committee (STRC). The Committee consists of four County staff persons from the following areas: the Department of Development and Environmental Services Division, the Planning and Community Development Division, the Office of Financial Management, and the King County Council.

The Committee reviews the following information from each district: a capital facilities plan, enrollment projections, standard of service, overall capacity of educational facilities over a 6 year time frame, and each district's calculation and rationale for proposed impact fees. The Committee also reviews the consistency of district plans with the King County Comprehensive Plan and adopted community plans.

Table F-1, located in the Appendix, lists the school capital improvement plans and their respective adopting ordinance number and date.

*Inventory of Facilities*

A report prepared for the School Impact Mitigation Task Force by Kask Consultants in 1989 stated there

are twenty school districts that are either partially or entirely in King County. These districts provided 249 elementary schools, 60 middle schools, 46 high schools and 22 special education facilities. The 377 schools contained 9,327 permanent classrooms and provided over 24 million square feet of floor area space. The 377 schools also had 660 portable classrooms at various sites. The highest user of portable classrooms was the Lake Washington School District, which uses 150 portables.

*Forecasting of Future Needs*

Many school districts, particularly those on the urban fringe, are experiencing severe overcrowding while the mature school districts, such as Seattle and Bellevue, are resorting to school closures to conserve operating funds.

Year 2000 forecasts of student population were based on the population and employment forecasts prepared by the PSRC. This forecast data was further refined by information provided by King County Parks, Planning and Resources Department, and the Superintendent of Public Instruction. Financial data was provided by the Superintendent of Public Instruction and the school districts in King County.

King County public school enrollment in the year 2000 is estimated to amount to 303,700 students, an

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

increase of 48 percent over the 1988 enrollment. Of this total, 169,600 are estimated to be elementary students, 62,100 middle school students, and 71,600 high school students.

In the year 2000, if the school districts were to fully fund their proportionate share of the new school construction, and the school districts were to pass school bond issues in 1990 at the levy rate equal to the average of the last three years, the number of unhoused students in Federal Way, Riverview, Auburn, Snoqualmie Valley, Issaquah, Lake Washington, Kent and Northshore School Districts would amount to 24,030. If the school districts were to raise their levy rate to \$5/1,000 and pass a bond issue in 1990, The number of year 2000 unhoused students would drop to 6,755.

### *Seattle Public Schools*

The Seattle School District provides public education for the kindergarten through 12th grade as well as limited preschool offerings. District facilities include 10 high schools, 10 middle schools, 61 elementary schools, 10 alternative schools, and Memorial Stadium. In addition, the District has 6 administration buildings and a number of closed schools. The closed schools remain vacant or are used in the following ways: administration purposes, temporary schools during remodeling and construction of other facilities, or as leased facilities to community groups and other organizations.

The School District has experienced a significant rise and then a steady decline in its enrollment over the last few decades. Enrollment peaked at 100,000 in the 1960s. Declining birth rates, out-migration of students, and a mandatory busing program initiated in 1979 contributed to a continuing decline of enrollment in the public schools in the 1970s and 1980s. In 1991, the student population was 44,500. Enrollment in Seattle Public Schools is forecast to increase by almost 30 percent over the next 20 years.

Recently the District completed a Capital Improvement Program. One high school and 14 elementary schools have been modernized or replaced. In July 1992, the District adopted a Facilities Master Plan through 2010. In addition, another Capital Improvement Program bond was voted down. It is being revised for reconsideration by the voters.

According to the District, current facilities lack sufficient space for existing populations in some areas. Many of the public schools are more than 60 years old and have educational, seismic, and site deficiencies. In 20 years, most schools will have outlived their economic and useful lives.

At the same time, the social role of schools in the community is expanding; child care, health care, counseling services, nutrition programs and other activities have been added to the educational setting. This expanding role affects the types and sizes of facilities needed.

The District's Facilities Master Plan (FMP) forecasts a 27 percent increase in student population and 6 more schools than the District currently operates in the year 2010.

## **SIGNIFICANT IMPACTS**

### *Introduction*

This section provides a qualitative analysis of the impacts of the five alternatives on schools. The information presented here supplements the existing FEIS for VISION 2020 and the 1985 King County Comprehensive Plan Draft and Final EIS. The impact analysis of schools provided in the VISION 2020 FEIS was limited to the geographic distribution of the costs for public services for five "build" or "action" alternatives. Education was one of the public services included in the analysis. The impact analysis of schools provided in the 1985 Draft and Final EIS for the King County Comprehensive Plan was limited to discussion of the likely effect of the proposed plan on costs and revenues.

It is beyond the scope of this SEIS to perform a fiscal impact analysis of the alternatives related to schools. This analysis does not assess the ability of areas designated for future growth to accommodate additional students or pay for new schools. The absence of jurisdictional allocations of growth prevent identification of the specific school districts that would be impacted by each alternative. Therefore, this analysis is limited to a discussion of the relative impacts on schools under each of the alternatives.

### *Impacts of the Alternatives*

As discussed under "Affected Environment," there could be a severe shortfall in school facilities depending upon growth in student enrollment and

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

depending upon the level of state funding and the passage of school bond issues. Overall, the impacts of 215,000 households by the year 2010 in King County could result in significant adverse impacts to existing schools. In general, areas where growth will be concentrated will experience negative impacts such as overcrowding and need for new school capacity. Fewer impacts could result in rural and resource areas which will receive less growth.

All of the alternatives provide some form of mitigation towards ensuring that local government land use plans and capital facilities plans consider school needs and address the need for level of service standards. The Magnet Alternative is the only alternative that provides specific standards for student/teacher ratios.

### **No Action Alternative**

The policies that have a potential impact on schools include the following: LU-14d, LU-33, LU-36, CC-4, CC-5, CO-14, FW-20, FW-29, S-1, and FW-32.

Policy LU-14 requires that UGAs include only areas already characterized by urban development because these areas can be efficiently and cost effectively served by roads, water, sanitary sewer and storm drainage, schools and other urban services within the next 20 years. In general, this policy will serve to mitigate the impacts of future growth on school districts by requiring that schools be a criteria for determining areas appropriate for inclusion within UGAs. This analysis would be undertaken as part of the EIS for the final UGAs or for other County actions.

Policy LU-33 states that jurisdictions' comprehensive plans for urban centers shall demonstrate compliance with the urban centers criteria. In order to promote urban growth within centers, the urban center plan shall establish strategies which "...provide a wide range of capital improvement projects, such as street improvements, schools, parks and open space, public art and community facilities." In addition, Policy LU-36 requires a Programmatic Environmental Impact Statement (PEIS) be prepared for each proposed center. The PEIS will address significant adverse impacts and cumulative impacts to housing, schools, public utilities, and transportation. Thus, both of these policies assist in mitigating the impacts of future growth on existing schools.

The CPPs include schools under human and community services. Policies CC-4 and CC-5 state that human and community service planning activities shall support CPPs, the countywide land development pattern, and that all jurisdictions shall identify essential community and human services and include them in land use, capital improvement, and transportation plans. These policies would serve to mitigate the impacts of growth on schools, because local jurisdiction's comprehensive plans would address school needs in land use plans, transportation plans, and capital improvement plans.

Policy CO-14 states that "sewer expansion shall not occur in rural areas and resource lands except where needed to address specific health and safety problems threatening structures permitted before July 1, 1992 or the needs of public facilities such as schools." This policy would mitigate the impacts of those schools that have not been able to expand due to lack of sanitary sewer needs. By expanding existing schools rather than building new ones, cost savings may be realized.

Policy FW-20 states "All jurisdictions shall support the County's existing diversity of places to live, work and recreate and the ethnic diversity of our communities. The countywide development pattern shall include sufficient supply of quality places for housing, employment, education, recreation, and open space and the provision of community and social services." This policy would provide additional mitigating measures by further ensuring that future land use plans include adequate land for schools.

Policy FW-29 addresses level of service standards for education. The policy states that "All jurisdictions shall contribute to the economic sustainability of the County in a manner which supports the countywide land use pattern. This is to be accomplished by providing cost-efficient quality infrastructure and public services at an adopted level of service specific to the local situation, providing affordable housing, promoting excellence in education, and protecting the environment." These level of service standards could have significant adverse impacts on school infrastructure and operating costs while having positive impacts on quality of education. For example, a level of service standard that establishes a specific teacher/student ratio could result in a need for additional school rooms or teachers. In terms of this SEIS, specific impacts cannot be addressed until level of service standards are proposed.

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

Policy S-1 calls for the GMPC to establish a process by which all jurisdictions shall cooperatively site public capital facilities of a countywide or statewide nature. This policy could have significant positive impacts on schools, as communities would have to work together to site new facilities. However, this policy would not be implemented under the No Action Alternative.

Policy FW-32 addresses the GMA requirement that fiscal analysis be provided for infrastructure and service needs. The policy states that "jurisdictions shall cooperatively identify regional funding sources and establish regional financing strategies..[including] incentives to support the CPPs and... ensure that a balance of services is available countywide to meet, among others, human service, public safety, open space and recreation, education, and transportation needs." Overall, this policy provides mitigation for the impacts of regional growth through interlocal coordination and strategies.

### **Eight Centers and 14 Centers Alternatives**

The analysis of the Eight and 14 Centers Alternatives is similar to that of the No Action Alternative. The exception is that LU-36 may be more mitigating for both of the Centers Alternatives, as there are more urban centers designated under both of these alternatives. Policy S-1 would be implemented under these alternatives which would provide additional mitigation.

### **Pre-Countywide Planning Policies**

Under the Pre-Countywide Planning Policies, the adopted Countywide Policies would not be implemented and would be replaced with other policies. The following policies from the King County Comprehensive Plan were analyzed with respect to their impacts on schools. Policy R-103 and C-210 states King County should encourage most residential development to occur in urban areas and in locations where facilities and services can be provided at the lowest public cost. This policy would serve to mitigate impacts on schools, by directing growth to those areas where there is surplus capacity or where additional schools can be provided at lower costs.

King County Comprehensive Plan Policy PI-202 addresses the siting of public services. This policy requires the following: developing standards for the location, design, and operation of public facilities and services, developing adequate and equitable methods

of paying for public facilities, scheduling needed facilities and services through capital improvement programs, and planning for maintenance of existing facilities. Overall, this policy provides mitigation for the education-related impacts of growth by requiring proactive planning for school facilities, operational, and funding needs.

In addition, PI-202 states that level of service standards should be coordinated with cities, special districts, and other public agencies. This policy could serve to mitigate the impacts on schools due to future growth through interlocal coordination. However, as discussed for Policy FW-29 under the No Action Alternative, the adoption of specific level of service standards could result in increased construction or operating costs. The actual analysis cannot be undertaken until the level of service standards are developed.

### **The Magnet Alternative**

This alternative includes a policy for least cost planning. This requirement could serve to mitigate the impacts of future growth on schools by using benchmarks to achieve goals for education.

The Magnet Alternative calls for "Countywide Economic Development and Employment" policies to state, "Realistically match skills training for existing residents with projections of types and amounts of new jobs to be developed." This strategy could provide mitigation for school related impacts by focusing staff and funding on educational opportunities that are based upon actual community needs.

The policies in the Magnet Alternative section "Quality of Urban Living/Community Character" state, "By 2010, increase K-12 educational achievement through, in part, reducing the student/teacher ratio." However, as discussed for Policy FW-29 under the No Action Alternative, the adoption of specific level of service standards could result in increased construction or operating costs. The actual analysis cannot be undertaken until the level of service standards are developed.

### ***Impacts of the Other Policy Options***

Because the impacts of the other policy options for both of the Eight and 14 Centers Alternatives and the Magnet Alternative are similar, the following analysis applies to all three alternatives.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **Technical Review Areas**

The level of detail provided by the Technical Review Areas policy option is insufficient to assess any impacts due to this policy option.

### **No Rail Option**

The level of detail provided by this policy option is insufficient to assess any impacts due to this policy option.

### **Affordable Housing Policies**

The level of detail provided by these policy option is insufficient to assess any impacts due to this policy option.

### **Economic Development Policies**

Policy ED-7 states that jurisdictions shall cooperate in efforts to meet educational needs related to job training by facilitating the implementation of programs to meet the educational and training needs, identifying partnerships and funding opportunities, and providing zoning and siting regulations for training and educational facilities which are supportive of their development. This policy provides for mitigation of education-related growth impacts, because it would focus development of educational programs based upon community needs as well as provide creative funding mechanisms for such programs.

### **Rural Character Task Force Policies**

The level of detail provided by these policy options is insufficient to assess any impacts due to this policy option.

## **MITIGATION MEASURES**

As stated previously, all of the alternatives provide policies that will mitigate the impacts of future growth on schools, particularly from a capital facilities needs and land use planning standpoint. The Magnet Alternative goes one step further by setting actual benchmarks to evaluate the success of these policies and plans on educational achievement.

King County Ordinance No. 10162 provides for the use of development impact fees to assist school districts in paying for expanded school facilities which are necessary to house growing enrolment. Use of these fees should increase the ability of school

districts to provide necessary space. In addition, affected districts may propose bond issues and special levies to provide the necessary funding for increased space. The districts will also be able to apply to the state for matching funds for school construction. In general, funding sources for increased operational costs due to level of service standards need to be identified.

Actual enrollments will depend on a number of regional and local factors, including actual construction of units, household size and characteristics, market conditions, and the availability of educational alternatives to the public schools. School districts and local governments will have to work very closely together as future land use maps are being prepared. School districts need to know where growth is being directed so that future school needs can be adequately planned. Comprehensive planners need to work with school districts to identify as early as possible land use needs for schools.

## **UNAVOIDABLE IMPACTS**

In general, areas where growth will be concentrated will experience negative impacts such as overcrowding and need for new school capacity. However, negative impacts can be mitigated if school districts and local governments work closely together as future land use plans are being prepared.

## **7.0 PARKS AND OPEN SPACE**

### **MAIN FINDINGS**

The alternative which would have the least negative impacts on countywide parks and open space would be the 14 Centers Alternative, with the Eight Centers, No Action, Magnet and Pre-Countywide Planning Policies Alternatives following in respective order. However, more adverse impacts will occur to urban parks and open space within urban areas as pressures for infill and greater density are achieved through the Eight Centers and 14 Centers Alternatives.

The spatial pattern in which growth is allocated in several of the alternatives will serve to mitigate some of the negative impacts on open space by concentrating growth and reducing the amount of undeveloped land needed for urban development.

Community separators of permanent low density lands, which would protect resource lands and environmentally sensitive areas and create open space corridors, would serve to mitigate some of the negative impacts associated with development in undeveloped areas.

Many of the mitigation measures identified under the sensitive areas and resource lands significant impacts would also apply to parks and open space.

### **AFFECTED ENVIRONMENT**

The King County Parks Division is responsible for the following: planning and developing the King County parks system, managing Countywide recreation and aquatics programs, planning, scheduling and managing the annual King County Fair and County Fairgrounds, and operating and maintaining the parks and recreation facilities owned by King County. The Parks Division recently completed the Parks, Recreation and Open Space Plan.

The King County park system contains over 150 parks, pools, and other facilities. Current level of service standards are the following: 1.25 acres/1000 population for neighborhood and community parks, 5 acres/1000 for major urban parks, and 5 acres/1000 for resource based parks in rural areas. There is also a less quantifiable component of specific public demands/support. New level of service standards will be adopted as part of the Park, Recreation and Open Space Plan which has not been completed.

Population data and forecasting is based on the Annual Growth Report and 1990 Census Report. Open space forecasting is more geographical and natural opportunity determined. The Countywide development pattern consisting of urban, rural, resource lands, and urban centers will determine open space needs and location.

The proposed locations of new and expanded facilities are contained in the ten year CIP as part of the Park, Recreation, and Open Space Plan which has not been completed.

#### *City of Seattle Parks System*

The City's park system contains approximately 5,500 acres, or nearly 9 percent of the City's land area. The system has more than one million square feet of building area, 224 parks, 130 playfields, 34 playgrounds, 25 community centers, 1 outdoor and 8 indoor swimming pools, and 4 golf courses. The park system also includes various studios, boat ramps, boat moorage, fishing piers, camps, viewpoints and nature trails, an indoor tennis center, a conservatory, a classic Japanese garden, a waterfront aquarium, and the Woodland Park Zoo.

### **SIGNIFICANT IMPACTS**

#### *Introduction*

Since King County's Park, Recreation and Open Space Plan has not been adopted yet, the draft information has been considered as preliminary analysis until a final plan establishes: new level of service standards; final deficits and inequities in level of service; ways to meet needs, including appropriate levels of service in urban and rural areas as defined by the Countywide Policies for Growth Management;

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

and how to meet the concurrency requirements of the GMA.

As the population of King County grows, so too does the demand for adequate parks, developed facilities and open space land. King County is defined by its beautiful mountains, lakes, lush forests, valuable wetland systems, plentiful fish and wildlife, river valleys and Puget Sound. Recreational opportunities abound in the area from the very urban to the wilderness experience. The natural beauty, open spaces and quality of our cultural heritage provide enjoyment, inspiration and a sense of well-being.

The combination of natural areas and assets, and developed park and recreation opportunities in King County, is a major contributor to the quality of life and the future growth and economic well-being of the region. A balance between the natural and built environment is critical to avoid the loss of important open space, critical wildlife habitats and the very beauty that makes this region unique and desirable.

The current distribution of traditional park acreage shortages and surpluses compared to existing population standards shows the greatest deficiencies in urban areas designated by the 1985 Comprehensive Plan and analyzed in the draft Comparative Inventory of Existing Park Areas by Community Planning Areas (1993). Deficiencies are also apparent in King County community planning areas with mixed urban and rural designations. These areas have low populations but would grow in various degrees in all of the alternatives. Overall surpluses are found in the rural planning areas with lower population densities.

The largest surpluses are found in Eastside and Green River community planning areas where there is currently a large number of County park acres.<sup>1</sup>

The extent to which the five differing alternatives can direct growth to reduce impacts on parks and open space is the focus of this section.

### *Impacts of the Alternatives*

All of the alternatives call for concentrating most growth west of the county's UGA, which could result in positive impacts on future park and open space lands located in rural and resource areas. However, areas where growth will be concentrated could experience adverse impacts on future park sites or existing open space corridors as well as increased needs for park and recreation services. In general, the Eight Centers, 14 Centers and Magnet

Alternatives which concentrate growth into designated urban centers, urban/transit areas and activity areas, would still result in fewer impacts countywide on neighborhood and regional open space corridors than the No Action and Pre-Countywide Planning Policies Alternatives which therefore have the greatest potential for dispersing growth and consuming more undeveloped land.

Conversely, urban areas where growth will be most concentrated under the Eight Centers, 14 Centers and Magnet Alternatives could experience more adverse impacts due to increased development pressures, including growth requirements for parks and open space services.

### No Action Alternative

Policies applicable to the No Action Alternative that could have significant positive impacts on parks and open space lands include FW-11g, FW-23, CC-6, CC-7, CC-8, CC-9, CC-10, CC-11, CC-12, CC-13, FW-25, FW-26 and FW-27. In addition, policy LU-62 (and SCA substitute LU-62) would have positive impacts on open space in that it would provide for the inclusion of open space in mixed use business/office parks.

All of these policies would assist in mitigating the adverse impacts of future growth on parks and open space by requiring jurisdictional coordination in the definition of level of service standards; coordinated delivery of service; identification of regional open space corridors; and implementation strategies for their protection.

Other policies which would positively impact open space lands include LU-1, LU-2, LU-10, and LU-12. All of these policies would assist in mitigating adverse impacts on open space lands by encouraging agriculture and forest uses of lands through methods which don't negatively impact open space qualities; providing incentives for long-term commitments to resource production and open space preservation; designating rural areas which will remain rural; and requiring cluster development on lands of ten or more acres in designated rural areas thereby preserving open space qualities.

The negative impacts of the No Action Alternative on parks and open space would be greater than the Eight Centers and 14 Centers Alternatives respectively, but less than the Magnet and Pre-Countywide Planning Policies Alternatives respectively. Since the No

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Action Alternative does not designate centers, it has the potential of greater negative impacts on parks and open space within the UGA, especially rural areas, because of this dispersed growth pattern.

The No Action Alternative assumes that the implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. See No Rail Policy Options for description of impacts.

### **Eight Centers Alternative**

This alternative could result in fewer negative impacts on potential parks and open space lands than the No Action Alternative because it concentrates the growth in urban centers, urban/transit areas and urban/auto areas thereby identifying the general locations for growth and consuming less undeveloped land. All of the positive impacts associated with the No Action Alternative apply to the Eight Centers Alternative. However, in the Eight Centers Alternative, urban centers, urban/transit and urban/auto areas would be the major park, recreation and open space providers, while the rural and resource areas would be the major providers of regional park and open space opportunities. Creation of new centers would create the need for service to these areas. The creation of new service areas could create some adverse impacts to parks from increased demands.

The Eight Centers Alternative assumes implementation of the Rail/TSM alternative. Construction equipment, materials, demolition, clearing and dust may temporarily affect park access, public safety and usability. New or expanded transportation corridors, stations, and access facilities may require park right-of-way. New transit corridors may affect park access and usability. Transit infrastructure (e.g. wires, rights-of-way, stations) may physically or visually separate parks from neighborhoods. Aerial structures might create a visual barrier. Actual impacts and number of parks and open spaces affected would depend on final design and changes in conceptual alignments and elevations. At least a few parks, including Bellevue's Mercer Slough Park and Lynnwood's Interurban Trail are likely to be affected. At the same time, the Rail/TSM alternative would increase accessibility of parks, particularly those within walking distance of stations or transit centers.<sup>2</sup>

### **14 Centers Alternative**

This alternative would result in fewer negative impacts to potential parks and open space lands in rural and resource areas than the No Action Alternative or the Eight Centers Alternative because it further concentrates growth thereby identifying general locations for development and consuming less undeveloped land. However, this alternative could have the most significant impacts to parks and open space in urban centers, urban/transit and activity areas because of greater densities and the creation of new service areas.

All of the positive impacts associated with the No Action Alternative apply to the 14 Centers Alternative. The 14 Centers Alternative assumes implementation of the Rail/TSM alternative. Impacts would be similar to those described under the Eight Centers Alternative.

### **Pre-Countywide Planning Policies Alternative**

Future growth would be least concentrated under the Pre-Countywide Planning Policies Alternative. This alternative would consume the most undeveloped land, and would result in the greatest impacts on parks and open space lands in urban/auto areas, urban transit and rural areas. There would also be limited requirements for jurisdictional coordination resulting in more adverse impacts to the delivery of park services.

Since this alternative assumes the CPPs would not be implemented, there would be fewer and weaker policies addressing parks and open space lands. However, the Open Space Program (1988) and Sensitive Areas Ordinance (1990) would still apply under this alternative providing positive impacts to open space.

The Pre-Countywide Planning Policies Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the Pre-Countywide Planning Policies Alternative regarding TSM are similar to those described under the No Rail Policy Option.

### **The Magnet Alternative**

Under the Magnet Alternative, future household growth would be most concentrated in the urban/transit, urban auto and urban centers respectively. Future employment growth would be

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

most concentrated in activity centers, urban centers and office/business parks respectively. Unlike the Centers Alternatives, the Magnet Alternative does not designate the location of urban centers, but rather establishes goals for allocation of urban growth as measured by "benchmarks" and strategies. Impacts on public and privately maintained parks and open space would be the greatest in the urban areas.

The public facilities and services' policies of the Magnet Alternative would positively impact parks in the urban areas. Through benchmarks, it would require adequate supply of parks to serve development within the annually identified six year land supply. The Quality of Urban Living/Community Character policies of the Magnet Alternative would positively impact open space and recreation by establishing benchmarks which increase the acreage per capita for regional parks and recreation facilities, and acreage per capita of open space in public ownership through purchase.

The Open Space Program (1988) and Sensitive Areas Ordinance (1990) would still apply under this alternative.

The Magnet Alternative assumes the following policy options to the Regional Transit System Plan: a commuter rail from Everett to Tacoma; phased HCT rail; benchmarks incorporating King County Commute Reduction Plan targets; improvements to existing HOV system, public transit and regionally coordinated pedestrian and bicycle routes.

### *Impacts of the Policy Options*

#### **Technical Review Areas**

The level of detail provided in the countywide policies is not sufficient to determine potential significant impacts to parks and open space due to designation of specific technical review areas. However, some of the Technical Review Areas contain wildlife habitat linkages and identified open space corridors which have been recommended as urban with the ultimate designation as Urban Separators under the joint planning process, consistent with countywide policy LU-15. The urban separator designation would have a positive impact on open space in those Technical Review Areas providing environmental and wildlife benefits. The designation of urban separator is not presently proposed as part of the action however.

#### **No Rail Policy Option**

The impacts on parks and open space regarding TSM are that equipment, materials and dust from construction of HOV facilities, transit hubs, and park-and-ride lots may temporarily affect access to, and usability of, adjacent parks. New HOV facilities might require additional right-of-way from park sites in the path of, or immediately adjacent to, HOV facilities.

#### **Affordable Housing Policies**

In general, all of the Affordable Housing Task Force policies would have impacts on parks and open space. The effects of increased density on people living in more affordable housing in urbanized centers and urban/transit areas will impact public and private park and open space providers. Research has shown that human needs for green space, parks or other open spaces is great in urban environments where concrete and buildings have replaced much of the historical open spaces and community gathering spaces.

#### **Economic Development Policies**

FIS/ED Policy ED-4 calls for the GMPC to adopt economic development policies which protect the natural environment as a key economic value in this region. This policy could have significant positive impacts on the retention of open space lands in the county.

#### **Rural Character Task Force Policies**

In general, all of the Rural Character Task Force policies would have positive impacts on the network of open space in King County. A fundamental component of the Task Force policies is to maintain the traditional character of the rural and resource areas with its mix of forests, farms, natural environment, rural cities, unincorporated rural centers, and variety of low-density land uses. All of these components would positively contribute to a regional open space system, even though it may be made up of many private ownerships.

Rural Character Task Force policy RU-17 would provide additional incentives for voluntary cooperative management of open space lands including: technical assistance to landowners of private woodlots or open space in separate ownerships; technical assistance to community groups interested in habitat restoration, stewardship, and management plans; open space tax

incentive programs for voluntary protection; implementation of "right to farm" and "right to forestry" ordinances; and development of expedited permit review processes or permit exemptions for activities complying with cooperatively developed stewardship, habitat restoration or resource management plans that include "best management practices". This policy would have significant positive impacts on the preservation of open space.

### **MITIGATION MEASURES**

Under all alternatives SEPA requires that potential adverse impacts to parks and open space be disclosed, but does not prohibit activities that have unavoidable impacts.

King County's Open Space Program (1988) would also apply to all alternatives. Other ongoing programs which would apply to all alternatives and provide some mitigation include: Washington Open Space Taxation Act (RCW 84-34); conservation easements; other tax incentives; utility easements; land exchanges; land trust protection; King County conservation futures bond program; King County real estate excise tax program; and park and open space dedication or fee-in-lieu-of dedication ordinance KCC 19.38.

All potential impacts would also be subject to local areas' programs and ordinances, such as transfer of development rights or planned unit development permits, which might provide additional mitigation. The newly adopted King County Zoning Code (1993) includes some of these provisions. Many of the mitigation measures identified under the sensitive areas and resource lands impact analysis would also apply to parks and open space.

Mitigation measures for the adverse impacts described under the Eight Centers, 14 Centers and Magnet Alternatives regarding the Rail/TSM policy option include: compliance with Section 4(f) of the Department of Transportation Act which generally requires identifying all potentially affected properties; analyzing potential impacts, both direct and indirect; examining design alternatives that might avoid impacts; and identifying mitigating measures if design policy options prove infeasible.

### **UNAVOIDABLE IMPACTS**

Some unavoidable impacts will occur to the park and open space system within the County as more growth and development occurs in the region. Urban centers and activity areas will be impacted by the population demands for more parks and open spaces in these areas. Some regional open space preservation opportunities will be inevitably lost to development because of lack of immediate acquisition/conservation methods. There will also be some impacts to the integrity of existing natural open space areas as more homes, businesses and roads are constructed in some of these undeveloped areas.

---

***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

ENDNOTES

1. Sharon Claussen, Personal communication (Fax regarding Draft Park, Recreation and Open Space Plan), King County Natural Resources and Parks Division.
2. Metro et al., Final Environmental Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle, Seattle, WA, 1993.

## **8.0 WATER SUPPLY**

### **MAIN FINDINGS**

All of the alternatives would result in the concentration of most growth in employment and households in urban areas where existing water storage, transmission and distribution systems already exist or can be extended.

All of the alternatives propose locating no more than two percent of new employment and nine percent of new households in rural areas where major improvements to the water system infrastructure may be required.

The Pre-Countywide Planning Policies Alternative has the most dispersed growth pattern which will increase demand more significantly than the other alternatives. This will likely result in a need to increase development of water supply sources sooner than the other alternatives and will also require delivery of water service in areas where investment in capital improvements will come at a greater cost.

Mitigation measures could include implementation of conservation programs to defer supply and infrastructure investments as well as continuation of water system planning coordination.

### **AFFECTED ENVIRONMENT**

While King County does not own or operate water systems, it does coordinate with different water purveyors to ensure an adequate supply of water is available and is delivered throughout the County. Of the purveyors, the Seattle Water Department (SWD) is the largest supplier of water in the region. Many water purveyors, who do not obtain water from their own supply of ground water, contract with SWD to obtain water resources for their customers. Besides supplying water, the SWD also explores new sources of water and develops water conservation methods.

It was the Public Water System Coordination Act of 1977 (RCW 70.116) which mandated that King County designate Critical Water Supply Service Areas (CWSSA) and develop Coordinated Water System Plans (CWSP). Thus, CWSSA's were established in East King County, Vashon Island, South King County, and Skyway. The CWSPs included assessments of water supply needs, programs to meet those needs, and established a set of administrative procedures, water resource policies, and growth objectives for each subarea of the system plans. The procedures guide local officials, citizens, developers, and state and federal regulatory agencies in identifying the facilities needed to provide adequate water service as well as to accommodate future growth. This growth is projected to occur within

each utility's service area, based upon King County's Comprehensive Plan, adopted community and municipal plans. Capital improvements are planned and constructed to conform with the anticipated service requirements associated with those plans.

King County Code 13.24 mandates that King County water purveyors adopt comprehensive water system plans which must be consistent with the applicable CWSP. The code also provides a process to ensure that comprehensive water system plans are consistent with adopted county plans, policies, and land use controls. The GMA requirements for capital facilities (inventory, forecasting, location, and capacity of new and/or expanded facilities, and finance plan) are contained in individual comprehensive water system plans prepared by the individual water purveyors listed in Tables G-1 and G-2, located in the Appendix.

Comprehensive water system plans for water districts or any other public or private entities which distribute or obtain water in unincorporated areas of King County are adopted by each district and approved by the King County Council. Such plans are reviewed by the Utilities Technical Review Committee (UTRC) established by King County Code 13.24 prior to submission to the King County Council for approval. Group B water systems (less than 9 connections) are

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

exempt from these requirements unless a right-of-way construction permit is required.

The 1985 Seattle Water Supply Plan documents the adequacy of SWD's water supply. Separate comprehensive water system plans document the adequacy of water supply for water purveyors which do not buy their water from SWD. Tables G9 and G10, located in the appendix, include information on comprehensive water plans for the Seattle regional system and outside of the Seattle regional system.

### *The City of Seattle Water Supply*

Approximately 1.2 million people use water from Seattle's system. Customers are served either directly by the SWD or through the water districts and municipalities purchasing water from SWD's regional system. The SWD supplies an annual average of 175 million gallons of water per day to its customers. The water is supplied from three primary sources: the Cedar River, the South Fork of the Tolt River, and the Highline Well Field. The Cedar River source includes the Masonry Dam, Chester Morse Lake, and Lake Youngs Reservoir. The Tolt River source includes the South Fork Tolt Reservoir and Regulating Basin. SWD's water supply system and facilities are vast. The water system includes three pumping stations, four water treatment facilities, 560 miles of roads, 32 bridges within the watersheds, and other properties and buildings. In addition to this supply, transmission and distribution network, the SWD maintains a state-certified water quality laboratory, a Water Operations Control Center, administrative offices, and more than 100 buildings containing various operational facilities. The SWD also owns or controls and maintains a variety of real property, ranging from rights-of-way to potential future sites for new system facilities.

### *Forecasting of Future Needs*

The SWD forecasts future water needs based upon population and employment trends to ensure that it has an adequate water supply to meet its customers' needs. These forecasts project aggregate water needs for the entire service area, including the City of Seattle and its contracted wholesale customers. Separate forecasts for the City and its wholesale customers are not used when planning for water supply needs since the system is managed as a whole.

How growth occurs, even if total growth remains the same, can have an impact on the amount of water

needed for SWD's service area. For example, the demand for water within the Seattle system will be determined by regional decisions on urban growth, such as urban centers designation and any shifts of population into or out of the Seattle system. Having more multifamily residential developments to accommodate growth leads to lower water needs, particularly during the peak summer season since needs for irrigation of multi-family residences is lower. Water demand can differ by as much as nine million gallons per day by the year 2020 depending on the mix of single and multi-family residences. The greater the ratio of multi-family to single-family residences, the lower the overall demand.

### *Location and Capacity of New and/or Expanded Facilities*

While SWD would prefer that future water needs are met through major water conservation efforts, it is also looking at several additional supply sources. The preferred next source is the North Fork of the Tolt River.

### *Water Districts, Public Water Systems, and Cities Providing Water to Unincorporated King County*

Within King County, there are over 45 water districts and large water systems, approximately 2,000 small public water systems, and thousands of private wells. Furthermore, there are 240 class A water systems (10 and greater connections) and approximately 1,800 class B water systems (of which only three are in franchises).

Table G10, located in the appendix, provides a list of the water districts and purveyors that do not buy their water from the SWD and that have provided comprehensive water system plans to King County.

### *Forecasting of Future Needs*

King County Code 13.24 requires water purveyors to include the following information in their comprehensive water system plans: population projections in existing service areas, population projections in anticipated future service areas, existing water sources, future water sources, and future needs. Water purveyors are required to include in their comprehensive water system plans a list of anticipated system improvements for at least ten years into the future for class A systems and at least five years into the future for class B systems.

## **SIGNIFICANT IMPACTS**

### *Introduction*

The SWD provides water to the majority of people in the county, either directly or through wholesale contracts. Because all of the alternatives forecast the same amount of growth in households and jobs in King County by the year 2010, the amount of growth forecast will exceed the capacity of SWD's existing supply sources to provide water, regardless of the alternative. New supply sources will be needed. Seattle's recently adopted Water Supply Plan identifies various strategies to decrease demand (such as through conservation) and increase supplies to meet the expected growth in demand. Other independent water purveyors are evaluating whether there is adequate groundwater to meet the demands for increased water supply in their individual service areas. The extent to which these alternatives can direct growth to reduce demand and therefore reduce impacts on the existing supply sources, storage, transmission and distribution infrastructure is the focus of this analysis.

### *Impacts of the Alternatives*

This section is a comparative analysis of the impacts of the five alternatives on water system infrastructure. One underlying assumption in this analysis is that per capita water consumption varies by density. In general greater densities are associated with reduced per capita consumption.<sup>1</sup> Concentrated development patterns will reduce the overall demand, in part as a result of more multi-family dwelling units and smaller lot sizes. This will also reduce peak demand in the summer months because less water will be needed for landscape irrigation. A second assumption is that the water system infrastructure and development is coordinated most effectively when growth is directed first to centers and urbanized areas with existing infrastructure capacity; second to areas which are already urbanized and where infrastructure improvements can be extended with moderate capital investment; and last to areas that would require major infrastructure improvements to accommodate additional growth.

The relative impacts of the five alternatives on water infrastructure are estimated by comparing the number of new households and new jobs projected to locate in the following areas:

- Already urbanized portions of the County where adequate water infrastructure facilities already exist (i.e., urban centers, manufacturing centers, activity centers, office business parks, urban/transit).
- Areas where water infrastructure facilities can be extended with low to moderate capital investment (i.e., other urban, urban/auto full service, urban/auto without full service and rural cities).
- Areas where major improvements in water storage, transmission and distribution facilities would be required to accommodate additional growth (i.e., rural, new rural, old rural and resource areas).

The impacts of a particular alternative are considered significant if increases in demand will require substantial investment in new storage, transmission and distribution facilities to accommodate projected growth.

The following policies, applicable to the No Action, Eight Centers and 14 Centers Alternatives, specifically address delivery of water services: FW-27, CO-5, CO-6, CO-7, CO-10, CO-12, CO-15 and CO-16. All of these policies would have a beneficial impact on water system infrastructure by promoting coordinated planning and development of adequate water service to accommodate future growth. Policies CO-10, CO-15 and CO-16 would have a positive effect on the infrastructure by encouraging the development of urban water systems in urban areas and discouraging the extension of urban water systems into rural areas and resource lands. The overall effect of the Countywide Policies would be to concentrate most future growth in areas with existing water infrastructure capacity. This would have a positive effect by reducing the need for new water storage, transmission and distribution facilities.

The Pre-Countywide Planning Policies and Magnet Alternatives have different policy sets which are described in their respective sections.

### **No Action Alternative**

The No Action Alternative would concentrate over three-quarters of the growth in employment and over one-third of the growth in households in urbanized areas with existing water system facilities. Nearly all the remaining growth in employment and over one-

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

half of all new households would locate in areas where water system facilities would need to be extended. Next to the Pre-Countywide Planning Policies and Magnets Alternatives, the No Action Alternative is expected to see more growth in rural cities than the Centers Alternatives. Growth in rural cities may require more capital intensive improvements to expand services. While only one percent of employment is expected to locate in rural cities, seven percent of new households would locate in rural cities and adjacent rural areas.

Impacts on water service delivery of transportation policies under this alternative are related to land use implications. These impacts are discussed in the Impacts of the Policy Options section under the No Rail Policy Option.

### **Eight Centers Alternative**

The Eight Centers Alternative would result in a higher proportion of employment and household growth concentrating in urbanized areas where existing water infrastructure facilities are already in place than the No Action Alternative. The proportion of employment growth and new households in areas where water system facilities could be extended would be lower under the Eight Centers Alternative than under the No Action Alternative but more than in the 14 Centers Alternative. Only one percent of employment and five percent of new households would locate in rural cities and adjacent rural areas requiring major improvements to water storage, transmission and distribution systems. The overall effect of the Countywide Policies and designation of eight urban centers would be to concentrate future growth in areas with existing infrastructure capacity to a greater degree than the No Action Alternative but to a lesser extent than the 14 Centers Alternative.

The Regional Transit System Plan proposal accentuates the land use pattern under this alternative; i.e., concentration of growth in urban areas, reducing overall demand. This will provide a positive impact on the source supplies and delivery of water services.

### **14 Centers Alternative**

The 14 Centers Alternative would result in the highest proportion of employment and household growth concentrating in urbanized areas where existing water system facilities are already in place. Consequently it would result in the lowest proportion of employment and household growth locating in areas

where facilities would need to be extended. As in the Eight Centers Alternative, only one percent of employment and five percent of new households would locate in rural cities and adjacent rural areas requiring major improvements to water storage, transmission and distribution systems. The overall effect of the Countywide Policies and the designation of fourteen urban centers would be to concentrate future growth in areas with existing water infrastructure capacity to a greater degree than all the alternatives. This will reduce the overall demand for water services.

The Regional Transit System Plan proposal accentuates the land use pattern under this alternative; i.e., concentration of growth in urban areas, reducing overall demand. This will provide a positive impact on source supplies and delivery of water services.

### **Pre-Countywide Planning Policies Alternative**

The Pre-Countywide Planning Policies Alternative would result in the lowest proportion of employment and household growth concentrating in urbanized areas. Consequently it would result in the highest proportion of employment and household growth locating in areas where extension of water system facilities would be required. Although the Pre-Countywide Planning Policies Alternative would result in only one percent of employment growth locating in areas requiring major infrastructure improvements, it would have next to the highest proportion of household growth in such areas. The impacts of this alternative on water system infrastructure would be more significant than under any of the alternatives because the comprehensive plan policies defining this alternative would be less effective at concentrating future growth in areas where existing infrastructure is already in place.

Impacts on water service delivery of transportation policies under this alternative are related to land use implications. These impacts are discussed in the Impacts of the Policy Options section under the No Rail Alternative.

### **The Magnet Alternative**

The Magnet Alternative would result in a lower proportion of employment in areas where existing water storage and distribution facilities are already in place than the No Action, Eight Centers and 14 Centers Alternatives, but a higher proportion than the Pre-Countywide Planning Policies. The Magnet

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Alternative would result in a lower concentration of new households in urbanized areas than the No Action, Eight Centers, and 14 Centers Alternatives, but a higher concentration than the Pre-Countywide Planning Policies. The concentration of employment in areas where water system facilities could be extended would be about the same as the No Action Alternative, higher than the Centers Alternatives, but lower than the Pre-Countywide Planning Policies. The concentration of new households in rural areas under the Magnet Alternative would be lower than the Pre-Countywide Planning Policies Alternative but higher than the No Action, 8 Centers and 14 Centers Alternatives. Under this alternative, approximately 2.5 percent of employment growth and 12 percent of new households would locate in rural cities and adjacent rural areas where major improvements to water storage, transmission and distribution systems may be needed.

The benchmark policies defining the Magnet Alternative emphasize infill, renovation and redevelopment within existing areas as a means to encourage development in areas where adequate public facilities and services exist or can be provided in an efficient manner. The benchmark policies also emphasize the need to ensure adequate water systems to serve development at the time of final occupancy. In general, the impacts of the Magnet Alternative on water system infrastructure are more significant than the impacts of the No Action, Eight Centers and 14 Centers Alternatives, but are less significant than the Pre-Countywide Planning Policies.

### *Impacts of the Policy Options*

In this section, the recommended policy options to the countywide policies applicable to Eight Centers, 14 Centers, and Magnet Alternatives have been analyzed for potential impacts on water system infrastructure. Impacts related to these alternative policies are either positive or negligible. Mitigation is not applicable except as discussed under the Rural Character Task Force Policies.

### *Technical Review Areas*

To the extent that these technical review areas are designated as urban separators under CPP LU-15, they would serve to benefit delivery of water service, by reducing demand. However, these are site specific conditions which will be reviewed for environmental impact as part of the individual jurisdictions'

comprehensive planning process as well as under the County's efforts to define the UGA.

### *No Rail Policy Option*

This policy option would implement a transportation system management (TSM) strategy as a focus of the transportation policy set for the Centers Alternatives, in place of the RTSP Rail Policy Option. TSM would result in increased regional and community bus transit service to and between regional centers and suburban activity centers. The land use implications would likely result in increased infill development between these centers. Impact to the overall regional water system infrastructure would be minor, but may require moderate localized capital facility improvements to expand and connect existing systems. These impacts would also be applicable to the No Action and Pre-Countywide Planning Policies Alternatives, absent any specific transportation policy sets.

### *Affordable Housing Policies*

The affordable housing policies recommended by the Affordable Housing Task Force do not directly impact water system infrastructure. Policy AH-2 is the only policy that directly refers to infrastructure, and as proposed would be amended to encourage that the infrastructure be in place to support affordable housing development. Indirectly, to the extent that the policies result in more concentrated development and smaller lot sizes in urban areas, per capita consumption of water would be reduced. Reduction in demand would have a positive effect on the water system infrastructure for the Eight Centers, 14 Centers, and Magnet Alternatives.

### *Economic Development Policies*

Policy ED-11 lists domestic water systems among the types of public facilities that should be constructed in a timely manner and maintained to support economic development. This policy is consistent with the objectives of the Eight Centers, 14 Centers and Magnet Alternatives and would result in a positive impact on water system infrastructure because growth would be directed to areas with existing infrastructure capacity or to already urbanized areas where infrastructure could be extended. Of the policy options presented for LU-59, the City of Seattle's policy is more beneficial for water infrastructure than the Suburban Cities policy, because of its focus on location of office/business parks in areas that are

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

already developed. The Suburban Cities policy only requires that cities should accommodate this type of development pattern, resulting in the potential need to expand water facilities, should those land uses locate in areas needing expanded services.

### **Rural Character Task Force Policies**

Policies RU-14 and RU-15 are consistent with Countywide Policies intended to ensure all rural county residents have reasonable access to a high quality drinking water source. Policy RU-12 would have a beneficial impact on water system infrastructure costs because it would discourage extension of urban water systems into rural areas. This is consistent with the objectives of the Countywide Planning Policies. Policy RU-16 discourages the location of regional public facilities in rural areas. Because water facilities, in particular water transmission facilities, may be required to cross rural lands to get to the service areas, this policy will have a negative impact on the delivery of water service if applied to major regional storage reservoirs or transmission pipelines. Mitigation of this policy impact would be to revise the language to acknowledge that regional utility services may need to locate in rural areas. Language to protect rural areas could include a requirement to demonstrate need for the facility and that locations to site that facility are limited.

### **MITIGATION MEASURES**

Implementation of conservation programs will reduce per capita consumption and overall demand. As a mitigation measure, conservation can reduce the adverse impacts of growth on water supply sources and delivery systems, such that investment in infrastructure improvements may not be required as soon as if conservation practices were not implemented.

Under all the alternatives, the Public Water System Coordination Act of 1977 (RCW70.116) would continue to promote coordinated water system planning and development of needed capital improvements. King County Code 13.24 would continue to require that local purveyor comprehensive plans be consistent with applicable coordinated water system plans and adopted county plans, policies and land use controls.

### **UNAVOIDABLE IMPACTS**

Under all of the alternatives, new water sources (realized through conservation and/or development of new supply sources and new water storage), transmission and distribution facilities will be required to accommodate the 215,000 new households and 340,000 new jobs anticipated in King County by the year 2010. Significant investment in capital projects will be needed to increase water supply and transmission capacity. Localized impacts to expand existing facilities could also be significant.

ENDNOTES

1. City of Bellevue, Comprehensive Water Plan, Bellevue, WA, 1992.

## 9.0 STORMWATER MANAGEMENT

### MAIN FINDINGS

In general, growth generates the development of more impervious land surfaces which consequently increases the potential more stormwater run-off. Increased stormwater flow requires either new capacity or greater capacity in the existing control and conveyance systems. Stormwater management therefore is a necessary companion to both redevelopment and new developments.

The Pre-Countywide Planning Policies Alternative would result in the greatest adverse impacts on stormwater management. Future growth would be least concentrated under the Pre-Countywide Planning Policies Alternative. This alternative would consume the most undeveloped land, and would cause the greatest impact in urban/auto areas and rural areas.

The 14 Centers Alternative would result in the least adverse impacts on stormwater management. This Alternative would cause the least impact to undeveloped land, since most growth is directed to existing urbanized areas: urban centers, urban/transit and activity areas. There will be potentially more impacts in the 14 urban centers where most of the growth would be concentrated.

Mitigation measures include the following: mandates for new construction to meet all applicable requirements for controlling run-off and limiting erosion, requirements for detention ponds, or impermeable infiltration galleries or ponds in the design of facilities with impervious surfaces, limits on peak rates of run-off to pre-development peak rates for specific design storms, requiring inter-jurisdictional planning of stormwater services, and considering stormwater management when requesting a change in land use regulations to accommodate affordable housing.

### AFFECTED ENVIRONMENT

The Surface Water Management (SWM) Division of Public Works currently provides services for the protection and mitigation of problems due to flooding, erosion, sedimentation, water quality degradation, and habitat degradation, including the protection, restoration, and enhancement of all surface waters (rivers, streams, lakes, and wetlands) within its service area in unincorporated King County, and limited flood protection and river improvement services on major rivers throughout King County. Adopted functional plans and regulations that have been developed by the SWM Division include the Coal Creek Basin Plan (K.C.C 20.14.010), Soos Creek Basin Plan (K.C.C 20.14.020), Covington Master Drainage Plan (K.C.C 20.14.025), Bear Creek Basin Plan (K.C.C 20.14.030), Surface Water Design Manual (K.C.C 9.04.010 - 9.04.200), and the Water Quality Ordinance (Ordinance # 10636, not yet codified).

### *Inventory of Facilities*

The SWM Division is responsible for maintaining and/or operating a number of existing capital facilities including river facilities, storm facilities, residential retention and detention (r/d) facilities, aquatic habitat facilities, and Neighborhood Drainage Assistance Program (NDAP) facilities. River facilities are those facilities that stabilize and reinforce river banks to prevent bank erosion and overflows. Storm facilities include those r/d and conveyance structures that provide temporary storage, treatment, and transport of storm water in areas adjacent to natural drainage systems. Residential facilities are those r/d and conveyance structures that provide temporary storage, treatment, and transport of storm water for individual houses or small groups of houses. Aquatic habitat facilities include enhancement projects such as the placement of structures in streams to enhance fish passage and natural re-vegetation projects. NDAP facilities include small capital projects that correct localized flooding, erosion, and sedimentation problems.

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

The existing facilities inventory was compiled from records maintained by the SWM Division and includes those facilities completed as of January 1, 1993. The data are organized by drainage basin because the SWM Division collects data, conducts planning, and implements facilities construction on a drainage basin basis. The drainage basins are organized as follows: Puget Sound, Cedar River, Green River, White River, Snoqualmie River, and Skykomish River. Within each of the six major drainage basins an alphabetical listing of sub-basins is given. Within each sub-basin an alphabetical or numerically-ordered listing of the capital facilities present is given.

The information presented consists of the following data, when applicable: drainage basin, sub-basin, water body, section-township-range, address, and facility description. There are some data gaps in the capital facilities inventory; additional information is being compiled to address those gaps and will be added to the inventory as it becomes available.

The SWM Division uses maps of its capital facilities to coordinate construction, inspection, and maintenance activities. The capital facilities owned by the SWM Division are currently mapped using Kroll maps. The SWM Division currently operates and/or maintains 1,783 capital facilities throughout King County.

The SWM Division is currently developing a geographic information system (GIS) that will eventually contain all capital facilities data, including location data. The GIS will greatly enhance the SWM Division's ability to coordinate construction, inspection, and maintenance activities.

The existing capital facilities include 469 river facilities, 161 storm facilities, 1,128 residential r/d facilities, 19 aquatic habitat facilities, and 6 NDAP facilities. A total of 1,783 capital facilities are included in the inventory. When discussed relative to drainage basin, there are 235 facilities in the Puget Sound Basin (61 storm, 171 residential r/d, and 3 NDAP), 779 facilities in the Cedar River Basin (102 river, 72 storm, 588 residential r/d, 15 aquatic habitat, and 2 NDAP), 439 facilities in the Green River Basin (113 river, 19 storm, 303 residential r/d, 3 aquatic habitat, and 1 NDAP), 34 facilities in the White River Basin (32 river and 2 storm), 276 facilities in the Snoqualmie River Basin (209 river, 4 storm, 62 residential r/d, and 1 aquatic habitat), and 13 facilities

in the Skykomish River Basin (9 river and 4 residential r/d).

### *Forecasting of Future Needs*

The SWM Division conducts needs forecasting and capital facilities planning for individual drainage basins within its service area and major rivers throughout King County. Basin plans are comprehensive plans that guide management of individual drainage basins within the SWM Division service area. The basin planning process includes collection and analysis of field data, simulation modeling of current and future land use conditions, production of a current and future conditions report, and finally, the development of a basin plan, which includes policy, programmatic, and capital facilities recommendations to guide the management of surface waters in the basin.

The SWM Division has not yet completed basin plans for all of the basins in its service area and, therefore, can provide an inventory of proposed capital facilities for only some of the basins. Basins included in the inventory include Soos Creek, Bear Creek, Hylebos Creek/Lower Puget Sound, East Lake Sammamish, and Issaquah Creek. The facilities identified in those basin plans and included in the inventory represent the facilities needs for both the 6-year and 20-year time horizons. The basin planning process has not yet occurred for the Lower Cedar River, and Lower Green River basins. Because of the lack of data in these basins, the SWM Division is not able to project either a 6-year or 20-year capital facilities need for them.

Capital facilities needs for major rivers throughout King County are identified through the river planning process. The goal of river planning is to minimize the potential for injury, property damage, and environmental impact due to flooding of major rivers. The Executive Proposed Flood Hazard Reduction Plan (FHRP) identifies high-priority projects on major rivers. The high-priority projects described in the FHRP represent the capital facilities needs for the next 6 years. Capital facilities needs for major rivers for the next 20 years are currently being developed pending further analysis of the projects proposed in the FHRP.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### *Locations and Capacity of New and/or Expanded Facilities*

The proposed capital facilities inventory contains 138 facilities (13 river, 120 storm, and 5 NDAP). The Puget Sound Basin contains 11 facilities (10 storm and 1 NDAP), the Cedar River Basin contain 103 facilities (6 river, 94 storm, and 3 NDAP), the Green River Basin contains 17 facilities (16 storm and 1 NDAP), and the Snoqualmie River Basin contains 7 facilities (7 river).

Only the high priority projects from the Flood Hazard Reduction Plan are given. Proposed residential r/d and aquatic habitat facilities are not listed in the inventory. Residential r/d facilities are constructed on an as-needed basis dependent upon the number of new residences constructed and the storm water runoff requirements of the residences; estimation of the number of residential r/d facilities needed in the future is not possible. Aquatic habitat facilities are grouped with the storm facilities.

### *Surface Water Management Program*

The County Surface Water Management Program was established to provide a comprehensive approach to solving/preventing surface and storm water problems. The comprehensive approach includes basin planning, land use regulation, construction of facilities, maintenance, public education, and provision of surface and storm water management services. The program has established a rate structure by parcel to fund present and future requirements of the surface and stormwater management system. The service charges are provided in Table H-1, located in the Appendix.

The City of Seattle as well as other jurisdictions in the County administer their own surface water management program or contract with the County.

### *City of Seattle*

The Seattle Engineering Department's Drainage and Wastewater Utility (DWU) operates the local wastewater collection system within the City. The DWU system of collectors and trunk sewers connects into the larger Metro interceptor lines which convey the wastewater to Metro treatment plants before final discharge into the Puget Sound. Metro has responsibility and jurisdiction over the sewage treatment plant operations and disposal processes in Seattle and much of King County. The DWU system

operates within city limits and in adjacent areas, primarily north of Lake City to about NE 195th Street.

There are three types of drainage and wastewater systems used in Seattle:

- 1) Combined sanitary/stormwater system - Approximately one third of the city is served with combined sewers which carry both sewage and stormwater in one pipe to Metro treatment plants. The combined systems were constructed in the early 1900s as the City's first sewer system. The combined system causes problems of overflows, backups and large fluctuations in flow quantities and sewage concentrations to treatment plants during storms.
- 2) Partial separation system - Covering another third of the city, these systems collect stormwater from streets and some private property in one pipe and discharge it untreated, while other runoff is carried with the sewage in a separate pipe to Metro for treatment.
- 3) Separate sanitary and stormwater system - The remaining third of the city is served with separate sanitary sewer and stormwater systems. Sanitary wastes are transferred in one pipe to Metro treatment plants and untreated stormwater is conveyed in another pipe to lakes, creeks or Puget Sound.

### *Sanitary Sewers*

DWU maintains approximately 1,550 miles of sanitary and combined sewers and 72 pumping stations, which vary in size from serving a few houses to large portions of the city. Pumping stations help to overcome hilly terrain by taking wastewater from a network of gravity sewers and lifting it to a higher elevation where it can flow again by gravity into the Metro system.

### *Storm Drainage Facilities*

In those areas of the city not served with a piped system, stormwater flows through a system of open ditches and culverts. In 1989, the City Council adopted a Comprehensive Drainage Plan to address flooding and water quality concerns, as well as more localized problems in five drainage basins: Thornton Creek, Pipers Creek, Longfellow Creek, Seola Beach watershed, and South Park basin.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

The Comprehensive Drainage Plan includes goals and policies for protecting water quality, as well as capital improvements and programs for ongoing maintenance. It identifies potential solutions to problems of flooding and pollution, such as regulatory controls and public education. A 1993-94 update of this plan will analyze additional areas of the city that rely on open-ditch drainage systems: Bitter Lake/Haller Lake, Broadview, Norfolk, Puget Ridge, Lake City, and the Burke-Gilman Trail.

### *Combined Sewers*

During or following intense or prolonged periods of rainfall the system cannot accommodate the combined flows of large volumes of runoff and sanitary sewage. When this occurs, combined sewer overflows (CSOs) of sewage and stormwater are discharged into area waters rather than being handled at the treatment plants.

CSO control programs were adopted by Metro and the City in 1988. The plans respond to Ecology requirements for reducing CSO flow volumes by 75 percent over the next 20 years. The plans also identify projects that would help achieve an ultimate goal of limiting the frequency of CSOs to one event per year per outfall. The plans involve three basic strategies to control CSOs: increase trunk capacity to the treatment plant, store excess stormwater in detention facilities until the stored flow can fit into downstream pipes carrying combined flow, and separate and discharge the stormwater that overloads the combined system.

### *DWU Facility Capacity*

DWU plans the capacity of stormwater facilities to control flooding and to maintain surface water quality. The new design standard for the stormwater system is to handle runoff quantities generated from a 25-year storm. (This refers to a storm magnitude with a probability of occurring once every 25 years, or with a 4 percent probability of occurring during any given year.)

Capacity problems occur in some areas of the city with combined wastewater systems. The City's CSO Control Plan addresses specific storage and separation projects to control CSOs. DWU has already completed improvements to 50 of the 80 CSO locations and by the year 2000 the City will have reduced CSO volumes by at least 79 percent.

As new development occurs in areas of the city with combined wastewater systems, the construction of separate storm drains or stormwater storage facilities will help alleviate system capacity problems.

## **SIGNIFICANT IMPACTS**

### *Introduction*

The SEIS analysis considers stormwater management to be the control and conveyance of stormwater flow from urban and other developed lands. This analysis does not analyze impacts on water quality issues; it is more directly related to the control and conveyance of stormwater to prevent engineering and environmental problems such as flooding, erosion, and sedimentation. In general, growth creates more impervious land surface that creates more potential run-off area and consequently more stormwater run-off. Increased stormwater flow requires either new capacity or greater capacity in the existing control and conveyance systems. Stormwater management therefore is a necessary companion to both redevelopment and new developments.

### *Impacts of the Alternatives*

All the alternatives call for concentrating urban growth west of the County's UGA, where stormwater management systems are most prevalent. For example, all the alternatives propose at least 95 percent of new employment growth and 85 percent of new household growth in existing urban areas. In general, growth that is concentrated in existing urban areas should have the least impact on stormwater management. This assumes that existing urban communities have adequate stormwater systems in place, or that these systems could be upgraded. Proposed CPPs (Eight Centers, 14 Centers and Magnet Alternatives) relating to phased growth in urban areas would have a very positive impact on stormwater management. These policies call for development in areas that have existing infrastructure sufficient to support the growth and limit growth in other urban areas until adequate systems are in place.

### *No Action Alternative*

This alternative could result in few adverse effects to stormwater management in urban centers, manufacturing centers, activity areas, and business/office parks where existing systems are in place, and more adverse impacts in "other urban" categories where growth may occur before

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

development of adequate systems. Only 3 percent of the employment growth occurs in non-urban areas. However, the No Action Alternative plans for 18 percent employment growth in "other urban" areas. Twelve percent of the household growth would occur in non-urban areas. These areas, especially rural cities, will require infrastructure upgrades.

The policies applicable to the No Action Alternative that could have a direct impact on stormwater management are: CA-8, CA-9, CA-11, LU-16, LU-18, and CO-4. Those policies that have a related impact to the No Action Alternative are: FW-3, CA-12, FW-5, LU-8, LU-13, FW-8, FW-9, LU-12, LU-14(d), LU-17, LU-36, CO-1, CO-6, CO-7, FW-28, S-1 and FW-29.

All the policies listed above could result in positive impacts on stormwater management. Those policies would assist in mitigating the adverse impacts of future growth, by requiring inter-jurisdictional planning and infrastructure improvements to control stormwater. None of these policies are thought to result in adverse impacts on stormwater management. The No Action Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the No Action Alternative regarding TSM are similar to those described under the No Rail Policy Option.

### **Eight Centers Alternative**

This alternative could result in fewer impacts to stormwater management located in "other urban" areas than the No Action Alternative, and potentially more impacts in the eight urban centers where most of the growth would be concentrated. The impacts of the CPPs described in the No Action Alternative apply to the Eight Centers Alternative. The Eight Centers Alternative includes Policy ED-1, which calls for the GMPC to adopt economic development policies that protect natural environment as a key economic value in this region. Also under the Eight Centers Alternative, new growth would be phased, first into the urban centers, and second in other urbanized areas that would have excess infrastructure capacity. Phasing would ensure that stormwater and other services would be provided as growth occurs. These policies will have a significant positive impact on stormwater management.

The Eight Centers Alternative assumes implementation of the Rail/TSM alternative as

described in the Final Environmental Impact Statement Regional Transit System Plan. According to the FEIS, new rail alignments, stations and access facilities may affect stormwater management by increasing the amount of impervious surface and causing increased run-off. The estimated increase in run-off -- 141 acre-feet during the design event is mostly due to the increased number of park-and-ride spaces. This increase would be insignificant on a regional scale. However, increased runoff could affect smaller drainages and on some small drainages crossed by railroad lines.

### **14 Centers Alternative**

This alternative could result in fewer impacts to stormwater management located in rural areas than the No Action or the Eight Centers Alternatives. The 14 Centers Alternative has the least impacts to undeveloped land, since most growth is directed to existing urbanized areas: urban centers, urban/transit and activity areas. There will be potentially more impacts in the 14 urban centers where most of the growth would be concentrated.

The impacts of the CPPs described in the No Action Alternative apply to the 14 Centers Alternative. The 14 Centers Alternative includes Policy ED-1, which calls for the GMPC to adopt economic development policies that protect natural environment as a key economic value in this region. Also under the 14 Centers Alternative, new growth would be phased, first into the urban centers, and second in other urbanized areas that would have excess infrastructure capacity. Phasing would ensure that stormwater and other services would be provided as growth occurs. These policies will have a significant positive impact on stormwater management.

The 14 Centers Alternative assumes implementation of the Rail/TSM alternative. Impacts would be similar to those described under the Eight Centers Alternative.

### **Pre-Countywide Planning Policies Alternative**

Future growth would be least concentrated under the Pre-Countywide Planning Policies Alternative. This alternative would consume the most undeveloped land, and would result in the most impacts to stormwater management in urban/auto areas and rural areas of all alternatives (the No Action Alternative is second-most).

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

None of the policies associated with the Pre-Countywide Planning Policies Alternative would result in significant adverse impacts. However, compared with the other alternatives, the Pre-Countywide Planning Policies Alternative would result in more adverse impacts overall due to fewer and weaker policies for protection of undeveloped land that would mitigate the impacts of the relatively dispersed growth. The policies that would result in positive impacts to stormwater management include: E-316, E-317, E-318, E-319, E-320 and F-332. One general problem with these policies is that they use the word "should" instead of "shall". This could result in a lower probability that such policies would be effectively implemented. In addition, the lack of coordination between jurisdictions could have adverse impacts.

The Pre-Countywide Planning Policies Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the Pre-Countywide Planning Policies Alternative regarding TSM are similar to those described under the No Rail Policy Option.

### **The Magnet Alternative**

Under the Magnet Alternative, the allocation of employment growth is roughly the same as the No Action Alternative. An exception is in "other urban" areas (9 percent versus 18 percent for the No Action Alternative). As such, impacts would be less adverse than the No Action Alternative. The allocation of household growth is virtually identical to the No Action Alternative. There is significantly less concentration of growth in urban centers than the Eight Centers and 14 Centers Alternatives. As with the No Action Alternative, growth is more dispersed, and therefore more growth is away from areas that have established infrastructure for stormwater management and more growth would occur where new infrastructure would be required.

The goals and benchmarks for this alternative were reviewed to determine the extent that they would mitigate the impacts on growth. The Magnet Alternative framework policies -- Critical Areas, UGAs, and Promotion of Contiguous and Orderly Development and Provision of Urban Services were found to have some mitigating measures for stormwater management. These benchmarks and strategies would allow the County to periodically assess the impact to stormwater management, allowing the County to revise programs as needed.

### *Impacts of the Policy Options*

This section analyzes recommended refinements to the CPPs applicable to the Eight Centers, 14 Centers and Magnet Alternatives for potential impacts to stormwater management. The impacts of the policy options are similar for all alternatives.

### **Technical Review Areas**

The level of detail provided in the CPPs is not sufficient to determine the potential significant impacts to stormwater management due to designation of specific Technical Review Areas as urban or rural. However, the background information does indicate that certain Technical Review Areas include proposals to improve channel and floodplains and alleviate flooding problems. In addition, the review areas studied are recognized as having limited capability for increased stormwater flows, hence caution in allowing additional development.

Certain areas have been recommended as urban separators under the joint planning process, consistent with CPP LU-15. Urban separators are defined as permanent low density areas where little or no development can occur. Such areas will attempt to mitigate the impact of development. The joint planning process would include a joint planning agreement between the county and city, specifying appropriate densities and zoning, development standards, impact mitigation and future annexation within the potential annexation area. The urban designation of such areas could result in potential adverse impacts on stormwater management under all alternatives, although No Action, Eight Centers and 14 Centers Alternatives provide strong mitigating policies. The background material indicates that placement of such Technical Review Areas within the UGA boundary does not automatically signify development approval.

### **No Rail Policy Option**

The level of detail provided in the CPPs is not sufficient to determine potential adverse impacts to stormwater management due to the absence of rail. According to the Final Environmental Impact Statement Regional Transit System Plan, both temporary and long-term potential adverse impacts to stormwater management could occur due to construction of park-and-ride lots, HOV lanes, and other facilities and structures associated with TSM.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Increased run-off may burden the existing stormwater systems.

### **Affordable Housing Policies**

As currently written, the Affordable Housing Task Force policies may have an adverse impact on stormwater management. For example, policy AH-2 (B) (b) calls for revising land use regulations as needed to remove barriers for siting affordable housing. This may have an adverse impact on stormwater management since development could occur in areas not acceptable for other reasons.

### **Economic Development Policies**

The policy refinements recommended as part of the FIS/ED Task Force work could result in significant positive impacts on stormwater management, because they promote environmental protection while promoting economic development.

### **Rural Character Task Force Policies**

The Rural Character Task Force policies could have a significant positive impact on stormwater management are RU-3, RU-3, RU-6, RU-8, RU-9, RU-10 and RU-13, and RU-19. It was assumed that preserving rural lifestyles and economies will result in reduced pressure to develop or urbanize natural areas. The policies state that rural development should be compatible with rural infrastructure. They also state that lot size and development should be compatible with both the related physiography and rural infrastructure.

## **MITIGATION MEASURES**

### *All Alternatives*

In general, new construction would be mandated to meet all applicable requirements for controlling run-off and limiting erosion. Mitigation measures would include controlling erosion and sedimentation, and stabilizing exposed soils. Run-off could be directed through detention systems before reaching water courses. Effects of increased run-off from impervious surfaces would be mitigated by including detention ponds, or impermeable infiltration galleries or ponds in the design of the facilities. Peak rates of run-off would be limited to pre-development peak rates for specific design storms.

### *No Action Alternative*

The impacts described under the No Action Alternative could be mitigated by requiring inter-jurisdictional planning of stormwater services. King County is fortunate in having one of the best developed surface (storm) water management plans in the United States. The process and plans developed should be utilized in all portions of the county.

### *Eight and 14 Centers Alternatives*

The increased runoff caused by the Rail/TSM element could be mitigated by a different allocation of parking spaces and by increasing culvert and retention capacities at affected facilities.

### *Affordable Housing Policy Option*

Stormwater management should be considered when requesting a change in land use regulations to accommodate affordable housing. As stated in the Magnet Alternative, all costs should be considered when trying to implement a goal or policy.

## **UNAVOIDABLE IMPACTS**

In general, growth creates more impervious land surface that creates more potential run-off area and consequently more stormwater run-off. Increased stormwater flow requires either new capacity or greater capacity in the existing control and conveyance systems. Stormwater management therefore is a necessary companion to both redevelopment and new developments.

**10.0 SEWER/SEPTIC**

**MAIN FINDINGS**

All of the alternatives emphasize concentration of growth west of the UGA boundary. This provides positive benefits to sewer/septic systems in the majority of the rural and resource areas of the eastern portion of the County by containing infrastructure investments in more densely populated areas.

Suburban and rural cities outside of Metro's service area (e.g., Federal Way, SeaTac, Duvall and North Bend) could be negatively affected as significant investments in capital facility improvements may be required to accommodate growth.

The Pre-Countywide Planning Policies Alternative results in the most adverse impacts. The Pre-Countywide Planning Policies Alternative has the most dispersed growth pattern which will demand delivery of wastewater services in areas that are least capable of providing them.

Mitigation could include implementation of regional water conservation programs to reduce demand on treatment facilities and continued implementation of planned and programmed improvements of provider facilities.

**AFFECTED ENVIRONMENT**

King County does not own or operate sewer systems, but has significant sewer planning responsibilities relative to other sewer agencies in King County. These responsibilities include approval of comprehensive sewer system plans pursuant to Revised Code of Washington (RCW) Section 56.16 and King County Code (KCC) Section 13.24 and regional sewerage facility planning through County representation on the Metro Council.

The King County Sewerage General Plan is an element of the 1985 King County Comprehensive Plan (KCCP) and provides a general framework for King County in making land use decisions and reviewing sewer agency proposals. The principle vehicle in the plan for coordinating provision of sewer service with land use is the designation of specific geographic areas, known as "local service areas", which represent the maximum area where sewer service may be provided. It is intended that the clear delineation of local service areas in the plan will facilitate sewer agency planning for the established sewer service areas and will streamline King County's review and approval of comprehensive sewer system plans. The Sewerage General Plan supports the land use policies of the plan which recognize the need for coordinating the provision of

public facilities and services for development. The local service areas of the plan are intended to promote development consistent with the plan's policies, which encourage development in areas with existing services and facilities and discourage development outside the Urban Growth Area. The local service area designations also reflect plan policies relating the density of residential development to appropriate levels of utility improvements.

King County Code Section 13.24 provides a process to ensure that comprehensive sewer system plans are consistent with adopted county plans, policies and land use controls. This code gives authority to the Utilities Technical Review Committee (UTRC) to review and make recommendations to the King County Council on the adequacy of comprehensive sewer system plans. The UTRC is composed of representatives from each of the following King County departments or divisions: Parks, Planning, Resources, Planning and Community Development, Development and Environmental Services, Executive Administration, Real Property, Public Works and Public Health. In addition, the King County fire marshal and a King County Council staff member are also representatives. The UTRC reviews comprehensive sewer system plans for consistency with the KCCP and other plans and policies, including the Sewerage General Plan. The King County

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

Council then reviews the plans and adopts them if they are consistent with all plans and policies.

Title 13 of the King County Board of Health Regulation requires all improved properties to be connected to sewer or have an on-site sewage system. On-site systems outside of Local Service Areas (LSA's) are intended to be permanent.

The King County Board of Health estimates there are approximately 70,000 to 100,000 septic systems located throughout King County. Most of these are outside of the LSA's although some are in urban areas such as Seattle which has approximately 225 properties served by septic systems.

A list of the various comprehensive sewer system plans which outline the facilities of each agency are provided in Table I-1 of the Appendix.

### *Forecasting of Future Needs*

KCC 13.24 requires comprehensive sewer system plans to include population projections for district service areas, for any area anticipated to be served by the district within ten years, as well as the source or basis of the projections. The Comprehensive Sewer System Plans must also include a description of existing disposal systems and facilities and future needs. KCC 13.24 also requires comprehensive sewer system plans to include a time schedule for improvements required to meet any existing deficiencies and a proposed construction schedule to meet projected system needs.

### *Metro Wastewater Facility*

Metro operates the sewer system for major portions of the western part of King County (including the City of Seattle) and small portions of Snohomish County. The sewerage service Metro provides is wholesale in character. Metro provides such services to or has contracts for future service with 35 municipal participants, 33 of which currently operate local sewer systems and 2 are non-municipal participants. As of September 30, 1992, Metro was meeting the sewage treatment requirements of approximately 664,880 residential customers and residential customer equivalents of the participants.

At the end of 1992, Metro was operating 4 treatment plants, 37 pumping stations, 17 regulator stations, 3 outfall control stations and 2 siphon level monitoring stations. Over 202 miles of large diameter pipelines,

31 miles of force mains and 7 miles of siphons were under Metro's maintenance and control. These facilities constitute part of the "First, Second and Third stages" of Metro's capital facility planning.

Planning studies, such as the Wastewater 2020+, are currently underway to identify possible capital program components for Metro facilities that would be constructed beyond the "Fourth" stage of Metro's capital facility planning. The efforts are concentrated in five areas: future wastewater treatment needs, conveyance system needs, combined sewer overflow facilities, biosolids (sludge) treatment and reuse and water reuse. Conclusion of these planning efforts in 1994 is likely to result in amendment of the Comprehensive Plan and approval of specific projects for implementation in a potential "fifth stage" project. Capital projects that result from these planning efforts will determine the greatest portion of the capital program for 1998 and beyond. No specific facilities, treatment strategies, control strategies or costs have yet been identified.

### *Independent Treatment Plants*

The four sewer districts that do not have their wastewater treated by Metro are Midway, Federal Way, Southwest Suburban and Vashon sewer districts. Included in these four sewer districts are six treatment plants and 41 pumping stations. Together these districts serve approximately 81,070 customer or customer equivalents.

The Southwest Suburban Sewer District projects population growth rates based on PSRC Population and Employment forecasts. The trend of increasing population within the district from 1980 is expected to continue at a rate of approximately 3 percent to 4 percent through the year 2000. After 2000, the growth rate will be less than 3 percent. Southwest Suburban Sewer District anticipates line extensions for each of the next ten years. Areas that have failed in the ULID process will be evaluated and lines constructed on an as needed basis (health concerns). At this time, the district does not propose any upgrade of existing sewer facilities to increase capacity for higher density development. The Salmon Creek Treatment Plant is projected to upgrade with both a centrifuge and RBC train. Five of the pump stations are planned for upgrades and repairs.

The Midway Sewer District projected population growth based on PSRC Population and Employment forecasts. All of the major trunks, interceptors, pump

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

station and treatment facilities necessary to provide sewer service within the service area have been constructed. Flow analysis indicates that two and possibly three major facilities will require upgrade or expansion in order to provide adequate transportation, treatment and disposal of sewage generated by the expanding population. Other items that also require consideration include the possible elimination of pump station eleven, the expansion of the collection system into sewer areas and maintenance and operation of the system. The Midway Sewer District plans to expand the treatment facility, construct a new Des Moines Creek trunk and continue collection system expansion.

Vashon Sewer District forecasts future population trends within the service area by the willingness of developers to deposit 20 percent of the connection charges with the district in order to secure certificates of sewer availability, plus the existence of a waiting list to make such deposits. On Vashon Island demand exists for additional sewer service. Potential upgrades for the Vashon Sewer District would be primarily improving existing structures with an added oxidation ditch, aerobic digester and de-watering equipment.

The Federal Way Water and Sewer District will upgrade existing pump stations at Station 5 and Station 10. They will rehabilitate the South 288th street sewer main, build a south end district sewer trunk and expand the Lakota Wastewater Treatment Plant. Other small upgrades of facilities will also take place. The Federal Way Water and Sewer District uses the Federal Way Comprehensive Plan as the basis for estimating future capacity requirements in its update of the Sewer Plan scheduled for 1992/1993.

### **SIGNIFICANT IMPACTS**

#### *Introduction*

All of the alternatives emphasize concentration of growth west of the UGA, providing positive benefits to sewer/septic systems in the majority of the rural and resource areas of the eastern portion of the county by containing infrastructure investments in more densely populated areas. Suburban and rural cities outside of Metro's service area (e.g., Federal Way, SeaTac, Duvall and North Bend) could be negatively affected as significant investments in capital facility improvements may be required to accommodate growth. Beginning with the alternative with the least impact, the alternatives rank in the following order:

14 Centers, Eight Centers, No Action and Magnet, with the Pre-Countywide Planning Policies Alternative resulting in the most adverse impacts. The Pre-Countywide Planning Policies Alternative has the most dispersed growth pattern which will demand delivery of wastewater services in areas that are least capable of providing them. Mitigation could include implementation of regional water conservation programs to reduce demand on treatment facilities and continued implementation of planned and programmed improvements of provider facilities.

All the alternatives forecast the same amount of growth in households and jobs in King County. The amount of growth forecast will result in adverse impacts on the delivery of sewer/septic services. A complete evaluation of overall growth impacts can only be made after more detailed analyses of updated comprehensive sewer plans are conducted on a regional basis. Several local service districts will need to make extensive capital improvements in order to accommodate growth and provide urban level standards of service. However, in general, the growth alternatives with greater urban concentrations will deliver wastewater to the Metro system, where there is adequate treatment and transmission capacity for projected growth to the year 2020.

#### *Impacts of the Alternatives*

Analysis of the impacts of the alternatives on existing sewer/septic systems was conducted with respect to the allocation of growth and the policy sets associated with each of the alternatives. For purposes of this impact analysis it is assumed that the infrastructure is least affected when growth occurs in urban areas where existing sewer service is provided by Metro. Sewer/septic systems are most adversely affected by growth when additional capacity for treatment, or expansion of transmission facilities are required. The extent to which these alternatives can direct growth to reduce impacts is the focus of this analysis.

The following CPPs were assessed for their impact on sewer/septic infrastructure for the No Action, Eight Centers and 14 Centers Alternatives: FW-10, FW-25-27, CO-1, CO-7-10, CO-12-14, FW-28. The Pre-Countywide Planning Policies and Magnet Alternatives have different policy sets which are described in their respective sections.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **No Action Alternative**

Most growth will occur in urban areas where sewer systems are for the most part already in place and able to accommodate increased demand. Exceptions may be found in the south Puget Sound drainage basin areas, slated for urban auto and transit growth. Sewer service by Metro is not available in the south Puget Sound drainage basin area and is provided by independent districts, including Midway and Federal Way. Capacity for transmission and treatment is under study.

All of the policies reviewed will have beneficial impacts, encouraging concentration of development in urban areas where services can most efficiently and economically be provided. Septic systems are allowed in rural areas, where that is the appropriate level of service.

Next to the Pre-Countywide Planning Policies and Magnet Alternatives, the No Action Alternative is expected to see more growth in rural cities than the other alternatives. Growth in rural cities may require more capital intensive improvements to expand services (i.e., additional treatment and transmission facilities), especially Duvall, Carnation and Snoqualmie/North Bend, cities which are outside Metro's service area. With the exception of the Pre-Countywide Planning Policies and Magnet Alternatives, this alternative could most adversely affect rural cities.

With the exception of the Pre-Countywide Planning Policies, the No Action Alternative could result in the greatest increase in the number of septic system installations. Since septic systems are for the most part not publicly supported but rather a responsibility of private development, impacts related to infrastructure are not applicable. Septic systems, however, are discussed as impacts related to water quality in the SEIS section Water Quality.

### **Eight Centers Alternative**

The Eight Centers Alternative is expected to promote more growth in urban areas outside of urban centers than the 14 Centers Alternative. The Eight Centers Alternative also has a slightly higher growth of households in rural cities than the 14 Centers Alternative. Growth may require extension of sewer services in some urban areas, infill in the urban auto areas and also infill and expansion of services in rural cities. Generally, impacts would be the least

significant of all alternatives, next to the 14 Centers Alternative which is expected to have the least.

The Regional Transit System Plan proposal reinforces concentration of growth in urban areas, which provides a positive impact on the delivery of sewer services.

### **14 Centers Alternative**

This alternative allocates the most amount of growth to urban centers and the least amount to rural cities, resulting in fewer requirements for infill and expansion of facilities. This alternative has the least impact to sewer/septic services of all the alternatives.

As in the Eight Centers Alternative the Regional Transit System Plan proposal supports concentration of growth in urban areas, which provide a positive impact on the delivery of sewer services.

### **Pre-Countywide Planning Policies Alternative**

This alternative allocates the least growth to urban centers, with the majority of growth accommodated in outlying urban areas with reliance on autos. This alternative also has the most growth going to rural areas of all the alternatives. The Pre-Countywide Planning Policies Alternative has the same number of households targeted for rural cities as in the Magnet Alternative, and more households located in adjacent rural areas. The 1985 King County Comprehensive Plan urban growth line is different under this alternative than the other alternatives. While the differences are important on a site-specific basis, the differences on a countywide basis for the purpose of analyzing policy impacts on sewer/septic services are negligible. The Pre-Countywide Planning Policies Alternative will likely demand more requirements for sewer infrastructure improvements and expansion as well as more septic installations than any of the alternatives. The impacts are likely to be more adverse than as discussed under the No Action or Magnet Alternatives.

Impacts on sewer/septic services of transportation policies under this alternative are related to land use implications. These impacts are discussed in the Impacts of the Policy Options section under the "No Rail Alternative".

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

### **The Magnet Alternative**

With more projected growth in households and jobs going to urban centers than the Pre-Countywide Planning Policies Alternative, this alternative will have less impacts on sewer infrastructure than the Pre-Countywide Planning Policies Alternative. While the projected growth in households in urban areas for the Magnet Alternative is similar to the No Action Alternative, the benefits are offset by the increased need to expand sewer services in rural cities. Expansion of sewer service in rural cities will be required since it is anticipated there would be moderate growth, both in jobs and households as in the No Action Alternative. However, the "least cost planning" framework policy and benchmark strategies will likely slow growth as public funds necessary to develop capital projects will be limited. This will moderately reduce the impacts as discussed in the No Action Alternative.

The policies associated with "Framework" and "Countywide Economic Development and Employment" were assessed as to their impact on this alternative. Benchmarks related to the following categories were also assessed: "Critical Areas," "UGA," "Siting of Public Capital Facilities," and "Promotion of Contiguous and Orderly Development and Provision of Urban Services." In particular, benchmarks established in the last category would result in development occurring in urban centers where minor capital improvements would be required, encouraging infill in those centers as a priority.

### ***Impacts of the Policy Options***

In this section, the recommended refinements to the countywide policies applicable to the Eight Centers, 14 Centers and Magnet Alternatives are analyzed for potential impacts on the delivery of wastewater services. Impacts related to these alternative policies are either positive or negligible. Mitigation is not applicable except as discussed under the Rural Character Task Force Policies.

### **Technical Review Areas**

To the extent that these Technical Review Areas are designated as urban separators under CPP LU-15, they would serve to benefit delivery of sewer/septic service. However, these are site specific conditions which will be reviewed for environmental impact as part of the individual jurisdictions' comprehensive

planning process as well as under the County's efforts to define the Urban Growth Area.

### **No Rail Policy Option**

This policy option would implement a Transportation System Management (TSM) strategy in place of the Regional Transit System Plan. TSM would result in increased regional and community bus transit service. Impact on the overall regional sewer infrastructure would be minor, but may require significant localized capital facility improvements to expand and connect to existing systems. These impacts would be applicable to the No Action and the Pre-Countywide Planning Policies Alternatives.

### **Affordable Housing Policies**

The Affordable Housing policies recommended by the Affordable Housing Task Force, do not directly impact wastewater delivery systems. Policy AH-2 is the only policy that directly refers to infrastructure and as proposed would be amended to encourage that infrastructure be in place to support affordable housing development. Indirectly, to the extent that the policies result in more concentrated development and smaller lot sizes in urban areas, per capita consumption of water and therefore wastewater production, would be reduced. Reduction in wastewater production would have a positive effect on sewer/septic systems for Eight Centers, 14 Centers and Magnet Alternatives.

### **Economic Development Policies**

The following policies were reviewed as to their impact on providing sewer/septic infrastructure: ED-5, ED-11, ED-12, ED-13, ED-17. These policies all have a positive impact on providing sewer/septic service for the Centers Alternatives because they reinforce the GMA requirement that services must be available before development can be permitted. Of the policy options presented for LU-59, the City of Seattle alternative is more beneficial for sewer infrastructure than the Suburban Cities option because of its focus on location of business/office parks in areas that are already developed. The Suburban Cities option only requires that cities should accommodate this type of development pattern, resulting in the potential need to expand sewer facilities should those land uses locate in areas needing expanded services.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **Rural Character Task Force Policies**

The following policies were assessed as to their impact on providing sewer/septic services: RU-3, RU-6, RU-8, RU-12, RU-16, RU-19. With the exception of RU-16, all would have a positive impact on sewer/septic system costs because the policies discourage extension of urban level wastewater systems in rural areas. Policy RU-16 discourages the location of regional public facilities in rural areas. Because sewer systems do serve urban areas and may be required to cross rural lands to get to the service area, this policy could have a negative impact on the delivery of service. Mitigation of the impact of this policy would be to revise the language to acknowledge that regional utility services may need to locate in rural areas. Language to protect rural areas could include a requirement to demonstrate need for the facility and that locations to site that facility are limited.

The suburban cities policy options RU-3, RU-6, RU-12, LU-8, LU-26, RU-19 have positive impacts similar to those described above.

### **MITIGATION MEASURES**

Continued implementation of planned and programmed improvements to Metro facilities in particular and to facilities owned and operated by local service providers in general, will be necessary to adequately deliver services.

The policies under each of the alternatives mitigate growth impacts on the sewer/septic infrastructure to varying degrees. Implementation of regional programs related to conservation of water to reduce demand and coordinated programs for the installation, maintenance, operation and inspection of septic systems could further reduce impacts on the delivery of service.

Under all the alternatives, federal and state laws and local regulations provide for protection of public health which benefit the level of service delivered.

### **UNAVOIDABLE IMPACTS**

Increased growth in jobs and households will require improvements and expansion of the existing sewer/septic infrastructure. From a local perspective, impacts could be significant for making connections to the existing regional system and expansion of

existing independent systems. However, from a regional perspective, there is capacity in Metro's regional transmission and treatment system to accommodate the projected growth to the year 2020.

## **11.0 SOLID WASTE**

### **MAIN FINDINGS**

All of the alternatives concentrate most growth in employment and households in urban areas where existing services are in place or can be easily extended.

The Pre-Countywide Planning Policies Alternative has the most dispersed growth pattern. This will increase the need to expand solid waste services to a more dispersed population and increase costs to deliver that service.

Mitigation could include implementation of waste reduction and recycling programs to defer the need to expand landfill and transfer station capacity as well as continued management of services by regulators.

### **AFFECTED ENVIRONMENT**

The functions of the Public Works Solid Waste Division are the following: administer King County's Comprehensive Solid Waste Program on a self-supporting basis; responsibly manage all County-owned transfer stations and landfills; ensure the safe transportation of waste between County facilities; implement the Comprehensive Solid Waste Management Plan to reflect expanded operations and King County's regional leadership; incorporate major new components including the Waste Reduction/Recycling Programs; operate the Household Hazardous Wastemobile and other programs as directed by the Local Hazardous Waste Management Plan for Seattle/King County; and, develop, provide and maintain capital improvements and equipment to ensure that Solid Waste operations and facilities are in conformance with environmentally-mandated standards.

The King County Solid and Hazardous Waste Division seeks to preserve the environment and public health of King County through the proper management of solid waste. The division is working to achieve a waste reduction and recycling rate of 65 percent by the year 2000, mitigate impacts of existing and future solid waste handling and to continue development of adequate disposal capacity that meets all regulatory requirements.

#### *Inventory of Facilities*

The system of capital facilities owned and operated by the Solid Waste Division consists of 9 solid waste transfer facilities (6 operating transfer stations, 2

rural drop boxes, and the new Enumclaw transfer station to be opened this year). The division is also responsible for 6 inactive landfills.

King County does not own or operate any hazardous waste capital facilities. King County contracts for the hazardous waste mobile, which collects hazardous waste countywide through a rotating location method.

#### *Forecasting of Future Needs*

Facilities needs are forecasted according to the capacity of existing facilities compared to projected capacity needed (based on a projection model which uses estimated population growth) and economic growth and waste generation trends (modified by waste reduction and recycling goals). Transfer station capacity is measured by number of vehicles and number of tons of waste gathered per day. Landfill capacity is measured by remaining volume and estimated rates of tons disposed.

Preliminary facility plans are conceived for a 20 year horizon, however, the timeline for making capital improvements is for only 6 years. The timeline is shorter and identifies only short-term needs in order to avoid the possibility of developing larger facilities than needed due to technological advancements and increases in waste reduction.

Successful achievement of the milestone of 65 percent waste reduction by the year 2000 can be greatly assisted by major technological advancements in waste reduction. The per capita waste generation rate continues to grow and achieving additional marginal increases in the recycling rate may become more

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

difficult and expensive in the future. Overall, there is a need for much more aggressive waste reduction, in addition to existing and future recycling efforts. Legislative efforts as well as more focused and better integrated educational efforts and financial incentives are needed.

Existing King County transfer stations lack capacity for projected waste quantities. The Houghton, Factoria, and Algona transfer stations already operate at or near capacity. The First Northeast and Bow Lake stations are projected to reach tonnage capacity between 2006 and 2010. The First Northeast, Algona, Factoria, Houghton, and Renton transfer stations have approximate capacities of 350 tons per day (126,700 tons per year), and Bow Lake is 750 tons per day (271,500 tons per year). The Algona and Renton stations are expected to reach vehicle capacities in 7 to 10 years. Houghton, First Northeast, and Factoria stations have already reached or exceeded capacity.

Existing transfer stations were not designed to include space for recycling facilities. New facilities are being designed to be flexible and to accept the changing types of recycling services that may be desirable in the future.

King County solid waste disposal needs fall into several categories: facilities availability and capacity, compliance with King County Solid Waste Regulations, capital improvement, and closure and post-closure activities and funding. Disposal facilities are needed to serve all areas of King County.

The waste reduction and recycling success attained since 1987 has already extended the useful life of Cedar Hills Regional Landfill by several years. Under current planning assumptions, achieving and sustaining the 35 percent waste reduction and recycling goal could mean the remaining capacity at Cedar Hills Regional Landfill could last until 2013. Achieving the 50 percent waste reduction and recycling goal could allow the landfill to last until 2016 and achieving 65 percent waste reduction could allow the landfill to last until 2019.

While the Cedar Hills Landfill has sufficient capacity, additional disposal capacity should be planned for the future. Capital projects are necessary to upgrade existing facilities and maintain or expand service levels and disposal capacity.

The total of household hazardous waste (HHW) and small quantity generator (SQG) hazardous waste is

estimated to be 1 percent of the solid waste stream (based on data from solid waste sorts and surveys). Best available data indicate that HHW represents about one-third of the hazardous waste in the solid and liquid waste streams by weight. The remaining two-thirds of the hazardous waste comes from SQGs. It is estimated that approximately 85 percent of this hazardous waste by weight is disposed of in the municipal solid waste and 15 percent in the liquid waste stream.

Projected tonnage of HHW and SQG waste generation over the life of the plan is 19,000 in 1989 increasing to 33,000 in the year 2009. These projections provide the basis for waste reduction and solid waste stream diversion goals in the plan.

### *Location and Capacity of New and/or Expanded Facilities*

A transfer/recycling station has been planned to replace the Hobart and Enumclaw Landfills. Additionally, the Cedar Falls will be closed and replaced with a drop box. Future expansion and configuration of the system will continue to be examined.

## **SIGNIFICANT IMPACTS**

### *Introduction*

The King County Solid Waste Division is responsible for planning, developing, and maintaining the County's solid waste facilities. The need for solid waste facilities is determined by comparing projected population and employment growth and waste generation trends (modified by waste reduction and recycling goals) to the capacity of existing facilities. All of the alternatives would place an increased demand on the capacity of existing transfer/recycling stations and landfills. Several of the existing transfer stations already operate at or near capacity and several others are expected to reach capacity in the next 15 to 20 years. Existing landfill capacity is expected to be exhausted in the next 20 to 30 years. Significant investment in capital projects will be necessary in the future to increase disposal capacity and to upgrade existing facilities to maintain or expand solid waste service delivery. (This analysis assumes that the City of Seattle has the existing infrastructure in place, programmed, or planned, to deliver solid waste services within its jurisdiction to accommodate any of the growth scenarios.) The focus of this analysis is the comparison of alternatives

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

that direct growth to reduce impacts on existing infrastructure.

### *Impacts of the Alternatives*

This section provides a comparative analysis of the impacts of the five alternatives on the delivery of solid waste services. The information presented here supplements the existing FEIS for VISION 2020 and the King County Comprehensive Plan.

The VISION 2020 FEIS analyzed the geographic distribution of the costs for public services for five "build" or "action" alternatives. Solid/hazardous waste was one of the public services included in the analysis. The general conclusion was that, assuming a constant level of investment, a higher level of non-transportation urban services can be provided to a high density development pattern than to a low density development pattern.

The analysis of impacts on solid waste in this SEIS assumes the validity of this general conclusion. It assumes that solid waste collection, transfer, temporary storage and recycling is more efficient and cost effective under a high density development pattern than under a low density development pattern. This is because under a high density development pattern there would be a greater number of waste generators located within a given distance of a transfer/recycling station than under a low density development pattern. The level of service would be higher under those circumstances because the distances between individual waste generators and between waste generators and transfer/recycling stations would be shorter than under a low density development pattern.

The level of service (or existing capacity) of landfills, on the other hand, is determined more by the overall growth in regional population and employment than by the density or pattern of development. However, increased urban densities may help extend the useful life of existing landfills by improving waste reduction and recycling efforts through a more efficient distribution of transfer/recycling stations.

This section analyzes solid waste impacts by comparing the proportion of new jobs and households locating in the most densely developed portions of the County under each of the alternatives. These urban areas are assumed to include the following land use categories: urban centers, manufacturing centers, activity centers and urban/transit areas. The analysis

assumes that alternatives with higher proportions of new employment and households concentrating in these areas will have lower corresponding impacts on solid waste.

The following countywide policies are applicable to the No Action, Eight Centers and 14 Centers Alternatives: FW-10, FW-25, FW-26, FW-27, CO-1, FW-28, LU-8, CO-16, RU-3, and RU-12. All of these policies would have a beneficial impact on delivery of solid waste services by reaffirming the County's role in providing countywide services, by promoting coordination among jurisdictions during the siting of regional solid waste facilities, and by discouraging urban area levels of service in rural areas. The overall effect of the countywide policies would be to concentrate a large proportion of new jobs and households in areas that would have a high level of solid waste service, thereby reducing the need to expand services.

The Pre-Countywide Planning Policies and Magnet Alternatives have different policy sets which are described in their respective sections.

### *No Action Alternative*

The No Action Alternative would concentrate over two-thirds of the growth in employment and over one-third of the growth in households in the most densely developed portions of the County, where existing services could be easily expanded. The Pre-Countywide Planning Policies and Magnet Alternatives would have greater adverse impact on solid waste services than the No Action Alternative.

### *Eight Centers Alternative*

The Eight Centers Alternative would concentrate over four-fifths of the growth in employment and nearly two-thirds of the growth in households in the most densely developed portions of the County with a high level of solid waste service. The overall effect of the Countywide Policies and designation of eight urban centers would be to concentrate more growth in the densely developed areas of the County than the No Action Alternative. Only the 14 Centers Alternative would provide fewer adverse impacts than the Eight Centers Alternative.

### *14 Centers Alternative*

The 14 Centers Alternative would result in the highest proportion of employment and household growth

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

concentrating in the most densely developed portions of the County. The overall effect of the Countywide Policies and the designation of 14 urban centers would be to concentrate a higher proportion of future growth in areas with a high level of solid waste service than the No Action and Eight Centers Alternatives. The 14 Centers Alternative also has the least amount of growth in employment and households directed to rural cities and adjacent rural areas than any of the alternatives.

### **Pre-Countywide Planning Policies Alternative**

The Pre-Countywide Planning Policies Alternative would result in the lowest proportion of employment and household growth concentrating in the most densely developed portions of the County. The impacts of this alternative on solid waste service levels would be more significant than under any of the alternatives because the policies defining this alternative would be less effective at concentrating future growth in areas where a high level of solid waste service is already in place. The Pre-Countywide Planning Policies Alternative projects the highest percentages (14 percent) of growth in rural cities and adjacent rural areas than any of the alternatives.

### **The Magnet Alternative**

The benchmark policies defining the Magnet Alternative emphasize infill, renovation and redevelopment within existing areas as a means to encourage development in areas where adequate public facilities and services exist or can be provided in an efficient manner. The benchmark policies also emphasize the need to establish a countywide process to cooperatively site public capital facilities and a mitigation program that includes amenities and/or incentives for accepting such a capital facility that serves more than one community, such as a solid waste transfer station or landfill.

The Magnet Alternative would result in similar proportions of employment and households concentrating in densely developed areas where a high level of solid waste service is already in place as in the No Action Alternative. With slightly more growth going to rural cities under this alternative, the impacts could be slightly more adverse than under the No Action Alternative.

### **Impacts of the Policy Options**

In this section, the recommended policy options to the Countywide Policies applicable to the Eight Centers, 14 Centers and Magnet Alternatives have been analyzed for potential impacts on the delivery of solid waste services. Impacts related to these alternatives are either positive or negligible.

### **Technical Review Areas**

The changes to the UGA boundaries recommended by staff would result in a net increase of approximately 646 acres in the amount of area designated urban than under the adopted Countywide Policies. Because the Technical Review Areas are located at the urban fringe, an increase in the acreage of urban designated land in these areas would require the extension of solid waste services to these areas as development occurs.

### **No Rail Policy Option**

This policy option would implement a TSM strategy in place of the Regional Transit System Plan Rail Alternative. TSM would result in increased regional and community bus transit service. The land use implications would likely result in increased infill development between these centers. Impact to the overall solid waste infrastructure would be minor, but may require moderate localized capital facility improvements to expand the existing system. These impacts would also be applicable to the No Action and Pre-Countywide Planning Policies Alternatives, absent any specific transportation policy sets.

### **Affordable Housing Policies**

The Affordable Housing policies recommended by the Affordable Housing Task Force, do not directly impact the solid waste infrastructure. Policy AH-2 is the only policy that directly refers to infrastructure, and as proposed would be amended to encourage that the infrastructure be in place to support development of affordable housing. Indirectly, to the extent that the policies result in more concentrated development in urban areas, delivery of solid waste services will be more efficient and cost effective.

### **Economic Development Policies**

The Economic Development policies recommended by the Fiscal Analysis and Economic Development Task Force have positive impacts on the delivery of solid

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

waste services because they reinforce the GMA requirements that infrastructure services must be available before development can be permitted.

future to develop disposal capacity and to upgrade existing facilities to maintain or expand solid waste service delivery.

### **Rural Character Task Force Policies**

Policies RU-3, RU-12, and RU-19(a) are consistent with Countywide Policies intended to encourage services to rural areas to protect basic public health and safety but not provide rural areas with urban facilities or urban levels of service. Since subscription to a garbage collection service is not required in unincorporated areas of King County, these policies would not impact many rural residents' current practices of taking their own refuse directly to recycling centers, transfer stations, or landfills. Policy RU-16 discourages the location of regional public facilities in rural areas. Because solid waste facilities may be required to locate in rural areas, this policy could have a negative impact on the delivery of service. Mitigation of this policy impact would be to revise the language to acknowledge that regional utility services may need to locate in rural areas. Language to protect rural areas could include a requirement to demonstrate need for the facility and that locations to site that facility are limited.

### **MITIGATION MEASURES**

Implementation of waste reduction and recycling programs could reduce the generation of waste and thereby reduce the demand for solid waste services. This could result in deferring the need to expand landfill or transfer station capacity or the need to develop new facilities.

Under all the alternatives, the Solid Waste Division would continue to implement the King County Comprehensive Solid Waste Management Plan thereby managing the storage, collection, transfer, resource recovery and disposal of solid waste. The King County Health Department would also continue to regulate the disposal of solid waste.

### **UNAVOIDABLE IMPACTS**

The 215,000 new households and 340,000 new jobs anticipated in King County by the year 2010 will place additional demand on the capacity of existing transfer/recycling stations and landfills. Significant investment in capital projects will be necessary in the

## **12.0 UTILITIES**

### **MAIN FINDINGS**

All of the alternatives concentrate most projected growth in employment and households in urban areas where existing infrastructure already is in place or can be expanded with moderate capital investment. All of the alternatives propose locating no more than one percent of new employment and nine percent of new households in rural areas that would require significant improvements to the utilities infrastructure.

The Pre-Countywide Planning Policies Alternative has the most dispersed growth pattern which will require expansion and upgrade of electric and gas utility transmission and distribution lines.

Mitigation could include implementation of energy conservation programs to reduce demand for new or expanded infrastructure as well as improved development guidelines to encourage smaller and clustered building types in areas outside urban centers.

### **AFFECTED ENVIRONMENT**

Electric and gas facilities in King County are a mix of private and public ownership. These utilities are also mixed in regard to the degree of regulatory oversight of their rates and thus their finance plans.

#### *Inventory of Facilities*

Inventories of electric and gas facilities are limited to the major elements of the utility network and do not include the detailed facilities which deliver the service to the end user. This threshold between major and minor facilities varies by utility.

Bulk electrical power is transmitted to King County residents on a regional power grid. Much of the grid is owned and operated by the Bonneville Power Administration (BPA). Individual utility companies also have transmission facilities which are operated in concert with BPA under an integrated regional electric system, also called the "one electrical system" concept. Distribution of power to end users is done by the utility companies. Three electrical utilities serve King County: Puget Sound Power and Light Company (Puget Power), Seattle City Light, and Tanner Electrical Cooperative.

Washington Natural Gas (WNG) is the major supplier of natural gas to King County. WNG's gas supply is brought to this area on two parallel supply lines operated by the Northwest Pipeline Corporation. The supply lines are located east of Lake Sammamish. The local distribution consists of ten gate stations, and

lines which distribute the gas at various pressures to end users. The City of Enumclaw also operates a local distribution system which is not described in this section.

#### *Forecasting of Future Needs*

Puget Power forecasts its electrical load to nearly double over the next 30 years. County population projections produced by the Office of Financial Management are used to determine new load growth for the next 20 years. For load growth beyond 20 years, PSRC population and employment forecasts are used for King, Kitsap, and Pierce counties. Projected load is calculated as the existing load, minus conservation reductions, minus demand side management, plus the forecast of new load. To supplement the PSRC and other forecasts in predicting future load growth, Puget Power studied the energy usage of customers and the ensuing load placed on the system by each new resident and each new employee.

WNG forecasts a 30 percent growth in customers by the year 2000. The existing system can supply about 273,000 customers, so the system is near capacity. WNG developed a forecast model using alternative growth scenarios based on assumptions regarding customer growth, prices of competing energy resources, expected regional economic growth, single housing construction trends, and the potential conversion to natural gas from other energy sources. Estimates of expected population and employment made by the Washington State Office of Financial

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Management, Bonneville Power Administration, and the Northwest Power Planning Council have been used to develop a range of estimates for the forecast. WNG is currently developing a new long term econometric forecasting model to be used in 1993 which incorporates conservation.

### *Location and Capacity of New and/or Expanded Facilities*

Numerous additional transmission and generation resources plus extensive conservation actions to reduce demand will be needed to meet future demand on utilities. Seattle City Light expects to meet its power demand through conservation alone during the next 10 years. Improvements and additions to the transmission system are anticipated. Major upgrades are proposed to the regional transmission grid, including the potential of a new cross-cascades corridor.

To increase the amount of natural gas available, there are several natural gas projects underway to expand the system with 10 more planned. The goals of expansion are to loop the pipeline to provide alternate direction of supply to parallel existing lines (to supplement the supply) and to replace existing pipelines.

## **SIGNIFICANT IMPACTS**

### *Introduction*

All of the alternatives would place an increased demand on the capacity of existing electric and natural gas utility systems. Significant investment in capital projects as well as extensive conservation actions will be necessary in the future to increase existing supplies and expand facilities in order to maintain or expand service levels. A complete evaluation of overall growth impacts can only be made after more detailed analyses of updated utility system plans are conducted on a regional basis. However, in general it can be noted that the more concentrated development in urban areas, where transmission and distribution systems are already in place, the more efficient and cost effective the delivery of utility services. The extent to which these alternatives can direct growth to reduce impacts is the focus of this analysis.

### *Impacts of the Alternatives*

This section provides a comparative analysis of the impacts of the five alternatives on the delivery of electric and gas utility services. The information presented here supplements the existing FEISs for VISION 2020 and the King County Comprehensive Plan.

The VISION 2020 FEIS included an analysis of the electricity and natural gas requirements of five "build" or "action" alternatives. A general assumption of the analysis was that patterns of development that are designed to better accommodate the movement of people (i.e., higher densities of mixed land uses) may also result in changes in housing structures and consequently affect total space heating demands. This assumption is based on the fact that higher-density, mixed use housing and commercial buildings in a multi-story form tend to produce smaller interior spaces with shared common walls. These types of structures have lower heating/cooling requirements than more dispersed land use patterns that encourage separated, single-level, single-use structures that are larger and potentially less efficient to heat.

The analysis of impacts on utilities (electric and gas) in this section of the SEIS assumes the validity of this general assumption. Alternatives with higher proportions of new jobs and households locating in the most densely developed portions of the county are assumed to have lower corresponding impacts on utilities. Areas assumed to be the most densely developed portions of the county include the following land use categories: urban centers, manufacturing centers, activity centers, and urban/transit areas.

The following Countywide Policies are applicable to both the Centers Alternatives and the No Action Alternative: FW-10, FW-25, FW-26, FW-27, CO-1, CO-6, and FW-28. All of these policies would have a beneficial impact on utilities by encouraging the concentration of new jobs and households in the most densely developed portions of the County. Policy CO-6 emphasizes aggressive conservation efforts, conservation credits and energy efficiency incentives in new and existing buildings as a way to improve the supply of electrical energy.

The Pre-Countywide Planning Policies Alternative and the Magnet Alternative have different policy sets which are described in their respective sections.

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

### No Action Alternative

The No Action Alternative would concentrate over two-thirds of the growth in employment and over one-third of the growth in households in the most densely developed portions of the County where greater energy efficiencies can be realized. The Pre-Countywide Planning Policies Alternative and the Magnet Alternative would have greater adverse impact on delivery of utility services than the No Action Alternative. Impacts of transportation policies under this alternative are discussed in the Other Policy Options section under the "No Rail Option".

### Eight Centers Alternative

The Eight Centers Alternative would concentrate over four-fifths of the growth in employment and nearly two-thirds of the growth in households in the most densely developed portions of the County. The overall effect of the Countywide Policies and designation of eight urban centers would be to concentrate more growth in the densely developed areas of the County where greater energy efficiencies can be realized than the No Action Alternative. The Eight Centers Alternative is second only to the 14 Centers Alternative in providing the least adverse impacts on utility services.

The Regional Transit System Plan proposal would require upgrades to existing electrical systems but impacts are expected to be minimal. The Regional Transit System Plan proposal accentuates the land use pattern under this alternative; i.e., concentration of growth in urban areas, which provides a positive impact on the delivery of utility services.

### 14 Centers Alternative

The 14 Centers Alternative would result in the highest proportion of employment and household growth concentrating in the most densely developed portions of the County. The overall effect of the Countywide Policies and the designation of 14 urban centers would be to concentrate a higher proportion of future growth in areas where greater energy efficiencies can be realized than the No Action or the Eight Centers Alternatives.

Impacts of the Regional Transit System Plan proposal are similar to those discussed under the Eight Centers Alternative.

### Pre-Countywide Planning Policies Alternative

The Pre-Countywide Planning Policies Alternative would result in the lowest proportion of employment and household growth concentrating in the most densely developed portions of the County. The impacts of this alternative on utility service levels would be more significant than under either of the Eight or 14 Centers Alternatives or the No Action Alternative because the existing CPPs defining this alternative would be less effective at concentrating future growth in areas where greater energy efficiencies can be realized. Impacts of the transportation policies under this alternative are related to implications on land use and are discussed in the Impacts of the Other Policy Options section under the "No Rail Option".

### The Magnet Alternative

The benchmark policies defining the Magnet Alternative emphasize infill, renovation and redevelopment within existing areas as a means to encourage development in areas where adequate public facilities and services exist or can be provided in an efficient manner. The strategies to achieve the benchmark policies include establishing programs that encourage the retention and attraction of higher population densities per square mile to designated areas within cities located in the UGAs. These measures would encourage higher-density, mixed use housing and commercial developments which typically have lower heating/cooling requirements.

The Magnet Alternative would result in a lower proportion of employment and households concentrating in densely developed areas where greater energy efficiencies can be realized than both the Centers Alternatives, but a higher proportion than the Pre-Countywide Planning Policies Alternative. The Magnet Alternative would result in similar proportions of growth concentrating in urban areas as the No Action Alternative, but with slightly more growth going to rural cities, the impacts could be slightly more adverse for delivery of utility services.

### *Impacts of the Policy Options*

In this section, the recommended policy options to the Countywide Policies applicable to both the Centers Alternatives and the Magnet Alternative have been analyzed for potential impacts on the utility infrastructure. Impacts related to these policies are either positive or negligible. Mitigation is not

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

applicable except as discussed under the Rural Character Task Force Policies.

### **Technical Review Areas**

The changes to the UGA boundary recommended by staff would result in a net increase of approximately 646 acres in the amount of area designated urban than under the adopted countywide policies. Because the Technical Review Areas are located at the urban fringe, an increase in the acreage of urban designated land in these areas would require the extension of utility services to these areas as development occurs.

### **No Rail Option**

This policy option would implement a TSM strategy in place of the Regional Transit System Plan Rail Option. TSM would result in increased regional and community bus transit service. Impact to the overall regional utilities infrastructure would be minor, but may require moderate localized capital facility improvements to expand existing service. These impacts would also be applicable to the No Action and the Pre-Countywide Planning Policies Alternatives, absent any specific transportation policy sets.

### **Affordable Housing Policies**

The Affordable Housing policies recommended by the Affordable Housing Task Force, do not directly impact utility infrastructure. Policy AH-2 is the only policy that directly refers to infrastructure, and as proposed would encourage that the infrastructure be in place to support development of affordable housing. Indirectly, to the extent that the policies result in more concentrated development in urban areas, delivery of utility services will be more efficient and cost effective.

### **Economic Development Policies**

Policy ED-17 would encourage jurisdictions to develop a master utility permit process in conjunction with approval of land use permits. All utility extensions, including electricity and natural gas, required for new construction would be reviewed as part of the master utility permit. This policy would have a beneficial impact on ensuring that adequate infrastructure and public services are in place at the time development occurs. This policy would impact all of the alternatives equally.

### **Rural Character Task Force Policies**

Policy RU-12 is consistent with the Countywide Policies that encourage agencies providing services to rural areas to protect basic public health and safety but not provide rural areas with urban facilities or urban levels of service. This policy would affect all of the alternatives equally and would have a beneficial impact on utility supply and infrastructure. Policy RU-16 discourages the location of regional public facilities in rural areas. Because utility facilities, in particular transmission facilities, may be required to cross rural lands to deliver to service areas, this policy could have a negative impact on the delivery of utility services. Mitigation of this policy impact would be to revise the language to acknowledge that regional utility services may need to locate in rural areas. Language to protect rural areas could include a requirement to demonstrate a need for the facility and that locations to site that facility are limited.

## **MITIGATION MEASURES**

Implementation of energy conservation programs could reduce per capita consumption and thereby reduce the demand for new supply sources and delivery systems. This could result in deferring the need to develop new supply sources and expand transmission and distribution capacities.

Development guidelines encouraging smaller and clustered building types could be applied to those alternatives that result in a more dispersed development pattern (the No Action, Pre-CPPs, and the Magnet Alternatives). The result may be that those alternatives will exhibit some of the same structure-related energy savings associated with the alternatives resulting in more concentrated development (the Eight Centers and the 14 Centers Alternatives).

## **UNAVOIDABLE IMPACTS**

Under all of the alternatives, the 215,000 new households and 340,000 new jobs anticipated in King County by the year 2010 will place additional demand on the capacity of existing electric power supply and transmission systems, as well as the natural gas delivery systems. Significant investment in capital projects as well as extensive conservation actions will be necessary in the future to upgrade existing facilities and maintain or expand service levels.

### **13.0 SENSITIVE AREAS AND RESOURCE LANDS**

#### **MAIN FINDINGS**

Many sensitive areas and resource lands are located in rural and resource areas. The alternative which would have the least impact on the majority of sensitive areas and resource lands would be the 14 Centers Alternative, because it concentrates the greatest amount of development away from rural and resource lands.

The Pre-Countywide Planning Policies Alternative has the greatest potential for dispersed growth which could have greater impacts on the majority of sensitive areas and resource lands. This dispersed growth pattern will likely result in greater development pressures on sensitive areas and resource lands than the other alternatives.

Mitigation measures include implementation of the 1993 King County Zoning Code residential density bonuses (for dedication of trails, open space, etc.); transfer of residential density credits (for sending sites with open space values, wildlife habitat values, woodlands, community separator values); and urban planned unit development (UPD) bonuses (for provision of on-site recreation areas). Mitigation could also include continuation of existing programs such as Sections 404 and 401 of the Clean Water Act; Section 10 of the Rivers and Harbors Act; SEPA; Hydraulic Project Approval; King County SAO; Open Space Program (1988); agricultural zoning; other current use tax programs; and King County's farmland preservation program which has purchased agricultural development rights.

#### **AFFECTED ENVIRONMENT**

The environmental features identified as sensitive areas which require regulation by King County are the following: coal mine hazard areas, landslide hazard areas, seismic hazard areas, erosion hazard areas, volcanic hazard areas, steep slopes, floodplains and streams and wetlands.

The Sensitive Areas Ordinance (No. 9614, approved Sept. 1990) will implement the goals and policies of the 1985 King County Comprehensive Plan and the 1990 Washington State ESHB 2929 (1990 Wash. Laws 17) which mandates that certain counties and cities within those counties address the protection of critical areas. Critical areas as defined in ESHB 2929 correlate generally with the King County definitions and categories of sensitive areas. The Sensitive Areas Ordinance was passed to meet the challenges and satisfy the requirements of this act with regard to all critical areas except aquifer recharge areas, which require a different regulatory approach.

Regulation of the use of sensitive areas benefits both the natural environment and property owners because:

Regulation of the use of sensitive areas benefits property owners by preventing and avoiding activities which would have adverse impacts on property.

Abandoned mining activities pose a hazard in certain identified areas of King County and require special consideration prior to development.

Filling or building in floodplains reduces the flood storage capacity of stream or river systems and increases flooding upstream and peak flow rates downstream.

Development in erosion hazard and landslide hazard areas presents a danger to the development on the site as well as neighboring sites and natural resources, and requires special design, construction and site development measures to minimize risks from these hazards.

King County is an earthquake prone region subject to ground shaking, subsidence, landslide and liquefaction. Thus, special building design and construction measures

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

are necessary to minimize risk from this hazard.

Some areas of King County have been identified as having volcanic hazards associated with Mt. Rainier. This hazard requires some unique protection for the portions of the County which could experience mudflows during a volcanic episode.

Development on slopes 40 percent or greater can result in soil erosion and sedimentation, landslide, slippage, excess surface water runoff, destruction of wildlife habitat, increased costs of building and maintaining roads and public facilities and increased need for emergency relief and rescue operations.

Wetlands and streams are environmentally sensitive and serve numerous natural functions and values which are critical. These functions include wildlife and fisheries habitat, water quality protection, flood protection, shoreline stabilization, stream flow, and ground water recharge and discharge. In many situations these functions cannot be adequately replicated or replaced.

### *Sensitive Areas*

Many of the major valleys and shoreline bluffs of Puget Sound are bordered by steeply sloping unconsolidated glacial deposits that are highly susceptible to gravity sliding. Areas characterized by slopes less than 15 percent were considered to be relatively stable. On the other hand, areas sloping in excess of 15 percent were considered less stable and were further subdivided according to the physical characteristics of the sub-surface formations. Slope stability in King County is strongly influenced by the physical character of the glacial formation underlying the vegetated surface. For this reason, the physical character of the subsurface material was used as the primary criterion for identifying severe landslide potential on slopes greater than 15 percent.

The entire Puget Sound region is seismically active and extensively covered by unconsolidated glacial and alluvial deposits, a combination contributing to a high susceptibility to earthquake damage. Of the four seismic risk zones recognized by the U.S. Geological

Survey within the contiguous United States, the Puget Sound Basin is classified as Zone 3, characterized by a history of major earthquake frequency and associated damage. The County's Seismic Hazards maps represent a local subzone of the U.S.G.S. Zone 3 classification, indicating those areas of King County which are subject to the most severe level of earthquake response.

Erosion is a natural process of wearing away of the land surface by falling and running water, wind, and glacial scour. Of these geophysical forces, erosion by running water is by far the most important within the Puget Sound Basin. The susceptibility of any soil type to erosion depends upon the physical and chemical characteristics of the soil in addition to its protective vegetative cover, topographic position (slope and direction of storm travel), temperature, the intensity of rainfall, and the velocity of runoff water.

While erosion is the wearing away of material, sedimentation or deposition is the accumulation of eroded matter at locations characterized by reduced velocity of the stream or creek flow. The effects of sedimentation are most pronounced where streams enter Puget Sound and in the lowland lakes, ponds, and water supply reservoirs where deltaic deposits form. Sediments are often deposited in gently sloping ditches, culverts, wetlands, stream channels, and street gutters.

The anadromous fish-bearing water of King County are the principle streams used in the life cycles of anadromous fish (fish that spend part of their life cycles in fresh water and part in salt water). These include salmon (chinook, coho, sockeye, pink, and chum) and some species of trout (steelhead, sea-run cutthroat, and Dolly Varden). The adults of this group of native fish return to their spawning areas on 1 to 5 year intervals depending upon the species. Water temperature, clarity, and volume of the streamflow are important factors in survival of the juvenile members of these fish.

All coal mine workings in King County are currently abandoned. Most of the old mine workings are flooded and at least partly filled by caving. At some localities, surface openings to the underground workings still exist. These localities constitute a major potential hazard to people utilizing these areas. Surface openings and extensions of subsurface workings (adits, shafts, and air ducts) constitute potential hazards to animals and people falling into these voids.

Piles of mine spoil frequently cover considerable surface areas in the vicinity of former coal mine operations. Some of these spoil piles are covered with vegetation and appear to be natural hill or terrace features. The slopes of these areas are unstable; they also may emit small quantities of natural coal gas.

#### *Resource Lands*

Currently King County has a total of 42,880 acres of agricultural and 826,240 acres of forest resource lands. King County protects and regulates activities on resource lands by the application of resource zone and rural zone clarifications, implementation of the Shoreline Master Program and the Farmlands Preservation Program, as well as exercising its authority under the State Forest Practice Act.

According to Washington State Department of Community Development (DCD) not all jurisdictions currently use the 1989 Federal Manual for identifying wetlands. Some jurisdictions use the 1987 Federal Manual and some use a combination of both. Also, some jurisdictions use Shoreline Master Programs and Forest Production regulations.

DCD maintains an updated data base of the status of critical areas in jurisdictions planning under GMA. Table J-1 of Appendix G shows the status of critical areas in King County as of August 2, 1993.

## **SIGNIFICANT IMPACTS**

### *Introduction*

Since 1990, King County has been implementing environmentally sensitive area regulations (SAO 1990). This program protects unique and fragile elements of the environment, and protects the public and public resources and facilities from injury and property damage due to flooding, erosion, and other natural hazards. However, effective comprehensive environmental regulation has remained difficult due to the number of jurisdictions involved and the variety of standards applied. In addition, per GMA requirements, many local jurisdictions have now adopted Interim Critical Areas Ordinances which also address sensitive areas from a local perspective. The extent to which the five differing alternatives can direct growth to reduce impacts on environmentally sensitive areas and resource lands including agricultural lands, forest lands, mineral resource lands, open space, and rural areas is the focus of this analysis.

### *Impacts of the Alternatives*

All alternatives call for concentrating most growth west of the County's UGA, which could result in the greatest positive impacts to sensitive areas and resource lands located in designated rural and resource areas. However, urban areas, urban/transit areas and activity areas where growth will be more concentrated could experience more negative impacts (than rural or resource) to sensitive areas due to general impacts from disturbance, development and lack of "best management practices". In general, minimizing rural and resource land conversion would have the least impact on the majority of the remaining natural vegetation and the overall integrity of the natural environment.

### *No Action Alternative*

CPPs applicable to the No Action Alternative which could have significant positive impacts on sensitive areas and resource lands include LU-1, LU-2, LU-3, LU-4, LU-5, FW-8, LU-14, LU-15, LU-26, CC-6, CC-7, C0-2, C0-3, and C0-15. All of these policies would assist in mitigating adverse impacts by: a) requiring no urban development on agricultural or forestry lands; b) requiring development of interjurisdictional transfer of development rights program to protect resource lands; c) requiring best management practices to reduce environmental impacts and mitigate unavoidable impacts from resource development activities; d) reducing the consumption of natural resource lands and concentrating development in urban areas; e) including only those areas into urban growth areas which are sufficiently free of environmental constraints to be able to support urban growth without major environmental impacts unless such areas are designated as urban separator by interlocal agreement between jurisdictions; f) defining urban separators as permanent low density lands which protect resource lands and environmentally sensitive areas and create open space corridors within and between urban areas providing environmental, visual, recreational and wildlife benefits; g) and requiring the identification of regional open space lands and corridors which form a functionally connected system with environmental, ecological, recreational and aesthetic significance and which is readily accessible to our urban populations.

The negative impacts of the No Action Alternative on sensitive areas and resource lands would be greater than the 14 Centers and Eight Centers Alternatives

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

respectively, but less than the Magnet Alternative and Pre-Countywide Planning Policies Alternative respectively. The No Action Alternative does not designate urban centers; therefore it has the potential of greater negative impacts to sensitive areas and resource lands because of this dispersed growth pattern.

In addition, sensitive areas protection under all alternatives could have the potential of some adverse economic impacts on the private landowner versus the public. There could be tradeoffs as sensitive areas are further protected and consequently the cost of development and housing become greater.

The No Action Alternative assumes implementation of the No Rail Policy Option to the Regional Transit System Plan. Impacts are described under No Rail Policy Option.

### **Eight Centers Alternative**

This alternative could result in fewer impacts on sensitive areas and resource lands than the No Action Alternative because it concentrates growth in urban centers, urban/transit and urban/auto areas thereby identifying the general locations for growth and consuming less undeveloped land. All of the positive impacts associated with the No Action Alternative apply to the Eight Centers Alternative. However, in the Eight Centers Alternative, urban centers, urban/transit and urban/auto areas would receive the majority of growth which could negatively impact environmentally sensitive areas in these locations.

The Eight Centers Alternative assumes implementation of the Rail/TSM policy option. New rail alignments and access facilities may substantially affect access, usability, and water quality of affected ecosystems through direct intrusion, removal of vegetation and habitat, increased runoff, erosion, sedimentation, noise, dust, and pollutants. Some wildlife species sensitive to human activity would die or move to more remote habitats.<sup>1</sup>

Major ecosystems potentially affected by construction of rail lines include Swamp Creek, the Duwamish River, the Puyallup River, the Cedar River, Hylebos Creek, Mercer Slough, Kelsey Creek, and the Sammamish River. In addition, the rail line could require elimination of a number of large trees along some freeway corridors, such as I-5, with some loss of habitat for birds and small animals.<sup>2</sup>

### **14 Centers Alternative**

This alternative would result in the least amount of negative impacts on the majority of sensitive areas and resource lands countywide than any other alternative because it further concentrates growth, thereby identifying general locations for development and consuming overall less undeveloped land. All of the positive impacts associated with the No Action Alternative apply to the 14 Centers Alternative. However, the 14 Centers Alternative is similar to the Eight Centers Alternative where urban centers, urban/transit and urban/auto areas would receive the majority of growth which could have negative impacts on sensitive areas in these locations. Similar to the Eight Centers Alternative, the 14 Centers Alternative assumes implementation of the Rail/TSM alternative. Impacts would be similar to those described under the Eight Centers Alternative.

### **Pre-Countywide Planning Policies Alternative**

Future growth would be least concentrated under the Pre-Countywide Planning Policies Alternative which would impact sensitive areas and resource lands more than any other alternative. The Pre-Countywide Planning Policies Alternative would consume the most undeveloped land through a dispersed growth pattern, and would result in the greatest impacts on sensitive areas and resource lands in urban, rural and resource areas. The CPPs under this alternative there would be fewer requirements for interjurisdictional coordination, adding to potential adverse impact.

However, the King County Sensitive Areas Ordinance (1990); SEPA; the King County Farmland Preservation Program; the King County Open Space program (1989); the King County Zoning Code (Adopted June 1993); the Washington Forest Practice Act; the King County Current Use Timber Tax Program (RCW 84.33); and the King County Current Use Open Space Tax Program (RCW 84.34) would all still apply.

The Pre-Countywide Planning Policies Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the Pre-Countywide Planning Policies Alternative regarding TSM are those described under No Rail Policy Option.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **Magnet Alternative**

Under the Magnet Alternative, future household growth would be most concentrated in the urban auto, urban/transit and urban centers respectively. Future employment growth would be most concentrated in activity centers, urban centers and office/business parks respectively. Unlike the Eight Centers and 14 Centers Alternatives, the Magnet Alternative does not designate the location of urban centers, but rather establishes goals for allocation of urban growth as measured by benchmarks and strategies. Impacts on sensitive areas would be the greatest in the urban areas under the Magnet Alternative. The Magnet Alternative also allocates the greatest amount of growth to rural and resource areas than the No Action, Eight Centers, or 14 Centers Alternatives. Consequently, similar to the Pre-Countywide Planning Policies Alternative, rural and resource areas would have more growth impacts under this alternative.

However, unlike the Pre-Countywide Planning Policies Alternative, the Critical Areas policies of the Magnet Alternative would positively impact sensitive areas and resource lands. Through benchmarks and strategies, they would establish a sustainable balanced resource mix on a drainage basin basis, of those critical areas needed for flood control, aquifer recharge, water purification and fish and wildlife habitat. The benchmarks and strategies' policies would also ensure that all needed critical areas are in public ownership or are protected through regulatory programs with on-or-off-site density transfers.

The UGA's policies of the Magnet Alternative would also positively impact sensitive areas and resource lands. A principal benchmark policy would be to utilize opportunities for infill, renovation and redevelopment within existing developed areas in order to increase the Countywide average rate of development activity within these areas.

The King County Sensitive Areas Ordinance (1990); SEPA; the King County Farmland Preservation Program ; the King County Open Space program (1989); the King County Zoning Code (Adopted June 1993); the Washington Forest Practice Act; the King County Current Use Timber Tax Program (RCW 84.33); and the King County Current Use Open Space Tax Program (RCW 84.34) would all apply under this alternative.

The Magnet Alternative assumes the following variations to the Regional Transit System Plan: a

commuter rail from Everett to Tacoma; phased HCT rail; benchmarks incorporating King County Commute Reduction Plan targets; improvements to existing HOV system, public transit and regionally coordinated pedestrian and bicycle routes. Impacts on sensitive areas and resource lands under this policy option would be similar to those under the Eight Centers and 14 Centers Alternatives.

### *Impacts of the Other Policy Options*

#### **Technical Review Areas**

Some of the Technical Review Areas contain wildlife habitat linkages and identified open space corridors which have been recommended as urban with the ultimate designation as Urban Separators under the joint planning process, consistent with Countywide policy LU-15. The urban separator designation would have a positive impact on sensitive areas in those Technical Review Areas providing environmental and wildlife benefits. However, the proposed action for the Technical Review Area does not include the urban separator designation. For this reason the impact is indeterminate.

#### **No Rail Policy Option**

The no rail policy option impacts on sensitive areas and resource lands would result in construction of park-and-ride lots, HOV lanes (for example, at the Swamp Creek interchange), and associated facilities that could permanently remove some habitat and temporarily disturb adjacent habitat. Direct intrusion, removal of vegetation and habitat, increased runoff, erosion, sedimentation, noise, dust, and pollutants could reduce the overall quality of the adjacent ecosystems and environmentally sensitive areas. This impact is similar to the impact of assuming rail in the base alternatives.<sup>3</sup>

#### **Affordable Housing Policies**

In general, the Affordable Housing policies could have negative impacts on sensitive areas located in urban areas. For example, policy AH-2 (B) (b) calls for revising land use regulations as needed to remove barriers for siting affordable housing. There could be tradeoffs as the urban areas become more dense with more affordable housing and associated services. This will cause displacement and impacts to some natural areas, vegetation and habitat in the urban areas. However, the Eight Centers and 14 Centers Alternatives which assume a greater concentration of

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

development in urban areas, would reduce housing development impacts on sensitive areas and resource lands in rural or resource areas.

### **Economic Development Policies**

The Eight Centers, 14 Centers, and Magnet Alternatives include the FIS/ED Policy ED-4 which calls for the GMPC to adopt economic development policies to protect the natural environment as a key economic value in this region. This policy could have significant positive impacts on resource lands and sensitive areas.

### **Rural Character Task Force Policies**

In general, the Rural Character Task Force policies would have positive impacts on sensitive areas and resource lands in rural King County. A fundamental component of the Task Force policies is to maintain the traditional character of the rural areas with its mix of forests, farms, natural environment, rural cities, unincorporated rural centers, and variety of low-density land uses. All of these components would positively impact sensitive areas and resource lands in rural areas, while probably placing greater stress on sensitive lands in urban areas.

Rural Task Force policy RU-17 would provide additional incentives for voluntary cooperative management of open space lands including: technical assistance to landowners of private woodlots or open space in separate ownerships; technical assistance to community groups interested in habitat restoration, stewardship, and management plans; open space tax incentive programs for voluntary protection; implementation of "right to farm" and "right to forestry" ordinances; and development of expedited permit review processes or permit exemptions for activities complying with cooperatively developed stewardship, habitat restoration or resource management plans that include "best management practices". This policy would have significant positive impacts on sensitive areas and resource lands in King County.

(RU-9) Rural development standards should be designed to protect the natural environment. The tools to achieve this include: seasonal and maximum clearing limits; impervious surface limits; surface water management standards that emphasize preservation of natural drainage systems and water quality and best management practices; and (RU-18) King County shall work to achieve equitable tax

assessments for those Rural Areas lands, regardless of size, impacted by the SAO, or dedicated to natural resource protection/restoration or open space, or included in the Public Benefit Rating System. Both these policies are important to achieve greater protection of sensitive and resource lands in rural areas.

## **MITIGATION MEASURES**

Under all alternatives, Federal and State laws addressing sensitive areas and resource lands provide some degree of mitigation for the adverse impacts of future growth. (i.e. Sections 404 and 401 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Hydraulic Project Approval). SEPA also requires that potential adverse impacts to sensitive areas be disclosed, but does not prohibit activities that have unavoidable impacts.

The King County SAO provides regulations and mitigation requirements for development in wetlands, streams, flood hazard areas, steep slopes, erosion hazard areas, landslide hazard areas, seismic hazard areas, volcanic areas, and coal mine hazard areas. Local Critical Area ordinances should also provide some mitigation. King County clearing and grading ordinance regulates clearing in sensitive areas as defined by the SAO. In areas outside of the SAO, clearing is limited only to situations where a forest practice permit for conversion is required and the parcel is in a critical drainage area or subject to conditions in a community plan.

King County Wildlife Habitat Profile (1987) identifies goals and principles for habitat management which could also provide some mitigation to adverse impacts of growth on sensitive areas containing significant habitat values. They include: a) manage for diversity of wildlife, particularly protection of valued species; b) maintain connections between habitats; c) develop habitat pairings (e.g. habitats near wetlands), and edges or areas of transition between habitats; d) maintain large habitats, and a distribution of perhaps smaller sites, and microhabitats (surface water, selective cutting of trees).

The King County Open Space Program (1988) would also provide some degree of mitigation to sensitive areas and resource lands. Upon completion, the program would acquire 3,100 acres of open space and parks and 70 miles of trails. In addition, 2,800 acres of privately owned land is enrolled in current use tax program for open space lands (RCW 84.34). King

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

County also has extended its current use tax program for timber (RCW 84.33) to include forest parcels between 5 and 20 acres in size in the Rural Area which encourages the retention of forest cover and mitigates growth impacts to sensitive areas and resource lands. King County has also applied its new forest zone designation (1989) on approximately 1,000 square miles of forestland in Eastern King County to encourage long-term retention of lands for productive forestry.

There will also continue to be development pressure upon some environmentally sensitive areas and resource lands from adjacent housing and other forms of development.

King County has applied restrictive agricultural zoning to 43,000 acres of remaining farmland (1989). This action, coupled with the \$50 Million Farmland Preservation Bond Program (1979) to purchase development rights has provided some mitigation to growth and development of these resource lands. The Open Space Taxation Act (RCW 84.34) also extends taxation benefits to more than 32,000 acres of farmland, thereby mitigating the effects of growth in these rural areas.

There have been attempts at wetland mitigation bank programs (Mill Creek Special Area Management Plan, City of Renton Wetland Mitigation Bank) which are expected to provide some mitigation to growth impacts on wetlands in these environmentally sensitive areas.<sup>4</sup>

The newly adopted King County Zoning Code (1993) also provides some additional mitigation to sensitive areas through the provision of: residential density bonuses (for dedication of trails, open space, etc.); transfer of residential density credits (for sending sites with groundwater recharge values, open space values, wildlife habitat values, woodlands, community separator values); and urban planned unit development (UPD) bonuses (for provision of on-site recreation areas).

In addition, the designation of any Technical Review Areas as Urban Separators would also be an additional mitigation technique.

Also, the concept of using a landscape/ecosystem approach to King County's long-range natural resource and environmental planning would be an additional mitigation technique.

### **UNAVOIDABLE IMPACTS**

Unavoidable impacts on sensitive areas and resource lands include impacts from inappropriate development activities or lack of "best management practices".

ENDNOTES

1. Metro, et al., Final Environmental Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle, Seattle, 1993.
2. Metro, et al., Final Environmental Impact Statement Regional Transit System Plan.
3. Metro et al. Final Environmental Impact Statement Regional Transit System Plan.
4. National Association of Business Parks and Puget Sound Water Quality Authority Public Involvement and Education Project. Wetland Incentives: Non-regulatory Approaches to Protecting Wetlands. NAIOP and PSWQA. Seattle, WA. 1992.

## **14.0 AIR QUALITY**

### **MAIN FINDINGS**

For all of the alternatives, the CPPs mitigate mobile air pollution source impacts. Overall, the CPPs strengthen the trip reducing characteristics of both the Centers Alternatives. The policies of the Pre-Countywide Planning Policies and the Magnet Alternatives mitigate the negative impacts but not to the extent that they are mitigated under both Centers Alternatives.

For this analysis, the term "fixed sources" has been coined and is used in contrast to mobile sources. Fixed sources includes point sources and stationary sources.

In terms of fixed (in contrast to mobile) air pollution sources, both Centers Alternatives have the highest potential of creating negative air quality impacts for adjacent land uses and The No Action, the Pre-Countywide Planning Policies, and the Magnet Alternatives have the least.

In terms of mobile (in contrast to fixed) air pollution sources, both the Centers Alternatives have the least negative impact of all the alternatives. This is because higher land use density results in decreased vehicle trips, decreased vehicle emissions, and increased effectiveness of travel demand management programs. The Pre-Countywide Planning Policies and the Magnet Alternatives have the most negative impacts in terms of mobile sources of air pollution because dispersed development and low land use density results in increased vehicle trips, increased vehicle emissions, and decreased effectiveness of travel demand mitigation.

Mitigating the air quality impacts has two components: 1) increasing land use densities to reduce travel demand and vehicle trips; and 2) coordination of land uses so that fixed emission sources do not locate close to incompatible land uses. Zoning is one regulatory means which could be used to minimize land use conflicts. Also, fixed emissions impacts should be analyzed on a case by case basis.

## **AFFECTED ENVIRONMENT**

### *Policy Setting*

Despite progress over the last decade in controlling emissions from large industrial sources and automobiles, ambient air pollution (pollution of outdoor air) continues to be a serious environmental threat in the state and local region. In 1989, the Washington State Environment 2010 project identified ambient air pollution as the number one threat to the environment (State of the Environment Report 1989). The City of Seattle recently ranked transportation sources of air pollution as the City's top environmental challenge in terms of both relative risk and overall priority for action (City of Seattle 1991).

### *Criteria Pollutants*

The federal Clean Air Act established national ambient air quality standards (NAAQS) for six criteria air pollutants: carbon monoxide (CO), ozone (O<sub>3</sub>), particulate matter, nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>) and lead (Pb).

Carbon monoxide (CO) is a deadly gas formed from incomplete combustion of carbon-containing fuels. Motor vehicles are the principal source of carbon monoxide emissions within the metropolitan region.

Ozone (O<sub>3</sub>) forms in the lower atmosphere from the reaction of hydrocarbons (HC) and oxides of nitrogen (NO<sub>x</sub>) in the presence of sunlight. Hence its precursors, HC and NO<sub>x</sub>, are the emitted pollutants of concern. Various polluting hydrocarbon compounds

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

are emitted or evaporate into the air in connection with the use and combustion of fuels in motor vehicles.

The particulate matter of concern consists of two classes: total suspended particulates (TSP) and inhalable TSP that is made up of particles 10 microns or less in diameter (PM<sub>10</sub>). Particulate matter enters the air from industrial operations, vehicular traffic, and other fuel combustion sources, including wood stoves. Most of the PM<sub>10</sub> generated by motor vehicles consists of resuspended road dust. In addition to adverse health effects, suspended particulates contribute to the soiling of buildings and reduced visibility.

Nitrogen dioxide (NO<sub>2</sub>) forms as the result of high-temperature fuel combustion and subsequent atmospheric reactions. In addition to health effects, it reacts with moisture to form acid mist or rain.

Sulfur dioxide (SO<sub>2</sub>), a colorless corrosive gas, is produced by industrial processes and the combustion of sulfur-containing fuels, including coal, oil, and diesel fuel. In addition to health effects, SO<sub>2</sub> damages the foliage of trees and agricultural crops and contributes to the formation of acid rain.

Since the introduction of unleaded gasoline, lead is no longer a tailpipe emission of significant concern. Although not a criteria pollutant, or even generally conceived as a pollutant, carbon dioxide (CO<sub>2</sub>), a major by-product of burning fossil fuels, is a growing concern because of its contribution to global warming.

### *Toxic Air Pollutants*

Principal transportation-related toxic air pollutants, for which data are extremely limited, include benzene, formaldehyde, gasoline vapors, and diesel particulates. Mobile source emissions are extremely complex. Hundreds of compounds are associated with both the gas phase and particulate components of emissions. The levels of potential health risk associated with various toxic air pollutants are highly variable.

Toxic air pollutants have been associated with increased cancer risk. Toxic air contaminants overlap other categories of pollutants including total suspended particulates, PM<sub>10</sub>, and hydrocarbons.

### *Ambient Air Quality Standards and Non-Attainment Areas*

Ambient air quality standards identify pollutant concentrations that are not to be exceeded over specified periods. Primary standards protect public health. Secondary standards protect the natural environment. Under the federal Clean Air Act, areas that violate primary standards are designated "non-attainment areas" and State Implementation Plans (SIPs) must be developed to bring these areas into attainment. SIPs generally include transportation control measures to reduce motor vehicle emissions.

### *Clean Air Act Amendments of 1990*

The federal Clean Air Act Amendments (CAAA) of 1990 reflect a national commitment to attain air quality standards. As a result, attainment of ambient air quality standards is now a critical objective in making urban transportation investment decisions. The 1990 CAAA requires establishing objectives for emission reductions within non-attainment areas, updating emissions inventories in revised SIPs, forecasting vehicle miles traveled (VMT), and developing contingency measures to put into effect if air quality standards or VMT forecasts are exceeded.

The 1990 CAAA requires the Puget Sound Regional Council (PSRC) to determine the effect on air quality of any proposed transportation plan, program, or project. More specifically, the PSRC is responsible for ensuring that new transportation plans, programs, and projects will not cause the following: cause or contribute to violations of air quality standards, increase the frequency or severity of existing air quality problems, or delay attainment of air quality standards.

The PSRC, as the Metropolitan Planning Organization (MPO), also prepares the Transportation Improvement Programs (TIPs) for the central Puget Sound region. The TIP is a six year regional plan for transportation projects, specifying project timing, costs, funding sources and priorities. Eligibility of projects for federal funding is dependent on inclusion in the TIP and a finding (by the PSRC and the Federal Highway Administration) that the TIP conforms with air quality and congestion management objectives. In 1991, the PSRC found that both the Vision 2020 plan and the 1992 TIP conform to the federal Clean Air Act and the Washington SIP. This finding was approved by the U.S. Department of Transportation.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### *Federal and State Clean Air Acts and Washington State Implementation Plan (SIP)*

Under the federal Clean Air Act, states which violate national ambient air quality standards must adopt a SIP for attaining the standards and to submit this plan to the EPA for approval. The Puget Sound region must attain carbon monoxide (CO) standards by December 31, 1995 it must have achieved ozone (O<sub>3</sub>) standards by November 15, 1993. Prior to any formal redesignation of the local non-attainment areas as attainment areas, the state must also adopt a 10-year maintenance plan and submit it to the EPA for approval. Failure to submit an acceptable SIP may result in sanctions that include withholding federal highway and mass transit funding.

The federal and state clean air acts require all transportation plans, programs, and projects to conform with the SIP. Preparation of the SIP is the responsibility of the Washington State Department of Ecology (DOE), in cooperation with the PSRC and the Puget Sound Air Pollution Control Agency (PSAPCA). The DOE also administers state programs that are important to maintaining air quality in the non-attainment area, including the oxygenated fuel program, SIP conformity determinations, and vehicle inspection and maintenance (I/M) program. The I/M program in King County targets the urban areas for bi-annual vehicle emissions.

Drafts of the SIPs for carbon monoxide and ozone were published by DOE in November and December, 1992. The final SIPs will include new state conformity regulations (Chapter 173-420 WAC), which were adopted in January 1993. These regulations established a process based on existing requirements of the Clean Air Act, the Intermodal Surface Transportation Efficiency Act (ISTEA), the GMA and the State and SEPA and NEPA. In this process, conformity occurs primarily at the regional level through the PSRC, acting as the MPO in cooperation with local units of government, the PSAPCA, the DOE, the Washington State Department of Transportation, the EPA, and the United States Department of Transportation. A wide range of transportation control measures (TCMs) may be included in SIP supplements and subsequent maintenance plans to further reduce motor vehicle emissions.

### *Commute Trip Reduction Law*

The 1991, Washington State legislature enacted a law to improve air quality, reduce traffic congestion, and decrease the consumption of petroleum fuels. The law requires employer-based programs that encourage alternatives to SOVs for commuting to the workplace. The law applies to employers with 100 or more full time employees in a single location who begin the work day between 6:00 a.m. and 9:00 a.m. in counties with populations of greater than 150,000. Although no specific requirements are placed on transit providers, improved transit service will help employers meet the mandates under the law. These mandates include a reduction in single occupant commute trips of 15 percent in 1993, 25 percent by 1997, and 35 percent by 1999.

### *Historical and Existing Air Quality Conditions*

The Puget Sound region currently meets federal standards for lead, sulfur dioxide, and nitrogen oxides, but portions of the region exceed standards for carbon monoxide, particulate matter, and ozone. Motor vehicle tailpipe emissions are primary sources of carbon monoxide and ozone. Tailpipe emissions and resuspended road dust contribute to suspended particulates.

### *Carbon Monoxide (CO)*

Within the Puget Sound region, motor vehicles contribute roughly 70 percent to 75 percent of carbon monoxide emissions. Carbon monoxide's impact is usually very localized. Highest concentrations often occur near congested roadways and intersections. Violations of carbon monoxide standards within the region have decreased since the early 1970s, due to replacement of older "dirtier" vehicles with newer cars that comply with more stringent emission standards. A multi-year summary of CO levels is shown in Appendix K-1. The state's I/M program has also contributed to lower CO emissions.

In 1987 and 1988, downtown Bellevue, Everett, Seattle, and Tacoma, and the University District were non-attainment areas for CO. Seattle met the CO standard in 1989. In 1990, Bellevue, Tacoma, and the University District also met the CO standard. In 1991, CO concentrations exceeded the 8-hour standard in Tacoma and Everett, and came close to exceeding it in the University District, Northgate, and downtown Seattle. In 1992, in response to the 1990 CAAA requirements, Ecology consolidated these

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

localized CO non-attainment areas into a single regional non-attainment area that extends along the I-5 corridor from Marysville to south Pierce County.  
Ozone (O<sub>3</sub>)

Ozone results from sunlight-driven chemical reactions in the air between nitrogen oxides and hydrocarbons. The highest levels of ozone tend to occur on hot afternoons when urban area emissions trapped beneath temperature inversions are exposed to high temperatures. Because northerly winds often develop during these days, the highest ozone levels tend to occur south to southeast of the major urban areas where precursor emissions occur. Hence high ozone levels tend to be more of a regional than a localized concern.

EPA designated the Puget Sound region as "in attainment" of the O<sub>3</sub> standard in January 1987, based on measured concentrations over a three-year averaging period. This designation continued until 1990, when the standard was exceeded at three monitoring sites. In 1992, the EPA designated the three-county region as a "marginal" non-attainment area for ozone. The vehicle emission testing program is being expanded throughout the Puget Sound area to help bring the region back into compliance.

### Total Suspended Particulates (TSP) and PM<sub>10</sub>

Industrial areas in Seattle and Tacoma have consistently violated the State and regional standard for TSP. Motor vehicles contribute roughly 80 percent of TSP emissions. Within King County, PM<sub>10</sub> constitutes about 40 percent of total on-road suspended particulates. At least 50 percent of on-road PM<sub>10</sub> consists of resuspended road dust, with the remainder deriving from vehicle exhaust and dust from vehicle brake and tire wear. Three Puget Sound PM<sub>10</sub> non-attainment areas (Seattle, Kent, and Tacoma) have been designated, although recent monitoring indicates compliance with standards. PM<sub>10</sub> concentrations have been monitored in the region since 1983. The region has generally been in compliance with the annual PM<sub>10</sub> standard and has only had isolated instances where the one day value was exceeded. Within the last several years, two locations within the port area of Tacoma have marginally exceeded the 24 hour average PM<sub>10</sub> standard. Between 1987 and 1989, neither Seattle nor Tacoma attained State and regional TSP standards, but both attained federal, State and regional PM<sub>10</sub> standards. More recent data indicate a similar pattern.

### Sulfur Dioxide (SO<sub>2</sub>)

Washington State and Puget Sound annual and 24-hour average standards for SO<sub>2</sub> are more rigorous than federal standards. Historical data (1987 through 1990) show no violations of the three annual standards, but indicate violations of State and regional one-hour and five-minute standards in 1987.

### Long Term Trends

The dramatic improvements in air quality that occurred in the 1980s were attributable to several factors:

- Strong public environmental awareness and consensus for regulatory and political change during the 1960s and 1970s.
- The availability of effective, relatively inexpensive technological improvements for automobile emission control systems.
- The introduction of light-weight durable materials to replace steel, which allowed cars to become lighter and more fuel-efficient.
- The increased cost and limited supply of gasoline due to the Middle East oil embargo of the 1970s.
- Economic prosperity during the 1980s, which helped replace many old cars without emission control systems.

The following trends work against improvements in the levels of motor vehicle emissions in the Puget Sound region:

- Economic recession during the 1990s slowed the market from exchanging their older, less efficient vehicles for the new, more efficient ones.
- VMT is projected to increase by 78 percent by 2020.
- The arterial transportation system is mature, with no planned significant increase in roadway capacity.
- Increased congestion, travel delay, and slower travel speeds are expected.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

In the absence of significant policy changes, average vehicle emission rates are expected to stabilize around 2005.

On the other hand, many factors point to the possibility of future legislation which could lead to increased use of low or zero emissions motor vehicles, which would considerably reduce aggregate motor vehicle emissions.

### *Global Warming*

The burning of fossil fuel in motor vehicles contributes to the production of carbon dioxide which contributes to potential global warming. Although increased transit use may modestly reduce motor vehicle use, the heavy use of automobiles for personal transportation needs is expected to continue. Hence, significant reductions of motor vehicle carbon dioxide emissions will depend on significant introduction and use of motor vehicle technologies which substantially reduce carbon dioxide emissions.

### *Transportation and Air Quality*

Motor vehicles currently generate roughly 80 percent of all particulate emissions within the region, 70 percent to 75 percent of carbon monoxide emissions, 60 percent of nitrogen oxide emissions, and 25 percent of hydrocarbon emissions, although these proportions have changed. Motor vehicle emissions continue to be of concern, since levels of carbon monoxide, ozone, and fine particulate matter have approached or exceeded National Ambient Air Quality Standards in recent years and the growth of regional vehicle miles of travel could worsen regional motor vehicle emissions.

### *Mode Choice*

With current motor vehicle emission characteristics, individual mode choices (walking, bicycling, driving in an SOV, or riding in a carpool or on a bus) substantially affect individual contributions to aggregate motor vehicle emissions. Walking, bicycling, or use of HOVs reduce vehicle miles of travel and emissions per passenger mile of vehicular travel.

### *Vehicle Occupancies*

Vehicle occupancy rates have a major impact on per-passenger-mile pollutant emissions and energy efficiencies of different transportation modes. Thus,

it is important to consider the characteristic passenger loads associated with different modes.

Average transit vehicle passenger loads are generally considerably less than their capacities, due to their moderate to low ridership during nonpeak service hours and "deadhead" miles (non-revenue miles traveled without passengers between routes and operating bases). The basic pattern of many transit routes, where passengers are picked up at stops toward one end of the route and disembark at a series of stops toward the other end of the route, also contributes to reduced overall passenger loads.

Average bus passenger loads were estimated using Metro fleet data. The average passenger load per mile for Metro's 1990 fleet (total annual passenger miles divided by total annual vehicle miles, including deadhead miles) was 11.2 people (14.1 for the electric trolley fleet and 11.0 for the diesel bus fleet). Metro's deadhead miles constitute about 25 percent of its total transit vehicle miles and are equivalent to about 33 percent of revenue miles. <sup>1</sup>

### *Vehicle Operating Characteristics*

Temperature, altitude, vehicle load, and speed also affect exhaust emissions. Exhaust emissions per mile are worst when vehicles are idling, generally diminish up to speeds of about 45 to 50 mph, and then generally increase at higher speeds. An illustration of the relationship between vehicle speeds and emissions per mile of principal exhaust pollutants can be found in Appendix K-3.

Average vehicle operating speeds can play a significant role in altering the rates of traffic-generated exhaust emissions. Traffic congestion, leading to delays and reduced speeds, can significantly elevate exhaust emission rates per vehicle mile and contribute to localized carbon monoxide "hotspots."

Before their engines reach normal operating temperatures, motor vehicles produce up to 30 times their normal emissions per mile. These emissions are known as "cold-start" emissions. Unlinked short vehicle trips contribute disproportionately to increased motor vehicle emissions.

## **SIGNIFICANT IMPACTS**

### *Introduction*

Air pollution emissions arise from point and area sources. Point sources are easily identified, such as smokestacks. Compared to point sources, area sources are smaller and are therefore more difficult to identify. In addition, area sources can be stationary or mobile. Stationary area sources include activities such as wood burning stoves, dry cleaners, barbecues, and auto paint shops.

Of the area sources, mobile sources tend to be the air pollution sources familiar to most people. Mobile sources can be divided between on and off-road sources. On-road sources include all automobile and trucking activity. Off-road sources include rail, shipping, and other forms of internal combustion engines such as lawn mowers.

This analysis distinguishes between mobile and non-mobile emissions (for brevity, non-mobile sources are referred to as fixed sources). Mobile emissions address on-road sources. Fixed non-mobile emissions sources includes both point sources and stationary area sources.

The following analysis is based on current transportation literature and research. Sources include discussions with the Puget Sound Air Pollution Control Agency and the following documents: Air Quality and Travel Behavior: Untying the Knot, Transportation and Air Quality, the Draft Environmental Impact Statement Regional Transit System Plan, Regional Transit Plan: Let's Keep Moving, and Perspectives on the Relative Effects of Transportation Control Measures. No air quality models were used for this analysis.

Air pollution from mobile and point sources negatively impacts our quality of life. In the Puget Sound region, mobile sources comprise 59 percent of the NO<sub>x</sub> and 75 percent of the CO emissions. Point sources are 6 percent of the total NO<sub>x</sub> and CO emissions.

### *Impacts of the Alternatives*

Because of different land use patterns, each of the five alternatives has different impacts on air quality. Four main potential impacts for point sources exist.

- 1) In the beginning stages of development, dispersed land use patterns may increase the opportunity for point source emitters (such as a lumber mill) to locate away from conflicting land uses (such as residences).
- 2) However, in the later stages of development, dispersed land use patterns may result in conflicting land uses developing adjacent to each other.
- 3) In other aspects of planning, mixed land use activities have many advantages, however, in regards to air quality issues, mixed use activities may place residences or other incompatible uses close to fixed pollution emitters.
- 4) Because UGAs act to channel new growth within areas which are already urbanized, new and conflicting land uses may be forced closer together within these boundaries.

The impacts of mobile air pollution sources differ from the impacts of point air pollution sources. Mobile source emissions such as exhaust emissions are influenced by vehicle temperature, speed, and acceleration. Emissions vary depending on whether the vehicle has just started (cold start), idling, or traveling at a relatively constant or widely varying speed.

A wide variety of research on the aspects and relationships of transportation and air quality has been carried out. The following discussion is based on that research, with particular reference to work completed by Sierra Research, Deakin, Harvey, Skabardonis and the University of California Berkeley, and Chang-Hee Christine Bae at the University of Southern California.

Vehicle emissions control can be divided into two categories: exhaust emissions control equipment and reducing Vehicle Miles Traveled/Vehicle Hours Traveled (VMT/VHT). As pointed out by Chang Bae, the first category relies on technological advances and regulation enforcement. The second category relies on regional and local planning intervention. Also, though not directly stated by Bae, the VMT/VHT reductions rely on changes in travel behavior and travel patterns.

This analysis of mobile source emissions focuses on the effectiveness of VMT/VHT reduction. The 1990

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

Clean Air Act Amendments and the Intermodal Surface Transportation Efficiency Act address the need to reduce VMT/VHT and to manage congestion to minimize air quality impacts. The planning intervention tools used are frequently referred to as TCM, a variation of Transportation Demand Management. It is widely held that the most effective TCMs are those that reduce vehicle trips. This is because motor vehicles produce up to 30 times their normal emissions per mile before their engines reach normal operating temperature (cold starts). A large percentage of total emissions are attributable to these cold starts.

Overall, the most effective TCM is reducing vehicle trips which in turn reduces the number of vehicle miles traveled and the number of vehicle hours traveled. Consequently, this analysis of mobile source emissions focuses on reduction in vehicle trips.

### No Action Alternative

The No Action Alternative essentially calls for a continuation of existing development trends, with local jurisdictions developing their own detailed planning policies. Because of this, the development patterns that have been occurring for the past 10 years are likely to continue under the No Action Alternative. Under the No Action Alternative, overall air pollution impacts generated by fixed sources remain unclear because the No Action Alternative reduces the potential for conflicting sources to be located close together, but it also increases the potential for residential development to encroach into fixed source impact areas.

For fixed emission sources, the following CPPs have been identified as having an impact: FW-3, CA-13, FW-12, FW-13, LU-40, LU-46, LU-49, and FW-27. These policies either deal with the issues of growth in urban centers and mixed use development, or they specifically address environmental protection or other aspects of air quality (e.g. SEPA review). Overall, the results of these policies on point or stationary sources of air pollution are unclear because the precise location and the emissions characteristics from fixed sources cannot be identified at this level of analysis. In addition, analysis of these policies indicates that while they mitigate air pollution impacts individually, as a set, many of these policies work at cross purposes to each other. Consequently, impacts should be analyzed on a case by case basis. This conclusion is applicable to the No Action and both the Eight and 14 Centers Alternatives.

For mobile emission sources, the following CPPs have been identified as having a positive impact on air quality: LU-42 through 45, LU-60, T-1, T-5, T-8, and T-9 through T-14. Overall, the dispersed land use pattern of the No Action Alternative is more likely to increase vehicle trips and negatively impact air quality than a more dense land use pattern. However, because the above policies focus on consolidating land use activities (which can reduce dispersed development) and encourage multi-occupant travel, (which would reduce vehicle trips and related air pollution emissions), they could result in a decrease rather than an increase in impacts caused by mobile source emissions.

### Eight Centers Alternative

The Eight Centers Alternative outlines the development of eight urban centers and incorporates the Regional Transit System Plan. Overall, the Eight Centers Alternative results in lower emissions from mobile sources. However, the increased land use density may cause fixed sources (such as lumber mills) to locate close to conflicting land uses (such as residences).

For fixed sources, the CPPs have similar impacts as those discussed under the No Action Alternative. For mobile emission sources, the following CPPs have been identified as having an impact on air quality: LU-42 through LU-45, LU-55, LU-60, T-1, T-5, T-8, and T-9 through T-14. Of these policies only policy LU-55 counteracts the trip-reducing effects of the Eight Centers Alternative. Policy LU-55 limits density by requiring the designation of maximum densities for all activity areas. While activity areas are intended to be moderate density employment sites, placing a limit on densities inhibits the development of transit supportive environments and encourages the addition roadways.

Rail is expected to possibly slow the rate at which congestion increases and provide additional person-carrying capacity. By itself, rail may not permanently reduce automobile and freight delays because population and employment growth will result in consumption of road capacity.

But, the Regional Transit System Plan recommended under the Eight Centers Alternative could offer an effective and competitive alternative to the single occupant vehicle (SOV) which should result in a decrease in total mobile source emissions. For

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

example, the Regional Transit System Plan Environmental Impact Statement identifies the Regional Transit System Plan as reducing private auto emissions from 1.5 to 4.0 percent, depending upon the Regional Transit System Plan alternative implemented. In general, the Eight Centers Alternative consistently provides mechanisms to reduce vehicle trips and to encourage high occupancy vehicle use.

### **14 Centers Alternative**

The 14 Centers Alternative outlines the development of 14 urban centers and incorporates the Regional Transit System Plan. Analogous to the Eight Centers Alternative, the 14 Centers Alternative encourages more dense development, which increases the chance that conflicting land uses will be located close together. For fixed sources, the CPPs have similar impacts as those discussed under the No Action Alternative.

In regards to mobile sources, the 14 Centers Alternative with its higher land use density and implementation of the Regional Transit System Plan, is the best alternative for reducing single occupant vehicle use, increasing transit use, and supporting pedestrian activity. In addition, the Regional Transit System Plan is expected to reduce total mobile source emissions. For example, the Regional Transit System Plan Environmental Impact Statement identifies the Regional Transit System Plan as reducing private auto emissions from 1.5 to 4.0 percent. Overall, the 14 Centers Alternative consistently provides mechanisms to reduce vehicle trips and to encourage high occupancy vehicle use.

### **Pre-Countywide Planning Policies Alternative**

The Pre-Countywide Planning Policies Alternative represents the alternative with the greatest negative impact. The Pre-Countywide Planning Policies Alternative calls for using the policies in place since the 1985 Comprehensive Plan adoption. Consequently, the Pre-Countywide Planning Policies Alternative would continue the current development pattern without the mitigating effect of the currently adopted CPPs.

The dispersed growth of the Pre-Countywide Planning Policies Alternative is likely to result in increased vehicle trips, increased vehicle miles traveled, and increased emissions. Also under this alternative, residences may encroach into the fixed source impact area.

Three King County Comprehensive Plan policies impact air quality under the Pre-Countywide Planning Policies Alternative: C-102, C-211, F-201. Policy C-102 is a land use policy which encourages urban activity centers to have a mixture of uses, including commercial, manufacturing, retail, and residential. From an air quality perspective, the policy could result in emissions from commercial or manufacturing activities impacting the population in residential or retail activity centers. Some commercial and industrial uses do not have polluting emissions (or offensive odors) and could successfully be located near residential and retail areas. However, each commercial or industrial use would have to be considered on a case by case basis.

Policy C-211 states that urban activity centers should be "...located approximately three to six miles apart, allowing for short work and shopping trips...". This requirement has a negative impact on air quality. Vehicles emit up to 30 times their normal emissions before their engines reach normal operating temperatures, so encouraging short vehicle trips has a significant negative impact on air quality. Further, vehicle speeds play a role in emissions and optimum speeds are not reached until approximately 45 miles per hour. Short trips of three to six miles may not occur at this optimum travel speed or would only occur with significant acceleration, which also results in a high emissions rate.

Policy F-201 is a general statement and does not significantly impact air quality. The policy encourages transportation facilities to minimize air pollution, but because this policy doesn't specify or require that this goal be achieved, the impacts can not be analyzed.

### **The Magnet Alternative**

The Magnet Alternative uses "Least Cost Planning" (LPC) where a Countywide Progress Board monitors local jurisdictions' progress in achieving benchmarks and goals. LPC is described as "...a process that defines a series of quantifiable and measurable goals that create an overall target quality of life, measured by benchmarking." LPC focuses on avoiding new infrastructure by using existing facilities to their maximum capacity and on reducing demand for the facilities by managing demand.

Monitoring and benchmarks are an effective method to guide planning and implementation. The policies under the Magnet Alternative identify both the goals

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

and the mechanisms for achieving those goals. The mechanisms are sometimes at odds, such as Transportation Policy 7, which calls for both reducing p.m. peak hour single occupancy vehicle travel through demand management and adding new roadway capacity. A general increase in roadway capacity, while implementing demand management mechanisms, defeats the impacts of the demand management.

Under the Magnet Alternative, the future development patterns and transportation systems are not clearly defined. The policies indicate a preference for high occupancy vehicle travel and increased density in developed areas, but the overall allocation of growth favors dispersed land use. In general, dispersed land use favors single occupancy vehicle use over transit. The land use distribution and the transportation goals appear to be mutually exclusive due to these policy conflicts.

### *Impacts of the Policy Options*

Because the impacts of the policy options for the Eight Centers, 14 Centers, and the Magnet Alternative are similar, the following analysis applies to all three alternatives.

### Technical Review Areas

The Technical Review Areas are five areas considered for land use re-designation. Four of the Technical Review Areas are within City of Renton's UGA and one is within City of Issaquah's. The impacts are the same for each review area, though to varying degrees depending on the percentage of re-designated rural and urban land. Areas that are designated urban will be more dense and have a more pedestrian and transit supportive environment, while areas designated as rural or urban separators will be less dense and tend to discourage transit and pedestrian activity.

### No Rail Option

The No Rail Option is the Transportation System Management (TSM) option of the Regional Transit System Plan alternatives. The increased transit activity of the TSM option will put pressure on roadways, but this pressure can be mitigated through projects such as HOV or transit lanes.

The No Rail Option is expected to reduce total mobile source emissions by approximately 1.5 percent. This reduction is expected to occur by drawing transit

riders out of private automobiles. The reduction in emissions from private autos is expected to more than offset the increase in transit generated air pollution, resulting in the 1.5 percent emissions reduction.

### Affordable Housing Policies

The Affordable Housing Policies recommended as part of the Affordable Housing Task force have no additional positive or negative impacts on air quality.

### Economic Development Policies

The two policy variations developed by the Suburban Cities Committee and the City of Seattle positively affect air quality by mitigating vehicle trips.

### Rural Character Task Force Policies

Both the Suburban Cities Association and the Rural Character Task Force submitted revisions to some of the Rural Character Policies. Between the two groups, the following revised policies affect air quality: RU-3 and RU-6.

Both RU-3 and RU-6 have negative impacts on air quality because they both associate lower densities and larger lots as mechanisms to preserve rural character. Lower densities and larger lots encourage single occupancy vehicle travel, generate more vehicle trips per residence and longer vehicle trips, and discourage walking and transit use.

Lower land use densities increase the demand for vehicle trips, require a large proportion of infrastructure to unit of developed land, and decrease transit trips. The low densities also result in long distances between activity centers, which reduces pedestrian and transit use.<sup>2</sup> Freight travel is also reduced as densities increase, because a large delivery market can be served in fewer trips.

The remainder of the Rural Character policies are designed to protect rural character, regulate lot size, development standards, service standards and land use. The policies list the land uses that are appropriate for promoting rural character: natural resource-based industry, including forestry, fisheries and agriculture; local provision of goods and services; low density residential; and, recreation and open space. The rural character policies seek to maintain and enhance the existing rural land uses within the County. Therefore, the rural character policies should not result in adverse impacts to air quality.

## **MITIGATION MEASURES**

Under the No Action Alternative, mitigating the air quality impacts has two components. First, increasing land use densities to reduce travel demand and vehicle trips. Second, coordination of land uses so that fixed emission sources do not locate close to incompatible land uses. Zoning is one regulatory means which could be used to minimize land use conflicts. Also, fixed emissions impacts should be analyzed on a case by case basis.

The Eight Centers Alternative has the second highest land use density and the Regional Transit System Plan, which renders it the second best alternative choice in terms of air quality impacts. Mitigation of negative impacts would be the same as for the No Action Alternative.

The 14 Centers Alternative has the highest land use density and the Regional Transit System Plan, which renders it the best alternative choice in terms of air quality impacts. Mitigation of negative impacts would be the same as for the No Action Alternative.

The Pre-Countywide Planning Policies Alternative does not include the CPPs and it results in low density of land use. Consequently, this alternative is expected to have the highest negative impacts in terms of mobile source air pollution emissions.

The dispersed growth of the Pre-Countywide Planning Policies Alternative may also result in residences encroaching into the impact area of point or stationary emission sources. Including the CPPs and increasing land use densities would help to mitigate the mobile source impacts of this alternative. To mitigate the impacts of point and stationary sources on adjacent and nearby land uses, a policy requiring case by case analysis should be also included under the Pre-Countywide Planning Policies Alternative.

The Magnet Alternative has conflicting land use and transportation goals. The transportation policies support various forms of high capacity transit, but without the supporting land use density the transit service will not be effective. Mitigation of the mobile source impacts of the Magnet Alternative includes three components. First, increased coordination between transportation and land use. Second, establishing increased land use densities. Third, analyzing on a case by case basis fixed source impacts to determine the impacts of emissions on nearby and adjacent land uses.

## **UNAVOIDABLE IMPACTS**

In general, adverse air quality impacts will occur where growth occurs. The No Action, Pre-Countywide Planning Policies, and the Magnet Alternatives result in lower land use densities, increased single occupancy vehicle trips, and greater air pollution impacts from mobile sources than both of the Centers Alternatives. However, both the Eight and 14 Centers Alternatives (because they result in higher density) have a higher potential for creating negative air quality impacts for adjacent land uses than the No Action, Pre-Countywide Planning Policies and the Magnet Alternatives.

ENDNOTES

1. USDOT/FTA Data Tables for the 1990 Section 15 Report Year, December, 1992.
2. Institute of Traffic Engineers, Trip Generation Manual, 1991.

Washington State Transportation Commission Innovations Unit, Land Use Transportation Linkages, April 1992, p. 12.

## **15.0 WATER QUALITY**

### **MAIN FINDINGS**

All of the alternatives call for concentrating urban growth west of the UGA, providing positive benefits to water quality in the rural and resource areas in the eastern portion of the County. Water quality in areas where growth will be concentrated could be adversely affected.

Beginning with the alternative that would result in the least impacts, the alternatives rank in the following order: 14 Centers, Eight Centers, Magnet and No Action, with the Pre-Countywide Planning Policies resulting in the most adverse impacts.

The Pre-Countywide Planning Policies has the most dispersed growth pattern which would likely rely on natural systems to accommodate treatment of runoff, but also dispersing the release of pollutants into the environment.

Mitigation could include implementation of wastewater and surface water control programs as well as continued regulation to protect water quality.

### **AFFECTED ENVIRONMENT**

King County drainage basins include the Cedar River, Green River, White River, Snoqualmie River and Puget Sound. These river basins also drain into portions of Snohomish and Pierce Counties. The County also has significant ground water resources. Water quality within the basins and the extent of ground water recharge areas are of special concern to King County.

Washington State classifies water bodies according to required standards, including fecal coliform bacteria, dissolved oxygen, temperature, and pH. New discharges are not allowed to degrade water quality below the standards. Toxic, radioactive, or other deleterious materials may not cause acute or chronic conditions adversely affecting aquatic life or public health.

Class AA, Class A, and Lake Class water bodies are expected to be suitable for all uses, including drinking water. Class B water bodies are unsuitable for drinking water supply and swimming. Class C water bodies are unsuitable for drinking water supply, swimming, and fish or shellfish rearing, spawning, or harvesting.

The Snohomish River Basin covers 1,978 square miles in Snohomish and King Counties. Major tributaries include the Skykomish and Snoqualmie Rivers in King County. The Snohomish River system is designated Class A and generally meets this

standard. However, there is contamination from industrial uses in the Snohomish River near Everett.

The Cedar River Basin covers 600 square miles in King County. The Lake Washington Ship Canal, Lake Union, Lake Washington, and Lake Sammamish are designated Lake Class and generally meet this standard. The Cedar River is designated Class A and meets those criteria. The Sammamish River is designated Class AA, but sometimes exceeds each of the criteria. Metal concentrations in the basin are generally less than EPA criteria for harm to aquatic life. Most tributaries of the system are designated Class AA, but their actual water quality ranges from fair to good, with most of them sometimes exceeding fecal coliform, temperature, and dissolved oxygen criteria, and some have problems with copper, zinc, and iron contamination.

The Green River Basin covers 470 square miles in King County. The Duwamish River is designated Class B, but fecal coliform counts sometimes exceed this criterion. The river has a history of high metal and organic compound concentrations from industrial uses, often exceeding levels harmful to aquatic life. Sediments in the lower Duwamish are contaminated with metals and organic chemicals. The Green River is designated Class A, but sometimes exceeds the fecal coliform, dissolved oxygen, and temperature standards. The water quality has been improving since sewage treatment plant effluent was stopped from being discharged into the river.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

The White River Basin drains 1,464 square miles of Pierce and King Counties. The White River is designated Class A. Fecal coliform levels sometimes exceed the standards. Turbidity standards are also exceeded in the summer, due to glacial runoff.

Many smaller streams, including Hylebos, Des Moines, Miller and Salmon flow directly into Puget Sound and a pond of the Puget Sound drainages. Data on stream water quality is incomplete in many cases. Some streams are relatively uncontaminated. Others have problems with fecal coliform bacteria, nutrients, heavy metals, and organic chemicals. Because of their size, these streams are particularly susceptible to contamination.

### *Groundwater Resources*

Groundwater is found at relatively shallow depths in the project area, typically 25 to 50 feet below ground level. Principal aquifers consist of glacial drift or alluvium, with depths to water of 25 to 50 feet in the glacial drift and less than 25 feet in alluvial aquifers. Alluvial aquifers are found along the principal rivers in the region.

In most areas, groundwater quality meets drinking water standards. The most common water quality problems are high iron and manganese concentrations. Groundwater in some areas, such as Superfund sites, has been contaminated with heavy metals, hydrocarbons, solvents or other toxic pollutants.

The City of Renton's sole source aquifer consists of coarse-grained alluvial and deltaic deposits near the mouth of the Cedar River. The aquifer protection area extends generally south and east from the city's well field near the center of Renton. The City of Issaquah's drinking water aquifer has several recharge areas, including an area directly beneath downtown Issaquah.

Existing County programs being implemented for improvement of water quality by King County Surface Water Management Division include: Basin Planning; Water Quality Nonpoint Action Planning; Lakes Management Program; Surface Water Design Manual Development/Revisions; NPDES Management Program; Illicit Connection Program; Water Quality Ordinance (K.C.C. 8.12); Draft BMP Manual; Local Hazardous Waste Management Program; River Planning; and Watershed Support.

There are other water quality programs in King County, such as: King County Solid Waste Division's compliance monitoring program; and King County Roads Division's water quality monitoring program completed as part of their construction projects. King County/Seattle Department of Public Health monitors water quality in ground water and surface water drinking water supplies in accordance with Federal Safe Drinking Water Act.

METRO is the areawide water quality authority under Section 208 of the Clean Water Act, and they do long-range water quality planning and ambient water quality monitoring of lakes, streams, and marine environments.

## **SIGNIFICANT IMPACTS**

### *Introduction*

All the alternatives are forecasting the same amount growth in households and jobs in King County. The amount of growth forecast will result in adverse impacts to water quality. An assessment related to the overall impact of accommodating 215,000 households and 340,000 jobs in King County can only be made after more detailed analyses of groundwater, surface water and comprehensive sewer plans are conducted on a regional basis. Existing wastewater and drainage systems are degrading water quality thresholds and extensive capital improvements will need to be made in some areas to accommodate growth and improve water quality. However, in general, it can be noted that the distribution of the growth can affect the amount of pollutants released into surface and ground waters, by reducing the amount of undeveloped land converted to impervious surface. The extent to which these alternatives can direct growth to reduce impacts is the focus of this comparative analysis.

### *Impacts of the Alternatives*

Land use development generally leads to increases in the amount of impervious surfaces, decreases in vegetative cover, and greater soil erosion or compaction. These conditions retard infiltration of rainwater and cause increased runoff. Sedimentation of streams occurs as soil erosion increases. Increases in nutrients such as nitrates and phosphates from organic matter and fertilizers leads to algae growth and depletion of oxygen in surface waters. Increased contamination from oil, grease and other pollutants can add heavy metals (such as lead and zinc) which

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

are fatal to aquatic biota, further degrading water quality. Stream water temperature is also affected by development as a result of removal of vegetation (shade) and increased runoff, which is usually a warmer temperature than receiving waters. Impacts on groundwater quality could result if the pollutants as described above migrate to the water table. The degree to which these pollutants affect regional and local water resources depends on management control, conveyance and treatment systems.

Analysis of the impacts of the alternatives on surface and groundwater quality was conducted with respect to the allocation of growth and the policy sets associated with each of the alternatives. For purposes of this impact analysis it is assumed that water quality is least negatively affected when growth occurs in urban areas, specifically in those areas served by Metro. While runoff increases in volume and speed in urban areas, it is generally confined in areas where developed stormwater conveyance systems are already in place or where densities provide the opportunity to construct stormwater control systems economically. It is further assumed that on-going programs to reduce combined sewer overflows (CSO's) and to treat stormwater (whether by natural or mechanical processes) prior to release into water bodies will be continued in order to improve water quality in urban embayments. Water quality is most adversely affected when growth occurs in presently undeveloped areas or lower densities where natural systems must accommodate stormwater runoff, or in urban areas where existing sewer systems are at or over capacity.

The following CPPs were assessed as to their impact on water quality for the No Action, Eight Centers and 14 Centers Alternatives: FW-4, FW 25-27, CA-4, CA-6, CA-7, CA-8, CC-8, CO-4, CO-6, CO-10, CO-12, and CO-14-16. The Pre-Countywide Planning Policies and Magnet Alternatives have different policy sets which are described in their respective sections.

### **No Action Alternative**

Under this alternative, the majority of growth would occur in existing urban areas adjacent to urban centers. Considerable growth will also occur in and around rural cities. Expansion and infill development would disturb water quality on a local level.

All the policies reviewed would have a positive impact on water quality by specifically requiring water quality improvement or protection. The possible exceptions include Policies FW-4, CC-8,

CO-4, CO-12, CO-15, CO-16. A brief discussion of the impacts of each of these policies is provided below:

Policy FW-4 suggests that use of water resources should be managed for multiple beneficial uses. This could result in degradation of water quality since surface water resources could be used for activities such as agriculture or hydropower, that have the potential of resulting in increased water temperature and pollutants.

Policy CC-8 encourages jurisdictions to "provide for physical access, where appropriate" to water resources. Increased human access to water bodies usually results in negative impacts to water quality.

Policy CO-4, which requires future action by the GMPC, would not get implemented. (As a condition of the No Action Alternative, future action by the GMPC as identified in any policy, would not get implemented.) This would have a negative effect on water quality as water management programs and projects necessary to protect water quality on a regional scale would not likely get implemented.

Policies CO-12, CO-15, CO-16 limit the extension of urban sewer systems and require that community or rural systems be professionally managed. While these policies are designed to protect water quality, they could inadvertently induce growth of smaller community (less than 9 hookups) or individual septic systems, which could increase pollutants into both surface and groundwater resources.

### **Eight Centers Alternative**

This alternative could result in fewer impacts to water quality than in the No Action Alternative, since 90% of new development is expected in urbanized areas where runoff conveyance and treatment facilities are already in place. Increased development in areas where water quality standards are not being met (such as the South Lake Union area) and in areas where existing sewer capacity is inadequate (such as the SeaTac area) could detrimentally affect water quality. However, overall there would be less new impervious surfaces developed under this alternative than with the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

No Action, Pre-Countywide Planning Policies and Magnet Alternatives, but more impervious surfaces developed than under the 14 Centers Alternative.

The Countywide Policies as discussed in the No Action Alternative apply equally to this alternative, with the exception of Policy CO-4. Under the Eight Centers Alternative, Policy CO-4 would have positive affects, since the GMPC would be required to implement regional water quality programs and ensure implementation of projects as part of its the future activity.

The land use implications of the Regional Transit System Plan would enhance the urban center/urban transit focus of the Eight Centers Alternative. The FEIS for the System Plan indicates that the impacts of the Rail/TSM alternative, from an operational standpoint, would have insignificant impacts to water quality on a regional scale, however, increased runoff could have significant effects on stormwater runoff in smaller drainages and localized groundwater quality from pollutants.

### **14 Centers Alternative**

This alternative provides more distribution of growth in existing urban centers than any of the alternatives, which results in less overall impact to water quality. Localized impacts could be seen in sub-basin drainage areas such as Lake Union, South Puget Sound, Duwamish River, Lower Green, Kelsey Creek and Juanita Creek, but not as adversely as in the No Action, Eight Centers, Pre-Countywide Planning Policies and Magnet Alternatives. This is due to the more concentrated attention to developing the urban centers in those drainage areas. The other alternatives would result in more random development of adjacent urban areas to varying degrees.

Policy CO-4 would also focus the GMPC on development of a financing and implementation strategy for a regional surface management system and identification of projects to begin implementation. The effects of the other policies would be similar to those described in the No Action Alternative.

The Regional Transit System Plan is part of the policy set for the 14 Centers Alternative. The impacts are similar to those discussed in the Eight Centers Alternative.

### **Pre-Countywide Planning Policies**

Impacts to water quality would likely be the most severe under this alternative than any of other alternatives. While the majority of growth would likely concentrate in areas that are already developed, more new impervious area would be developed in infill areas under this alternative. Growth in rural cities and adjacent rural areas is the highest under this alternative.

The UGA for this Alternative is the 1985 urban growth line, which is different than the other alternatives. While the differences are important on a site-specific basis, the differences on a county-wide basis for the purpose of analyzing policy impacts on water quality are imperceptible.

The CPPs provide for a more regional approach to water quality, necessary for basin-wide improvements then the existing policies associated with this Alternative. The following policies were assessed as to their impact on water quality: PC-201-206, PI-102, PI-107, PI-306, E-101, E-105, E-311-327, E-337, CI-105, CI-109, CI-202, F-101, F-115, F-313, F-318, F-329-331. Of these policies, E-312, and F-331 would have the least positive impact on water quality. These two policies encourage multiple use of water resources. Human activity near water bodies is likely to negatively affect water quality. Because the Pre-Countywide Planning Policies Alternative often focus on continued study of environmentally important issues, and rely on the policies developed from the individual community plans, regional management of water as a resource is not given the focus as in the alternatives that include the new countywide policies (the No Action, Eight Centers and 14 Centers Alternatives).

The Pre-Countywide Planning Policies does not include the Regional Transit System Plan as part of its policy package. Impacts related to transportation would be similar to those described under the No Rail Policy Option.

### **The Magnet Alternative**

Growth in new development under the Magnet Alternative would probably be similar pattern to the No Action Alternative, but impacts would likely be slightly less adverse because of more development projected in rural cities, where impervious surfaces would be created. Surface water control measures are more likely to be in place, or would be more

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

economically feasible to construct than if development where to occur in rural areas with less density.

Policies related to rural areas and quality of urban living/community character do not provide a comprehensive focus on improvements to water quality. The Cities and County are encouraged to act independently to achieve specific benchmarks for development of implementation strategies. The Framework Policy for utilizing a "least cost planning strategy", which focuses on a full range of alternatives (including avoiding costs through conservation, for example), could accommodate growth at a slower rate than the other alternatives. The strategy also emphasizes including mitigation cost in evaluating the best fiscal alternative, which may not be a beneficial strategy for maintaining or improving water quality.

The benchmarks related to "Critical Areas," "UGAs," "Promotion of Contiguous and Orderly Development and Provision of Urban Services" and "Siting Public Capital Facilities" establish a focus on prioritizing regional facilities and public funding.

The Magnet Alternative would result in accelerating growth in urban areas and rural cities. This growth pattern could affect water quality more positively than resulting development patterns under the No Action and Pre--Countywide Planning Policies.

### *Impacts of the Policy Options*

In this section, the recommended refinements to the Countywide Policies applicable to the Eight Centers, 14 Centers and Magnet Alternatives are analyzed for potential impacts to surface and groundwater quality. Impacts related to these alternative policies are either positive or negligible.

### *Technical Review Areas*

To the extent that these technical review areas are designated as urban separators under CPP LU-15, they would serve to provide positive impacts on water quality. However, these are site specific conditions which will be reviewed for environmental impact as part of the individual jurisdiction's comprehensive planning process as well as under the County's efforts to define the UGA.

### *No Rail Policy Option*

This policy option would implement a transportation system management (TSM) strategy as the focus of

the transportation policy set for the Centers Alternatives, rather than the RTP Rail alternative. TSM would result in increased regional and community bus transit service to and between regional centers and suburban activity centers. The land use implications would likely result in increased infill development between centers. With increased transit service the net quantity of impervious surface would likely be increased, reducing overall water quality. The Final EIS for the Regional Transit System Plan identified both temporary and long-term potential adverse impacts to water quality due to construction of transportation facilities associated with TSM. These impacts would be applicable to the No Action and Pre-Countywide Planning Policies Alternatives, absent any specific transportation policy sets.

### *Affordable Housing Policies*

The Affordable Housing policies recommended by the Affordable Housing Task Force do not directly impact water quality. Policy AH-2 directly refers to infrastructure, and as proposed would be amended to encourage that infrastructure be in place to support development of affordable housing. Indirectly, to the extent that the policies result in more concentrated development where drainage facilities are in place or planned for improvements, the affordable housing policies could have a positive effect on water quality.

### *Economic Development Policies*

The following policies were assessed as to their impact on water quality: ED-4, ED-5, ED-8, ED-11, ED-13, ED-14, ED-15-17, and ED-14. These policies, in conjunction with the CPPs, would add beneficial impacts to water quality in the Centers Alternatives. These policies would also provide positive impacts to the Magnet Alternative, in conjunction with the policies and benchmarks established under that alternative. Of the policies for LU-59, the City of Seattle alternative is more beneficial to improving water quality than the Suburban Cities alternative because of its focus on location of Office/Business Parks in areas that are already developed. The Suburban Cities alternative only requires that cities should accommodate this type of development pattern, resulting in the replacement of undeveloped land with new impervious surfaces.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### **Rural Character Task Force Policies**

The following policies were reviewed for impact to water quality: FW-RUa; FW-RUb; RU-3, RU-4, RU-6, RU-7, RU-8, RU-9, RU-10, RU-12, RU-15, RU-19, Alternative LU-26, and new language related to restricting land use and residential densities. All these policies would be of benefit to water quality. In particular RU-8, RU-9, and RU-10 specifically address preservation of surface and groundwater quality. The policies would further mitigate the impacts of growth.

### **MITIGATION MEASURES**

Water quality impacts can be mitigated through proper planning, design, and implementation of wastewater and drainage system control measures. Mitigation Measures to reduce impacts on water quality include: provision of runoff retention/detention and treatment facilities; provision of central sewers; wetlands protection; and best management practices for septic tanks and construction activities. Impacts to groundwater systems could be partially or wholly offset by surface water control measures that provide for increased infiltration of runoff.

Under all the alternatives, federal and state laws provide for protection of water quality (Sections 208 and 404 of the Clean Water Act.) State programs under the Department of Health (Ground Water Management Act) and the Department of Ecology (Puget Sound Water Quality Management Plan) require stringent evaluation of surface and groundwater resources. Individual cities also regulate impacts to surface and groundwater quality (critical areas ordinances, SEPA, clearing and grading ordinances, surface water management programs).

### **UNAVOIDABLE IMPACTS**

Any growth will result in increased adverse impacts on the County's surface and ground water resources. The least adverse alternative for surface and ground water quality will be one in which the impacts are focused in already urbanized or urbanizing portions of the County.

## **16.0 PLANTS, ANIMALS, & FISH**

### **MAIN FINDINGS**

All of the alternatives call for concentrating the majority of future growth west of King County's UGA, resulting in potentially greater adverse impacts to species inhabiting urbanizing areas, and less impact to species in rural and resource areas.

Compared to the other alternatives, the 14 Centers Alternative concentrates the most growth within urbanizing areas and thus results in the least adverse impacts to natural areas. Overall, the 14 Centers Alternative could be the most effective in preserving both species diversity and population on a countywide basis.

Of all the alternatives, the Pre-Countywide Planning Policies Alternative results in the development of the most undeveloped land, and thus it results in the most adverse impacts to plants, animals, and fish located in urban/auto areas and rural areas.

The benchmarks and monitoring programs proposed by the Magnet Alternative could be beneficial for plants, animals, and fish under all of the alternatives.

For all of the alternatives, it is essential that detailed policies and programs be implemented to identify and protect wildlife and wildlife habitats. These programs should include: public acquisition, financial and social incentives, educational programs, and specific development standards.

### **AFFECTED ENVIRONMENT**

King County today has a wide variety of habitats mixed in a complex spatial pattern. They cover 2,134 square miles and an elevation range from sea level to 7,986 feet. The area of Puget Sound included within the boundary of King County supports a wide variety of fish and wildlife including whales, seals, seabirds, shellfish, and resident and anadromous fish. Smaller species including fish and invertebrates which are of no commercial importance are vital components of the food chain which supports the rich variety of larger marine life.

Inland lakes, ponds, and wetlands are scattered throughout lowland and mountain forest, forests that once stretched from the Sound nearly to the crest of the Cascade Mountains. With the settling and development of western Washington, new habitats were created as forests were logged to produce timber and cleared to make way for farms, pastures, towns and cities.

Urbanization has reduced the number of native plants and animals that once defined the biological diversity of the Puget Sound Region. However, much wildlife still remains in urbanized areas and high diversity of

native species are still found in rural portions of the County. Wildlife in urban areas provide a number of important functions and contribute to our quality of life. People enjoy watching and interacting with wildlife. Wildlife habitats provide educational opportunities for children, families, schools and nature groups. The natural vegetation of wildlife habitats contributes to ground water infiltration and protection of water quality and quantity. Biodiversity (the presence of many different species) protects ecosystem health and environmental quality. Some species are valuable because they are indicators of environmental quality or provide economic or medicinal values. Research has shown that residential developments that protect wildlife habitat values are able to attract more potential buyers, and the market value of such development is often higher.<sup>1</sup>

In 1987, the King County Parks, Planning and Resources Department, Natural Resources and Parks Division, developed a classification system for the county's wildlife habitat. Thirty-one wildlife habitats were identified and grouped into four major categories: saltwater, freshwater, riparian, and upland.

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

The Washington Department Of Wildlife (DOW) has defined, identified and mapped "Priority Habitat", which are important wildlife habitats and species in Washington. Priority Habitats are areas with one or more of the following attributes: comparatively high wildlife density, high wildlife species richness, significant wildlife breeding habitat, significant wildlife seasonal ranges, significant movement corridors for wildlife, limited availability, and high vulnerability.<sup>2</sup>

The following Priority Habitat Species types may be found in King County: Bald Eagle, Band-tailed pigeon, Blue Grouse, cavity-nesting ducks (eg. Merganser, Bufflehead), Columbian Black-Tailed deer, Common Loon, Cutthroat Trout, Dolly Varden/Bull Trout, Elk, Great Blue Heron, Harlequin Duck, Hatch's Click Beetle, Marbled Murrelet, Marten, Mountain Goat, Mountain Whitefish, Osprey, Pileated Woodpecker, Purple Martin, Rainbow Trout, Steelhead, Vaux's Swift, Western Bluebird, Western Pond Turtle, and Yellow-billed Cuckoo.<sup>3</sup>

Since the adoption of the 1985 Comprehensive Plan the County as well as incorporated areas have enacted legislation to control activities in areas which support "critical" wildlife habitat. "Critical" wildlife habitat has been defined historically to be associated with wetlands, rivers and streams. The Sensitive Areas Ordinance for King County was enacted to protect wetlands, rivers and fish-bearing streams.

To date, one wildlife habitat network has been identified in the East Sammamish Community Plan Update, issued in May, 1993. A wildlife habitat network is a system which links habitat areas, providing a "corridor" for wildlife to travel to essential habitats, as well as an opportunity for resource protection through the community planning process. This wildlife habitat network identified in this plan connects Lake Sammamish to the Patterson Creek drainage system and ultimately to the Snoqualmie River Valley, with linkages from Tiger Mountain to the Patterson Creek and Bear Creek systems. The wildlife network corresponds largely to existing riparian and wetland networks, since wildlife tend to follow riparian areas.

The location of anadromous fish-bearing waters, vegetation and wildlife associated with wetlands has been determined as part of the development of Sensitive Areas ordinance. Waters of primary importance to the anadromous fish resource include the Skykomish and Snoqualmie Rivers and Bear

Creek systems in the north, Issaquah Creek and the Cedar and Duwamish/Green Rivers in the central area, and the White River on the southern border with Pierce County.<sup>4</sup> These major river systems which provide significant habitat for young fish serve as connecting links to tributaries which usually have much higher value for spawning habitat.

### *Seattle's Wildlife Habitat*

There are over 10,000 acres of wildlife habitat area and corridors in Seattle.<sup>5</sup> Urban wildlife habitats are naturally vegetated and provide shelter, feeding, breeding and rearing areas necessary for interrelated plant, animal, fish and insect communities. Habitat areas may include parks, undeveloped public or privately-owned open space, and private back yards.

Approximately 6,000 Wildlife species reside in Seattle, and the area's diverse species of plants provide the food and shelter wildlife needs.<sup>6</sup> DOW has identified over 40 Priority Habitat areas in Seattle. These areas include parks, lakes, streams, green spaces (greenbelts and natural areas), steep slopes and wetlands. The DOW has also identified several isolated locations that serve particular Priority Species for nesting, breeding and other functions. In addition to the DOW's inventory of habitat, many other areas in the City may also have important habitat values.

## SIGNIFICANT IMPACTS

### *Introduction*

Analysis of the CPPs with respect to plants, animals, and fish is difficult, because at the policy level, land use maps are too generalized to determine potential impacts that may be caused by ongoing or future site-specific activities. Further, there are no readily available recent inventories of wildlife habitat by location within the county. Therefore, analysis is limited to a determination of the relative impact on plants, animals, and fish as based upon allocation of growth and policies under each of the alternatives.

Wildlife requires habitat for protection and to feed, breed, and rear young.<sup>7</sup> Many habitats are of greater value to wildlife species when they are located contiguous to other types of habitat.<sup>8</sup> Unmanaged growth not only diminishes and degrades wildlife habitat, but it also creates isolated ecosystems which can not support species diversity. Thus, the maintenance and protection of diverse types of habitat and linked habitat corridors is very important for

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

maintaining species diversity and protecting species from extinction.<sup>9</sup>

### *Impacts of the Alternatives*

All of the alternatives call for concentrating the majority of future growth west of the county's UGA, resulting in potentially more adverse impacts to species inhabiting urbanizing areas, and less impact to species in rural and resource areas.<sup>10</sup> All of the alternatives propose no more than 1 percent of new household growth and .5 percent of new employment in resource lands, which would minimize adverse impacts in these areas.

### **No Action Alternative**

This alternative could result in fewer adverse impacts to plants, animals, and fish occurring in urban centers, and greater adverse impacts in urban/auto full and urban/auto non-full service, activity areas, and office/business parks that locate outside of existing urbanized areas. Development will be less concentrated in urban centers and more dispersed within the UGAs, potentially encroaching into existing natural areas.

The policies applicable to the No Action Alternative that could have significant impacts on plants, animals, and fish are as follows: FW-3, CA-7, FW-4, CA-8, FW-5, CA-9, CA-1, CA-10, CA-2, CA-11, CA-3, CA-14, CA-4, CA-15, CA-6, LU-1, CC-6, FW-23, CC-7, CO-2, CC-8, CO-3, CC-9, CO-4, CC-10, CO-6, CC-12, and CC-13.

All of the policies listed above, with the exception of CA-4, have the potential of resulting in positive impacts on plants, animals, and fish. Those policies would assist in mitigating the adverse impacts of future growth, by requiring identification and protection of wildlife habitats and networks, including wetlands, open space, natural resources, and floodplains. These policies also provide for protection of water quality and quantity, and consistency in environmental regulations.

Under the No Action Alternative, Policy ED-1 (which calls for the GMPC to adopt economic development policies which protect the natural environment as a key economic value in this region) could not be implemented. This policy, if implemented, could have significant positive impacts on plants, animals and fish.

Policy CA-4 could result in significant adverse impacts on plants, animals, and fish occurring in small, isolated wetlands. Small, isolated wetlands have important wetland and wildlife values that are often not provided in larger, contiguous wetlands.<sup>11</sup> For example, these wetlands are utilized by vertebrates and invertebrates which serve as extremely important resources in the wildlife food chain. Furthermore, these types of wetlands serve as breeding grounds, important feeding areas for waterfowl and other birds, and help to preserve regional plant species diversity.<sup>12</sup>

Policy CA-4 gives priority to protecting connected wetlands, allowing small, isolated wetlands to be used as a wetlands mitigation tradeoff. If no consideration is given to the wildlife values provided by isolated wetlands when tradeoffs are being proposed, Policy CA-4 may be in contradiction to CA-3, which calls for no net loss of wetlands values.

The No Action Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the No Action Alternative regarding TSM are similar to those described under the No Rail Option, located in the section titled: "Impacts of the Policy Options".

### **Eight Centers Alternative**

Compared to the No Action Alternative, the Eight Centers Alternative could result in less adverse impacts to plants, animals, and fish located in urban/auto areas and rural areas, and potentially greater impacts for species located in urban centers and urban/transit areas. Growth would be more concentrated within existing urbanized areas, resulting in less consumption of natural areas for new development.

The impacts of the CPPs described under the No Action Alternative are similar to the Eight Centers Alternative. However, under the Eight Centers Alternative Policy ED-1 would be implemented, which calls for the GMPC to adopt economic development policies which protect the natural environment as a key economic value in this region. This policy could have significant positive impacts on plants, animals, and fish.

The Eight Centers Alternative assumes implementation of the Rail/TSM policy option as described in the Final Environmental Impact

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

Statement Regional Transit System Plan. According to the DEIS, new rail alignments, stations, and access facilities may substantially affect access, usability, and water quality of affected ecosystems through direct intrusion, removal of vegetation and habitat, increased runoff, erosion, sedimentation, noise, dust, and pollutants. Certain wildlife species that are sensitive to human activity could die or move to more remote habitats. A number of riverine systems would be potentially affected, as well as loss of large trees, and habitat for small mammals and birds along some freeway corridors.<sup>13</sup>

### **14 Centers Alternative**

This alternative would result in the least adverse impacts to plants, animals, and fish of all the alternatives. In general, the 14 Centers Alternative results in the least impacts to natural areas, since the majority of growth is directed to urbanizing areas: urban centers, urban/transit and activity areas, and the least amount of growth is directed to urban/auto areas and rural areas. This alternative could have the most adverse impacts on plants, animals, and fish in urban centers and urban/transit. However, existing natural areas located in these areas most likely contain fewer populations and lower species diversity, resulting in the 14 Centers Alternative being the alternative that could be most effective in preserving both species diversity and populations, on a countywide basis.

The impacts of the CPPs described under the No Action Alternative are similar to the 14 Centers Alternative. The 14 Centers Alternative includes Policy ED-1, which calls for the GMPC to adopt economic development policies which protect the natural environment as a key economic value in this region. This policy could result in significant positive impacts on plants, animals and fish.

The 14 Centers Alternative assumes implementation of the Rail/TSM policy option. Impacts would be similar to those described under the Eight Centers Alternative.

### **Pre-Countywide Planning Polices Alternative**

Future growth would be least concentrated under the Pre-Countywide Planning Polices Alternative. This alternative would consume the most undeveloped land, and consequently, would result in the most impacts to plants, animals, and fish located in urban/auto areas and rural areas of all the alternatives.

Although none of the Pre-Countywide Planning Polices Alternative's policies would result in significant adverse impacts, compared with the other alternatives, the Pre-Countywide Planning Polices Alternative would result in more adverse impacts overall due to weaker policies for protection of wildlife habitat to mitigate the impacts of the relatively dispersed growth.

The policies that could result in positive impacts to plants, animals, and fish include: E-101, E-105, E-301, CI-109, F-331, PC-119, E-312, E-321, RL-103, RL-104, RL-210, E-102, E-203, OS-107, OS-113, and ED-8. One general problem with these policies is that they use the word "should" rather than "shall". This could result in a lower probability that such policies would be effectively implemented.

The policies under the Pre-Countywide Planning Polices Alternative do not call for jurisdictions to prepare inventories of critical wildlife habitat, which is the first step needed towards protecting plants, animals, and fish. The policies do not specifically address regulations for classification, mitigation, no net loss of wetlands, or for identification and protection of wildlife networks. These strategies are important in mitigating the adverse impacts of growth in all of the alternatives.

The Pre-Countywide Planning Polices Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the Pre-Countywide Planning Polices Alternative regarding TSM are similar to those described under the No Rail Option.

### **The Magnet Alternative**

Under the Magnet Alternative, the allocation of growth is more dispersed than under either of the Eight and 14 Centers Alternatives, but considerably less dispersed than under the Pre-Countywide Planning Polices Alternative. Household growth under the Magnet Alternative is similar to the No Action Alternative. However, slightly more employment growth is allocated to manufacturing centers, activity areas, and office/business parks. Under the Magnet Alternative, half as much employment growth is allocated to other urban. Thus, with the exception of other urban, impacts of the Magnet Alternative due to the growth allocation would be similar to the No Action Alternative.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

The goals and benchmarks for this alternative were reviewed to determine the extent that they would mitigate the impacts of growth. Overall, the strategies affecting plants, animals, and fish are less detailed than the policies under both the Eight and 14 Centers Alternatives and the No Action Alternative. However, the strategies call for short term and long term benchmarks and monitoring programs, which would allow the County to periodically assess actual wildlife habitat losses and gains, and to revise programs as needed to improve preservation strategies. (In, "Wildlife Habitat Profile", published by the King County Open Space Program in 1987, a monitoring program was identified for pursuing a vigorous habitat management program.)

A number of the implementing strategies call for protection of all needed critical areas through such growth management techniques as public ownership, transfer of development rights regulatory programs and property tax valuation assessments. In general, these types of programs transfer the economic and wildlife management burden from the individual landowner to the public.<sup>14</sup>

Public ownership, in cases where the management of the land includes wildlife preservation or enhancement, ensures that plants, animals and fish species will be protected on a long term basis, and not subject to changes in ownership, environmental regulations or lax compliance or enforcement.<sup>15</sup>

Transfer of development rights can be effective in protecting wildlife habitat as well. Such programs relieve the economic burden of environmental protection from the individual landowner, by allowing an economic return in exchange for resource protection.<sup>16</sup>

### *Impacts of the Policy Options*

Because impacts of the other policy options for the both the Centers Alternatives and the Magnet Alternative are similar, the following analysis applies to all three policy options.

#### **Technical Review Areas**

The level of detail provided in the CPPs is not sufficient to determine potential significant impacts to plants, animals, and fish due to designation of specific Technical Review Areas as urban or rural. It is beyond the scope of this document to perform a site-specific analysis. In addition, comprehensive plans

have not been updated for the cities of Renton and Issaquah, so land use compatibility cannot be adequately addressed at this time. The analysis of these areas is based upon the information provided in the background information prepared by King County staff for each of these areas.

The background information indicates that certain Technical Review Areas contain wildlife habitat linkages and other wildlife benefits. Certain areas have been recommended as urban with the ultimate designation as urban separators under the joint planning process, consistent with CPP LU-15. Urban separators are defined as low density areas or areas of little development within UGAs that protect resource lands and environmentally sensitive areas and create open space corridors (which provide environmental and wildlife benefits). These lands cannot be redesignated in the future to other urban uses or higher densities.

The joint planning process would include a joint planning agreement between the County and City specifying appropriate densities and zoning, development standards, impact mitigation, and future annexation within the potential annexation area. The background material indicates that placement of such Technical Review Areas within the UGA boundary does not automatically signify development approval. However, the urban designation of such areas could result in potential significant adverse impacts on plants, animals, and fish under all the alternatives, should these areas not ultimately be designated as urban separators. Additional environmental review needs to be undertaken as part of the joint planning process and designation of the Final UGA.

#### **No Rail Option**

The level of detail provided in the CPPs is not sufficient to determine potential adverse impacts to plants, animals, and fish due to the absence of rail. According to the Draft Environmental Impact Statement for the Regional Transit System Plan, both temporary and long-term potential adverse impacts to wildlife habitat could occur due to construction of park-and-ride lots, HOV lanes, and other facilities and structures associated with TSM. Direct intrusion, removal of vegetation and habitat, increased runoff, erosion, sedimentation, noise, dust, and pollutants may reduce the overall quality of adjacent ecosystems. In particular, the quality of adjacent high-quality wetlands between Bellevue and SR-520 could be adversely impacted due to a proposed busway. Noise,

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

traffic, pollution, loss of access, facilities and human activity from new park-and-ride lots could increase stress on plants, animals, and fish.<sup>17</sup>

### **Affordable Housing Policies**

The affordable housing policies recommended as part of the Affordable Housing Task Force, as written, have no significant impacts, either positive or adverse, on plants, animals, and fish. However, additional environmental review would need to be undertaken as strategies for implementing the policies are developed. For example, Policy AH-2(B)(b) calls for land use regulations to be revised to remove barriers to affordable housing. Should environmental regulations or programs that protect plants, animals or fish habitat be weakened by this policy, there could be significant adverse impacts.

### **Economic Development Policies**

The policy refinements recommended as part of the FIS/ED Task Force work could result in significant positive impacts on plants, animals, and fish because they promote environmental protection while promoting economic development.

### **Rural Character Task Force Policies**

In general, it was assumed that preserving rural lifestyles and economies will result in reduced pressure to develop or urbanize natural areas. Therefore, the Rural Character Task Force policies generally have a positive impact on plants, animals and fish. The policies recommended as part of the Rural Character Task Force work that could have a significant adverse impact on plants, animals, and fish are listed in the following table, along with mitigation measures.

## **MITIGATION MEASURES**

The CPPs include several policies which will help to protect wildlife and wildlife habitat. However, the CPP does include one policy, CA-4, which could have significant adverse impacts on small, isolated wetlands. In order to specifically mitigate the adverse impacts of Policy CA-4, all small isolated wetlands should be inventoried for wildlife values prior to being considered for tradeoffs. There are probably many wetlands that have been disturbed to such an extent that there are no longer significant wildlife or other wetlands values remaining. These areas would be more appropriate for tradeoffs. The policy could

be revised to state that the mitigation program would contain criteria to evaluate wildlife habitat values prior to such a tradeoff, and wetlands having significant wildlife value should be incorporated into the larger networks, wherever practicable.

Unlike the No Action Alternative, both of the Eight and 14 Centers Alternatives include Policy ED-1 which calls for the GMPC to adopt economic development policies which protect the natural environment as a key economic value in this region. The policy, if implemented, could have significant positive impacts on plants, animals, and fish, and should be incorporated into all of the alternatives.

Overall, the Pre-Countywide Planning Policies Alternative's policies on plants, animals, and fish would probably be less likely to be implemented based on the fact that the policies use "should" rather than "shall."

Unlike the first four alternatives, the Magnet Alternative includes strategies which provide for short term and long term benchmarks and monitoring programs. These benchmarks and monitoring programs would allow the County to periodically assess wildlife losses and gains, to revise programs as needed to improve results, and would be beneficial for all the alternatives.

Under all the alternatives, federal and state laws pertaining to plants, animals, fish and their associated habitats provide a limited degree of mitigation measures for the adverse impacts of future growth. The Endangered Species Act of 1973 establishes criteria for designation of species to be formally listed as endangered or threatened, and makes it unlawful to "take" (kill, capture or hurt) a listed endangered species.<sup>18</sup> The act also regulates the impacts of activities which indirectly affect endangered species, such as development activity, where such activity would result in a "take". However, federal laws for the protection of wildlife result in limited protection of wildlife habitat other than endangered or threatened species.

SEPA requires that potential adverse impacts be disclosed and mitigation provided, but does not require that local governments pick the alternative with the least impacts.<sup>19</sup> The Washington Department of Wildlife has very limited jurisdiction over protection of wildlife habitat from the impacts of development activities, limited to hydraulic project approvals, and Bald Eagle nesting areas.<sup>20</sup> In urban

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

development cases other than those, their role is advisory only.

Projects that utilize federal funds would be subject to Section 4(f) of the Department of Transportation Act and Section 404 of the Clean Water Act.<sup>21</sup> These laws require determination of other practicable alternatives and mitigation to minimize adverse impacts. The projects would also be subject to local jurisdictions' sensitive areas ordinances.

Municipal critical areas ordinances could provide mitigation within municipal UGAs. King County's Sensitive Areas Ordinance (SAO) could provide some degree of mitigation in unincorporated areas. The King County clearing and grading code regulates clearing in sensitive areas as defined by the SAO. In general, the SAO prohibits clearing in wetlands, streams, steep slopes, landslide hazards areas and their buffers, and limits clearing in erosion hazard areas to the dryer summer months. Thus, species inhabiting these areas may be provided with protection. However, the SAO does not define critical wildlife habitat and nor does it provide specific development standards to address wildlife impacts, other than for wetlands. To fully mitigate the impacts of growth on plants, animals and fish, local government SAOs should specifically identify and provide protection for critical wildlife and its required habitat. Other mitigation measures needed to mitigate the impacts of growth include:

- Identification and protection programs specifically for critical wildlife habitat, considering species designated by the Washington Department of Wildlife as endangered, threatened and candidate species, and the management recommendations for Washington's Priority Species.

- The use of benchmarks and a monitoring program to assess wildlife habitat protection needs and determine effectiveness of programs for their protection.

- Overlay zoning of habitat areas subject to specific development standards, such as clustering, use of native species that provide food and cover for wildlife in the landscape design or larger wetlands buffers.

- Financial and social incentives to maintain or enhance wildlife on private property, such as the Public Benefit Rating System, which qualifies properties for current use taxation under an open space classification.

- The use of a landscape/ecosystem approach to King County's long-range natural resource and environmental planning.

### **UNAVOIDABLE IMPACTS**

In general, the clearing, grading, and paving of natural areas for development will have a significant adverse impact on plants, animals, and fish. As fields, forests and streamsides are replaced with ornamental landscaping, buildings, pavement and lighting, wildlife habitat is inevitably diminished. Therefore, some loss of plants, animals and fish populations and species diversity will be unavoidable.

---

***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

ENDNOTES

1. King County, Sensitive Areas Ordinance, Ordinance No. 9614, King County, Seattle, WA, 1990.
2. Washington Department of Wildlife, Wildlife Management and Habitat Management Divisions, Management Recommendations for Washington's Priority Habitat Species, Olympia, WA, 1991.
3. Washington Department of Wildlife, Wildlife Management and Habitat Management Divisions, Management Recommendations for Washington's Priority Habitat Species, Olympia, WA, 1991.
4. King County, Sensitive Areas Ordinance, Ordinance No. 9614, King County, Seattle, WA, 1990.
5. City of Seattle, Draft EIS--Seattle's Plan for Managing Growth, City of Seattle Planning Department, Seattle, WA, p. 75.
6. City of Seattle, Draft EIS--Seattle's Plan for Managing Growth, City of Seattle Planning Department, Seattle, WA, p. 75.
7. USDA Forest Service, Pacific Northwest Region, Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington, Part 2--Appendices, 1985.
8. King County Open Space Program, Wildlife Habitat Profile, Parks, Planning, and Resources Department, Natural Resources and Parks Division, 1987.
9. King County Open Space Program, Wildlife Habitat Profile, Parks, Planning, and Resources Department, Natural Resources and Parks Division, 1987.
10. Puget Sound Council of Governments, VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region, Final Environmental Impact Statement, September 1990, p. vii.
11. USDA Forest Service, Pacific Northwest Region, Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington, Part 2--Appendices, 1985.
12. USDA Forest Service, Pacific Northwest Region, Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington, Part 2--Appendices, 1985.
13. Metro Final Environmental Impact Statement, Regional Transit System Plan, Seattle, March 1993, pp. 3-60.
14. The Conservation Foundation, "Protecting America's Wetlands: An Action Agenda," The Final Report of the National Wetlands Policy Forum, Washington, D.C., 1988, pp. 25-33.
15. The Conservation Foundation, "Protecting America's Wetlands: An Action Agenda," The Final Report of the National Wetlands Policy Forum, Washington, D.C., 1988, pp. 25-33.
16. The Conservation Foundation, "Protecting America's Wetlands: An Action Agenda," The Final Report of the National Wetlands Policy Forum, Washington, D.C., 1988, pp. 25-33.
17. Metro, Environmental Impact Statement, Regional Transit System Plan, Seattle, March 1993, pp. 3-56-3-60.
18. See 16 U.S.C. 1531, 1993.

---

***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

19. See *Save Our Rural Environment vs. Snohomish County*, 99 Wn, 2nd., 363, 662 P.2d, 816, 1983.
20. See RCW 75.20 (Construction Projects in State Waters) and RCW 77.12.655 (Habitat Buffer Zones for Bald Eagles).
21. See 49 (U.S.C. 303) and 32 (U.S.C. 1344), respectively.

**17.0 NOISE**

**MAIN FINDINGS**

None of the adopted CPPs specifically address noise impacts.

Of all of the alternatives, both the Eight and 14 Centers Alternatives would have the potential for the most adverse noise impacts on urban center and urban/transit areas, and the least adverse noise impacts on the urban/auto areas, other urban areas, and rural cities.

Of all of the alternatives, the Pre-Countywide Planning Policies Alternative has the potential for the most adverse noise impacts on activity areas, other urban, and urban/auto areas and the least adverse noise impacts on urban center, manufacturing center, and urban/transit areas.

Of all of the alternatives, the No Action Alternative has the potential for the most adverse noise impacts to urban/auto areas.

To mitigate noise impacts, it is essential that noise mitigation measures (such as earth berms and sound barrier walls) and consideration of compatibility of adjacent land uses in terms of noise impacts be incorporated into jurisdictions' plans, policies, and construction standards.

The policies provided in the Magnet Alternative include neighborhood benchmarks for environmental quality (such as noise) for new development. These policies would help mitigate the noise related impacts of future growth.

**AFFECTED ENVIRONMENT**

*Definitions*

Noise is annoying, disturbing, unwanted sound. The impact of noise depends on the levels and characteristics of background noise sources. The same noise may be disruptive within a quiet environment and unnoticed within a noisy environment.

Some of the common sources of general noise include the following: heating, ventilation, and air conditioning systems, sirens, bars, loud parties, barking dogs, portable and car stereos, car alarms, and home power tools. Larger generators of noise include motor vehicles, railroads, airplanes, and a variety of construction activities. Overall, urban environments are considered noisier than rural or suburban environments and commercial areas are considered noisier than residential areas.

Because human perception of sound depends on frequency or pitch, a special "A-weighted" frequency scale (dBA) is used to measure environmental noise levels. Since noise levels can vary considerably over time, noise descriptors of Lmax, Leq, and Ldn are

used to express and evaluate noise impacts. Lmax represents the maximum level of a noise source and Leq measures the average sound level occurring over a designated period of time (such as an hour). The Ldn is similar to a 24-hour Leq, but adds a 10 decibel penalty for all noise occurring between 10 PM and 7 AM. The Ldn is particularly appropriate where noise generating activities are located near residential areas and activities which are sensitive to early morning or late night noise.

Although the Environmental Protection Agency (EPA) does not regulate noise levels, it has studied the effect of noise levels on public health and welfare and has established guidelines to categorize noise impacts based on the degree of change in noise levels.<sup>1</sup> For example, most people do not notice an increase in noise of 3 dBA or less. An increase of up to 5 dBA is considered a slight impact. An increase of 5 to 10 dBA is considered a significant impact, and an increase of more than 10 dBA is considered a serious impact. The Table 11 includes EPA guidelines of 24-hour average sound levels to assess the impacts of increases in noise levels.

Local governments and/or agencies are responsible for regulating noise levels. King County regulations

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

(KCC 12.88.020) establish limits on the level and duration of noise crossing property boundaries. Allowable maximum sound levels depend on the land use of the source of the noise and the land use of the receiving property. Table 12 details maximum permissible daytime sound levels in King County.

In King County, the maximum permissible sound levels are lower at night in residential and rural areas. The levels listed in the above chart are reduced by 10 dBA for receiving residential and rural properties between 10 PM and 7 AM on weekdays and between 10 PM and 9 AM on weekends. For short periods of time (up to 15 minutes per hour), the listed criteria may be exceeded by specified dBA levels from any noise source. Higher noise levels are allowed for motor vehicles operating on public roads as well as for watercraft. Warning sirens and alarms, temporary daytime construction activity, logging, and agriculture are generally exempt from these noise regulations.

Table 11  
EPA Noise Guidelines

Guideline	Expected Noise Level (DBA)
Levels are generally acceptable; no noise impact is generally associated with these levels	55 or less
Adverse noise impacts exist; lowest noise level possible should be strived for	55 - 85
Significant noise impacts exist; allowable only in unusual cases where lower levels are not possible	65 - 70
Levels have unacceptable public health and welfare impacts	over 70

Source: Metro. Draft Environmental Impact Statement Regional Transit System Plan. 1992.

Table 12  
Maximum Permissible Daytime Sound Levels in King County (dBA)

Sound Source	Rural	Residential	Commercial	Industrial
Rural	49	52	55	57
Residential	52	55	57	60
Commercial	55	57	60	65
Industrial	57	60	65	70

Source: King County Code 12.88.020.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

### *Sources of Noise and Vibration*

#### **Transportation and Construction**

Transportation systems generally produce the most noise within urban areas. Principal sources include airplanes, motor vehicles, and railroads. Aircraft produce some of the loudest ambient noise levels within the region. Noise from traffic and rail operations is focused along principal railroad and roadway corridors. Overall, the significance of aircraft, rail, and motor vehicle noise depends not only on the pattern, level, and character of the noises from each of these sources, but also on the particular types of land uses and activities that occur along affected corridors and their sensitivity to noise.

#### *Aircraft*

Most aircraft noise is generated by passenger and cargo planes operating out of Seattle-Tacoma International Airport (Sea-Tac). Airplane noise affects primarily the areas immediately surrounding the airport and under flight paths. Noise levels in neighborhoods nearest Sea-Tac (six miles to the north and south of the runways and one mile to the east and west) continue to be monitored. Noise levels in this area range from 65 DNL to above 75 DNL. Airplane noise is also produced by commercial test flights, research planes, and small private craft operating out of King County International Airport (Boeing Field). These noise impacts are less frequent and intense than noise from Sea-Tac, and are mostly limited to adjacent areas. Other sources of aircraft noise are seaplanes and helicopters.

#### *Motor Vehicles*

Traffic noise levels are highly variable depending on a variety of roadway characteristics and traffic variables that differ by roadway and time. Traffic speed is one of the most critical variables. At slower speeds, motors and exhaust systems are the principle sources of noise. At the higher speeds characteristic of free-moving highway traffic, road/tire contact noise is a significant component of traffic noise.

Higher volumes of traffic generally produce higher noise levels. However, the effect of increasing roadways with lower traffic volumes. In general, a doubling of traffic volumes along a roadway increases average traffic noise levels only by approximately 3 dBA (which is barely perceptible). When increased traffic volumes reach or exceed roadway capacities,

the resultant slower vehicle speeds frequently reduce traffic noise levels for periods of time.

Federal Highway Administration (FHWA) guidelines state that noise impacts from highways occur when noise substantially exceeds existing levels or exceeds criteria for various land use categories. The hourly Leq should not exceed 57 dBA for category "A" land uses, 67 dBA for category "B" land uses and 72 dBA for category "C".

There are no federal standards pertaining to noise exposure from rapid transit projects (such as rail or bus only lanes). However, a variety of noise criteria have been developed to help assess the significance of transportation-related noise impacts and identify the levels at which noise abatement or mitigation measures are appropriate.

Local governments generally do not regulate overall transportation noise on public rights-of-way. An exception is Bellevue, which requires a noise analysis if existing or projected peak-hour traffic noise exceeds Leq 67 dBA on adjacent properties or if noise levels will increase by 5 dBA or more. Most local noise control ordinances limit the maximum noise at 50 feet for heavy motor vehicles, including trucks and buses, to 83 dBA.

#### *Rail Lines*

Rail line noise is generated by trains operating along rail lines as well as by various activities at rail yards. Operation noise depends on a number of variables including the following: train design and type (passenger or freight), the number of engines and other cars, weight, operating speed, the grade of the track, track conditions and frequency of trains. Noise is also generated at rail line convergence and street intersections by warning whistles and railroad crossing bells. Overall, railroad noise occurring along the track is intermittent. However, receiving properties near rail yards experience constant noise at varying levels. Common noise producing activities at rail yards include car switching and coupling, brake retarded operation, engine load testing, and engine idling.

The Federal Transit Administration's (FTA) noise criteria for rail transit provide that a peak hour increase of 3 dBA (Leq) or less is an insignificant impact. A peak hour increase of 4 to 10 dBA (Leq) or more is possibly significant and may require mitigation, depending on existing noise levels and the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

presence of sensitive receptors. An increase of 10 dBA (Leq) or more is probably significant and may require mitigating measures.

### *Construction*

Construction activity is usually a relatively short-term event, but one that can cause considerable noise impacts to surrounding properties depending on the scale, type, and duration of the project. Most construction-related noise is from the use of tools, machinery and vehicles, with the loudest noise reaching average levels between 72 dBA and 94 dBA at a distance of 50 feet. Some construction activities can produce noise levels above 100 dBA.

The Department of Housing and Urban Development's guidelines recommend an outdoor day-night sound level (Ldn) of 65 dBA or less as an "acceptable" noise exposure level. If construction noise is at or above this level, barriers may be required to reduce exterior sound levels to acceptable levels.

In Seattle, construction noise can generally exceed normal daytime noise limits by up to 25 dBA, with short-term allowances for higher levels up to 99 dBA. Night noise within residential areas is generally limited to 45 dBA or existing noise levels.

## **SIGNIFICANT IMPACTS**

### *Introduction*

Impacts from noise will occur wherever future growth occurs. In general, all areas designated for household or employment growth will experience short term adverse noise impacts from construction activity and long term adverse noise impacts from increases in population densities, travel demand, and other human activities.<sup>2</sup>

Overall, higher noise levels will occur in areas proposed for increased density and intensity of development, such as urban centers, manufacturing centers, and to a lesser extent, activity areas. Areas receiving new transportation facilities or which exist along existing transportation corridors will also experience higher noise levels.<sup>3</sup>

Noise impacts and mitigation for each alternative are best analyzed at the local level, however, this EIS compares the relative effects due to the allocation of growth under each alternative.

### *Impacts of the Alternatives*

All of the alternatives call for concentrating urban growth west of the County's UGA, which would result in fewer short and long term noise impacts to rural and resource areas. The Eight Centers and the 14 Centers Alternatives, which both concentrate the majority of growth within urban centers (15 dwelling units/acre and 50 jobs/acre) will result in the highest levels of urban noise over current levels. Construction of residential and commercial facilities in already highly developed residential areas will cause major noise impacts to existing land uses. In the short term, those alternatives calling for regional and/or commuter rail (both Centers Alternatives and the Magnet Alternative) and new HOV lanes and park and ride lots (the No Action, both the Centers, and the Magnet Alternatives) will result in significant noise. The alternatives that shift travel from automobiles to transit could reduce some impacts caused by traffic noise in suburban and outlying areas.

### *No Action Alternative*

Because urban centers are not designated under the No Action Alternative, growth will be less concentrated within existing urbanized areas. Instead, residential growth will be more dispersed into urban/transit and urban/auto areas. However, there will continue to be major employment growth within the three existing urban centers (University District, First Hill, and Seattle CBD) and within activity areas. Because these areas would receive 65 percent of the employment growth, they would also probably receive the highest noise impacts from construction, transportation, and other human activities.

In general, future growth under the adopted CPPs will further increase noise related impacts to urban centers, because they call for increased density and concentration of growth. For example, Policy FW-11 states that urban centers will be characterized by uses which provide both daytime and nighttime activities in the center. Policy T-13 call for LOS standards that tolerate higher levels of congestion in urban centers. Policy LU-14 calls for land within the UGA to be characterized by urban development. Policy LU-52 calls for each jurisdiction to establish a minimum density for new construction in each residential zone within UGAs. Policy LU-54 calls for jurisdictions to encourage infill development and enhance the mix of uses. Policy LU-16 directs growth to centers and urbanized areas with existing infrastructure capacity.

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Overall, these policies will result in localized noise impacts to existing areas.

Areas outside of urban centers and activity areas, but within the UGA, would collectively capture 81 percent of household growth, which also contributes to significant adverse noise related impacts in those areas. Furthermore, the policies could result in an increase in noise related impacts in manufacturing centers, due to the minimum criteria to accommodate 10,000 jobs. Construction of transit-related systems to serve these centers will also contribute to short and long term impacts.

The No Action Alternative assumes that implementation of the Regional Transit System Plan (RTSP) is limited to TSM, and does not include rail. The impacts of the No Action Alternative regarding TSM are similar to those described below, under the No Rail Option.

None of the policies under the No Action Alternative serve to mitigate noise related impacts. Thus, the No Action Alternative would result in significant adverse impacts in areas where growth will be directed.

### **Eight Centers Alternative**

This alternative could result in fewer noise related impacts in urban/auto areas and rural areas than the No Action Alternative, and potentially greater noise related impacts in areas designated for urban centers and urban/transit. In the Eight Centers Alternative, eight urban centers would be designated resulting in those additional areas experiencing noise impacts due to urban center policies. The urban centers and the activity areas designated under this alternative would experience the most significant adverse noise related impacts due to employment growth, while the urban/transit and urban/transit auto full service will result in significant noise related impacts due to residential growth.

The Eight Centers Alternative assumes implementation of the Rail/TSM Option as described in the 1992 Draft Environmental Impact Statement Regional Transit System Plan. According to the DEIS, the Rail/TSM option would result in the greatest amount of construction noise. Depending on the location, proximity of adjacent uses, construction techniques, type of facility and effectiveness of mitigation, construction noise could have significant adverse impacts. For example, construction of subway stations and tunnel segments would require

the heaviest and most sustained construction activity. Nighttime construction may be particularly disruptive to residential areas, hospitals, hotels, etc.

People living in close proximity to rail alignments could experience long-term impacts from train operations, station activities, tunnel ventilation shafts, and maintenance work. The significance of impacts would depend on local noise levels and the distances between rail facilities and other land uses and structures. More specific information regarding these impacts can be found in the DEIS for the Regional Transit System Plan.

Overall, the negative impacts of the CPPs described under the No Action Alternative apply to the Eight Centers Alternative. Further, the adopted CPPs do not provide mitigation for these impacts under the Eight Centers Alternative.

### **14 Centers Alternative**

This alternative would result in the greatest noise related impacts to areas designated as urban centers and urban/transit areas.<sup>4</sup> This is because 74 percent of the employment growth would be designated for urban centers, and 74 percent of the household growth would be allocated to urban centers and urban/transit. Considerably less growth would be designated for activity areas, resulting in fewer noise impacts than under the No Action Alternative, the Pre-Countywide Planning Policies Alternative, or the Magnet Alternative.

The adverse impacts of the CPPs described under the No Action Alternative apply to the 14 Centers Alternative. However, under the 14 Centers Alternative, 14 urban centers would be designated, resulting in those additional areas experiencing noise impacts due to urban centers policies.

The 14 Centers Alternative assumes implementation of the Rail/TSM option. Impacts would be similar to those described under the Eight Centers Alternative.

### **Pre-Countywide Planning Policies Alternative**

Future growth would be least concentrated under the Pre-Countywide Planning Policies Alternative. This alternative would consume the most undeveloped land, and would result in the most noise related impacts to activity areas, other urban and urban/auto categories. This alternative results in the least amount of noise related impacts to urban centers of all the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

alternatives. Compared to the other alternatives, the Pre-Countywide Planning Policies Alternative allocates the most growth to office/business parks, consequently resulting in noise impacts to those areas. In addition, slightly more noise impacts would occur in rural cities compared to the No Action Alternative or both the Centers Alternatives.

Some of the policies under the Pre-Countywide Planning Policies Alternative could contribute to noise related impacts, while certain policies could mitigate other noise related impacts. Policies that could contribute to noise related impacts include Policy CD-13, which calls for development of plans for rural activity centers that encourage a variety of industries and businesses in such centers. Without additional policies that address mitigation of potential noises created by industries located in such areas, this policy could result in increased noise related impacts. Policies PC-101 and R-103 promote most employment and household growth to locate in urban areas. Policy CI-201 calls for urban activity area to have a mix of uses, including heavy manufacturing.

The Pre-Countywide Planning Policies Alternative assumes that implementation of the Regional Transit System Plan is limited to TSM, and does not include rail. The impacts of the Pre-Countywide Planning Policies Alternative regarding TSM are similar to those described under the No Rail Option (see Impacts of the Other Policy Options).

### **The Magnet Alternative**

Under the Magnet Alternative, the allocation of household growth is similar to the No Action Alternative. There is significantly less concentration of growth in urban centers, and significantly more in activity areas, urban/transit and urban/auto, and rural cities. Thus, under this alternative, there would be potentially be less noise related impacts in urban centers, and more noise related impacts within or adjacent to rural cities UGAs.

The goals and benchmarks for this alternative were reviewed to determine the extent that they would contribute to noise related impacts or mitigate the impacts of growth. This alternative contains both strategies which may increase adverse noise related impacts as well as mitigating measures for noise related impacts. For example, the benchmarks provided under UGA call for infill and redevelopment of existing urban areas, and increased densities in urban hubs, residential, and neighborhood villages.

This could result in adverse noise impacts to those areas due to construction and increased human activity.

The strategies under rural areas call for cities in the rural area to be treated as magnets for urban growth and request consideration for a higher percentage of growth be accommodated in rural areas. This could result in significant adverse noise related impacts. Increases in construction and human activity in these areas could raise noise levels to urban levels, resulting in adverse impacts to rural character.

### ***Impacts of the Other Policy Options***

Because impacts of the other policy options for the Eight Centers Alternative, 14 Centers Alternative, and the Magnet Alternative are similar, the following analysis applies to all three policy options.

### **Technical Review Areas**

The level of detail provided in the CPPs is not sufficient to determine potential significant impacts to noise due to designation of specific Technical Review Areas as urban or rural. Specific noise impacts cannot be assessed at this time for each of the Technical Review Areas, as there is insufficient information.

The background information regarding these Technical Review Areas indicates that certain Technical Review Areas contain areas that have been recommended as urban with the ultimate designation as "Urban Separators" under the joint planning process, consistent with Countywide Planning Policy LU-15. Urban Separators are defined as low density areas or areas of little development within UGAs that protect resource lands and environmentally sensitive areas and create open space corridors (which provide environmental and wildlife benefits). These urban separators could act as noise buffers between urban and rural areas.

### **No Rail Option**

According to the Regional Transit System Plan, expansion of the HOV lane network, park-and-ride lots, and access roadways would result in temporary, but significant local construction noise at project sites. New or expanded transit stations, park-and-ride lots, and HOV lane access points may contribute to local increases in traffic volumes and noise that could affect nearby residential areas or other sensitive land

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

uses. New HOV lanes would probably contribute to increased vehicle speeds, which could slightly increase traffic noise in some areas. New HOV lanes may also result in traffic lanes being moved closer to abutting land uses, although in most instances the change in noise levels would be slight.

Because of the high traffic noise along freeways and other principal roadways, increased bus operations would not be expected to significantly affect noise levels. Additional noise impacts related to this alternatives can be found in the DEIS for the Regional Transportation System Plan.

### **Affordable Housing Policies**

The affordable housing policies recommended as part of the Affordable Housing Task Force, as written, have no significant impacts, either positive or adverse, on noise.

### **Economic Development Policies**

The policy refinements recommended as part of the FIS/ED Task Force work could result in significant adverse impacts on noise. Many of the policies, such as ED-3, ED-9, and ED-10 strive to maintain or increase the amount of industrial uses within jurisdictions. Industrial uses are often associated with noise impacts. There are no mitigation measures provided for these impacts. However, Policy ED-9 does state that the introduction of mixed uses within or adjacent to industrial areas should not result in incompatibilities of land use. Therefore, it is implied that the siting of land uses adjacent to existing or planned industrial uses would consider noise impacts.

### **Rural Character Task Force Policies**

The policies recommended as part of the Rural Character Task Force work would result in minimizing adverse impacts of noise in rural areas, because they promote low density residential and expansion of farming and forestry practices, rather than urban development. However, none of the policies provide enough detail to determine how much noise would be generated in rural areas as a result of the policies.

## **MITIGATION MEASURES**

Surprisingly, none of the CPPs specifically addresses noise. However, adverse noise impacts are mentioned under the section: "Siting Public Capital Facilities of a Countywide or Statewide Nature". The discussion

notes that such facilities generally have characteristics that make these facilities extremely difficult to site, such as noise. Policy FW-28 and S-1 require that processes for siting these facilities mitigate environmental impacts, but noise is not specifically mentioned.

Policy LU-3 calls for regulations to protect the long term viability of existing mineral extractive and processing operations as a condition of municipal annexation or incorporation. Policies LU-4 and LU-5 call for jurisdictions to minimize land use conflicts adjacent to resource lands and to require best management practices to mitigate any unavoidable impacts. None of these policies addresses noise as a potential impact to be mitigated as a result of policy LU-3.

Policy LU-46 requires strategies to provide buffers around manufacturing/industrial centers to reduce conflicts with adjacent land uses. Policy T-23 calls for King County and other transportation providers to establish a process for prioritizing and siting the location of transportation facilities. Policy ED-2 also calls for a regional industrial siting policy based on a regional assessment of the need for industrial zoned land and availability of infrastructure.

In terms of the Pre-Countywide Planning Policies Alternative, policies that could contribute to mitigation of noise related impacts include policy RL-410. Policy RL-410 states that truck traffic related to mining operations should avoid neighborhood collectors or local access, and in urban areas, mining operations should have direct access to arterials. This policy could reduce noise impacts to neighborhoods.

In comparison with the other alternatives, the policies proposed under the Magnet Alternative appear to provide the highest degree of mitigation measures for noise impacts. For example, the policies under "Siting Public Capital Facilities" call for a structuring of mitigation programs so that mitigation compels or motivates jurisdictions to compete for and accept the facility. This could imply that mitigation measures would ensure that noise levels were mitigated to the extent that the facility would be attractive to the host community.

Also under the Magnet Alternative, the policies for "Quality of Urban Living/Community Character" include establishment of neighborhood or sub-area benchmarks for environmental quality for which new development must comply (such as noise).

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Community review processes would be established to ensure substantive citizen involvement in development review and assess community satisfaction. These policies would result in maintenance or reductions of noise levels associated with future growth, due to the use of benchmarks for noise in order to mitigate future noise impacts. Further, the involvement of the community in development review and community quality of life issues would allow citizens to let government officials know the level of noise that can be tolerated in the community, and assist in the setting of the benchmarks to be attained.

For all the alternatives, there are many noise attenuation techniques that can be implemented at the project level. For example, projects that utilize federal funds would be subject to Section 4(f) of the Department of Transportation Act and Section 404 of the Clean Water Act. These laws require determination of other practicable alternatives and mitigation to minimize adverse impacts. The projects would also be subject to local jurisdictions' sensitive areas ordinances.

In general, the policies under each alternative should include provisions to mitigate the impacts of noise due to increased density of residential areas, increased human activity in non-residential areas, industrial uses, travel-related noise, and construction. Considering the compatibility of adjacent land uses in terms of noise impacts can go a long way towards mitigating adverse impacts. Policies and regulations for mixed use should ensure compatibility of land use and address noise mitigation. Vegetated buffers, barriers, earth berms, and sound barrier walls should also be incorporated into land development regulations as a means of reducing noise impacts.

### **UNAVOIDABLE IMPACTS**

In general, adverse short term and long term noise impacts will occur were growth occurs.<sup>5</sup> Thus, it is essential that noise mitigation measures and consideration of compatibility of adjacent land uses in terms of noise impacts be incorporated into jurisdictions' plans, policies, and construction standards.

---

**AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

ENDNOTES

1. Metro et al, Draft Environmental Impact Statement Regional Transit System Plan, Municipality of Metropolitan Seattle (METRO), Regional Transit Project, Seattle, WA, 1992. p. 3-28.
2. Puget Sound Council of Governments, Final Environmental Impact Statement for VISION 2020, Puget Sound Council of Governments, et. al. Seattle, WA, 1990, p. 294.
3. Puget Sound Council of Governments, Final Environmental Impact Statement for VISION 2020, Puget Sound Council of Governments, et. al. Seattle, WA, 1990, p. 294.
4. Puget Sound Council of Governments, Final Environmental Impact Statement for VISION 2020, Puget Sound Council of Governments, et. al. Seattle, WA, 1990, p. 296.
5. Puget Sound Council of Governments, Final Environmental Impact Statement for VISION 2020, Puget Sound Council of Governments, et. al. Seattle, WA, 1990, p. 298.

## **18.0 ECONOMIC DEVELOPMENT**

### **MAIN FINDINGS**

Regional growth and development in the four-county Central Puget Sound Region will be largely determined by market forces operating in the world and national economies. Growth management plans in King County will not be able to effect these larger macro economic forces. By affecting the cost of doing business through controls over alternative land uses, requirements for permitting, and similar measures, growth management planning can have a feedback effect on the share of economic growth produced by these larger forces that the region will attract.

Implementation of the CPPs could have impacts on, and be impacted by, economic growth and development beyond King County's borders. Uncertainty exists about the cumulative impacts the CPPs would have when combined with county planning policies in Kitsap, Pierce and Snohomish counties. Cumulative impacts will be significantly affected by the level of cooperation achieved between the four Central Puget Sound Region counties.

The policies which are likely to have the most positive economic effect are the Magnet Alternative Policies and the Fiscal Analysis and the Economic Development Task Force Policies. These policies favor incentives and are more proactive in supporting the economy.

### **AFFECTED ENVIRONMENT**

Economic growth and economic development have traditionally had three major dimensions: (1) an increase in economic market activity reflected by an increase in the county's gross product, (2) an increase in the material welfare of county residents reflected by an increase in the county's per capita income, and (3) an increase in job opportunities available to county residents reflected by an increase in the county's ratio of employment to working age population. Computer and telecommunications based technologies combined with an increase in international trading has weakened the link among these different dimensions of economic growth and development during the last few years, but existing economic conditions in King County were defined during a period when the link was strong. Because people tend to migrate to areas where job opportunities are relatively plentiful and incomes are rising, economic growth and development also is closely associated with net in-migration. As a result, economic growth and development have been the driving forces behind King County's population increases.

The County had about 945,000 nonagricultural wage and salary jobs in 1990, four and a half percent above 1989 and thirty percent greater than in 1980. The rate of job growth was about three times greater during the second half of the decade than it was during the first half - 1.8 percent per year between 1980 and 1985 compared with 5.5 percent between 1985 and 1990. As a result, about three-quarters of the County's job growth during the decade came during the last half of the 1980s. Most of this job growth came in the County's aircraft manufacturing, service, wholesale trade, and retail trade sectors.

The growth of jobs in King County has attracted significant net in-migration. A 1990 study estimated that about 150,000 of the new jobs created in the County during the twenty year period, 1970 through 1990, were filled by persons from outside King County.

Between 1989 and 1990 aircraft manufacturing's job growth slackened. Although service and trade jobs continued to increase between 1989 and 1990, adding 17,600 and 7,600 jobs, respectively, and government - primarily educational - jobs increased by 5,500, it

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

the first half of the 1990s would not match its performance during the last half of the 1980s.

Unemployment in King County during the late 1980s declined to near historic levels as the unemployment rate dropped below four percent during 1990. As job growth slowed down in the late 1980s and early 1990s, natural increases in the County's working age population combined with in-migration - which continued but at a slower rate - caused the unemployment rate to start climbing. By the first few years of the 1990s, it had started climbing back to the national rate. In July, 1992, unemployment in King County was 5.9 percent; and in July, 1993, it was 7.0 percent - compared to 6.9 percent for the United States as a whole.

The geographic distribution of employment in King County changed significantly during the 1980s. Almost 58 percent of all King County jobs were located in the City of Seattle in 1980. By 1988, over half of all jobs in the County were located outside Seattle's city limits. Downtown Seattle was still a major employment center with over 120,000 jobs (over 15 percent of the total number of jobs in the entire County), but suburban centers in Bellevue, Kent, Renton and Highline had substantial job concentrations. The most rapid rates of job growth occurred in outlying communities such as Redmond, Woodinville, and Federal Way.

Mean personal income per household in King County grew from \$34,850 in 1981 to \$58,950 in 1991. Converting into constant value 1992 dollars, the change in mean per household personal income was from \$51,120 in 1981 to \$58,950 in 1991 - an average annual compound rate of growth of 1.4 percent. Most of the growth in household income was attributable to an increase in the number of income earners per household, as the relative decline in manufacturing jobs and growth in trade and service jobs in the County acted to hold down average wage and salary earnings per worker.

Gross business income earned by firms headquartered in King County exceeded \$100 billion for the first time in 1990. The manufacture of aircraft equipment and the production and distribution of prepackaged computer software were major factors contributing to the growth of business income in the County.

New commercial valuations in King County cities increased 25 percent between 1989 and 1990 accounting for \$0.99 billion out of a total County increase in commercial valuation of \$1.12 billion. The increase primarily reflected a major growth in available commercial office space. Seattle led all of the cities in the County in new commercial valuations with \$0.44 billion. Overall, King County cities accounted for 85 percent of the new valuations between 1989 and 1990, with unincorporated places in the County accounting for the remaining 15 percent.

### **SIGNIFICANT IMPACTS**

#### *Introduction*

Evaluating the impact of economic growth and development is both a complex and contentious task. It is complex because the phrase "economic growth and development" is seldom defined operationally and consequently gives rise to arguments based on alternative definitions rather than substantive issues. It is contentious because the nature of economic growth inevitably involves trade-offs, and a trade-off based policy is difficult to address when single issue advocacy often dominates policy discussions.

Certain things are factually known however and they provide a context within which an assessment of the impact of the economic development policies articulated in the CPPs can be assessed. Foremost among these is that economic growth and development -- however defined -- occur unevenly. There has been no period in the history of the United States or the State of Washington during which all regions or places had economies which grew equally. Persons seeking to improve their material welfare at a pace which exceeds the opportunity available in their local economy migrate to places where the economy is growing more rapidly. If an acceptable rate of economic growth and development is defined as one which at least equals the national average, then acceptable economic development will inevitably result in net in-migration. The more rapid the rate of growth and development, the greater will be the in-migration.

The relationship between economic development and in-migration highlights the forward looking nature of the development process and its inherent trade-off

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

with current levels of welfare. In-migration results in higher population levels and puts increased pressure on a place's social, physical and biological environment. Neighborhoods are disrupted and traffic congestion increases, open spaces are eliminated, natural habitats are destroyed. Incomes may rise and a community's tax base may expand so that its infrastructure is improved, but most of today's residents will find that their quality of life has been diminished. In the longer term however, economic development and its attendant population growth will mean that the children of today's residents will be able to find gainful employment without having to leave the region. The asset value of homes will increase and contribute to the comfort of residents when they retire. Local schools will have a tax base that allows them to prepare today's youth to compete in tomorrow's world. Cultural amenities such as libraries, museums, theaters and ballparks will be provided or expanded.

Too much and/or too rapid development will degrade the social, physical and biological environment to an extent that there is probably no future set of benefits that will make it worth while. On the other hand, development which is too little and/or too slow will impose costs on future generations which no level of current welfare can compensate. The optimum balance between present and future welfare cannot be determined by technical analysis. It will require an articulation of citizen preferences, and these preferences will undoubtedly change as time goes on.

A key analytical assumption for this SEIS is the acceptance of the population forecasts from Washington State Office of Financial Management. These planning forecasts assume that total regional employment and population are constant for all alternatives. *The possibility exists that King County's total employment and population could be effected by the CPPs with off-setting changes occurring in other counties in the region, but the probability of this occurring in any significant manner is small given the larger market forces acting on the regional and county economies.* The impacts of the CPPs consequently will most likely be on the County's geographic distribution of future growth rather than on its rate. The CPPs may effect the long term capacity of King County to accommodate commercial/industrial development and employment growth, but if this occurs it will likely be along the

county's northern or southern borders where market forces will make businesses indifferent to location in King County as opposed to Snohomish or Pierce Counties - other factors such as wage rates and taxes being the same. In large part however such constraints will result from the land use plans and subsequent zoning and development regulations adopted by the county and cities in their respective comprehensive plans.

The environmental impact assessment of the economic development policies contained in the CPPs, and subsequently expanded by the Affordable Housing, Fiscal & Economic Development, and Rural Character Task Forces and the Technical Review Areas and No Rail variations, focuses on directions and trends in the County's social, physical and biological environment since the impacts produced by specific actions under the CPP's broad policy guidelines will largely depend on how the CPP policies are implemented. The GMA requirement that CPPs must be consistent with MultiCounty Planning Policies adopted under RCW 36.70A.210 combined with the 1992 action of the PSRC's Executive Board and General Assembly that identified Vision 2020 as the multicounty planning policies of the four county Central Puget Sound Region (CPSR) fixes the region's total employment and population growth. Employment growth in the CPSR between 1990 and 2020 under all Vision 2020 alternatives, for example, is estimated to be 65 percent.

Despite the constancy of total regional growth and development under all alternatives, King County's share of the regional totals can be influenced by the CPPs since constancy and consistency of regulatory policy strongly influences the risk associated with business choices. Businesses can make investment decisions with less risk under a constant regulatory environment. Constancy of policy consequently is an attractive attribute that enhances a place's attractiveness for business location. In the case of knowledge intensive and high technology industries, this appears to be the case even more than is true for the rest of the economy. To the extent that development policies reflect a balance between conservation of the County's physical and biological resources and the land use requirements of commerce and industry while providing a constant low risk of change environment, the development potential of the

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

County will be enhanced relative to other parts of the western United States.

The analysis of the environmental impacts of the CPPs, and their alternatives and variations, assumes that the policies will be implemented as adopted or proposed. Compliance with, or progress toward achieving, the policies is an issue beyond the scope of this assessment. Both the lack of operational definitions, discussed above, and the absence of consensus benchmarks for making such evaluations requires that these issues be addressed in the subsequent environmental reviews that will be phased over the life of the project.

Finally, this environmental assessment does not address the issue of fiscal impacts on either the County or its cities. The GMA requirement that fiscal impacts be assessed is being addressed by the County under a separate analysis that is currently underway.

### *Impacts of the Alternatives*

#### **Regional Context**

Foremost among them are the post-cold war reductions in national defense expenditures by the federal government, the expansion in international trade - including creation of a North American Free Trade Area and the emergence of strong and growing Pacific Rim economies, and the widespread adoption of new information processing and communications technologies by U.S. companies.

The focus of VISION 2020 was on managing regional growth and development rather than attempting to control either its amount or timing. As a result, VISION 2020 assumed total regional growth and development would be an estimated employment growth of 65 percent under all of its alternatives. It further implicitly assumed that the relationship between total economic activity, per capita income, and employment would remain constant. As a result, VISION 2020 assumed all the dimensions of economic growth and development in the region under all alternatives would also remain constant. The consequence of this assumption was that while geographic distributions of economic activity change, based on different land use concepts, the total change over the 30-year period remains the same.

The assumed absence of feedback effects between growth management policies and the region's rate of economic growth and development was appropriate for VISION 2020's focus on managing the geographic distribution of economic activity in the region. Since (a) the PSRC's Executive Board and General Assembly identified VISION 2020 as the multicounty planning policies for the CPSR, and (b) the GMA requires that CPPs must be consistent with Multicounty Planning Policies, the regional context for assessing the impact of the economic development sections of King County's CPPs will be conducted under the VISION 2020 assumption of a constant 65 percent increase in regional total employment. However, where the CPPs may generate feedback effects on the County's level or rate of growth of economic activity, these effects will be identified and assessed. Further, the past several years have witnessed a separation between the economic activity and employment dimensions of economic growth and development in the United States. Real Gross Domestic Product (GDP) in the country has been rising at a significantly faster rate than either employment or per worker wage and salary income. Consequently, different rates of economic activity and income growth can be generated by the same growth rate or level of regional employment depending upon the types of economic activity involved. As appropriate, these issues will also be discussed in the assessment of King County's CPPs.

#### **County Context**

Each of the alternatives under consideration represents a different approach to managing King County's growth and development. Each, if implemented, would result in a significantly different land development pattern. The implementation of the alternatives described in this document will be assessed in terms of both possible impacts on the County's total economy and localized effects which could occur in the County's cities.

Different land development patterns resulting from different approaches to managing the County's growth and development could affect the types and levels of economic activity which occur, for any given level of total County-wide employment. This can result from the interplay of several trends. One of these trends is for manufacturing companies to adopt technological innovations that increase production while reducing

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

employment. Future levels of production and the absorption of land into manufacturing uses could be substantially higher consequently than a simple projection of manufacturing employment would indicate. There are also some recent instances of manufacturing firms using multi-story instead of single-story structures for production. Although these two trends operate in opposite directions, the likely net effect is for manufacturing's demand for land to grow more rapidly than its demand for workers. Another trend is for trade and service activities to use more land (including land for parking areas) per worker when they locate outside central cities. The growth of retail trade and service activity outside existing major urbanized places will consequently absorb more land even though the County's total retail trade and service employment remains constant. Another trend is for many of the newer high technology industries, such as prepackaged software or biomedical products production, to agglomerate. These types of companies often have relatively few workers, engage in high value added production, and locate on extensive land holdings. To the extent that these types of industries agglomerate in King County over the next two decades, the requirement for industrial and commercial land will be significantly higher than it would be otherwise - assuming the County's total employment is the same.

At the present time, possible mechanisms for future cooperation cannot be determined.

### *Impacts of Alternatives*

The CPPs adopted by the King County Council in 1992 contained three Framework (FW) policies and five Economic Development (ED) policies related to economic development and growth in King County. The three FW policies were:

FW-29: Jurisdictions shall contribute to viable and sustainable economic growth and development through providing cost-efficient infrastructure, public services, and affordable housing, promoting excellence in education, and protecting the environment.

FW-30: Jurisdictions shall act to increase work training and job opportunities for all residents.

FW-31: Jurisdictions shall support development of a regional economic development strategy consistent with the county-wide land use pattern.

The five ED development policies were:

ED-1: The GMPC shall adopt economic development policies which:

- Establish the County's role in the regional economy;
- Maintain a strong economic base within King County;
- Encourage diversification of the economy;
- Maintain an adequate supply of land for future economic development;
- Identify geographic areas where public resources that promote economic development will be targeted;
- Foster job training opportunities;
- Protect the natural environment as a key economic value in the region;
- Consider the special needs of economically disadvantaged citizens and neighborhoods; and
- Include input from, and assistance to, the private sector.

ED-2: Regional planning shall produce an industrial siting policy based on the need for industrial zoned land in the region, the availability of transportation, and the availability of other infrastructure.

ED-3: Jurisdictions' comprehensive plans shall include economic development policies that both address local economic concerns and are consistent with regional economic development strategy.

ED-4: Jurisdictions' shall include an estimate of the type and number of jobs to be

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

accommodated in their comprehensive plans.

- ED-5: The County shall work with Pierce and Snohomish Counties to develop a joint 20-year regional economic development strategy.

The following sections assess the impact of the above CPPs, and their proposed alternatives and variations, on the environment.

### **No Action Alternative**

No Action Alternative involves the adopted CPPs, as enacted by King County in 1992, being in force, but the GMPC taking no further implementing actions - such as designating growth centers.

The consequences of No Action Alternative are that jurisdictions' specifications of their local economic development concerns (ED-2) and estimates of the type and number of jobs they wish to accommodate (ED-4) will be unconstrained by County development policies (ED-1), regional industrial siting policies (ED-2), or a 3-county economic development strategy (ED-5). Essentially, No Action Alternative will result in a piecemeal approach to economic growth and development in the County. The CPPs will require local jurisdictions to articulate their development concerns and job creation targets but will neither guide nor direct them.

The environmental impacts resulting from this alternative will depend on the economic development concerns and employment targets that local jurisdictions place in their comprehensive plans. At the present time, insufficient information exists to assess the environmental impacts that may result from this process. The level of detail in the CPPs is also not sufficient to determine potential environmental impacts of TSM.

The assumption underlying the CPPs that employment growth in the County will be constant under all alternatives however means that local jurisdictions will be specifying their employment targets in the context of a zero-sum game. Since total County employment in 2020 is assumed to be the same under all alternatives and actions, the only way a jurisdiction can get more than its proportionate share of future

employment growth is to take it away from other jurisdictions. Without the guidance that County growth and development policies, regional industrial siting policies, or a 3-county economic development strategy would provide, a distinct possibility exists that inter-jurisdictional competition for jobs could develop. This type of job competition could have significant adverse impacts on the County's physical and biological environment, since one primary technique used by jurisdictions to attract companies is to make choice land available for siting industrial and commercial buildings. Unconstrained inter-jurisdictional competition for expanded tax bases will have similar environmental impacts. The fact that there is substantial variation among industries in the amount of industrial and commercial land used per dollar of assessed value should prevent the worst consequences of zero-sum game competition from occurring.

### **Eight Centers Alternative**

Eight Centers Alternative is the development in King County of (1) eight urban centers, as detailed in CPP land use policy 28 (LU-28), (2) four manufacturing/industrial centers, as detailed in LU-39, (3) having the County implement economic development CPPs ED-1 through ED-5, inclusive, and (4) having the County implement other CPP policies involving action by the GMPC.

An urban center is defined as an area with (a) no more than 1.5 sq. miles, (b) a minimum of 15 dwelling units (DUs) and 50 jobs per gross acre (or a minimum of 14,400 DUs and 48,000 jobs per 1.5 mile urban center), (c) direct service by high capacity transit that has stations within walking distance of all portions of the center, and (d) complementary land uses. A manufacturing center is defined as an area which (a) contains aggregations of land parcels sized for manufacturing/industrial uses, (b) has zoning which discourages land uses other than manufacturing/industrial, and (c) accommodates a minimum of 10,000 jobs. Manufacturing centers with 15,000, or more, jobs shall be served by high capacity transit (HCT).

The major consequence of Eight Centers Alternative will be to increase land use densities within the eight designated urban centers and four manufacturing

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

centers while reducing the potential growth of land use densities elsewhere in the County.

The Eight Centers Alternative has the potential for the greatest reduction in single occupancy automobile use since the majority of future job and dwelling unit growth will be in areas that both provide HCT and require either limited parking or charges for single occupancy vehicles.

The impact of Eight Centers Alternative on the social and economic environment will probably be mixed. Concentrating future job and population growth into eight urban centers and four manufacturing centers will increase the relative demand for land and cause relative land values to rise in the centers compared to other places in the County. The higher land values will cause land to be used more intensively. The centers will consequently become characterized by multi-family residences and high rise (possibly mixed use) commercial buildings. For residents of the centers, this implies a reduction in living space in the average dwelling for any given price of a dwelling unit.

The manufacturing centers will similarly experience a relative increase in land values. Manufacturing and industrial activities which use land extensively and generate relatively low value-added per square foot of land use will probably be price rationed out of the centers. Over time this will tend to create higher valued-added manufacturing in the County's industrial sector but will reduce the availability of entry level industrial jobs for lower skilled workers.

Viable middle income single family residential neighborhoods outside the centers should not be affected much. The infill development process contained in LU-54 should allow for some expansion of dwelling units. The focusing of population growth into the centers however will result in a relative decline in property values in these neighborhoods although absolute property values should continue to rise. The use of zoning to direct population growth into the eight centers will tend to limit market forces from re-developing deteriorating marginal single family areas into multi-family or other alternative uses.

Except as noted in the above discussion of manufacturing centers, the impacts of the Eight

Centers Alternative on occupational and industrial employment are uncertain at the level of generality contained in the CPPs. However the trend toward multi-family residential structures and high rise commercial structures in the urban centers implies an increase in the number to building maintenance related jobs. The emphasis on HCT and the development of walk-ways and bicycle-ways that are an important component of the urban center concept should result in a significant decline in vehicle traffic in the County. Over time, this will tend to reduce employment in automobile service/repair/sales activities.

### **14 Centers Alternative**

14 Centers Alternative is essentially the same as the Eight Centers Alternative except that the number of centers increases from eight to fourteen - a 75 percent increase in the amount of land potentially available for urban center growth. The percentage of County households residing in urban centers under the 14 Center Alternative is expected to increase from 24 percent to 40 percent - primarily resulting from a shift of households out of suburban unincorporated areas and smaller urban places - and the percentage of total employment located in urban centers is expected to grow from 49 percent to 74 percent. This expected locational shift in the County's future population and job growth would reduce scattered no- (or limited-) service developments. As stated in other parts of this document, the 14 Centers Alternative will probably have the fewest adverse impacts on the County's physical and biological environment.

The 14 Centers Alternative economic impacts will be the same as the Eight Centers Alternative but the magnitude of the impacts will be less since population and job growth will be directed into 75 percent more urban center land. The changes in relative value between urban center and non-urban center lands will be less, and the implied impact of these relative land value changes will consequently be reduced. A significant issue is whether the projected moderate growth of population and jobs in King County and the CPSR assumed throughout this SEIS will be adequate to generate a level of demand for housing units and commercial services necessary for the feasibility of the urban center concept. There is not sufficient information available currently to make this determination. If the level of demand under the 14

---

## **AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES**

---

Centers Alternative is not enough to support the life-style concepts envisioned as part of the urban centers however, the County may be faced with the choices of (a) adopting a more growth enhancing (rather than simply growth management) economic strategy, (b) not minimizing adverse physical and biological environmental impacts by going to fewer urban centers, or (c) not achieving the HCT and high density culture/life style envisioned as part of the urban centers concept.

The number of manufacturing centers under the Eight Centers Alternative and 14 Centers Alternative remain constant - both will have four. The impacts of the manufacturing centers under the 14 Centers Alternative will therefore be the same as those discussed under the Eight Centers Alternative.

### **Pre-Countywide Planning Policies Alternative**

The Pre-Countywide Planning Policies Alternative is the replacement of the CPPs adopted by the King County Council in 1992. The consequence of the Pre-Countywide Planning Policies Alternative is that future population settlement and job growth in the County would be governed by the King County Economic Development Plan (1989), the King County Transportation Plan, the King County Open Space Plan (1988), and the King County Affordable Housing Plan (1987).

The impact of the Pre-Countywide Planning Policies Alternative would probably be a continuation of the population settlement and job growth patterns recently operating in King County. These include the absorption of undeveloped land, shifting the relative concentration of employment away from Seattle to areas east of Lake Washington, and the growth of low density residential patterns in the eastern parts of the County. More specialty destination retail developments, such as the factory outlet center in North Bend, can probably be expected to occur in the eastern areas of the County along the I-90 corridor.

What is not determinable currently is the impact of the Pre-Countywide Planning Policies Alternative - or any of the other Alternatives - under various scenarios concerning regional development. If Pierce and Snohomish Counties elect to adopt well defined managed growth strategies, Pre-Countywide Planning Policies Alternative implies that those types of

industrial and commercial activities seeking to locate in the region but which do not fit the growth strategies of the other counties will locate in King County. If Pierce and Snohomish Counties also adopt an "existing plans" growth strategy however there will be no regionally induced impact.

### **Magnet Alternative**

The Magnet Alternative essentially substitutes attraction incentives for land use regulations as the method for creating urban centers, manufacturing centers, and establishing urban growth areas (UGAs). In the domain of economic development, the Magnet Alternative involves the simplification of business regulation, incentives for the encouragement of new business formation, matching skills training to local business requirements, and incentives for businesses to use resource conservation techniques in production. It also involves development of a region-wide strategy to achieve a balance of jobs and housing in "reasonable proximity to Puget Sound urban growth areas."

In general, incentives are less powerful than regulations as a tool for achieving specific policy objectives. As a consequence, the Magnet Alternative will likely produce a pattern of population settlement and job growth more compact than the No Action Alternative and Pre-Countywide Planning Policies Alternative but less compact than the Eight and 14 Centers Alternatives. Its incentives would probably induce some increased concentration of population and jobs in urban centers, but some sprawl of residences and jobs into the eastern parts of the County would probably continue.

The Magnet Alternative's explicit recognition of the need to simplify business regulations and encourage new business formations would probably improve King County's business climate. The impact of all the alternatives being assessed is made under the assumption that King County's job growth will be the same, and consequently the improvement in the County's business climate might contribute to business profitability but it would not result in more jobs being created. The nature of the Magnet Alternative however makes the assumption of no additional job growth virtually untenable. Its reliance on incentives to achieve policy objectives combined with its strategy of minimizing the costs of policy

---

## AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES

---

implementation implies the Magnet Alternative is a more economic growth oriented strategy than any of the other alternatives.

### *Impacts of the Variations*

Because impacts of the variations for the Eight Centers Alternative, 14 Centers Alternative and Magnet Alternative are similar, the following assessment applies to all three Alternatives.

### Technical Review Areas

The five Technical Review Areas (TRAs) are places where a re-assessment of the County's UGA boundary was mandated by the GMPC. The five areas encompass 3,051 acres. The urban/rural designation on 1,340 acres would be unchanged. The designation on 1,178 acres would be changed from rural to urban, and 532 acres would be changed from urban to rural. The net effect of these changes is a shift of 646 acres from a rural to an urban designation. There will be little environmental impact since the re-designated urban lands will low-density areas where little or no development will occur. These "urban separator" areas are consistent with CPP LU-15.

The re-designation of the UGA boundary involves a relatively few number of acres from the perspective of the entire County's UGA designated land. It should have no significant county-wide economic growth and development impact.

### No Rail Variation

The level of detail provided in the CPPs is not sufficient to determine potential economic growth and development impacts that may potentially occur in the absence of rail.

### Affordable Housing Policies

Affordable housing policies recommended by the Affordable Housing Task Force include (a) local actions such as zoning and the development of standards and permitting procedures to encourage affordable housing, (b) revising land use regulations to remove barriers to the siting of affordable housing, and (c) a county-wide effort to provide resources and programs to assist low and moderate income households.

The essential economic rationale of affordable housing policies is that low and moderate income households are unable to afford market rate housing that satisfies their needs for appropriate shelter, as defined by accepted community standards. The consequence of affordable housing policies is that affordable housing will be provided for low and moderate income households by some form of subsidization. Where public housing is provided, the subsidization is provided by government taxation and spending. Where affordable housing is required as a condition for construction of residential structures, the subsidization is provided through market mechanisms as prices of other dwelling units in a structure are raised to generate an acceptable rate of return to the developer on the entire structure's investment.

The impact of affordable housing policies on economic growth and development will probably be influenced most strongly by the methods selected to implement these policies. Scattered affordable housing will minimize any adverse economic development impacts. Low- and moderate-income housing which is densely concentrated in specific neighborhoods would have the greatest adverse economic development impact because it would likely discourage market-based economic activity in and around these neighborhoods. While scattered low- and moderate-income housing would probably work consequently, a concentration of large numbers of affordable housing units into specific neighborhoods is probably incompatible with the market-based high density residential and commercial developments envisioned for the urban centers. In the complete absence of any affordable housing policies however the urban centers are likely to exclusively contain middle and upper income housing. Low income households would only be able to afford housing in the urban areas of the county outside the urban centers.

### Economic Development Policies

The Economic Development policies recommended by the Fiscal Analysis and Economic Development (Fis/ED) Task Force essentially focus attention on actions and policies that enhance the County's support for, and promotion of, positive economic growth and development. The recommendations (a) define the concept of expanding the region's (and by implication, the County's) economic base by developing industries

---

## ***AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS AND MITIGATION MEASURES***

---

which primarily export their goods and services, (b) propose that jurisdictions simplify business permitting and encourage business expansion, retention, and formation, (c) propose that jurisdictions provide in their comprehensive plans policies that would ensure that the future supply of land and infrastructure in the County is adequate to support development of economically productive activities that create high wage jobs, (d) propose that jurisdictions provide in their comprehensive plans methods that direct resources - including job training, re-training, and educational opportunities - that address the historic disparity in income and employment of minorities and disadvantaged individuals, and (e) propose that jurisdictions work cooperatively with business to adopt economic development policies which protect the physical and biological environment of the region.

The overall thrust of the Fis/ED Task Force recommendations is to positively foster the growth and development of economic activity in the County that is sensitive to both the natural and human environment. Like the Magnet Alternative, it is a departure from the other CPP Alternatives and policy options which emphasize the management, but not the fostering, of economic growth.

The impact of these recommendations would likely be an increase in the creation of jobs and attraction of population to King County. It would create a proactive strategy which enhances the County's attractiveness for business location. The likely impact of such a strategy would be to generate more jobs than would occur under the growth responding policies implicit in the other alternatives and variations. The feedback effects from implementing the Fis/ED Task Force recommendations will tend to increase King County's growth and development to a level above the amount indicated in this DSEIS. Some net additional growth may come from attraction of economic activity that otherwise would have located elsewhere in the region, but it is probable that at least some of the growth will be a new increment to the economic base of both the County and the region.

### **Rural Character Policies**

The policies recommended by the Rural Character Task Force are to maintain the traditional character of

rural King County, including its low density development and mix of people and life styles.

In large part, the rural character of parts of King County are defined by the establishment of the County's UGA boundaries and the potential establishment of urban growth centers where future job and population increases will be directed. The economic growth and development consequences of maintaining the rural character of those parts of King County which lie outside the UGA boundaries consequently have been assessed under the various Alternatives and policy options discussed in this section. No additional impacts are likely.

**Activity Areas:** A concentration of development which contains both residences and non-residential land uses, at densities which are higher than average in a region of the County. The concentration will likely be found at a location well served by at least one mode of transportation (e.g. highways) and preferably by additional modes (e.g. bus, light rail, air, freight rail, bicycle and pedestrian improvements).

**Adequate Flows:** The maintenance of the historical dry season flows within a stream, wetland, or waterway.

**ADT:** See Average Daily Traffic.

**Affordable Housing:** Affordable housing is generally defined as housing where the occupant is paying no more than 30 percent of gross income for housing costs, including utilities, and meets the needs of moderate or low-income households.

**Anadromous Fish:** Fish that spend part of their lifecycles in fresh water and part in saltwater (salmon and some species of trout).

**Area Sources:** Smaller pollution sources which are more difficult to identify. Area sources include both mobile and non-mobile sources. This document maintains the distinction between mobile and non-mobile sources by grouping all non-mobile areawide sources with point sources to form the category "fixed" sources.

**Average Daily Traffic:** The average number of vehicles passing a point during a 24-hour period.

**BOPs:** See Business/Office Parks.

**Buffer:** A designated area contiguous with a sensitive area that is required for the continued maintenance, function and structural stability, attenuation of surface water flows from storm water runoff or precipitation, attenuation of landslide hazards reasonably necessary to minimize risk, erosion control, and protection of critical functions of riparian areas that are integral parts of the stream and wetland system.

**Business/Office Parks:** Land extensive business and office development often sited in campus-like settings with very low ratios of floor area to gross parcel acreage.

**CAAA:** See Clean Air Act Amendment.

**Capacity:** The ability to contain, absorb, or receive and hold employment or residential development.

**Clean Air Act Amendment:** In 1990 the 1978 Clean Air Act was updated to guide development and implementation of transportation and other measures necessary to obtain and maintain national ambient air quality standards.

**CMAQ:** See Congestion Management Air Quality.

**Community Separators:** See Urban Separators.

**Commute Trip Reduction:** A requirement of the Washington State Clean Air Act which requires major employers to develop and implement programs that will reduce the number of times their employees drive alone to work.

**Comprehensive Plan:** A legal document adopted by local officials establishing policies that guide future development of the community. Zoning and other development regulations must be consistent with the Comprehensive Plan. The State Growth Management Act requires the following mandatory elements be included in comprehensive plans: land use, housing, capital facilities, utilities, and transportation.

**Concurrency:** A GMA requirement that the necessary public facilities and services to maintain the adopted level of service standards are available when the impacts of development occur.

**Congestion:** A condition under which the number of vehicles using a facility is great enough to cause reduced speeds and increased travel times.

**Congestion Management and Air Quality:** This program is a part of the ISTEA funding legislation. The program directs funds towards transportation projects in Clean Air Act non-attainment areas for ozone and carbon monoxide. The projects must contribute toward meeting attainment of national ambient air quality standards.

**Consistency:** A measure of whether any feature of the plan or a regulation is incompatible with any other feature or a plan or a regulation. The GMA requires that a jurisdiction's Comprehensive Plan be both internally and externally consistent with other comprehensive plans.

**CPPs:** See Countywide Planning Policies.

**Critical Areas:** Defined in King County as wetlands, geologically hazardous areas, fish and wildlife habitat conservation areas, aquifer recharge areas, and frequently flooded areas.

**Countywide Planning Policies:** As required by the Growth Management Act, the King County Council adopted a series of policies which embody a vision of the future of King County. These policies (along with the Framework Policies) are intended to guide the development of local plans. The policies were adopted on June 3, 1992.

**CWSSA:** Critical Water Supply Service Area.

**CWSP:** Coordinated Water System Plans.

**Data Resources Technical Forum:** An interjurisdictional work group established in 1991 to develop a coordinated approach to data and information collection for countywide planning efforts.

**Density:** The total number of dwelling units divided by the total site area, less public right-of-way.

**Development:** Any humanmade change to improve real estate, including, but no limited to, buildings or other structures, dredging, filling, grading, paving, excavation, or permanent storage of materials.

**DOE:** Washington State Department of Ecology.

**ECA:** See Environmentally Critical Areas.

**Environmental Impact Statement:** A document intended to provide impartial discussion of significant environmental impacts which may result from a proposed development project or problematic action.

**Environmentally Critical Areas:** Those areas mapped by jurisdictions and where development is usually regulated by specific environmental codes. These areas have existing site conditions which require development standards to minimize specific on-site and off-site adverse environmental impacts such as stream siltation, hill slides, etc. Environmentally critical areas include wetlands, riparian corridors, steep slopes, slide-prone areas, liquefaction-prone areas, hazardous waste sites, and wildlife habitat areas. These areas are also known as sensitive areas.

**EIS:** See Environmental Impact Statement.

**Existing Capacity:** The estimated supply of new housing units or jobs that can be accommodated under current zoning. Includes redevelopment potential as well as development on vacant land. Expressed in dwelling units for residential zones and either jobs or square feet of improvement for commercial zones.

**FAR:** See Floor Area Ratio.

**FIS/ED:** A Fiscal/Economic Development task force which provided other policy options to the Eight Centers, Fourteen Centers, and Magnet Alternatives.

**Floor Area Ratio:** The ratio of floor area to the area of the lot. The floor area is the sum of all enclosed areas on all floors of a building or buildings measured from the outside faces of the exterior walls, including halls, lobbies, arcades, stairways, elevator shafts, and balconies, and any below grade floor area used for access and storage. Not countable as floor area are open terraces, patios, atriums, and breezeways.

**Forecasts:** The projected future demand for land uses, expressed in households or jobs.

**Forecasted Growth:** Current estimate of population and employment growth for King County, prepared by the Puget Sound Regional Council based on defined assumptions and generally acceptable scientific methods.

**Future (planned capacity):** Estimates of land needed to ensure that there is an adequate capacity to accommodate growth targets.

**Geographic Information Systems:** A computerized system to map and access geographic information which is accessible through a database.

**GIS:** See Geographic Information Systems.

**GMA:** See Growth Management Act.

**Growth Management Act:** Legal requirements adopted by the Washington legislature (HB 2929 and ReSHB 1025).

**GMPC:** See Growth Management Planning Council.

**Growth Management Planning Council:** A group of elected officials from King County, Seattle, and the County's suburban cities overseeing coordinated planning between jurisdictions within the County.

**High Capacity Rapid Transit:** A transportation system designed to carry large numbers of riders at relatively high speeds along a fixed-route with limited stations. The system is generally complemented by bus and/or automobile connection points. Examples include commuter rail and light rail.

**High Occupancy Vehicle:** Generally, a vehicle carrying more than one person, including a carpool, vanpool, or bus.

**HOV:** See High Occupancy Vehicle.

**Infill:** Development of vacant parcels of land in otherwise developed areas.

**Infrastructure:** Streets, water, and sewer lines, drainage systems and all other constructed public facilities necessary to the functioning of an urban area.

**Intermodal:** More than one transportation mode or type of service.

**Intermodal Surface Transportation Efficiency Act:** 1991 Federal legislation which authorizes up to \$150 billion for transportation programs over six years. ISTEA provides greater funding flexibility for state and local transportation projects and emphasizes, among other things, improved coordination of land use and transportation planning, intermodal connectivity, congestion mitigation, and development of new technologies.

**ISTEA:** See Intermodal Surface Transportation Efficiency Act.

**Land Capacity:** The number of additional dwelling units (for residential uses) or square feet of improved floor space (for commercial/industrial uses) that can be accommodated within a given geographic area under current zoning.

**LCP:** See Least Cost Planning.

**Least Cost Planning:** A process that establishes a series of quantifiable goals that measure quality of life against publicly established benchmarks. Public investments are made based on a cost effectiveness analysis that uses the benchmarks to determine effectiveness. Monitoring benchmark achievement over time plays a key role in ensuring that the facilities necessary for development are available over time and that the goals are being met.

**Level of Service:** An established standard that defines the quality and efficiency of public facilities and services provided in a community.

**Local Growth Targets:** Twenty year goals for population and employment growth allocated to local jurisdictions through the Countywide Planning Policies. See Population and Employment Targets.

**Manufacturing Centers:** The four centers specified in the CPP Phase II work: Ballard/Interbay, Duwamish, Kent Valley, and Tukwila. These centers have land bases which represent key economic sources for the regional economy.

**Mixed Use:** The presence of more than one category of use in a structure, for example, a mixture of residential units and offices in the same building.

**Mobile Source Emissions:** A type of area source pollutants generated from a moving point of conveyance, such as a car.

**Mode-Split:** The proportion of total persons using a particular mode of travel. In this document, it is the percent of trips by transit as compared to cars.

**Mobility:** Capable of moving or being moved from one place to another.

**Multi-modal:** Referring to accessibility by a variety of travel modes, typically pedestrian, bicycle, transit, and automobile modes, but may also include water and air transportation modes.

**NDAP:** Neighborhood Drainage Assistance Plan.

**New Rural:** The approximately 50 square miles of area previously identified as urban, but included as rural in the July 1992 CPP.

**Net Capacity:** Population and employment growth likely to occur under zoned capacity minus existing infrastructure and service standard limitations.

**Non-Mobile Source Emissions:** Stationary area source emissions, as distinct from point source emissions. Point source emissions are large and easily identifiable, such as smokestacks. Non-mobile, stationary area source emissions are small, such as dry cleaners or barbecues.

**Office/Business Parks:** Concentrations of office uses outside of urban and rural centers or activity area.

**Old Rural:** Those areas identified as rural by the 1985 Urban-Rural Line, as amended by Community Plans through June 1992.

**Planned Capacity:** Population and employment growth planned (contained in local comprehensive plans with a specified horizon year) in the context of the Countywide Planning Policies.

**Point Source Emissions:** A source of pollutants from a single point of conveyance such as a pipe. For example, the smoke from a smokestack.

**Population and Employment Targets:** These targets represent a quantitative expression of public policy that will be presented in the revised comprehensive plans required by GMA. These targets are expressed as a number of housing units or jobs.

**Regional Transit System Plan:** A proposed plan addressing transportation and mobility issues in the central Puget Sound region, encompassing King, Pierce, and Snohomish Counties. The RTP proposes capital improvements and service changes that will improve regional transit, increase transit speeds, service, and reliability, and encourage transit and high occupancy vehicle use by giving them priority on arterials and freeways.

**Resource Lands:** Agriculture, forest, and mineral (sand, gravel, and other mined materials) areas having long-term commercial value.

**RTSP:** See Regional Transit System Plan.

**Rural Lands:** Those areas identified as rural by the July 1992 CPP.

**Rural Character:** Areas with large amounts of undeveloped land, low land use density, and minimum service levels. Small farms, woodlots, and single-family homes on large lots dominate the landscape.

**Rural Cities:** Incorporated cities in the rural area. They include the cities of Black Diamond, Carnation, Duvall, Enumclaw, North Bend, Skykomish, and Snoqualmie.

**SAO:** See Sensitive Areas Ordinance.

**Sensitive Areas:** See Environmentally Critical Areas.

**Sensitive Areas Ordinance:** King County's ordinance which includes development and construction restrictions on the use of wetlands, streams, steep slopes, and other environmentally critical areas.

**SEPA:** See State Environmental Policy Act.

**Single Occupancy Vehicle:** A vehicle carrying only one person.

**SOV:** See Single Occupancy Vehicle.

**State Environmental Policy Act:** The state law passed in 1971 requiring State and local agencies to consider environmental impacts in the decision-making process. A determination of environmental significance must be made for all non-exempt projects or actions which require a permit, license, or decision from a government agency.

**Supplemental Environmental Impact Statement (SEIS):** A document which provides additional information to the original Environmental Impact Statement (EIS). See Environmental Impact Statement for more information.

**TDM:** see Transportation Demand Management.

**TIP:** See Transportation Improvement Program.

**Transportation Improvement Program:** A six-year regional plan for transportation projects, specifying timing, costs, funding sources, and priorities.

**Technical Review Areas:** These are five areas that were considered for land use re-designation from urban to rural. Four of these areas are within the City of Renton's Urban Growth Area and one is within the City of Issaquah's Urban Growth Area.

**Telecommuting:** The transfer of information using telecommunication technology such as teleconferencing, satellite television, facsimiles, cellular telephones, and computer networking. Telecommuting also includes organizational work performed outside of one's office and sent to other places via computers and other telecommunication technologies.

**Transportation Demand Management:** A system of policies plus public and private programs to manage the demand on transportation. TDM measures are frequently directed towards increasing the use of transit and carpools/vanpools.

**Transportation Systems Management:** Making better use of the existing transportation system by using short-term, low-capital transportation improvements that cost less and can be implemented more quickly than a rapid transit system.

**TSM:** See Transportation Systems Management.

**UGA:** See Urban Growth Area.

**Urban-Auto Oriented Uses with Full Service:** Those areas which are urban and do not meet the transit oriented criteria, but are served by a full range of urban services. Full range of services is based on availability of transportation, water, storm and sanitary sewers, parks, schools, and public safety services available by the year 2010.

**Urban-Auto Oriented Uses without Full Service:** Those areas which are urban, do not meet the transit oriented criteria, and are not served by a full range of urban services.

**Urban Center:** A 1-1/2 square mile area of concentrated employment and housing with direct service by high capacity transit. Characteristics normally associated with an urban center include retail and recreational development, public facilities, parks and open space, and daytime/nighttime uses. An urban center is to be zoned to accommodate a minimum of 15,000 jobs within one-half mile of a transit center, a minimum of 50 employees per gross acre, and a minimum of 15 households per acre.

**Urban Center Criteria:** As noted in the Countywide Planning Policies, Urban Centers shall be characterized by the following: clearly defined geographic boundaries, intensity/density of land uses sufficient to support effective rapid transit, pedestrian oriented, superior urban design which reflects the local community, limitations on SOV use during peak hours or for commuting purposes, a variety of land uses, services, and employment options, sufficient open space and recreational opportunities, and daytime/nighttime activities.

**Urban Growth:** 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 agricultural products, fiber, or the extraction of mineral resources and/or for the use of open space and recreation. When allowed to spread over wide areas, urban growth typically requires urban governmental services.

**Urban Growth Area:** The area around a city or urbanized community within which urban growth shall be encourage and outside of which growth can only occur if it is not urban in nature.

**Urban Growth Boundaries:** The boundary or line marking the limit between the urban growth areas and other areas such as rural and resource areas where urban growth is not encouraged, as designated by the County in consultation with the cities, under the requirement of GMA.

**Urban Separator:** Areas of permanent low density which protect resource lands and environmentally sensitive areas and which also create open space corridors within and between urban areas. These lands are within the Urban Growth Area and will not be redesignated in the future for higher density uses or other urban uses.

**Urban Sprawl:** Scattered, poorly planned urban development that occurs particularly in urban fringe and rural area and frequently invades land important for environmental and natural resource protection. Urban sprawl typically manifests itself in one or more of the following patterns: (1) leapfrog development, (2) strip development, (3) large expanses of low density, single-type development.

**Urban-Transit Oriented Uses:** Roughly defined as those areas with transit mode split of better than 10% of peak hour trips in Seattle or 5% or better transit mode split and non-SOV mode split of 5% or better outside Seattle.

**Vehicle Hours Traveled:** An estimation of the number of hours spent traveling.

**VHT:** See Vehicle Hours Traveled.

**Vision 2020:** Puget Sound Regional Council's 1990 adopted regional comprehensive vision which describes linking high-density residential and employment centers throughout the region by high capacity transit and promoting a multi-modal transportation system.

**VMT:** See Vehicle Miles Traveled.

**Vehicle Miles Traveled:** A measure of the total number of miles traveled by all vehicles on the road in a given area for a given period of time. The measurement is generally calculated by multiplying ADT times the lane miles.

**Zoned Capacity:** Population and employment growth permitted under current zoning, land development, and environmental regulations.

### General References

King County Growth Management Planning Council. 1992. King County Countywide Planning Policies: Recommendation to the King County Council. (Ordinance #10450).

Pacific Rim Resources. 1993. Draft Supplemental EIS Scoping Meetings: January 27 to February 4, 1993 Summary Report. (Includes Scoping Meeting Discussion Comments and Written Comments).

### Introduction

King County Planning and Community Development Division. June 16, 1993. Countywide Planning Policies Urban Growth Areas: Technical Study Areas--Renton and Issaquah.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

### Land Use

#### Land Development & Capacity

Altshuler, Alan. "The Costs of Sprawl." Book review in Journal of the American Planning Association. Vol. 43 (2). 1977.

Battelle Human Affairs Research Centers and Economic Databank Consultants. 1990. "Impacts of Regional Transportation Alternatives on Public Costs of Services in the Puget Sound Region." Supplementary Report to the Draft Environmental Impact Statement for VISION 2020. Seattle, WA: Puget Sound Regional Council.

Choat, Pat and Susan Walter. 1981. America in Ruins. Washington, DC.: Council of State Planning Agencies.

Department of Community Development. March 1992. Issues in Designating Urban Growth Areas, Part I, "Providing Adequate Urban Area Land Supply". Olympia, WA: Growth Management Division, Washington Department of Community Development.

Frank, James E. 1989. The Cost of Alternative Development Patterns: A Review of the Literature. Washington, DC: The Urban Land Institute.

Institute of Transportation Engineers. 1991. Trip Generation. 5th Edition. Washington, DC: Institute of Transportation Engineers.

King County. 1993. King County Annual Growth Databook. Seattle, WA: Planning and Community Development Division.

King County. 1983-1991. King County Annual Growth Reports. Seattle, WA: Planning and Community Development Division.

---

**REFERENCES**

---

King County Data Resources Technical Forum. August 27, 1993. "Revised Draft Adjusting Land Capacity Estimates for Market Factors." Seattle, WA: King County Planning and Community Development Division.

Larson, Craig. 1993. "Land Capacity and Growth Targets Update Draft Memorandum and Working Paper". King County Liaison Group.

Nelson, Arthur C. 1990. "Blazing New Planning Trails in Oregon." Balanced Growth: A Planning Guide for Local Government. Edited by John DeGrove. Washington, DC: International City Management Association.

Pivo, Gary. 1990. "The Net of Mixed Beads: Suburban Office Development in Six Metropolitan Regions." Journal of the American Planning Association. Vol. 56 (4).

Real Estate Research Corporation. 1975. The Costs of Sprawl. Vols. I-III. Washington, DC: US Government Printing Office.

Seattle Industrial Development Corporation. September 1993. Industrial Land Base Study Final Report. Seattle, WA: Office of Economic Development.

**Urban Growth Areas & Urban Centers**

Deakin, Elizabeth. July 1989. "Growth Control: A Summary and Review of Empirical Research." Urban Land. 48(7):16-21.

Duncan, James and Associates. March 1990. Growth Management Techniques: A Report to the Puget Sound Council of Governments. Seattle, WA: PSCOG.

Healy, Robert G. Land Use and the States. 2nd Edition. 1979. Baltimore, MD: John Hopkins University Press for Resources For the Future.

Easley, V. Gail. November 1992. "Staying Inside the Lines: Urban Growth Boundaries." Planning Advisory Service. Report Number 440. Chicago, IL: American Society of Planning Officials.

Frank, James E. 1989. The Costs of Alternative Development Patterns: A Review of the Literature. Washinton, DC: Urban Land Institute.

Godschalk, David R. and Scott A. Bollens. 1986. Land Supply Monitoring. Cambridge, MA: Lincoln Institute of Land Policy.

King County. March 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources Department - Planning and Community Development Division, King County.

Leinberger, Christopher B. and Charles Lockwood. October 1986. "How Business is Reshaping America." The Atlantic Monthly.

Leonard, H. Jeffrey. 1993. Managing Oregon's Growth: The Politics of Development Planning. Washington, DC: The Conservation Foundation.

---

## REFERENCES

---

Metro et al. 1992. Draft Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Oregon Progress Board. December 1992. "Oregon Benchmarks: Standards for Measuring Statewide Progress and Governmental Performance." Report to the 1993 Legislature.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

Puget Sound Regional Council. 1993. Environmental Impact Statement Addendum for the Multicounty Planning Policies for King, Kitsap, Pierce, and Snohomish Counties. Seattle, WA: Puget Sound Regional Council.

Seattle Planning Department. 1993. Draft Environmental Impact Statement Seattle's Plan For Managing Growth. Seattle, WA.

Sno-Tran. December 1989. A Guide to Land Use and Public Transportation.

Washington State Transportation Commission Innovations Unit. April 1992. Land-Use Transportation Linkage.

### **Rural Lands & Rural Cities**

Burrows, Lawrence B. 1978. Growth Management. New Brunswick, NJ: Center for Urban Policy Research, Rutgers University.

Easley, V. Gail. November 1992. "Staying Inside the Lines: Urban Growth Boundaries." Planning Advisory Service. Report Number 440. Chicago, IL: American Society of Planning Officials.

Healy, Robert G. Land Use and the States. 2nd Edition. 1979. Baltimore, MD: John Hopkins University Press for Resources For the Future.

Heyer, Fred. December 1990. "Preserving Rural Character." Planning Advisory Service Report Number 429. Chicago, Ill: American Society of Planning Officials.

Dowell, David E. 1986. "Reducing the Cost Effects of Local Land Use Controls (Exerpts)". Growth Management: Keeping on Target? Edited by Douglas R. Porter. Washington, DC: The Urban Land Institute with the Lincoln Institute of Land Policy.

Knapp, Gerrit-Jan. 1982. The Price Effects of an Urban Growth Boundary: A Test for the Effects of Timing. A Dissertation. University of Oregon.

Metro et al. 1992. Draft Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Metropolitan Service District Planning and Development Department. December 1988. Urban Growth Boundary--Periodic Review Workplan. Portland, OR: Metro.

---

## REFERENCES

---

Oregon Progress Board. December 1992. "Oregon Benchmarks: Standards for Measuring Statewide Progress and Governmental Performance." Report to the 1993 Legislature.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

Stokes, Samuel N. and A. Elizabeth Watson. Saving America's Countryside: A Guide to Rural Conservation. Baltimore, MD: The John Hopkins University Press.

Yaro, Robert D. et al. December 1990. Dealing with Change in the Connecticut River Valley : A Design Manual for Conservation and Development. Washington, DC: The Lincoln Land Institute and the Environmental Law Foundation.

### Shoreline Use

Department of Ecology. 1990. Shoreline Public Access Handbook. Olympia, WA: Department of Ecology Shorelands and Coastal Zone Management Program.

Department of Ecology. 1990. Shoreline Management Guidebook. Olympia, WA: Department of Ecology Shorelands and Coastal Zone Management Program.

King County. 1992. King County Countywide Planning Policies. Seattle, WA: Growth Management Planning Council, King County.

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources Planning and Community Development Division, King County.

King County. 1981. Draft Environmental Impact Statement for King County General Development Guide. Seattle, WA: Department of Planning and Community Development - Planning Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources Department - Planning and Community Development Division, King County.

King County. 1990. King County Comprehensive Plan Review: The First Five Years. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1977. King County Shoreline Management Master Program. Seattle, WA: Department of Planning and Community Development - Planning Division, King County.

King County. March 1992. King County Shoreline Master Program Draft Amendments. Seattle, WA: Department of Building and Land Development - Land Use Controls Division, King County.

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth

---

## REFERENCES

---

Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments, et. al.

### **Affordable Housing**

Brower, Godschalk and Porter, eds. 1989. Understanding Growth Management. Critical Issues and a Research Agenda. Washington, D.C.: ULI.

Cambridge Systematics. 1990. The Impacts of VISION 2020 Alternatives on Housing Costs in the Puget Sound Region. Seattle, WA: Puget Sound Council of Governments (PSCOG).

Cogan Sharpe Cogan and Pacific Development Concepts. 1990. VISION 2020: Housing Analysis Supplementary Report. Seattle, WA: PSCOG.

Duncan, James, et al. 1989. The Search for Efficient Urban Growth Patterns: A Study of the Fiscal Impacts of Development in Florida. Florida Department of Community Affairs.

Federal Way Planning Department. 1993. Downtown Federal Way Case Study. Federal Way, WA.

Goolsby, Joerding and Kling. 1991. Future Housing Prices in King County. Pullman, WA: Washington Center for Real Estate Research.

Kim, Tom. 1991. Draft Executive Summary Housing Prices in the Seattle Metropolitan Area. Seattle, WA: Seattle Planning Department.

1000 Friends of Oregon. 1991. Technical Report, Managing Growth to Promote Affordable Housing: Revisiting Oregon's Goal 10. Portland, OR.

Seattle Planning Department. 1993. Downtown and Northgate Case Studies. Seattle, WA.

Stroh, Dan. 1993. Downtown Bellevue Case Study. Bellevue, WA.

University of Washington Department of Architecture. 1992. Housing Affordability and Density. Olympia, WA: Washington State Department of Community Development.

White, S.Mark. 1992. "Affordable Housing: Proactive and Reactive Planning Strategies" (Chapter 3). Reactive Measures: Targeted Modification of "Regulatory Barriers. Washington, D.C.: American Planning Association. PAS Report 441.

### **Transportation**

Bellevue, City of. 1990. Designing the Urban Village: The New Pedestrian Paradigm. Proceedings: Eleventh International Pedestrian Conference.

Calthorpe Associates. 1991. Transit Oriented Development Design Guidelines. Achieving a Jobs/Housing Balance:

---

**REFERENCES**

---

Land Use Planning for Regional Growth. Lincoln Institute.

Cervero, Robert. 1988. America's Suburban Centers. Houston, TX: The Rice Center.

Cervero, Robert. 1985. A Tale of Two Cities: Light Rail Transit in Canada. Journal of Transportation Engineering. New York, NY: American Society of Civil Engineers. Vol. III No. 6.

Edmonton Planning Department. 1988. Northeast Light Rail Transit Study: Final Report. Edmonton, Alberta.

Institute of Traffic Engineers. 1991. Trip Generation Manual.

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Metropolitan Transit Development Board. July, 1993. Designing For Transit.

National Cooperative Highway Research Program. 1987. Planning and Implementing Pedestrian Facilities in Suburban and Developing Areas. Washington, D.C.

Pisarski, Alan. 1987. Commuting in America. Westport: Eno Foundation for Transportation.

Pushkarev, Boris and Zupan, Jeffrey. 1977. Public Transportation and Land Use Planning. Bloomington, Indiana: Indiana University Press.

Satoh, Sadao. 1991. Bicycle Parking Systems in Japan. Tokyo, Japan: Japan Bicycle Promotion Institute.

Schneider, Jerry B. 1988. An Assessment of the Potential of Telecommuting as a Work Trip Reduction Strategy for the Central Puget Sound Region. Puget Sound Regional Council.

Snohomish County Transportation Authority. 1989. Guide to Land Use and Public Transportation for Snohomish County. Lynnwood, WA: Snohomish County Transportation Authority.

TRI-MET. 1993. Planning and Design for Transit. Portland, Oregon: TRI-MET.

Turner, John. 1991. Final Evaluation of the Telecommuting Pilot Project. City of San Diego, California.

University of North Carolina Highway Safety Research Center. 1991. National Bicycling and Walking Study. Washington, DC: Federal Highway Administration.

---

## REFERENCES

---

Washington State Transportation Commission Innovations Unit. April 1992. Land Use Transportation Linkages.

### Human Services

Oordt, Colleen. 1993. Personal telephone communication. Department of Human Services. King County, Seattle, WA.

King County. 1992. King County Countywide Planning Policies. Seattle, WA: Growth Management Planning Council, King County.

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1981. Draft Environmental Impact Statement for King County General Development Guide. Seattle, WA: Department of Planning and Community Development - Planning Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources Department - Planning and Community Development Division, King County.

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Puget Sound Council of Governments, et. al. Seattle, WA: Puget Sound Council of Governments.

### Police/Fire/Emergency

King County. 1992. King County Countywide Planning Policies. Seattle, WA: Growth Management Planning Council, King County.

King County. 1990. King County Comprehensive Plan Review: The First Five Years. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1981. Draft Environmental Impact Statement for King County General Development Guide. Seattle, WA: Department of Planning and Community Development - Planning Division, King County.

---

## REFERENCES

---

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources Department - Planning and Community Development Division, King County.

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments, et. al.

### **Parks & Open Space**

Claussen, Sharon. 1993. Personal communication (fax regarding Draft Park, Recreation and Open Space Plan). King County Natural Resources and Parks Division.

King County. 1992. King County Countywide Planning Policies. Seattle, WA: Growth Management Planning Council, King County.

King County. 1988. Draft Open Space Plan. Seattle, WA: Parks, Planning and Resources Department - Natural Resources and Parks Division, King County.

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1981. Draft Environmental Impact Statement for King County General Development Guide. Seattle, WA: Department of Planning and Community Development - Planning Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Parks, Planning and Resources Department - Planning and Community Development Division, King County, Seattle, WA.

King County. 1992. King County Parks: A Vision for the Future. Seattle, WA: Department of Parks, Planning and Resources - Natural Resources and Parks Division, King County.

King County. 1993. Draft Report on Park, Recreation and Open Space Plan. Seattle, WA: Department of Parks, Planning and Resources - Natural Resources and Parks Division, King County.

King County. 1990. King County Comprehensive Plan Review: The First Five Years. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

---

## REFERENCES

---

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments, et. al..

### Water Supply

Bellevue, City of. 1992. Water Comprehensive Plan. Bellevue, WA.

King County. 1987. Bear Creek Community Plan Draft Environmental Impact Statement. Seattle, WA: King County Department of Parks, Planning, and Natural Resources.

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources - Planning and Community Development Division, King County.

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Statement for Vision 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

Seattle Office for Long-Range Planning. 1990. Community Services and Facilities/Public Utilities, Background Report Comprehensive Plan Framework Policies. Seattle, WA.

Seattle Planning Department. 1993. Draft Environmental Impact Statement, Seattle's Plan for Managing Growth. Seattle, WA.

Seattle Water Department. 1992. Seattle Water Department Water Supply Plan. Seattle, WA.

Seattle Water Department. 1992. Seattle Water Department Water Supply Draft Environmental Impact Statement. Seattle, WA.

---

## REFERENCES

---

### Stormwater Management

Beck, R.W. and Associates. 1992. Covington Master Drainage Plan and Final EIS. Seattle, WA: Department of Public Works Surface Water Management Division.

King County. 1990. Bear Creek Basin Plan. Seattle, WA: Department of Public Works Surface Water Management Division. 119pp.

King County. 1990. Bear Creek Basin Plan Final EIS. Seattle, WA: Department of Public Works Surface Water Management Division. 329pp.

King County. 1992. Surface Water Design Manual. Seattle, WA: Department of Public Works Surface Water Management Division.

Various Authors. 1986. Coal Creek Basin Plan Technical Appendix. Bellevue, WA and Seattle, WA: City of Bellevue and King County Department of Public Works Surface Water Management Division.

### Sewer/Septic

King County. 1987. Bear Creek Community Plan Draft Environmental Impact Statement. Seattle, WA: King County Department of Parks, Planning, and Natural Resources.

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1979. King County County Sewerage General Plan.

Metcalf and Eddy, Inc. 1972. Wastewater Engineering Collection/Treatment/Disposal. New York, NY: McGraw Hill.

Metro. 1986. Application for Plan Shoreline Permit for Metropolitan Wastewater Facilities at West Point and Alki. Seattle, WA.

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

---

## REFERENCES

---

Puget Sound Council of Governments. 1990. Final Environmental Statement for Vision 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

Seattle Office for Long-Range Planning. 1990. Community Services and Facilities/Public Utilities, Background Report Comprehensive Plan Framework Policies. Seattle, WA.

Seattle Planning Department. 1993. Draft Environmental Impact Statement, Seattle's Plan for Managing Growth. Seattle, WA.

### Solid Waste

King County. 1992. Draft Comprehensive Solid Waste Management Plan and EIS. Seattle, WA: King County Department of Public Works.

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources - Planning and Community Development Division, King County.

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Statement for Vision 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

Seattle Planning Department. 1993. Draft Environmental Impact Statement, Seattle's Plan for Managing Growth. Seattle, WA.

### Utilities

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources - Planning and Community Development Division, King County.

---

## REFERENCES

---

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Statement for Vision 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

Seattle Office for Long-Range Planning. 1990. Community Services and Facilities/Public Utilities, Background Report Comprehensive Plan Framework Policies. Seattle, WA.

Seattle Planning Department. 1993. Draft Environmental Impact Statement, Seattle's Plan for Managing Growth. Seattle, WA.

### **Sensitive Areas & Resource Lands**

Department of Ecology. 1992. Designing Wetlands Preservation Programs for Local Governments. Olympia, WA: Department of Ecology (DOE) and King County.

Department of Ecology. 1993. Coordinating Wetlands Requirements under the Shoreline Management Act and Growth Management Act. Olympia, WA: DOE Shorelands and Coastal Zone Management Program.

Fischer, Dorsay. 1989. A Survey of Local Land Use Ordinances Affecting Wetlands in the Puget Sound Basin. Seattle, WA: King County.

Growth Management Planning & Research Clearing House. 1992. Growth Management Monitoring Program: Critical Areas & Resource Lands Development Regulations. Seattle, WA: University of Washington.

King County. 1993. King County Zoning Code. Seattle, WA: Parks, Planning and Resources Department - Planning and Community Development Division, King County.

King County. 1992. King County Countywide Planning Policies. Seattle, WA: Growth Management Planning Council, King County.

King County. 1990. Sensitive Areas Ordinance. Seattle, WA: Parks, Planning and Resources Department - Growth Management Section, King County.

King County. 1988. Draft Open Space Plan. Seattle, WA: Parks, Planning and Resources Department - Natural Resources and Parks Division, King County.

---

## REFERENCES

---

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1981. Draft Environmental Impact Statement for King County General Development Guide. Seattle, WA: Department of Planning and Community Development - Planning Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources Department - Planning and Community Development Division, King County.

King County. 1990. King County Comprehensive Plan Review: The First Five Years. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

Metro, et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

National Association of Business Parks and Puget Sound Water Quality Authority Public Involvement and Education Project. 1992. Wetland Incentives: Non-regulatory Approaches to Protecting Wetlands. Seattle, WA: NAIOP and PSWQA, King County.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

### Air Quality

Bae, Chang-Hee Christine. 1993. "Air Quality and Travel Behavior: Untying the Knot." Journal of the American Planning Association. 59, 1:65-74.

Harvey, Greig and Elizabeth Deakin. 1992. Transportation and Air Quality. Washington, DC: Department of Transportation, Federal Highway Administration. 5:39pp.

Institute of Traffic Engineers. 1991. Trip Generation Manual.

Metro et al. 1992. Draft Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

---

## REFERENCES

---

Regional Transit Project. 1993. Regional Transit System Plan: Let's Keep Moving. Seattle, WA. 72pp.

Sierra Research, Inc. and Parsons Brinckerhoff Quade & Douglas, Inc. 1993. Perspectives on the Relative Effects of Transportation Control Measures. Draft Discussion Paper. 9pp.

Washington State Transportation Commission Innovations Unit. April 1992. Land Use Transportation Linkages.

### Water Quality

King County. 1987. Bear Creek Community Plan Draft Environmental Impact Statement. Seattle, WA: King County Department of Parks, Planning, and Natural Resources.

King County. 1985. King County Comprehensive Plan. Seattle, WA: Department of Parks, Planning and Resources - Planning and Community Development Division, King County.

King County. 1985. Final Environmental Impact Statement for King County Comprehensive Plan. Seattle, WA: Parks, Planning and Resources - Planning and Community Development Division, King County.

Metro et al. 1993. Final Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

Seattle Office for Long-Range Planning. 1990. Community Services and Facilities/Public Utilities, Background Report Comprehensive Plan Framework Policies. Seattle, WA.

Seattle Office for Long-Range Planning. 1990. Comprehensive Plan Framework Policies. Seattle, WA.

Seattle Planning Department. 1993. Draft Environmental Impact Statement, Seattle's Plan for Managing Growth. Seattle, WA.

### Plants, Animals, & Fish

Conservation Foundation. 1988. "Protecting America's Wetlands: An Action Agenda. The Final Report of the National Wetlands Policy Forum. Washington, DC.

King County. 1990. Sensitive Areas Ordinance, Ordinance No. 9614. Seattle, WA: King County.

---

**REFERENCES**

---

King County Open Space Program. 1987. Wildlife Habitat Profile. Parks, Planning and Resources Department, Natural Resources and Parks Division.

King County Planning and Community Development Division. 1993. East Sammamish Community Plan Update Final Environmental Impact Statement.

Leedy, Daniel L. and Lowell W. Adams. 1984. A Guide to Urban Wildlife Management. Baltimore, MD: National Institute for Urban Wildlife.

Metro et al. 1992. Draft Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

Revised Code of Washington 75.20. 1983. (Construction Projects in State Waters.)

Revised Code of Washington 77.12.655. (Habitat Buffer Zones for Bald Eagles.)

Save Our Rural Environment v. Snohomish County. 1983. 99 Wn. 2nd. 363, 662 P.2d, 816.

Seattle, City of. April 1993. Draft Environmental Impact Statement, Seattle's Plan for Managing Growth. Seattle, WA: City of Seattle Planning Department.

16 U.S.C. 1531. 1992.

32 U.S.C. 1344.

49 U.S.C. 303.

USDA Forest Service, Pacific Northwest Region. 1985. Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington. Part 2 - Appendices.

Washington Department of Wildlife. 1991. Species of Concern List. Nongame Program, Wildlife Management Division.

Washington Department of Wildlife, Wildlife Management, Fish Management and Habitat Management Divisions. 1991. Management Recommendations for Washington's Priority Habitat Species. Olympia, WA.

Noise

---

## REFERENCES

---

Metro et al. 1992. Draft Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Puget Sound Council of Governments. 1990. Final Environmental Impact Statement for VISION 2020 Growth Strategy and Transportation Plan for the Central Puget Sound Region. Seattle, WA: Puget Sound Council of Governments.

### Glossary

Bay County Unified Land Development Code. November 21, 1990. Bay County, Florida.

Larson, Craig. August 12, 1993. King County Liaison Group Draft Capacity and Growth Targets Update memorandum.

Metro et al. 1992. Draft Environmental Impact Statement Regional Transit System Plan. Seattle, WA: Municipality of Metropolitan Seattle (METRO), Regional Transit Project.

Seattle Planning Department. April 1993. Toward a Sustainable Seattle (Seattle Comprehensive Plan). Seattle, WA: Seattle Planning Department.

Upper Yakima Valley Vision 2020 How Do We Grow? 1993. Open house meeting schedule plus five alternatives for Yakima Valley Growth Areas.

---

INTRODUCTION - APPENDIX A

## Table of Contents

King County Growth Management Act  
Countywide Policies

	<u>Page</u>
King County 2012	
A. The Problem	4
B. The Process	4
C. The Growth Management Act	5
D. Vision for King County 2012	5
E. The Framework Policies	7
I. Critical Areas	9
II. Land Use Pattern	13
A. Resource Lands: Agricultural, Forestry and Mineral	13
B. Rural Areas	14
C. Urban Areas*	15
Urban Growth Area Map	
D. Urban and Manufacturing/Industrial Centers	19
E. Urban Growth Outside of Centers	25
III. Transportation*	29
IV. Community Character and Open Space	35
V. Affordable Housing*	38
VI. Contiguous and Orderly Development*	40
VII. Siting Public Capital Facilities of a Countywide or Statewide Nature*	44
VIII. Economic Development and Fiscal Impact*	45
Appendix I Transportation: Requirements of the Growth Management Act	47

\*These elements are required by RCW 36.70A.210.

# King County 2012

## A. The Problem

King County has long been known for unsurpassed natural beauty and a dynamic human environment. It has thriving cities and suburbs and healthy rural communities. The county's attractive lifestyle and economy continue to draw people into our region.

But unmanaged growth and development endanger some of those very qualities. An additional 325,000 people will live here by the year 2010 (State of Washington Office of Financial Management), bringing the total population to 1.8 million. While growth fuels the area's strong economy, the absence of effective management of that growth threatens the features that are essential to a rich quality of life.

The effects of uncoordinated and unplanned growth are obvious. King County has the fifth worst traffic mess in the nation, declining air and water quality, flooding aggravated by development, and escalating housing costs. Many of the schools are overcrowded and local governments are struggling to pay for increased demands for services to control crime and to provide critical human resources.

The need facing the County and State is to provide the incentives necessary to promote a vigorous, sound, and diversified economy, while reducing, controlling and managing the potential adverse effects of uncoordinated and unplanned growth.

The Washington State Legislature passed the Growth Management Act (GMA) in 1990 and strengthened it in 1991 to address these problems.

## B. The Process

Growth management involves planning for economic and population growth, determining where new jobs and housing should go and then locating and phasing population growth in accordance with the ability to provide infrastructure and services. This should include economic development, a workable transportation system, quality drinking water, affordable housing, good schools, open space and parks and, at the same time, protection of our natural environment.

King County and the 31 cities within it are addressing growth management problems together and in their local jurisdictions. Planning at both levels is called for by the Growth Management Act.

All jurisdictions are working together to develop a vision for the future. This vision is embodied in this series of policies called Countywide Planning Policies. Realization of this vision involves trade-offs and difficult choices about the appropriate level of growth, its location, the type of growth to be encouraged, public spending, governance decisions, environmental protection, and the quality of life in King County.

A formal body, the Growth Management Planning Council, with elected officials from Seattle, the suburban cities, and King County, has considered these draft policies, and based on public input, will make a recommendation to the King County Council for adoption. Adoption must take place by July 1, 1992. King County will then submit the adopted policies to the cities for ratification.

The Countywide Planning Policies will serve as the framework for each jurisdiction's own comprehensive plan, which must be in place by July 1, 1993. These individual comprehensive plans throughout the county, then, will be consistent with the overall vision for the future of King County.

## **C. The Growth Management Act**

The GMA fundamentally changes the way that comprehensive planning is to be done and land use decisions are to be made in Washington State. The challenge of GMA is to establish a countywide vision and devise a strategy to achieve it. This includes balancing growth, economics, land use, infrastructure, and finance. If resources are inadequate to realize the vision, then the strategies and land use must be revised. The GMA requires Countywide Planning Policies be adopted by July 1, 1992. At a minimum, the policies must address:

- a. Implementation of RCW 36.70A.110 (Urban Growth Areas);
- b. Promotion of contiguous and orderly development and provision of urban services;
- c. Siting of public capital facilities;
- d. Transportation facilities and strategies;
- e. Affordable housing;
- f. Joint county and city planning within Urban Growth Areas;
- g. countywide economic development and employment; and
- h. Analysis of fiscal impact.

Special emphasis is placed on transportation. Future development activity will be constrained by a jurisdiction's ability to provide and finance transportation improvements or strategies. This fact has implications for all jurisdictions who can no longer finance and build the facilities necessary to retain current service levels.

## **D. Vision for King County 2012**

Our county has significantly changed in the 20 years that have elapsed from 1992 to today. The paramount cause for this change has been the successful public/private partnership which has supported a diversified, sound regional economy; managed and accommodated growth; and maintained the county's quality of life.

An effective stewardship of the environment has preserved and protected the critical areas in the county. This stewardship has extended to the conservation of our land, air, water and energy resources for future generations.

The rural areas first formally identified in 1985 and expanded in 1992 remain permanently preserved with a clear boundary between rural and urban areas.

Development has emphasized the use and reuse of the existing urbanized areas. Much of the new growth after 1992 first occurred in the areas where there was existing capacity. Growth then occurred where existing infrastructure could be easily extended or enhanced. Lastly, areas which required significant new investment in infrastructure accommodated growth. Today, there still is ample room for new development within the urban area.

Much of the growth in employment, and a significant share of new housing, has occurred in Urban Centers. These Centers now provide a mixture of employment, residential, commercial, cultural and recreational opportunities. The centers are linked by the high-capacity transit system, and transit stations within the centers are located within walking distance to all parts of the center.

Each center has its own unique character, and they are all noted for their livability, pedestrian orientation and superior design.

Smaller concentrations of businesses are distributed throughout the urban area, and focus on providing goods and services to surrounding residential areas. They are linked to Urban Centers by an effective local transit system.

Manufacturing/industrial areas continue to thrive and be key components in the urban area. They are served by a transportation system which emphasizes the movement of people and goods to and within these areas.

Rural cities provide unique environments within the rural area and provide commercial and employment opportunities for their residents. This includes retail, educational and social services for city residents and surrounding rural areas. Businesses in rural cities provide employment opportunities for local residents.

The entire urban area is increasingly characterized by superior urban design and an open space network which defines and separates, yet links the various urban areas and jurisdictions. Countywide and regional facilities have been located where needed, sited unobtrusively and with appropriate incentives and proper impact mitigation.

Attractive and workable alternatives to the single-occupant vehicle have been built and strategies adopted which assure the mobility of people, goods and information throughout the county and beyond.

Regional funds have been used to further the regional land use plan and fund needed regional facilities. Local resources have been focused on local facilities. The sharing of resources to accomplish common goals is done so that the regional plan can succeed and so that all can benefit.

The economy is vibrant and sustainable, and emphasizes diversity in the range of goods produced and services provided. Businesses continue to locate in our county because of the high quality of life, the emphasis on providing a superior education, and the predictability brought about by the management of growth and the effectiveness of the public/private partnership in these areas as well as the mutually beneficial partnership in economic development.

Housing opportunities for all incomes and lifestyles exist throughout the county, and with the balanced transportation system, access to employment is assured.

The needs of residents are attended to by a social service system that emphasizes prevention, but which stands ready to respond to direct needs as well.

The urban area is located within the incorporated cities, which are the primary urban service providers. Where appropriate, sub-regional consortiums have been created for certain services, and the county government is recognized as a regional service provider.

Through a clear understanding of growth management, residents and businesses have recognized that all problems will not be cured quickly, but clear and reasonable timelines and financing commitments demonstrate to them that problems will be solved. Residents and businesses trust in their local governments because the plans and promises made to manage growth in 1992 have been followed. Change is accepted and proceeds in an orderly fashion based on the growth management plan.

## E. The Framework Policies

The GMA gives local officials new tools for planning and, for the first time, mandates that the county and cities work together to establish an overall vision. Through a collaborative process, the local jurisdictions of King County have prepared the following draft countywide planning policies. This process relies on local choice to determine the density/intensity and character of each area. All jurisdictions must recognize that the smart, long term choices for the region will require compromises in local self-determination.

These policies represent a cohesive set and are not individual, stand-alone concepts. The ideas represented here balance each other to establish a vision for the county which builds on existing land use patterns. The policies are organized by topics in separate chapters. At the beginning of each chapter is a framework policy which establishes the overall direction for the following policies. The Countywide Planning Policies can only be realized through local plans and regulations. A decision made locally must become a commitment that the region can rely upon. The following framework policies outline the countywide planning process.

**FW-1 Countywide growth management is a five-step process:**

- STEP 1:** The Countywide Planning Policies shall become effective upon adoption by the King County Council and ratification by at least thirty percent of the city and county governments representing seventy percent of the population in King County. (September 1992 target date)
- STEP 2:**
- a. The Growth Management Planning Council (GMPC) shall receive by October and confirm by December 1992 nominations from cities for Urban Centers and Manufacturing/Industrial Centers as established in the Countywide Planning Policies. (October-December 1992 target dates)
  - b. The GMPC shall adopt 20 year target numbers for projected population growth and capacity based on Urban Centers decisions, the criteria established in policies LU-51 and LU-52, and population ranges recommended by an interjurisdictional staff committee. (December 1992 target date)
  - c. The GMPC shall adopt 20 year target numbers for projected employment growth and capacity based on Urban Centers decisions, the criteria established in policy LU-53, and employment ranges recommended by an interjurisdictional staff committee. (December 1992 target date)
  - d. Housing and jobs to accommodate King County's projected population shall be planned in the context of carrying capacity of the land. Housing density and affordability shall be considered co-equal objectives.
  - e. The GMPC shall confirm the Urban Growth Areas based on Centers designations and subarea population and employment targets, insuring sufficient capacity within the Urban Growth Area to meet projected growth. (December 1992 target date)
- STEP 3:** All jurisdictions shall make the decisions required to implement the Countywide Planning Policies into their respective comprehensive plans. (July 1993 target date)

- STEP 4:**
- a. The GMPC shall reconvene in July 1993 or sooner as needed to review issues raised through local plan implementation efforts, and to consider new or revised policies developed through implementation of the GMPC tasks specified in the Countywide Planning Policies. The GMPC shall recommend revisions as needed to resolve identified conflicts between policies and address implementation issues. (July 1994 target date)
  - b. The GMPC shall establish a process for resolving conflicts between local plans and the Countywide Planning Policies as raised by local jurisdictions, and may recommend amendments to either the Countywide Planning Policies or local plans. (July 1994 target date)
  - c. Amendments to the Countywide Planning Policies shall be subject to ratification by at least thirty percent of the city and county governments representing seventy of the population in King County. (July 1994 target date)

**STEP 5:** All jurisdictions shall make the decisions required to implement the Countywide Planning Policies and their respective comprehensive plans through regulations. (July 1994 target date)

**FW-2** Countywide Planning Policies are effective after King County adoption and city ratification for the purposes of updating comprehensive plans, and providing a policy framework for other governmental actions of all jurisdictions. Significant planning options will be precluded if interim actions are not taken to assure capacity and direct growth in the Urban area, and to protect the Rural area from the impacts of growth. The following interim actions will be taken by all jurisdictions no later than one month after ratification.

- a. King County shall adopt interim rural zoning consistent with the designation of rural for the "new" Rural area adopted through the Countywide Planning Policies to ensure rural character is not threatened by additional subdivision activity.
- b. All jurisdictions in the Urban area will adopt interim minimum density ordinances and review and, where appropriate, remove regulatory barriers to accessory dwelling units and manufactured homes on individual lots, to ensure that urban land is used efficiently.
- c. Jurisdictions shall not expand the existing land area zoned for business/office parks.

# I. Critical Areas

*Most jurisdictions in King County have sensitive areas ordinances in place or under development. These regulations are tailored to the specific needs of each jurisdiction and are not likely to be modified based on another jurisdiction's regulations. It is important to promote regional policies that do not erode existing regulations while providing guidance for achieving consistency and compatibility among them.*

## A. Overall Environmental Protection

- FW-3** All jurisdictions shall protect and enhance the natural ecosystems through comprehensive plans and policies, and develop regulations that reflect natural constraints and protect sensitive features. Land use and development shall be regulated in a manner which respects fish and wildlife habitat in conjunction with natural features and functions, including air and water quality. Natural resources and the built environment shall be managed to protect, improve and sustain environmental quality while minimizing public and private costs.
- FW-4** Puget Sound, floodplains, rivers, streams and other water resources shall be managed for multiple beneficial uses including flood and erosion hazard reduction, fish and wildlife habitat, agriculture, open space, water supply, and hydropower. Use of water resources for one purpose shall, to the fullest extent possible, preserve and promote opportunities for other uses.

## B. Wetlands Protection

- CA-1** All jurisdictions shall use as minimum standards, the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands and reference the 1989 manual in their wetlands protection ordinances.
- CA-2** In the long term, all jurisdictions shall work to establish a single countywide classification system for wetlands.
- CA-3** Within each basin, jurisdictions shall formulate their regulations and other non-regulatory methods to accomplish the following: protection of wetlands; assure no-net-loss of wetland functions; and an increase of the quantity and quality of the wetlands. The top class wetlands shall be untouched.
- CA-4** Implementation of wetland mitigation should be flexible enough to allow for protection of systems or corridors of connected wetlands. A tradeoff of small, isolated wetlands in exchange for a larger connected wetland system can achieve greater resource protection and reduce isolation and fragmentation of wetland habitat.

## C. Aquifers

*Currently, there are five Ground Water Management Plans underway in King County: Redmond, Issaquah, East King County, South King County, and Vashon. The state Department of Ecology has designated Seattle-King County Department of Public Health as the lead agency. Each plan is prepared in conjunction with an advisory committee with representatives from suburban cities, businesses, private well owners, environmental groups, and state agencies. The plans will identify aquifer recharge areas and propose strategies for protection of ground water through preservation and protection of the aquifers.*

- CA-5 All jurisdictions shall adopt regulations to protect the quality and quantity of groundwater where appropriate:
- a. Jurisdictions that are included in Ground Water Management Plans shall support the development, adoption, and implementation of the Plans; and
  - b. The Seattle-King County Department of Public Health and affected jurisdictions shall develop countywide policies outlining best management practices within aquifer recharge areas to protect public health.

## D. Fish and Wildlife Habitat

- CA-6 Adjacent jurisdictions shall identify and protect habitat networks that are aligned at jurisdictional boundaries. Networks shall link large protected or significant blocks of habitat within and between jurisdictions to achieve a continuous countywide network. These networks shall be mapped and displayed in comprehensive plans.
- CA-7 All jurisdictions shall identify critical fish and wildlife habitats and species and develop regulations that:
- a. Promote their protection and proper management; and
  - b. Integrate native plant communities and wildlife with other land uses where possible.
- CA-8 Natural drainage systems including associated riparian and shoreline habitat shall be maintained and enhanced to protect water quality, reduce public costs, protect fish and wildlife habitat, and prevent environmental degradation. Jurisdictions within shared basins shall coordinate regulations to manage basins and natural drainage systems which include provisions to:
- a. Protect the natural hydraulic and ecological functions of drainage systems, maintain and enhance fish and wildlife habitat, and restore and maintain those natural functions;
  - b. Control peak runoff rate and quantity of discharges from new development to approximate pre-development rates; and
  - c. Preserve and protect resources and beneficial functions and values through maintenance of stable channels, adequate low flows, and reduction of future storm flows, erosion, and sedimentation.
- CA-9 Jurisdictions shall maintain or enhance water quality through control of runoff and best management practices to maintain natural aquatic communities and beneficial uses.
- CA-10 The Washington State Departments of Fisheries and Wildlife and the Indian Tribes both manage fish and wildlife resources. However, local governments have authority for land

use regulation. Jurisdictions shall coordinate land use planning and management of fish and wildlife resources with affected state agencies and the federally recognized Tribes.

## **E. Frequently Flooded Areas**

*The State adopted comprehensive flood legislation in 1991 (Senate Bill 5411) that makes the GMA requirement for coordination and consistency on flood hazard regulations much more explicit. According to the new legislation, counties are to develop flood hazard control management plans with the full participation of jurisdictions within the planning areas. Once adopted by the county, cities within flood hazard planning areas must comply with the management plan. The draft Countywide Flood Hazard Reduction Plan is currently being reviewed by affected jurisdictions before transmittal to the King County Council for consideration and adoption.*

- CA-11 All jurisdictions shall adopt and implement the relevant general and land use policies of the Flood Hazard Reduction Plan and develop appropriate regulations for implementation and enforcement of the Plan. Regulations shall:
- a. Reduce flood impacts on existing development by reducing risk and regulating new development;
  - b. Reduce long term public and private costs;
  - c. Protect natural flood storage and conveyance functions; and
  - d. Develop an enforcement program.

## **F. Geologic Hazard Areas**

- CA-12 All jurisdictions shall regulate development on certain lands to protect public health, property, important ecological and hydrogeologic functions, and environmental quality, and to reduce public costs. The natural features of these lands include:
- a. Slopes with a grade greater than 40%;
  - b. Severe landslide hazard areas;
  - c. Erosion hazard areas;
  - d. Mine hazard areas; and
  - e. Seismic hazards.

Regulations shall include, at a minimum, provisions for vegetation retention, seasonal clearing and grading limits, setbacks, and drainage and erosion controls.

## **G. Air and Water Quality**

- CA-13 All jurisdictions, in coordination with the Puget Sound Air Pollution Control Agency and the Puget Sound Regional Council, shall develop policies, methodologies and standards that promote regional air quality, consistent with the Countywide Policy Plan.
- CA-14 All jurisdictions shall implement the Puget Sound Water Quality Management Plan to restore and protect the biological health and diversity of the Puget Sound Basin.

## H. Implementation

CA-15 King County shall establish a technical committee to facilitate environmental protection which is to include representatives of the county, the cities, the federally recognized Tribes, business community, environmental community, public utilities, special districts, and interested citizens. The committee will serve as a depository of regulations and policies adopted by jurisdictions in King County.

Based on information provided by all jurisdictions, the committee shall prepare a report by December 1993 which addresses consistency and compatibility of regulations and designations, cumulative impacts, and education programs. The report should be designed to assist jurisdictions in developing permanent regulations with optimal consistency among the jurisdictions.

## II. Land Use Pattern

### A. Resource Lands: Agricultural, Forestry, and Mineral

*The protection and management of resource lands in King County is a regional concern and a major objective of the countywide planning policies. The vast majority of resource lands are located in unincorporated King County. These areas were identified and protected under the 1985 King County Comprehensive Plan and subsequent community plans and regulations.*

- FW-5** The land use pattern for the County shall protect the natural environment by reducing the consumption of land and concentrating development. Urban Growth Areas, Rural Areas, and Resource Lands shall be designated and the necessary implementing regulations adopted. This includes Countywide establishment of a boundary for the Urban Growth Area. Local jurisdictions shall establish these land use designations, based on the Countywide Planning Policies.
- LU-1** Agricultural and forest lands are protected primarily for their long-term productive resource value. However, these lands also provide secondary benefits such as open space, scenic views and wildlife habitat. All jurisdictions should encourage utilization of natural resources through methods that minimize the impacts on these secondary benefits. Resource lands also contain an abundance of critical areas that shall be protected in accordance with adopted State and local regulations.
- LU-2** All jurisdictions shall protect existing resource lands within their boundaries that have long-term commercial significance for resource production. Any designated agricultural and forestry lands shall not be considered for urban development. Jurisdictions are required to enact a program authorizing the transfer or purchase of development rights for designated forest or agricultural areas within Urban Growth Areas. At the request of any city, King County will work to reinstate the King County Purchase of Development Rights Program and/or establish an interjurisdictional transfer of development rights program to protect these resource lands in accordance with the GMA.
- LU-3** Existing mineral extractive and processing operations or designated sites may be annexed or incorporated to a city only if there are policies and regulations in place to protect the long term viability for continued operation and ensure adequate reclamation and enhancement of the site once operation ceases.
- LU-4** All jurisdictions shall encourage compatible land uses adjacent to natural resource areas which support utilization of the resource and minimize conflicts among uses. Each jurisdiction is responsible for implementing the plat and permit notification requirements for properties within 300 feet of the resource land, as specified in RCW 36.70A as amended. Jurisdictions will consider an increased distance for notification and notification to titles to property within or adjacent to the resource lands.
- LU-5** All jurisdictions shall require mineral extraction and processing operations and agricultural practices to implement best management practices to reduce environmental impacts and mitigate any unavoidable impacts.

## B. Rural Areas

*The vast majority of rural areas are located in unincorporated King County. These areas were identified and regulated through the 1985 King County Comprehensive Plan and subsequent community plans and regulations. While counties are the jurisdictions specified by the GMA as responsible for designating and regulating rural areas through their comprehensive plans, the protection of King County's rural area is a regional issue and a fundamental objective of the countywide planning policies.*

- FW-6** Urban Growth Areas, Rural Areas, and Resource Lands shall be designated and the necessary implementing regulations adopted. This includes Countywide establishment of an Urban Growth Area. Local jurisdictions shall establish these land use designations, based on the Countywide Planning Policies.
- FW-7** All jurisdictions acknowledge that rural areas provide an overall benefit for all residents of King County. Strategies to fund infrastructure and services in rural areas may be needed to support a defined rural level of service. Towns and cities in the rural areas play an important role as local trade and community centers.
- LU-6** Through the Countywide Planning Policy process, King County, with the cooperation of the cities, shall be responsible for designating rural areas consistent with GMA. In designating long term rural areas, King County shall foster better use of limited public funds by allowing service providers to establish distinctly rural facility and service standards.
- LU-7** Designated rural areas are considered to be permanent and shall not be redesignated to an Urban Growth Area. Future growth should be accommodated by efficient use of existing urban land within the Urban Growth Area. Annexation of rural areas to cities shall be prohibited. When annexation of rural areas is necessary to link two urban areas, that intervening rural area shall be designated as permanent urban separator at low rural densities.
- LU-8** Designated rural areas shall have low densities which can be sustained by minimal infrastructure improvements, such as septic systems and rural roads, without degrading the environment or creating the necessity for urban level of services.
- LU-9** The GMPC shall establish a subcommittee to develop an outcomes-based policy recommendation on the definition of rural character and incentives for protection of rural areas. The subcommittee shall have proportional representation from King County, Seattle and suburban cities and shall make its report to the GMPC by October 1, 1992. The definition shall consider rural densities, clustering and other tools to protect rural character. Incentives to be considered include:
- a. Assess land in rural areas on its current use;
  - b. Facilitate small land owners qualifying land for special categories such as forest, wetlands, riparian zones;
  - c. Develop programs for direct marketing of produce in urban areas;
  - d. Reinforce right to farm and forest practices in rural areas; and/or
  - e. Develop services through existing agencies with rural expertise.
- LU-10** Rural areas designated by King County shall remain rural. Additional rural areas shall be designated by King County through adoption of a land use map authorized by the Growth Management Planning Council. These additional areas meet at least one of the following criteria:

- a. Opportunities exist for small scale farming and forestry which do not qualify for resource land designation;
- b. The rural designation serves as a buffer for designated resource lands or sensitive areas;
- c. Significant environmental constraints make the area generally unsuitable for intensive urban development;
- d. Major physical barriers exist to providing urban services at reasonable cost;
- e. The area is contiguous to other designated rural areas, resource areas or sensitive areas;
- f. The area has outstanding scenic, historic, and/or aesthetic value that can best be protected by rural land uses and densities; and
- g. The area has limited public services, extension of full services is not planned, and infill at higher densities is not feasible or necessary to meet regional goals.

*Criteria specified in LU-10(g) permits the redesignation of urban lands in King County to rural. These areas have not received a full range of services, such as sewers, and are developed at densities which are too low to support cost-effective provision of all urban services. The inclusion of these new rural areas will carry out regional policies by focusing new development to urban areas that are planned to have full urban services.*

LU-11 Low-density urban areas meeting the criteria of LU-10(g) shall be redesignated rural and zoned for rural residential densities. Legally created existing lots within the rural area are legal building sites as authorized in the King County Code.

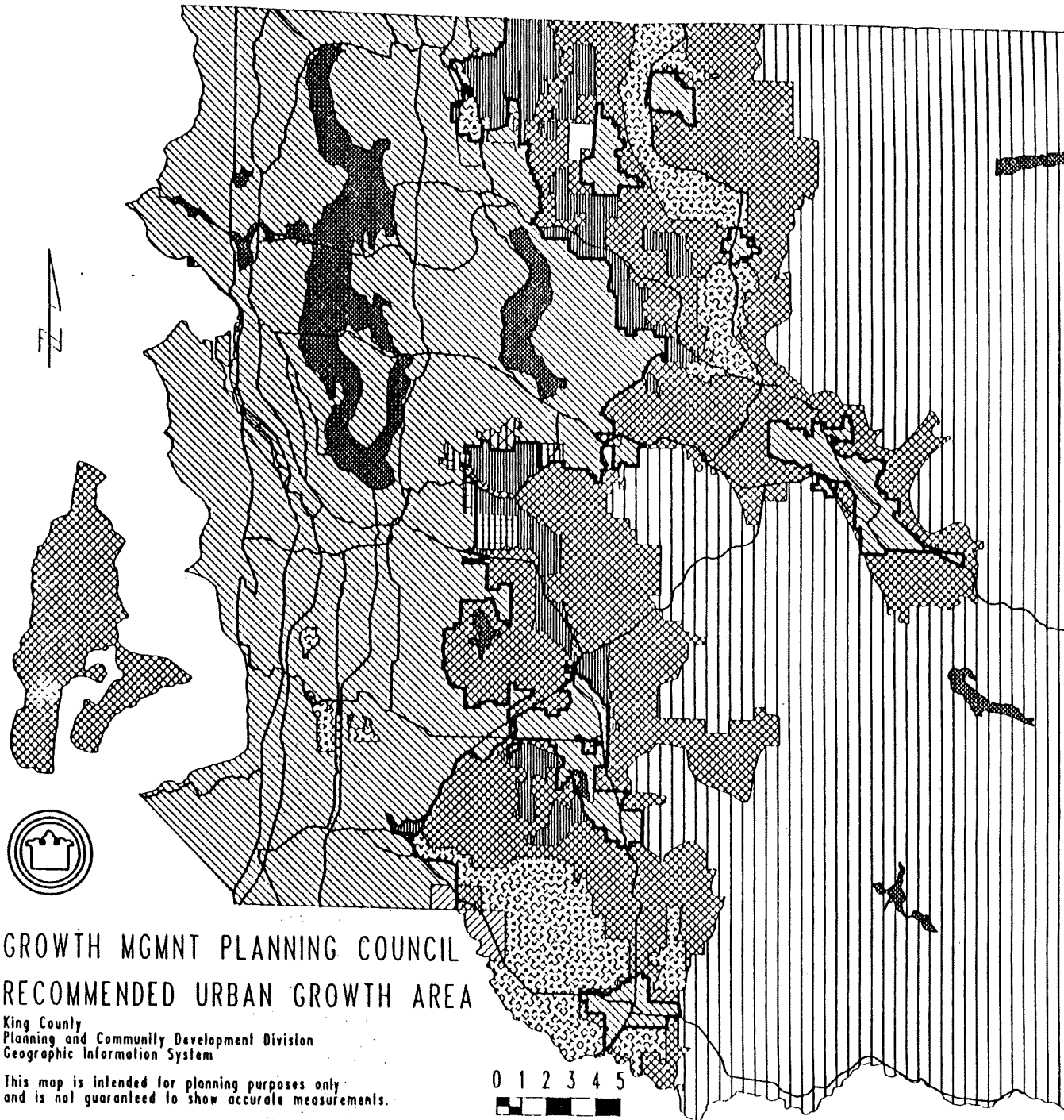
LU-12 To maintain rural character, and to minimize the need for additional infrastructure, while maximizing undeveloped land available for traditional rural uses, clustering of new development shall be required on all existing parcels of contiguous ownership of ten or more acres, provided that clustering shall be designed and scaled to be consistent with rural area character.










LU-13 King County, cities that are adjacent to or are surrounded by rural designated areas, and other agencies that provide services to rural areas shall form a technical committee to prepare a manual on rural infrastructure design, fire/wildfire protection, and service standards.

## **C. Urban Areas**

*The following policies establish an Urban Growth Area (UGA) and methods to phase development within this area in order to bring certainty to long-term planning and development within the county. The Urban Growth Area is a permanent designation. Land outside the Urban Growth Area is designated for permanent rural and resource uses, except for the cities in the rural area. Countywide policies on rural and resource areas are found in Chapter IIA, Resource Lands, and Chapter IIIB, Rural Areas.*

*The capacity in the Urban Growth Area for growth, based on adopted plans and regulations, exceeds the 20-year minimum requirement of the GMA according to the current population forecasts. In the future, all urban growth is to be accommodated within permanent urban areas by increasing densities. Phasing is to occur within the Urban Growth Area to ensure that services are provided as growth occurs. All cities are to be within the Urban Growth Area. Cities in the rural area are to be UGA islands.*



- GMP Recommendation UGA line
- Major Highways
-  Urban Growth Area
-  King County Designated Rural
-  New Rural
-  Technical Review Area
-  Urban Separator
-  Resource - Agriculture
-  Resource - Forest Production
-  Indian Reservation
-  Open Space

## GROWTH MGMT PLANNING COUNCIL RECOMMENDED URBAN GROWTH AREA

King County  
Planning and Community Development Division  
Geographic Information System

This map is intended for planning purposes only  
and is not guaranteed to show accurate measurements.

Boundaries may be incomplete and are the best  
available at the current time.

June 27, 1992

0 1 2 3 4 5



MILES

- FW-8 The land use pattern for King County shall protect the natural environment by reducing the consumption of land and concentrating development. An Urban Growth Area, Rural Areas, and Resource Lands shall be designated and the necessary implementing regulations adopted. This includes countywide establishment of a boundary for the Urban Growth Area. Local jurisdictions shall make land use decisions based on the Countywide Planning Policies.
- FW-9 The Urban Growth Area shall provide enough land to accommodate future urban development. Policies to phase the provision of urban services and to ensure efficient use of the growth capacity within the Urban Growth Area shall be instituted.

## 1. Urban Growth Area

*The GMA requires King County to designate an Urban Growth Area (UGA) in consultation with cities. The Countywide Planning Policies must establish an Urban Growth Area that contains enough urban land to accommodate at least 20 years of new population and employment growth. The GMA states: "based upon the population forecast made for the county by the Office of Financial Management, the Urban Growth Areas in the county shall include areas and densities sufficient to permit urban growth that is projected to occur in the county for the succeeding twenty-year period. Each Urban Growth Area shall permit urban densities and shall include greenbelt and open space areas." A UGA map is attached.*

- LU-14 The lands within the Urban Growth Area (UGA) shall be characterized by urban development. The UGA shall accommodate at least the 20-year projection of population and employment growth with a full range of urban services. The Countywide Planning Policies shall establish the Urban Growth Area based on the following criteria:
- a. Include all lands within existing cities, including cities in the rural area and their designated expansion areas;
  - b. The GMPC recognizes that the Bear Creek Master Plan Developments (MPDs) are subject to an ongoing review process under the adopted Bear Creek Community Plan and recognizes these properties as urban under these Countywide Planning Policies. If the applications necessary to implement the MPDs are denied by King County or not pursued by the applicant(s), then the property subject to the MPD shall be redesignated rural pursuant to the Bear Creek Community Plan. Nothing in these Planning Policies shall limit the continued review and implementation through existing applications, capital improvements appropriations or other approvals of these two MPDs as new communities under the Growth Management Act.
  - c. Not include rural land or unincorporated agricultural, or forestry lands designated through the Countywide Planning Policies plan process;
  - d. Include only areas already characterized by urban development which can be efficiently and cost effectively served by roads, water, sanitary sewer and storm drainage, schools and other urban services within the next 20 years;
  - e. Do not extend beyond natural boundaries, such as watersheds, which impede provision of urban services;
  - f. Respect topographical features which form a natural edge such as rivers and ridge lines; and
  - g. Include only areas which are sufficiently free of environmental constraints to be able to support urban growth without major environmental impacts unless such areas are designated as an urban separator by interlocal agreement between jurisdictions.
- LU-15 Urban separators are low density areas or areas of little development and must be within the Urban Growth Area. Urban separators shall be defined as permanent low density lands

which protect resource lands and environmentally sensitive areas and create open space corridors within and between urban areas which provide environmental, visual, recreational and wildlife benefits. These lands shall not be redesignated in the future to other urban uses or higher densities.

## 2. Phasing Development within the Urban Growth Area

*Development in the urban area will be phased to promote efficient use of the land, add certainty to infrastructure planning, and to ensure that urban services can be provided to urban development. The minimum densities required by LU-51 help ensure the efficient use of the land. Phasing will further ensure coordination of infrastructure and development. Urban areas in jurisdictions which do not have urban services and are not scheduled to receive urban services within 10 years shall be subject to phasing requirements.*

LU-16 Within the Urban Growth Area, growth should be directed as follows: a) first, to centers and urbanized areas with existing infrastructure capacity; b) second, to areas which are already urbanized such that infrastructure improvements can be easily extended; and c) last, to areas requiring major infrastructure improvements.

LU-17 All jurisdictions shall develop growth phasing plans by identifying areas for growth for the next ten and the next twenty years where necessary urban services can be provided. These growth phasing plans shall be based on locally adopted definitions, service levels, and financing commitments, consistent with State GMA requirements. The ten and twenty year growth phasing plans for cities shall not extend beyond their Potential Annexation Areas. Interlocal agreements shall be developed that specify the applicable minimum zoning, development standards, impact mitigation and future annexation for the Potential Annexation Areas.

LU-18 Where urban services cannot be provided within the next 10 years, jurisdictions should develop policies and regulations to:

- a. Phase and limit development such that planning, siting, densities and infrastructure decisions will support future urban development when urban services become available; and
- b. Establish a process for converting land to urban densities and uses once services are available.

## 3. Joint Planning and Urban Growth Areas around Cities

*The GMA requires each county to designate Urban Growth Areas, in consultation with cities. Within the countywide Urban Growth Area, each city will identify land needed for its growth for the next twenty years. Although the GMA does not explicitly equate Urban Growth Areas with municipal annexation areas, the Urban Growth Areas around cities may be considered potential expansion areas for cities.*

FW-10 Cities are the appropriate provider of local urban services to urban areas either directly or by contract. Counties are the appropriate provider of most countywide services. Urban services shall not be extended through the use of special purpose districts without the approval of the city in whose potential annexation area the extension is proposed. Within the urban area, as time and conditions warrant, cities should assume local urban services provided by special purpose districts.

LU-19 In collaboration with adjacent counties and cities and King County, and in consultation with residential groups in affected areas, each city shall designate a potential annexation area. Each potential annexation area shall be specific to each city. Potential annexation areas shall not overlap. Within the potential annexation area the city shall adopt criteria for annexation, including conformance with Countywide Planning Policies, and a schedule for providing urban services and facilities within the potential annexation area. This process shall ensure that unincorporated urban islands of King County are not created between cities and strive to eliminate existing islands between cities.

LU-20 A city may annex territory only within its designated potential annexation area. All cities shall phase annexations to coincide with the ability for the city to coordinate the provision of a full range of urban services to areas to be annexed.

LU-21 Land within a city's potential annexation area shall be developed according to that city's and King County's growth phasing plans. Undeveloped lands adjacent to that city should be annexed at the time development is proposed to receive a full range of urban services. Subsequent to establishing a potential annexation area, infill lands within the potential annexation area which are not adjacent or which are not practical to annex shall be developed pursuant to interlocal agreements between the County and the affected city. The interlocal agreement shall establish the type of development allowed in the potential annexation area and standards for that development so that the area is developed in a manner consistent with its future annexation potential. The interlocal agreement shall specify at a minimum the applicable zoning, development standards, impact mitigation, and future annexation within the potential annexation area.

LU-22 Several unincorporated areas are currently considering local governance options. Unincorporated urban areas that are already urbanized and are within a city's potential annexation area are encouraged to annex to that city in order to receive urban services. Where annexation is inappropriate, incorporation may be considered.

*Development within the potential annexation area of one jurisdiction may have impacts on adjacent jurisdictions.*

LU-23 A jurisdiction may designate a potential impact area beyond its potential annexation area in collaboration with adjacent jurisdictions. As part of the designation process the jurisdiction shall establish criteria for the review of development proposals under consideration by other jurisdictions in the impact area.

*The GMA has a provision granting counties the discretion to disband the Boundary Review Boards after comprehensive plans and development regulations are adopted. The following policy provides direction for considering whether to disband the Boundary Review Board for King County.*

LU-24 Upon the adoption and ratification of the Countywide Policies, the King County Council shall convene a meeting with municipal elected officials to determine a process for disbanding the Washington State Boundary Review Board for King County and establishing criteria to oversee municipal and special district annexations, mergers, and incorporations in King County. Until the Washington State Boundary Review Board for King County is disbanded, it should be governed in its decisions by the interim urban growth area boundary and the adopted and ratified countywide planning policies. The criteria shall include, but not be limited to:

- a. Conformance with Countywide Planning Policies;
- b. The ability of the annexing jurisdiction to demonstrate a capability to provide urban services at standards equal to or better than the current service providers; and

- c. Annexations in a manner which discourages unincorporated islands of development.

*The GMA requires that city and county comprehensive plans be coordinated and consistent with one another. Consistency is required "where there are common borders or related regional issues" (RCW 36.70A.100). Joint planning is fundamental to all the framework policies.*

LU-25 All jurisdictions shall cooperate in developing comprehensive plans which are consistent with those of adjacent jurisdictions and with the countywide planning policies.

#### **4. Cities in the Rural Area**

*The cities and unincorporated towns in the rural areas are a significant part of King County's diversity and heritage. Cities in this category include: Black Diamond, Carnation, Duvall, Enumclaw, North Bend, Snoqualmie and Skykomish. They have an important role as local trade and community centers. These cities and towns are the appropriate providers of local rural services for the community. They also contribute to the variety of development patterns and housing choices within the county. As municipalities, the cities are to provide urban services and be located within designated Urban Growth Areas. The urban services, residential densities and mix of land uses may differ from those of the large, generally western Urban Growth Area.*

LU-26 In recognition that cities in the rural area are generally not contiguous to the countywide Urban Growth Area, and to protect and enhance the options cities in rural areas provide, these cities shall be located within an Urban Growth Areas. These Urban Growth Areas generally will be islands separate from the larger Urban Growth Area located in the western portion of the county. Each city in the rural area, King County and the GMPC shall work cooperatively to establish an Urban Growth Area for that city. Urban Growth Areas must be approved by the GMPC by January 1, 1993. The Urban Growth Area for cities in rural areas shall:

- a. Include all lands within existing cities in the rural area;
- b. Be sufficiently free of environmental constraints to be able to support rural city growth without major environmental impacts;
- c. Be contiguous to city limits; and
- d. Have boundaries based on natural boundaries, such as watersheds, topographical features, and the edge of areas already characterized by urban development.

LU-27 Cities in the rural areas shall include the following characteristics:

- a. Shopping, employment, and services for residents, supplies for resources industries, including commercial, industrial, and tourism development at a scale that reinforces the surrounding rural characteristic;
- b. Residential development, including small-lot single-family, multifamily, and mixed-use developments; and
- c. Design standards that work to preserve the rural, small-town character and promote pedestrian mobility.

#### **D. Urban and Manufacturing/Industrial Centers**

*Urban Centers are envisioned as areas of concentrated employment and housing, with direct service by high capacity transit, and a wide range of other land uses such as retail, recreational, public facilities, parks and open space.*

*Urban Centers are designed to 1) strengthen existing communities, 2) promote housing opportunities close to employment, 3) support development of an extensive transportation system to reduce dependency on automobiles, 4) consume less land with urban development, and 5) maximize the benefit of public investment in infrastructure and services, 6) reduce costs of and time required for permitting, and 7) evaluate and mitigate environmental impacts.*

*Manufacturing/Industrial Employment Centers are key components of the regional economy. These areas are characterized by a significant amount of manufacturing or other industrial employment. They differ from other employment areas, such as Business/Office parks (see FW-13 and LU-58-62), in that a land base is an essential element of their operation.*

**FW-11** Within the Urban Growth Area, a limited number of Urban Centers which meet specific criteria established in the Countywide Planning Policies shall be locally designated. Urban Centers shall be characterized by all of the following:

- a. Clearly defined geographic boundaries
- b. Intensity/density of land uses sufficient to support effective rapid transit;
- c. Pedestrian emphasis within the Center;
- d. Emphasis on superior urban design which reflects the local community;
- e. Limitations on single occupancy vehicle usage during peak hours or commute purposes;
- f. A broad array of land uses and choices within those uses for employees, residents;
- g. Sufficient public open spaces and recreational opportunities; and
- h. Uses which provide both daytime and nighttime activities in the Center.

**FW-12** Within the Urban Growth Area, the Countywide Planning Policies shall assure a number of locally-designated Manufacturing/Industrial Centers which meet specific criteria established in the Countywide Planning Policies will be locally designated. The Manufacturing/Industrial Centers will be and are characterized by the following:

- a. Clearly defined geographic boundaries;
- b. Intensity/density of land uses sufficient to support manufacturing and industrial uses; and
- c. Reasonable access to the regional highway, rail, air and/or waterway system for the movement of goods.

**FW-13** Urban and Manufacturing/Industrial Centers shall be complemented by the land use pattern outside the centers but within the urban area. This area shall include: urban residential neighborhoods, activity areas, business/office parks, and an urban open space network. Within these areas, future development shall be limited in scale and intensity to support the countywide land use and regional transportation plan.

## **1. Urban Centers Designation Process**

**LU-28** The location and number of Urban Centers in King County will be determined through the joint local and countywide adoption process, based on the following steps:

- a. The Countywide Planning Policies include specific criteria for Urban Centers;
- b. By October 1, 1992, local jurisdictions shall determine if they will contain an Urban Center(s). Jurisdictions electing to contain these centers will provide the GMPC with a statement of commitment describing the city's intent and commitment to meet the Centers' criteria defined in these policies and a timetable for the required

- Centers Programmatic Environmental Impact Statement or identification of existing environmental documentation to be used; and
- c. By December 1, 1992, the Growth Management Planning Council shall review and confirm the Centers that are elected by local jurisdictions (consistent with Policy FW-1), or make adjustments based on:
    - 1) The Center's location in the region and its potential for promoting a countywide system of Urban Centers;
    - 2) The total number of centers in the county that can be realized over the next twenty years, based on twenty years projected growth;
    - 3) The type and level of commitments that each jurisdiction has identified for achieving Center goals; and
    - 4) Review of other jurisdictional plans to ensure that growth focused to Centers is assured.

## 2. Urban Centers Criteria

- LU-29 Each jurisdiction which has designated an Urban Center shall adopt in its comprehensive plan a definition of the urban center which specifies the exact geographic boundaries of the center. All centers shall be up to 1-1/2 square miles of land. Each center shall be zoned to accommodate:
- a. A minimum of 15,000 jobs within 1/2 mile of a transit center;
  - b. At a minimum, an average of 50 employees per gross acre; and
  - c. At a minimum, an average 15 households per gross acre.
- LU-30 Jurisdictions which contain urban centers, in conjunction with METRO, shall identify transit station areas and right-of-way in their comprehensive plan. Station areas shall be sited so that all portions of the Urban Center are within walking distance (one half mile) of a station.
- LU-31 In order to reserve right-of-way and potential station areas for high-capacity transit or transit hubs in the Urban Centers, jurisdictions shall:
- a. Upon adoption of specific high-capacity transit alignments by METRO, adopt policies to avoid development which would restrict establishment of the high-capacity transit system;
  - b. Preserve right-of-ways controlled by the jurisdiction which are identified for potential transit use; and
  - c. Provide METRO an option to acquire property owned by the jurisdiction.
- LU-32 To encourage transit use, jurisdictions shall establish mechanisms to charge for single-occupancy vehicle parking and/or a limit on the number of off-street parking spaces for each Urban Center, and establish minimum and maximum parking requirements that limit the use of the single-occupant vehicle and develop coordinated plans that incorporate Commuter Trip Reduction guidelines. All plans for Urban Centers shall encourage bicycle travel and pedestrian activity.
- LU-33 Jurisdictions' comprehensive plans for Urban Centers shall demonstrate compliance with the Urban Centers criteria. In order to promote urban growth within centers, the Urban Center plan shall establish strategies which:
- a. Support pedestrian mobility, bicycle use and transit use;
  - b. Achieve a target housing density and mix of use;

- c. Provide a wide range of capital improvement projects, such as street improvements, Schools, parks and open space, public art and community facilities;
- d. Emphasize superior urban design;
- e. Emphasize historic preservation and adaptive reuse of historic places;
- f. Include other local characteristics necessary to achieve a vital urban center; and
- g. Include facilities to meet human service needs.

LU-34 The system of urban centers shall form the land use foundation for a regional high capacity transit system. Urban centers should receive very high priority for the location of high-capacity transit stations and/or transit centers. (See also LU-47)

### 3. Incentives for Urban Centers

*In order to help create Urban Centers, incentives to jurisdictions to establish Urban Centers, and to the community to build in Urban Centers, should be established. The provision of high-capacity transit (HCT) is one such incentive. Others include funding, and streamlined permitting.*

LU-35 Countywide financing strategies shall be developed by the GMPC by July 1, 1993 which:

- a. Identify regional funding sources; and
- b. Set priorities and allocate funds for urban facilities and services including social and human services, and subarea planning efforts, in Urban Centers.

LU-36 Each jurisdiction electing to contain an Urban Center under Policy LU-28 shall prepare a Programmatic Environmental Impact Statement (PEIS) for each proposed center. The PEIS shall be prepared in a comprehensive manner and shall address probable significant adverse environmental impacts from and reasonable alternatives to the proposal. These may include, but are not necessarily limited to subjects of area-wide concern such as cumulative impacts, housing, schools, public utilities, and transportation. Subsequent project-specific proposals shall not be required to perform duplicative environmental review of issues which have been adequately reviewed in the PEIS, but shall provide additional environmental review of other issues. These may include, but are not necessarily limited to the direct impacts of the specific proposal, substantial changes in the nature of the proposal or information regarding impacts which indicate probable significant adverse environmental impacts which were not adequately analyzed in the PEIS. Examples of project-specific direct impacts include local traffic impacts, site aesthetics, and other issues not addressed by the PEIS.

LU-37 In support of centers, additional local action should include:

- a. Strategies for land assembly within the center, if applicable;
- b. Infrastructure and service financing strategies and economic development strategies for the centers;
- c. Establishing expected permit processing flow commitments consistent with the PEIS; and
- d. Establishing a streamlined and simplified administrative appeal process with fixed and certain timelines.

LU-38 Jurisdictions should consider additional incentives for development within Urban Centers such as:

- a. Setting goals for maximum permit review time and give priority to permits in Urban Centers;

- b. Policies to reduce or eliminate impact fees;
- c. Simplifying and streamlining of the administrative appeal processes;
- d. Eliminating project-specific requirements for parking and open space by providing those facilities for the Urban Center as a whole; and
- e. Establishing a bonus zoning program for the provision of urban amenities.

#### 4. Manufacturing/Industrial Center Designation Process

LU-39 The location and number of regional Manufacturing/Industrial Centers in King County will be determined through the joint local and countywide adoption process, based on the following steps:

- a. Countywide Planning Policies include specific criteria for Manufacturing/Industrial Centers;
- b. By October 1, 1992, local jurisdictions shall determine if they will contain a Manufacturing/Industrial Center(s). Jurisdictions that elect to contain a Manufacturing/Industrial Center shall specify how the Center will meet the intent of the Countywide Policies, including plans to adopt criteria, incentives, and other commitment to implement Manufacturing/Industrial Centers;
- c. By December 1, 1992, the Growth Management Planning Council shall review and confirm the Manufacturing/Industrial Centers that are elected by local jurisdictions (consistent with Policy FW-1), or make adjustments based on:
  1. The Center's location in the region, especially relative to existing and proposed transportation facilities and its potential for promoting a countywide system of Manufacturing/Industrial Centers;
  2. The total number of centers in the county that are needed in the county over the next twenty-years based on twenty years projected need for manufacturing land to satisfy regional projections of demand for manufacturing land;
  3. The type and level of commitments that each jurisdiction has identified for achieving Manufacturing/Industrial Center goals;
  4. Review of other jurisdictional plans to ensure that growth focused to Manufacturing/Industrial Centers is assured; and
  5. The accessibility of the Center to existing or planned transportation facilities.

#### 5. Manufacturing/Industrial Center Criteria

LU-40 Each jurisdiction which contains a regional Manufacturing/Industrial Center shall adopt in its comprehensive plan a definition of the Center which specifies the exact geographic boundaries of the Center. Each Center shall be zoned to:

- a. Preserve and encourage the aggregation of land parcels sized for manufacturing/industrial uses;
- b. Discourage land uses other than manufacturing and industrial; and
- c. Accommodate a minimum of 10,000 jobs.

LU-41 All jurisdictions support the development of a regional industrial siting policy to link the countywide manufacturing/industrial centers into the regional network of industrial activity.

- LU-42 Jurisdictions shall design access to the regional Manufacturing/Industrial Centers to facilitate the mobility of employees by transit, and the mobility of goods by truck, rail or waterway as appropriate. Regional comprehensive plans shall include strategies to provide capital improvement projects which support access for movement of goods.
- LU-43 Jurisdictions which contain regional Manufacturing/Industrial Centers in conjunction with METRO, shall identify transit station areas and right-of-way in each jurisdiction's comprehensive plan. Transit feeder systems, bicycle routes and pedestrian systems shall be established to link the Center to the transit station area(s).
- LU-44 In order to reserve right-of-way and potential station areas for high-capacity transit or transit hubs in the regional Manufacturing/Industrial Centers, jurisdictions shall:
- a. Upon adoption of specific high-capacity transit alignments by METRO, adopt policies to avoid development which would restrict establishment of the high-capacity transit system;
  - b. Preserve right-of-ways controlled by the jurisdiction which are identified for potential transit use; and
  - c. Provide METRO an option to acquire property owned by the jurisdiction.
- LU-45 To encourage transit use, jurisdictions shall establish mechanisms to charge for single-occupancy vehicle parking or a limit on the number of parking spaces for single-occupancy vehicles within each regional Manufacturing/Industrial Center. All plans for regional Manufacturing/Industrial Centers shall encourage bicycle travel and pedestrian circulation.
- LU-46 Jurisdictions' comprehensive plans for regional Manufacturing/Industrial Centers shall demonstrate compliance with the criteria. In order to promote manufacturing/industrial growth, the Manufacturing/Industrial Center plan for each jurisdiction shall establish strategies:
- a. To provide capital improvement projects which support the movement of goods and manufacturing/industrial operations;
  - b. To provide buffers around the Center to reduce conflicts with adjacent land uses;
  - c. To facilitate land assembly; and
  - d. To attract the type of businesses that will ensure economic growth and stability.
- LU-47 Each Manufacturing Center containing a minimum of 15,000 jobs and having sufficient employment densities to support HCT should be served by HCT. Manufacturing/Industrial Centers which are located on the regional high capacity transit alignment and which meet the transit-friendly criteria in policies LU-42 through LU-46 above shall receive one or more high capacity transit stations and/or transit centers.

## **6. Incentives for Manufacturing/Industrial Centers**

- LU-48 Countywide financing strategies shall be developed by the GMPC by July 1, 1993 which:
- a. Identify regional funding sources; and
  - b. Set priorities and allocate funds for urban facilities and services including social and human services in regional Manufacturing/Industrial Centers, and subarea planning efforts in Manufacturing/Industrial Centers.

- LU-49 Jurisdictions shall consider conducting detailed SEPA review for the regional Manufacturing/Industrial Center at the planning stage so that project-specific environmental review is minimized.
- LU-50 To reduce or prevent conflicts, jurisdictions shall develop policies to establish and support normal manufacturing/industrial practices such as notices on development permits for properties adjacent to a manufacturing/industrial center.

## E. Urban Growth Outside of Centers

*A variety of land uses and concentrations of growth occur within the Urban Growth Area and outside of the Urban Centers and Manufacturing/Industrial Centers. Local land use plans will be responsible for the designation, character, and utilization of urban areas outside of centers. However, Countywide Policies are presented below to provide guidance for these areas to ensure that they support the Centers growth concept. These policies do not apply to the rural cities whose land use pattern is described by policies LU 26 and LU 27.*

### 1. Urban Residential Areas

*Urban residential areas form the bulk of the Urban Growth Area, and are home to a large portion of the county's population. They will contain a mix of uses and will have different characteristics in different neighborhoods. Generally, the character, form, preservation and development of these areas is a local jurisdictional responsibility. However, the residential areas need to support the Centers concept and provide sufficient opportunity for growth within the UGA. A substantial majority of new residential units will be constructed within urban residential areas.*

- LU-51 In order to ensure efficient use of the land within the Urban Growth Area, provide for housing opportunities, and to support efficient use of infrastructure, each jurisdiction shall:
- a. Establish in its comprehensive plan a target minimum number of net new dwelling units the jurisdiction will accommodate in the next 20 years and adopt regulations to achieve the target number;
  - b. Establish a minimum density (not including critical areas) for new construction in each residential zone; and
  - c. Establish in the comprehensive plan a target mix of housing types for new development and adopt regulations to achieve the target mix.
- LU-52 The targets and regulations in LU-51 shall be based on the following steps:
- a. By October 1, 1992 the GMPC shall adopt a target number of net new dwelling units to be accommodated countywide;
  - b. By October 1, 1992 the interjurisdictional staff committee shall report to the GMPC recommended ranges for net new dwelling units for each unincorporated urban and rural community, and each city based on the following criteria:
    1. The capacity and condition of existing and forecast infrastructure,
    2. Proximity to major employment centers,
    3. Access to existing and projected regional transit,
    4. Capacity of undeveloped land and potential for redevelopment given the character of existing development,
    5. The need for a range of housing types.

6. Each jurisdiction's share of affordable housing as required by Affordable Housing policies,
  7. Consistency with the countywide numbers;
- c. The targets in each jurisdiction's comprehensive plan shall fall within the ranges, or shall state the reasons for deviating from the range;
  - d. Through the process established under FW-1 Step 4b, if the jurisdiction's comprehensive plan differs from the target, the GMPC may recommend amendments to either the Countywide Planning Policies or local plans; and
  - e. The interjurisdictional staff committee shall recommend a process to monitor the implementation of this policy. The process should include members of the public.

## 2. Urban Employment Growth

*A portion of the urban employment growth will occur in activity areas and neighborhoods in the urban area. This employment growth will support the Urban Centers, while balancing local employment opportunities in the urban area.*

LU-53 Targets for employment growth outside Urban Centers shall be established for cities and for unincorporated urban communities through the joint local and countywide adoption process based on the following steps:

- a. By December 1992 the Growth Management Planning Council shall adopt 20 year target numbers for employment growth and employment capacity inside urban centers and outside urban centers. By October 1992 the interjurisdictional staff committee shall develop preliminary recommendations for ranges of employment growth and capacity inside and outside urban areas in each city, in unincorporated urban communities and in rural areas based on the following criteria:
  1. Consistency with the countywide numbers;
  2. The need to direct growth to urban centers based on consistency with the multiple centers strategy;
  3. Access to regional rapid transit and existing highway and arterial capacity;
  4. Availabilities of undeveloped land and potential for redevelopment given the character of existing development;
  5. The willingness of local jurisdictions to implement policies which encourage transit such as S.O.V. parking charges and/or limits, transit, bicycle and pedestrian supportive design, and the adoption of policies that encourage clustering of commercial and residential areas;
- b. As part of their comprehensive plans, all jurisdictions shall indicate planned employment capacity and targeted increases in employment for 20 years inside and outside urban centers and shall show how their plans reflect the criteria in this policy; and
- c. Through the process established under FW-1 Step 4b, if the jurisdiction's comprehensive plan differs from the target, the GMPC may recommend amendments to either the Countywide Planning Policies or local plans.

## 3. Infill Development

*Urban growth occurs both in "new" neighborhoods and in existing neighborhoods. Existing neighborhoods have a history of development patterns which have created a sense of identity. At the*

*same time a vital neighborhood adapts to change and develops its own image. New development in these neighborhoods should build on the existing patterns in a manner which respects and enriches the neighborhood. For example in single family neighborhoods selective permitting of accessory units and carriage houses may be more compatible than new apartment buildings.*

LU-54 All jurisdictions shall develop neighborhood planning and design processes to encourage infill development and enhance the existing community character and mix of uses.

#### **4. Activity Areas**

*Activity Areas are locations that contain a moderate concentration of commercial land uses and some adjacent higher density residential areas. Activity Areas are distinguishable from community or neighborhood commercial areas by their larger size and their function as a significant focal point for the local community. Activity Areas contain a broad spectrum of locations with varied functions, geographic sizes, and land uses.*

*Activity Areas are designated in comprehensive plans. Examples of Activity Areas might include the central business districts of Kirkland, Burien, and Des Moines; East Hill in Kent; and a number of business districts in Seattle, such as Lake City, Wallingford, and West Seattle.*

LU-55 Jurisdictions shall designate the boundaries, maximum densities, and uses within all activity areas to provide for local employment, commercial activities and public facilities.

LU-56 All Activity Areas should receive frequent peak hour transit service. Activity Areas may contain a high-capacity transit station or transit hub if the activity area:

- a. Is on an HCT corridor, or can serve as a transit hub;
- b. Has pedestrian, bicycle, and transit-supportive site planning, building design and road design regulations; and
- c. Has parking regulations to encourage transit use.

LU-57 To encourage transit use, jurisdictions shall establish minimum and maximum parking requirements that reduce dependence on the single-occupant vehicle. Jurisdictions should establish mechanisms to charge for single-occupancy vehicle parking and/or a limit on the number of off-street parking spaces for each activity center. All plans for Activity Areas shall encourage bicycle travel and pedestrian activity.

#### **5. Business/Office Parks**

*Business/Office Parks are areas where low-density office development is collected at locations separated from an identified retail commercial core. These parks tend to have low densities and thus tend not to be supportive of transit or pedestrian circulation. These employment opportunities generally do not require extensive land for their operations, and could be accommodated in Urban Centers. Because the further development of these areas may compete with the employment growth that is planned to support Urban Centers, significant future employment will not be encouraged in these areas.*

LU-58 Office building development is directed primarily to Urban Centers. Office building development outside Urban Centers should occur within activity areas and promote transit, pedestrian and bicycle uses.

LU-59 Jurisdictions shall not expand existing land area zoned for business/office parks.

- LU-60 All jurisdictions shall establish mechanisms to encourage transit use. Examples of potential mechanisms include a charge for S.O.V. parking and/or a limit on the number of parking spaces for single occupancy vehicles within each existing business/office park. Bicycle and pedestrian supportive design should be encouraged.
- LU-61 To implement policy LU-53, all jurisdictions shall establish maximum Floor Area Ratios and/or maximum employment levels for office use in existing business/office parks. These maximums are intended to channel future employment and office space growth from business/office parks outside of Urban Centers to Urban Centers.
- LU-62 All jurisdictions should develop planning mechanisms to assist in the conversion of business/office parks to mixed use areas. Jurisdictions should encourage inclusion of residential and neighborhood commercial land uses and open space within existing business/office parks.

### III. Transportation

#### A. Transportation Overview

*RCW 36.70A.070(6) (Growth Management Act) fundamentally changes the way that comprehensive planning will be done within the State of Washington. The Act places special emphasis on transportation making it unlawful to approve development for which the approving jurisdiction cannot demonstrate the availability of facilities, strategies and services which are needed to accommodate the growth in traffic at the adopted level-of-service within six years. Future development activity will be constrained by a jurisdiction's ability to finance and provide transportation improvements or strategies. This fact has some very significant implications for all jurisdictions which are dependent upon the region's transportation systems because:*

- 1. Projected traffic growth on the freeway and arterial system within the region greatly exceeds the foreseeable collective ability to finance and construct the improvements needed to retain historical levels-of-service.*
- 2. Maintaining the current level of personal mobility by single occupant vehicles will be a costly public investment that will negatively impact the regional quality of life, create severe impacts to sensitive areas, degrade environmental quality, and increase energy use and the consumption of land.*
- 3. Development within any one jurisdiction can be severely impacted by decisions and actions beyond that jurisdiction's control:*
  - o WSDOT may be unable to program improvements concurrent with a jurisdiction's approval of a development permit.*
  - o Metro may not be able to respond to transit levels-of-service adopted by local jurisdictions.*
  - o A jurisdiction may adopt level-of-service standards for arterials within its jurisdiction and decline to accept improvements necessary to mitigate transportation impacts from a proposed development in an adjoining jurisdiction.*
  - o Cumulative growth throughout the region will cause traffic growth on the existing network and may thereby exhaust the capacity for local jurisdictions to approve development.*

*In light of these financial constraints and potential dangers, it will be necessary to undertake a dramatically different approach for both transportation planning and land use planning, than has been done in the past. This is necessary if the region is to avoid haphazard denials of development permits following the July 1994 deadline for implementing ordinances. In order to limit sprawl, create the desired urban form, and provide some measure of predictability for landowners and developers, the region's scarce resources for transportation capacity improvements must be used prudently to focus on areas where zoning and densities support a multi-modal transportation system. System capacity investments should be targeted first to those areas where the existing land use and transportation system provides some hope of achieving the desired multi-modal level-of-service within six years.*

## B. Transportation Policies

- FW-14** The land use pattern shall be supported by a balanced transportation system which provides for a variety of mobility options. This system shall be cooperatively planned, financed, and constructed. Mobility options shall include a High Capacity Transit system which links the urban centers and is supported by an extensive High Occupancy Vehicle system, local community transit system for circulation within the centers and to the non-center urban areas, and non-motorized travel options.
- FW-15** All jurisdictions in the county, in cooperation with Metro, the Metropolitan Planning Organization, and the State, shall develop a balanced transportation system and coordinated financing strategies and land use plan which implement regional mobility and reinforce the countywide vision. Vision 2020 Regional Growth Strategies shall be recognized as the framework for creating a regional system of Centers linked by High Capacity Transit and an interconnected system of freeway High Occupancy Vehicle (HOV) lanes, and supported by a transit system.
- FW-16** In recognition of the fact that King County is the regional freight distribution hub and a major international trade gateway, and that freight transportation is one of the state's most important basic sector economic activities, goods mobility by all modes shall be included as a component of comprehensive plans.
- T-1** The countywide transportation system shall promote the mobility of people and goods and shall be a multi-modal system based on regional priorities consistent with adopted land use plans. The transportation system shall include the following:
- a. An aggressive transit system, including High Capacity Transit;
  - b. High Occupancy Vehicle facilities;
  - c. Freight railroad networks;
  - d. Marine transportation facilities and navigable waterways;
  - e. Airports;
  - f. Transportation Demand Management actions;
  - g. Non-motorized facilities; and
  - h. Freeways, highways, and arterials.
- T-2** King County, its cities, adjacent counties, Metro, and the Washington State Department of Transportation (WSDOT) shall support the continuous, comprehensive and cooperative transportation planning process conducted by the Puget Sound Regional Council (PSRC) pursuant to its Metropolitan Planning Organization (MPO) designation. The primary forum for the development of regional transportation systems plans and strategies shall be the PSRC, as the MPO.
- T-3** The annual update and approval of the six-year Transportation Improvement Program (TIP) by the PSRC should be the primary tool for prioritizing regional transportation improvements and programming regional transportation revenues.
- T-4** The GMPC or its successor shall have the ongoing responsibility for the following:
- a. Developing and maintaining coordinated level-of-service standards and a concurrency system for countywide transit routes and arterial streets, including state facilities;

- b. Developing regionally consistent policies for implementing countywide Transportation Demand Management actions and the Commute Trip Reduction Act including, but not limited to, parking policies, with an examination of price as a determinant of demand; and
- c. Developing and recommending transportation financing strategies, including recommendations for prioritizing capacity improvements eligible to receive federal funds available to the region under the Inter-modal Surface Transportation Efficiency Act (ISTEA).

## 1. High Capacity Transit/Regional Transit Project (HCT/RTP)

- T-5 Each Urban Center will be providing for a minimum of 15,000 jobs and should be served by High Capacity Transit (HCT). Each Manufacturing Center containing a minimum of 15,000 jobs and having sufficient employment densities to support HCT should be served by HCT. All jurisdictions that would be served by HCT shall plan for needed HCT rights-of-way, stations and station supportive transportation facilities and land uses in their comprehensive plans. The land use and transportation elements of comprehensive plans shall incorporate a component to reflect future improvement needs for High Capacity Transit. Interim regional transit service should be provided to centers until the center is served by HCT. If voters do not approve HCT local option taxes, jurisdictions shall address this implication in the reassessment phase.
- T-6 WSDOT should assign a high priority to completion of the core HOV lanes in the central Puget Sound region. King County, its cities, and Metro Council representatives on the Transportation Policy and Executive Boards of the Puget Sound Regional Council (PSRC) shall make completion of this system a high priority in programming the federal funds available to the region.

## 2. Non-motorized Transportation

- T-7 The transportation element of Comprehensive Plans shall include pedestrian and bicycle travel as part of the transportation system and be developed on a coordinated, regional basis. The bicycle and pedestrian element shall be a part of the funding component of the capital improvement program.

## 3. Freeways/Highways/Arterials

- T-8 In order to maintain regional mobility, a balanced multi-modal transportation system shall be planned that includes freeway, highway and arterial improvements by making existing roads more efficient. These improvements should help alleviate existing traffic congestion problems, enhance HOV and transit operations, and provide access to new desired growth areas, as identified in adopted land use plans. General capacity improvements promoting only Single Occupant Vehicle traffic shall be a lower priority. Transportation plans should consider the following mobility options/needs:
  - a. Arterial HOV treatments,
  - b. Driveway access management for principal arterials within the Urban Growth Area; and
  - c. Improvements needed for access to manufacturing and industrial centers, marine and air terminals.

- FW-17 Infrastructure planning and financing shall be coordinated among jurisdictions to direct and prioritize countywide facility improvements to implement the countywide vision and land use plans.
- FW-18 Where appropriate, King County and its cities shall adopt a clear definition of level-of-service and concurrency requirements and establish a consistent process for implementing concurrency, including accountability for impacts for adjacent jurisdictions.
- FW-19 Each jurisdiction shall identify the facilities needed to ensure that services are provided consistent with the community's adopted service levels. Timelines for the construction of the needed facilities shall be identified.

#### **4. Transportation Level-of-Service (LOS)**

- T-9 Level-of-service standards shall be used as a "tool" to evaluate concurrency for long-range transportation planning, development review and programming of transportation investments.
- T-10 Each local jurisdiction shall establish mode-split goals for non-SOV travel to all significant employment centers to reflect that center's contribution to the solution of the region's transportation problem. Mode-split goals will vary according to development densities, access to transit service and other alternative travel modes and levels of congestion. Comprehensive plans shall demonstrate what transportation system improvements, demand management and land use strategies will be implemented to achieve these mode-split goals. These local goals shall be coordinated to achieve county and regional goals.
- T-11 Elements to be considered in the level-of-service standard are mobility options that encourage the use of transit, other high occupancy vehicles, demand management actions, access to transit, and non-motorized modes of travel. These standards shall be consistent with the requirements of the Commute Trip Reduction Act.
- T-12 Mode split goals and measures of mobility for transit, ridesharing and non-motorized travel shall be established by local jurisdictions and METRO.
- T-13 Level-of-service standards shall vary by differing levels of development patterns and growth management objectives. Lower arterial standards, tolerating more congestion, shall be established for urban centers. Transit LOS standards may focus on higher service levels in and between centers and decrease as population and employment densities decrease.
- T-14 Metro should develop transit level-of-service standards which provide the county and cities with realistic service expectations to support adopted land uses and desired growth management objectives. These standards should consider that route spacing and frequency standards are necessary for differing service conditions including:
- a. Service between designated centers served by High Capacity Transit;
  - b. Service between designated centers not served by High Capacity Transit; and
  - c. Service to areas outside centers.

#### **5. Reassessment**

- T-15 Local governments shall work together to reassess regional land use and transportation elements if transportation adequacy and concurrency cannot be met. Should funding fall

short for transportation improvements or strategies needed to accommodate growth, the following actions should be considered:

- a. Adjust land use and level-of-service standards to better achieve mobility and the regional vision;
- b. Make full use of all feasible local option transportation revenues authorized but not yet implemented; and
- c. Work with WSDOT, Metro, and the private sector to seek additional state transportation revenues and local options to make system improvements necessary to accommodate projected employment and population growth.

## 6. Financing

- T-16 Transportation elements of Comprehensive Plans shall reflect the preservation and maintenance of transportation facilities as a high priority to avoid costly replacements and to meet public safety objectives in a cost-effective manner.
- T-17 Developer impact fees shall be structured to ensure that new development contributes its fair share of the resources needed to mitigate the impact on the transportation system. Adjoining jurisdictions shall execute interlocal agreements for impact fees which recognize that traffic generated in one jurisdiction contributes to the need to make transportation improvements across jurisdictional boundaries. Impact fees shall not be assessed to cure that portion of the improvement attributable to correcting existing deficiencies.
- T-18 Existing local option transportation funding shall be applied within King County as follows:
- a. Employee tax base -- reserved for city street utility development;
  - b. Commercial parking tax -- defer action, pending development of a regional TDM strategy;
  - c. HOV acceleration financing -- defer until after High Capacity Transit vote; and
  - d. Local option gas tax -- consider as potential source to address transportation "concurrency" needs of county and cities only after vote on High Capacity Transit.
- T-19 Regional revenues (such as Inter-modal Surface Transportation Efficiency Act funds) which provide discretion should be used to address regional mobility projects and strategies, including such strategies as creating centers or enhancing transit/HOV-SOV mode split.

## 7. State Transportation Role

- T-20 Consistent with the countywide vision, local governments shall coordinate with the State on land use and transportation systems and strategies which affect state facilities and programs.
- T-21 State capital improvement decisions and policy actions shall be consistent with regional and countywide goals and plans. The State shall ensure its transportation capital improvement decisions and programs support the adopted land use plans and transportation actions.
- T-22 The State and local governments shall use the same capital programming and budgeting time frame that all local governments and the county use, a minimum of six years, for making capital decisions and for concurrency management.

## **8. Siting Regional and Countywide Transportation Facilities**

- T-23** King County, the cities, the Puget Sound Regional Council, the State, Metro, and other transportation providers shall identify significant regional and/or countywide land acquisition needs for transportation and establish a process for prioritizing and siting the location of transportation facilities.

## IV. Community Character and Open Space

*A measure of the success of planning for growth is the extent to which we restore, maintain and create good places to live, work and play. We must encourage growth which improves our neighborhoods and landscapes, and builds a strong sense of place. The following policies on cultural resources, civic architecture and landmarks, multi-use roadways, infill development, and incentives for urban and rural design, aim to promote good community character.*

**FW-20** All jurisdictions shall support the county's existing diversity of places to live, work and recreate and the ethnic diversity of our communities. The countywide development pattern shall include sufficient supply of quality places for housing, employment, education, recreation, and open space and the provision of community and social services.

**FW-21** Each urban area shall be characterized by superior urban design as locally defined.

**FW-22** Significant historic, archaeological, cultural, architectural and environmental features shall be respected and preserved.

### A. Historic Resources

*Historic resources create a sense of local identity and history, enhance the quality of life, support community vitality, and otherwise enrich our lives. Historic resources are non-renewable: they embody the unique heritage and evolution of particular places. Thoughtful management of these resources contributes to economic development and moderates some of the harmful effects of rapid growth. Planning for historic resources includes protecting archaeological sites and historic buildings and landscapes, encouraging expression of diverse ethnic and folk traditions, and supporting activities for children and youth.*

**CC-1** All jurisdictions should work individually and cooperatively to identify, evaluate, and protect historic resources including continued and consistent protection for historic resources and public art works.

**CC-2** All jurisdictions shall encourage land use patterns and implement regulations that protect and enhance historic resources, and sustain historic community character.

### B. Urban Design

*Governments should be leaders in providing structures, public spaces, parks and streets which support the quality of our region. Civic design should express the region's values and vision, and should provide landmarks which contribute to our sense of place. Additionally, individual jurisdictions can nurture their individual character by developing a clear set of goals and policies which outline the public interest in the design of private development in the urban and rural communities.*

**CC-3** All jurisdictions shall promote a high quality of design and site planning in publicly-funded construction (such as civic buildings, parks, bridges, transit stops), and in private development.

## C. Human and Community Services

*Human and community services are: social and health services; emergency shelters; meeting places; performing arts and cultural activities; schools; libraries; parks and recreation; and fire and police protection.*

- CC-4 Human and community service planning activities shall support Countywide Planning Policies and the countywide land development pattern.
- CC-5 All jurisdictions shall identify essential community and human services and include them in land use, capital improvement, and transportation plans.

## D. Open Space

*Open space lands are essential to the community character of King County. They provide visual variety and relief from developed areas, protect environmental quality, and provide wildlife habitat and foster opportunities for outdoor recreation. Open space corridors physically and functionally link open space lands.*

*The challenge for jurisdictions is to establish programs that contribute to the protection, accessibility and stewardship of open space lands and corridors. The GMA requires jurisdictions to form linkages between and within population centers with lands useful for recreation, trails, wildlife habitat and connection of critical areas. These open space lands and corridors or greenways should be selected and preserved to form an interconnected system regionally and within jurisdictions locally and should be stewarded to ensure continuing environmental and ecological significance. Where appropriate, the regional system and its local components should provide for multiple benefits and functions, which will require careful planning and management to ensure compatibility and long-term viability of the benefits and functions.*

*Open space lands and corridors have significance at both the local and regional scale. Identification and protection of local open spaces will be considered within the comprehensive plans of each jurisdiction. On an individual basis, jurisdictions should strive to identify, establish and protect open space lands of local significance that also compliment, adjoin or enhance the regional system. The regional open space system includes open space lands and corridors that have importance beyond jurisdictional boundaries and will require multi-jurisdictional coordination to identify, protect and steward.*

FW-23 All jurisdictions shall cooperatively identify, establish, protect and steward urban and rural open space corridors of regional significance.

CC-6 A regional open space system shall be established to include lands which:

- a. Provide physical and/or visual buffers such as open spaces which help to separate incompatible uses, distinguish the urban and rural areas, define urban growth boundaries, or establish the character of a neighborhood, community, city or region;
- b. Provide active and passive outdoor recreational opportunities which are compatible with the environmental and ecological values of the site; and/or
- c. Contain natural areas, habitat lands, natural drainage features, and/or other environmental, cultural, and scenic resources.

CC-7 All jurisdictions shall work cooperatively to identify and protect open space corridors of regional significance. This process shall include:

- a. Identification of regional open space lands and corridors which form a functionally and physically connected system with environmental, ecological, recreational and aesthetic significance and which is readily accessible to our urban populations;
  - b. Identification of implementation strategies and regulatory and non-regulatory techniques to protect the lands and corridors, including collaboration and coordination with land trusts and other land preservation organizations; and
  - c. Development of management plans and strategies to sustain the corridors' open space benefits and functions of the preserved lands and corridors.
- CC-8 Water bodies and rivers of the Puget Sound region form an important element of the open space system. Jurisdictions shall work to protect visual access to water bodies and rivers, and provide for physical access where appropriate.
- CC-9 Countywide funding shall be available for the acquisition, maintenance and stewardship of parks and open space, a) advancing the development of the regional open space system which has been cooperatively identified by the jurisdictions, and b) ensuring the ready access of our citizens residing in Urban Centers to the regional open space system.
- CC-10 The conceptual map of open space systems contained in the 1988 King County Open Space Plan shall be used as the planning basis for regional open space lands and corridors. All jurisdictions will work cooperatively to revise and supplement this map to direct the protection of these valuable resources throughout the county.
- CC-11 All jurisdictions shall work cooperatively to ensure parks and open spaces are provided as development and redevelopment occur.
- CC-12 All jurisdictions shall use the full range of regulatory and land preservation tools available to create, maintain and steward the regional open space system which has been cooperatively identified.
- CC-13 All jurisdictions shall develop coordinated level of service standards for the provision of parks and open spaces.

## V. Affordable Housing

*Adequate housing, for all economic segments of the population, is a basic need of King County's residents and an issue of countywide concern. Affordable housing needs must be addressed by local governments working in cooperation with the private sector and nonprofit housing agencies.*

*The GMA requires countywide policies to address parameters for the distribution of affordable housing, including housing for all income groups. This complex issues requires adequate information regarding current housing resources and housing needs, which is being developed for comprehensive plan housing elements, as well as in-depth discussion of values and priorities for housing development.*

**FW-24** All jurisdictions shall cooperatively establish a process to ensure an equitable and rational distribution of low-income and affordable housing throughout the county in accordance with land use policies, transportation, and employment locations. All jurisdictions shall provide a diversity of housing types to meet a variety of needs and incomes.

**AH-1** All jurisdictions shall share the responsibility for achieving a rational and equitable distribution of affordable housing to meet the housing needs of low and moderate income residents in King County. The distribution of housing affordable to low and moderate-income households shall reflect the need for proximity to lower wage employment and access to transportation and human services; recognize each jurisdiction's past and current efforts to provide housing affordable to low and moderate-income households; avoid over-concentration of assisted housing; and increase housing opportunities and choices for low and moderate income households in communities throughout King County. Each jurisdiction shall give equal consideration to local and countywide housing needs.

The GMPC shall define and quantify affordable housing needs for low and moderate-income households and countywide objectives for distribution of affordable housing for low and moderate-income households. The process shall include involvement by housing industry representatives, housing interest groups, and community organizations. The Affordable Housing Technical Forum, which has representatives from the County and each city, shall prepare recommendations for the GMPC by August 1, 1992.

By October 1, 1992 each jurisdiction shall specify the range and amount of housing affordable to low and moderate-income households to be accommodated in its comprehensive plan, based on countywide objectives for distribution. By December 1, 1992 the GMPC will review, and the county and cities will ratify, the countywide objectives for distribution and each jurisdiction's proposed range and amount of affordable housing units.

The process shall address:

- a. Development and preservation of subsidized housing and low-cost market rate housing;
- b. The definition of low-income and moderate-income housing;
- c. Guidelines to meet affordable housing needs in individual jurisdictions as well as need throughout King County, including recognition for jurisdictions that already meet the guidelines;

- d. Strategies, including land use incentives, streamlined permitting processes, and funding commitments, to be adopted by all jurisdictions to provide affordable housing; and
- e. Guidelines to ensure that affordable housing is provided in conjunction with regional transportation planning, including funding for acquisition and rehabilitation to preserve existing affordable housing; funding and incentives for development of new housing in infill and redevelopment projects; and, subject to a legal determination, inclusionary requirements to ensure that a proportion of new residential development is affordable to low and moderate income households.

*Providing sufficient land for housing development is an essential step in promoting affordable housing. Affordable housing can be encouraged by zoning additional land for higher residential densities, which helps provide needed capacity for growth, reduces land development cost per units, and allows for lower cost construction types such as attached dwellings. Higher density housing includes a range of housing types: small-lot single family, attached single family, mobile home parks, apartments and condominiums. In addition, zoning changes that permit additional housing in established areas, such as accessory units, carriage houses, and residences built above commercial uses, increase affordable housing opportunities.*

- AH-2 Each jurisdiction shall show in its comprehensive plan how it will use policies, incentives, regulations and programs to provide its share of housing affordable to low and moderate-income households as determined by the process outlined in AH-1.
- AH-3 Each jurisdiction shall evaluate its existing resources of subsidized and low-cost non-subsidized housing and identify housing that may be lost due to redevelopment, deteriorating housing conditions, or public policies or actions. Each jurisdiction shall develop strategies to preserve existing low-income housing where feasible and provide relocation assistance to low income residents who may be displaced.
- AH-4 All jurisdictions shall monitor residential development within their jurisdiction and determine annually the total number of new units constructed, housing types, developed densities and remaining capacity for residential growth. King County shall report annually on housing development, the rate of housing cost and price increases and available residential capacity countywide.
- AH-5 Within the urban growth area, each jurisdiction shall maximize its ability to accommodate sufficient, affordable housing by removing regulatory barriers, reviewing codes for redundancies and inconsistencies and providing opportunities for a full range of housing types such as accessory dwelling units, manufactured homes on individual lots, apartments, townhouses and attached single family housing.

## VI. Contiguous and Orderly Development and Provision of Urban Services to Such Development

*Chapter II, "Land Use Pattern," contains policies for phasing development within the Urban Growth Area. An integral component of the phasing process is ensuring that development is accompanied by a full range of urban services. Equally important is ensuring that infrastructure improvements are not provided in advance of development which could undermine the countywide development pattern. This chapter provides policies which support phasing within the Urban Growth Area and ensure the integrity of the countywide land development pattern.*

**FW-25** Planning for and financing of services shall be coordinated among jurisdictions to direct and prioritize countywide facility improvements to implement the countywide policies.

**FW-26** Jurisdictions shall identify the services needed to achieve adopted service levels. Timelines for constructing needed services shall be identified.

**FW-27** Protection of public health and safety and the environment shall be given high priority in decision-making about infrastructure improvements. County residents in both urban and rural areas shall have reasonable access to a high-quality drinking water source meeting all federal and state drinking water requirements. Management and operation of existing on-site septic systems shall not result in adverse impacts to public health or the environment.

### A. General Policies

*To ensure that land use is accompanied with the maximum possible use of existing facilities and cost-effective service provisions and extensions, and to encourage development of strong, interrelated communities, policies are needed which integrate a full range of urban services with land-use planning and environmental protection. Urban service definitions should be guided by "public services," "public facilities," and "urban governmental services" as defined in RCW 36.70A (GMA).*

*Community and human services policies are included under Chapter IV, "Community Character and Open Space," and transportation policies are included under Chapter III, "Transportation." Several countywide planning efforts provide direction for achieving the integration of services, aquifer and natural resource protection, and land use planning. These include the Coordinated Water System Plans, Seattle Regional Comprehensive Water Supply Plan, Groundwater Management Plans, Basin Plans, Chelan Agreement Regional Water Resources Planning Process, Flood Hazard Reduction Plan, Wastewater 2020 Plus, Human Services Strategies Report, and the King County Sewerage General Plan. Furthermore, there are state mandates which affect the provision of services. For example, water resource allocation must accommodate all reasonable out-of-stream needs and maintain sufficient flows for in-stream uses. The following policies transcend Urban and Rural land use designations and apply countywide.*

## 1. Urban Services Required as Growth Occurs

- CO-1 Jurisdictions shall identify the full range of urban services and how they plan to provide them.

## 2. Conservation, Efficiency, Cost Effectiveness and New Technologies

- CO-2 Jurisdictions and other urban service providers shall provide services and manage natural resources efficiently, through regional coordination, conjunctive use of resources, and sharing of facilities. Interjurisdictional planning efforts shall evaluate approaches to share and conserve resources.
- CO-3 Service provision shall be coordinated to ensure the protection and preservation of resources in both rural areas and in areas that are developing, while addressing service needs within areas currently identified for growth.
- CO-4 All jurisdictions acknowledge the need to develop a regional surface water management system which crosses jurisdictions boundaries and identifies and prioritizes program elements and capital improvements necessary to accommodate growth and protect the natural and build environment. The GMPC shall develop and recommend a financing and implementation strategy to meet this need.
- CO-5 Water supply shall be regionally coordinated to provide a reliable economic source of water and to provide mutual aid to and between all agencies and purveyors. The region should work toward a mechanism to address the long-term regional water demand needs of all agencies and water purveyors.
- CO-6 Aggressive conservation efforts shall be implemented to address the need for adequate supply for electrical energy and water resources, protect natural resources, and achieve improved air quality. Efforts shall include, but not be limited to, public education, water reuse and reclamation, landscaping which uses native and drought-resistant plants and other strategies to reduce water consumption, small lot size, low-flow showerheads, conservation credits, and energy efficiency incentives in new and existing buildings.
- CO-7 Water reuse and reclamation shall be encouraged, especially for large commercial and residential developments, and for high water users such as parks, schools, golf courses, and locks.
- CO-8 When planning for the future demand on wastewater treatment and conveyance, alternatives to the expansion of the Metro centralized system such as decentralized treatment and other treatment technologies, and wastewater reclamation and reuse shall be identified and incorporated into plans as viable options.
- CO-9 The presence of tightline sewers or availability of sewer pipeline capacity and water supply above what is required to meet local needs shall not be used to justify development counter to the countywide policies, and any such land use development proposal shall be denied by the permitting agency.

## B. Urban Areas Identified for Growth for the Next Ten Years

*The designation of the Urban Growth Area establishes the service area for the county. The detailed arrangement and timing of services and the installation of infrastructure improvements is*

*left to be determined through shorter-term capital improvement plans. To support the densities and land uses of urban areas identified for immediate development, urban water and sewer systems are essential to support growth anticipated in the Urban Area over the next ten years. Urban water systems are defined as a network of pipes which are designed to meet all user needs and provide fire protection. Urban sewer systems are defined as a system of pipes providing conveyance to a sewage treatment facility.*

## **1. Urban Water and Sewer Systems Required**

CO-10 In the Urban Area identified for growth within the next ten years, urban water and sewer systems are preferred for new construction on existing lots and shall be required for new subdivisions. However, existing septic systems, private wells, and/or small water systems may continue to serve the developments so long as densities and physical conditions are appropriate, the systems are allowed by the relevant jurisdictions, and management keeps the systems operating properly and safely.

## **C. Urban Areas Designated for Growth Beyond 2002**

*In urban areas designated for growth beyond 2002, there will be a mix of existing services which may or may not be at urban service levels. The appropriate infrastructure improvements for sewer and water systems will vary according to existing site conditions. New developments should occur contiguous to existing, fully-developed areas so that extension of services occurs in an orderly and cost-effective manner.*

### **1. Phased and Cost Effective Extension of Urban Water and Sewer Systems**

CO-11 To the extent practicable, all new plats shall be contiguous to the areas identified for growth for the next ten years. The phased expansion should respect basin boundaries or other natural landscape features.

CO-12 Preferred sewer and water systems in areas designated for growth beyond 2002 are community drainfields and water systems which are professionally managed. These systems shall be designed, sited, and built to facilitate eventual conversion to urban sewer and water systems. Jurisdictions shall require all known and projected costs of infrastructure improvement to urban service levels be funded at the permitting stage.

CO-13 Urban sewer system extensions in unincorporated King County shall be permitted consistent with the provisions of the King County Sewerage General Plan, countywide policies, and the policies of the jurisdiction in whose potential annexation area the extension is proposed.

## **D. Rural Areas and Resource Lands**

*Residents in rural areas and resource lands need to have many of the same types of services as urban areas. However, the service standards in rural areas and resource lands are not at Urban levels. Rural water systems are defined as individual or community wells or piped water systems designed to meet all user needs but, in most cases, not providing for fire protection.*

## **1. Limited Extension of Urban Water and Sewer Systems**

- CO-14** Sewer expansion shall not occur in rural areas and resource lands except where needed to address specific health and safety problems threatening structures permitted before July 1, 1992 or the needs of public facilities such as schools. Sewers may be extended only if they are tightlined and only after a finding is made that no alternative technologies are feasible. Mechanisms to reduce cost and limit the number of individual hookups shall be explored and actions recommended to the GMPC.
- CO-15** Urban water system extensions shall not be permitted in rural areas and resource lands except to solve immediate health or safety problems threatening existing residents. If urban water systems are extended, the maximum number of hookups that is consistent with the countywide land development pattern shall be specified at the time of the extension.
- CO-16** All rural water systems outside existing service areas (planning areas) shall be professionally managed by the applicable water purveyor according to the satellite management procedures of the Coordinated Water System Plans, and designed to rural standards.

## VII. Siting Public Capital Facilities of a Countywide or Statewide Nature

*Public capital facilities of a countywide or statewide nature generally have characteristics that make these facilities extremely difficult to site. Such characteristics include the number of jurisdictions affected or served by the facility, the size of the facility, and the facility's potential adverse impacts, such as noise, odor, traffic, and pollution generation. The facilities can be either desirable or undesirable to jurisdictions. Some of the facilities are privately owned and regulated by public entities. Facilities also can be owned by the state and used by residents from throughout the state, such as universities and their branch campuses.*

*The county and the cities need to develop a process for siting public capital facilities with these types of characteristics, including but not limited to, utility and transportation corridors, airports, wastewater treatment plants, solid waste landfills, higher educational facilities, correctional and in-patient treatment facilities and energy-generating facilities.*

**FW-28** Public capital facilities of a countywide or statewide nature shall be sited to support the countywide land use pattern, support economic activities, mitigate environmental impacts, provide amenities or incentives, and minimize public costs. Amenities or incentives shall be provided to neighborhoods/jurisdictions in which facilities are sited. Facilities must be prioritized, coordinated, planned, and sited through an interjurisdictional process established by the GMPC.

**S-1** The Growth Management Planning Council shall establish a process by which all jurisdictions shall cooperatively site public capital facilities of a countywide or statewide nature. The process shall include:

- a. A definition of these facilities;
- b. An inventory of existing and future facilities;
- c. Economic and other incentives to jurisdictions receiving facilities;
- d. A public involvement strategy;
- e. Assurance that the environment and public health and safety are protected; and
- f. A consideration of alternatives to the facility, including decentralization, demand management, and other strategies.

## VIII. Economic Development and Finance

*Jurisdictions should cooperatively create an environment which sustains the economic vitality of the region and which contributes to manageable economic growth. Jurisdictions shall recognize that King County is part of a larger regional economy, which is strongly linked by trade to the national and international economies. Infrastructure investments should be focused into urban centers and manufacturing/industrial employment centers which are supported by transit. Countywide policies shall be integrated with economic development.*

- FW-29** All jurisdictions shall contribute to the economic sustainability of the county in a manner which supports the countywide land use pattern. This is to be accomplished by providing cost-efficient quality infrastructure and public services at an adopted level of service specific to the local situation, providing affordable housing, promoting excellence in education, and protecting the environment.
- FW-30** All jurisdictions shall act to increase work training and job opportunities for all residents and communities.
- FW-31** All jurisdictions shall support the development of a regional economic development strategy consistent with the countywide land use pattern.

### A. Economic Development Policies

- ED-1** By December 1, 1992, the GMPC shall adopt Economic Development policies which:
- a. Establish the county's role in the regional economy;
  - b. Maintain a strong economic base within King County;
  - c. Encourage diversification of the economy;
  - d. Maintain an adequate supply of land to support future economic development;
  - e. Identify geographic areas to target public resources promoting economic development;
  - f. Foster job training opportunities to maintain a highly educated work force;
  - g. Protect the natural environment as a key economic value in this region;
  - h. Consider the special needs of economically disadvantaged citizens and neighborhoods; and
  - i. Include the assistance of private sector.
- ED-2** By July 1, 1993 regional planning shall produce a regional industrial siting policy based on a regional assessment of the need for industrial zoned land and the availability of transportation and other infrastructure to serve it.
- ED-3** Jurisdictions' comprehensive plans shall include economic development policies. These policies shall address the local economic concerns of each jurisdiction within the context of a regional economic development strategy.

- ED-4 Each jurisdiction's comprehensive plan shall include an economic development element which will include an estimate of the type and number of jobs to be accommodated in the jurisdiction during the next 20 years.
- ED-5 The county shall work with Snohomish and Pierce Counties to develop a joint 20-year regional economic development strategy.

## B. Finance

*A fiscal analysis is required by the GMA. This section of policies is intended to bring together references to financial matters found in earlier chapters (see Chapter II, "Rural Areas" and "Urban and Manufacturing/Industrial Centers," Sections B and D) and to provide direction for the fiscal analysis of the anticipated results of implementing the countywide planning policies.*

- FW-32 To implement the Countywide Planning Policies, jurisdictions shall cooperatively identify regional funding sources and establish regional financing strategies by July 1, 1993. Such strategies shall consider the infrastructure and service needs of Urban Centers, Manufacturing/Industrial Centers, Activity Areas, Business/Office Parks, other activity concentrations, and rural areas. Such strategies shall also provide incentives to support the Countywide Planning Policies and should:
- a. Make existing and newly identified funding sources respond in the most flexible way to meet countywide needs;
  - b. Ensure that a balance of services is available countywide to meet, among others, human service, public safety, open space and recreation, education, and transportation needs; and
  - c. Evaluate current revenue and service demands and the potential for more effective coordination of service delivery.

Appendix I

## **TRANSPORTATION: Requirements of the Growth Management Act**

### **Countywide Policies (ReESHB 1025, Section 2)**

*Countywide planning policies must be adopted by July 1, 1992 to provide a framework from which consistent county and city comprehensive plans will be developed. Policies for transportation must address:*

1. *Policies for promotion of contiguous and orderly development and provision of urban services to such development [32.2 (3) (b)];*
2. *Policies for siting public capital facilities of a countywide or state-wide nature[32.2 (3) (c)];*
3. *Policies for countywide transportation facilities and strategies [32.2 (3) (d)];*
4. *Policies for joint county and city planning within growth areas [32.2 (3) (f)];*
5. *An analysis of the fiscal impact.[32.2 (3) (h)].*

### **Comprehensive Plans (RCW 36.70A.070)**

*The transportation element of comprehensive plans adopted by the county or cities will be measured against the policies and standards approved and ratified as part of the countywide framework plan. By July 1, 1993 the county and cities are required to adopt a comprehensive plan with a mandatory transportation element that includes the following sub-elements:*

1. *Land use assumptions used in estimating travel demand;*
2. *Facility and service needs for attaining and sustaining level-of-service standards for arterials and transit routes;*
3. *Six-year financing plan based upon the needs of the comprehensive plan; reassess land use element if level-of-service standards cannot be met with funding resources; this plan will be updated and adopted annually;*
4. *Intergovernmental coordination with adjacent jurisdictions;*
5. *Transportation Demand Management strategies.*

*Within one year of adopting a comprehensive plan, the county and cities are required to meet:*

1. *Adequacy Requirements: Adopt an ordinance which prohibits development approval if the development causes the level-of-service to decline below the standard adopted in the transportation element.*
2. *Concurrency Requirements: Deny development unless improvements or strategies to accommodate the impacts of development can be in place at the time of development or a financial commitment is in place to complete the improvements or strategies within six years.*

### **Other Laws and Regulations**

*Federal law requires an on-going cooperative, continuous and comprehensive transportation planning process as a condition of federal transportation grants. To comply with this requirement,*

*the designated Metropolitan Planning Organization (MPO) is responsible for long-range transportation planning and short-range transportation improvement programming (TIP).*

*The MPO planning and programming responsibilities are strengthened and enhanced under the recent re-authorization of the Federal Surface Transportation Act. The Inter-modal Surface Transportation Efficiency Act of 1991 (ISTEA) eliminates several categorical funding programs and creates a new flexible Surface Transportation Program (STP) and a new Congestion Mitigation Program. Funds available to the region under these two highway programs may be used for multi-modal solutions; and the MPO has project selection authority for these programs, as well as the federal transit program funds for the region. In addition, Washington State Department of Transportation's (WSDOT) project selections under the Interstate Maintenance, Bridge, and National Highway System (NHS) programs must be made in cooperation with the MPO and in conformance with the regional Transportation Improvement Program (TIP).*

*The Federal Clean Air Act Amendment (CAAA) of 1990 requires substantial reduction of emissions from the transportation sector. The Puget Sound Regional Council's transportation plans and projects must conform to Transportation Control Measures contained in the State Implementation Plan (SIP) prepared by the Puget Sound Air Pollution Control Agency. The current strategy for meeting CAAA vehicle emissions requirements include:*

- o expanded inspection and maintenance program, and*
- o a regional implementation of the Commute Trip Reduction Law cited below.*

*The State Commute Trip Reduction Law of 1991 requires reductions in vehicle miles traveled. Employers of 100 or more employees are directed to reduce work travel demand by 35 percent by 1999. Ordinances adopted by the county and cities must be coordinated with transit agencies, regional planning organizations and major employers; and they must be consistent with commute trip reduction plans of neighboring jurisdictions.*

*State law provides for the development of a High Capacity Transit (HCT) system within the Puget Sound Area. The law requires that transit agencies (Metro, Pierce Transit, SnoTRAN, Community Transit and Everett Transit) jointly plan the implementation of such a system. For that purpose, the Joint Regional Policy Committee was formed and charged with the responsibility of recommending a system plan and financial program that would implement the HCT system. This plan is being developed in support of the Vision 2020 Regional Growth Strategies; this vision calls for creation of a regional system of central places linked by High Capacity Transit facilities, and an interconnected system of freeway High Occupancy Vehicle (HOV) lanes.*

*The 1990 State Legislature passed various legislation granting local governments authority to establish a number of taxing programs for funding transportation projects and programs. An interim and informal group called the Local Options Strategy Development Steering Committee was formed to recommend how these funding authorities should be exercised. This initial work was completed in September of 1991 with a comprehensive recommendation as to how each funding source should be assigned. As local jurisdictions take actions on these recommendations, it would be useful to re-convene this Steering Committee or a similar group for coordinating transportation funding decisions.*

# 10450

ORDINANCE NO.

AN ORDINANCE adopting the Countywide Planning Policies pursuant to RCW 36.70A.210 and ratifying the Countywide Planning Policies for unincorporated King County.

PREAMBLE:

For the purpose of meeting the requirements of the State of Washington Growth Management Act to establish a countywide framework from which comprehensive plans are to be developed as specified in RCW 36.70A.210, the King County Council makes the following findings:

1. The Countywide Planning Policies describe the vision for King County and provide the initial strategies to be used by local jurisdictions, acting individually and cooperatively, to achieve that vision.

2. RCW 36.70A.210 requires that, through a process agreed to by King County (county), the City of Seattle (Seattle), and incorporated suburban cities and towns (suburban cities), the county, as the legislative authority, adopt Countywide Planning Policies no later than July 1, 1992.

3. The county, Seattle, and suburban cities established that process through an interlocal agreement creating the Growth Management Planning Council (GMPC). The GMPC is comprised of the King County Executive, five members of the King County Council, three representatives of Seattle, and six representatives of the suburban cities with three votes, and one ex-officio member representing the Port of Seattle.

4. After six months of deliberation which included public workshops and hearings, the GMPC adopted and recommended the Countywide Planning Policies to the King County Council.

5. The council finds that the existing environmental documents adopted by King County on May 5, 1992 and the supporting addendum issued on June 18, 1992 are adequate under SEPA for the purposes of the county's adoption of the Countywide Planning Policies.

6. The county recognizes that additional work is planned to further refine the Countywide Planning Policies with regard to numerous issues, including but not limited to urban centers, manufacturing and industrial areas and centers, affordable housing, mobility, transportation, economic development, rural character, provision of urban services, including services in potential annexation areas, and adjustments to the Urban Growth Area. Based on this work, the GMPC will recommend to the county amendments to the Countywide Planning Policies. These amendments would be subject to further environmental review, and adoption by the county and ratification by the cities. The results of this work would be a refined set of Countywide Planning Policies. A Supplemental Environmental Impact Statement (SEIS) will analyze the impacts of the proposed set of refined policies and will consider reasonable alternatives

1 to those policies. Attachment A lays out the work program and  
2 timetable for refining the policies.

3 7. With respect to the Urban Growth Area (UGA) Boundary a  
4 number of study areas have been identified which require  
5 additional consideration by the GMPC. These study areas are  
6 identified on the GMPC Recommended Urban Growth Area map. For  
7 the East Sammamish area, the GMPC determined that the area  
8 should be further evaluated and possibly revised based on the  
9 East Sammamish Community Plan Update process which is now under  
10 way and which will be completed in January 1993.  
11 Recommendations on the UGA Boundary will be developed in  
12 cooperation with the affected cities, neighborhoods, property  
13 owners and the general public. Changes to the adopted UGA  
14 Boundary may be recommended to the county by the GMPC and  
15 subject to adoption and ratification.

16 8. The Countywide Planning Policies apply within King  
17 County only and therefore only apply to unincorporated King  
18 County and to that portion of a city or town located within the  
19 county.

20 9. The Countywide Planning Policies provide for the  
21 coordination and regulation of public and private development  
22 and bear a substantial relationship to, and are necessary for,  
23 the public health, safety, and general welfare of King County  
24 and its residents.

25 BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

26 SECTION 1. The county will implement the major planning  
27 requirements of the Growth Management Act (GMA) in three  
28 phases, each accompanied by the appropriate scope and level of  
29 environmental review pursuant to both the GMA and the State  
30 Environmental Policy Act (SEPA) and fiscal review. Phase I is  
31 the adoption of the Countywide Planning Policies for the  
32 purposes described in Section 2. Phase II is the process for  
33 refinement of Countywide Planning Policies through proposed  
34 amendments to them, and the preparation of an SEIS and a fiscal  
35 analysis. Phase II, which will begin upon adoption of the  
36 Countywide Planning Policies, is described in Section 3. Phase  
37 III is the review and adoption of amendments to the King County  
38 Comprehensive Plan. Phase III will incorporate any changes  
39 made to the Countywide Planning Policies in Phase II.

40 SECTION 2. The Countywide Planning Policies attached  
41 hereto are hereby approved and adopted for purposes of  
42 complying with RCW 36.70A.210; to begin the process of city  
43 review and ratification; to provide a policy framework for  
44 developing and updating jurisdictions' comprehensive plans; to

1 provide a policy framework for interim controls to the extent  
2 the policies expressly require them; and to establish a program  
3 for the additional work necessary to refine, amend and  
4 implement the Countywide Planning Policies, including SEIS  
5 review and fiscal analysis.

6 SECTION 3. In Phase II the county will reconvene the  
7 GMPC no later than December 1992 to evaluate the following  
8 information and recommendations: nominations of urban and  
9 manufacturing/industrial centers by affected jurisdictions; the  
10 target numbers for population and employment by jurisdiction;  
11 recommendations from the Rural Character, Affordable Housing  
12 and Economic Development Task Forces; further fiscal analysis;  
13 analysis of mobility and transportation; other relevant  
14 information and public comment, in preparing amendments. GMPC  
15 will consider the results of the additional work and may  
16 recommend amendments to the Countywide Planning Policies to the  
17 county. Any such recommended amendments shall be subject to  
18 adoption by the county and ratification by the cities according  
19 to the formula in the interlocal agreement creating the GMPC.  
20 Further fiscal analysis of the Countywide Planning Policies,  
21 any proposed amendments and alternatives will be prepared and  
22 circulated for public comment. The objectives of the fiscal  
23 analysis are to a) provide information on the anticipated  
24 financial and economic impacts on the individual, and on the  
25 private and public sectors, and b) determine how these impacts  
26 affect the fiscal viability of the individual and of the  
27 private and public sectors. A SEIS will be prepared for the  
28 proposed refined set of Countywide Planning Policies resulting  
29 from the work described in this Section. The SEIS will analyze  
30 the probable significant environmental impacts, including  
31 countywide impacts, of the proposed refined set of policies and  
32 reasonable alternatives to those policies. The scope of the  
33 environmental impact statement will be based on a public  
34 scoping process pursuant to WAC 197-11-408.

1           SECTION 4. Countywide Planning Policies adopted by this  
2 ordinance for the purposes specified herein are hereby ratified  
3 on behalf of the population of unincorporated King County.

4           SECTION 5. The Countywide Planning Policies shall become  
5 effective when ratified by ordinance or resolution by at least  
6 thirty percent of the city and county governments representing  
7 seventy percent of the population of King County according to  
8 the interlocal agreement. A city shall be deemed to have  
9 ratified the Countywide Planning Policies unless, within ninety  
10 days of adoption by King County, the city by legislative action  
11 disapproves the Countywide Planning Policies.

12           SECTION 6. The county executive shall commence  
13 preparation of the Phase II SEIS and fiscal analysis, and the  
14 county comprehensive plan amendments and regulations to  
15 implement the countywide policies, subject to completion of the  
16 ratification process set out in Section 5. The Countywide  
17 Planning Policies will affect the county's land use decisions  
18 when the county comprehensive plan or land use regulations  
19 implementing the policies are adopted.

20           SECTION 7. The county executive shall develop and  
21 propose to the council a process to enter into interlocal  
22 agreements relating to each city's potential annexation area.  
23 The process shall include consultation with affected special  
24 purpose districts.

1            SECTION 8.    Should any section, subsection, paragraph,  
2 sentence, clause or phrase of this ordinance or its application  
3 to any person or circumstance be declared unconstitutional or  
4 invalid for any reason, such decision shall not affect the  
5 validity of the remaining portion of this ordinance or its  
6 application to other persons or circumstances.

7            INTRODUCED AND READ for the first time this 8<sup>th</sup> day  
8 of June, 1992

9            PASSED this 6<sup>th</sup> day of July, 1992

10  
11

KING COUNTY COUNCIL  
KING COUNTY, WASHINGTON

12  
13

Audrey Gruger  
Chair

14

ATTEST:

15  
16

Donald G. Peterson  
Clerk of the Council

17

APPROVED this 6<sup>th</sup> day of July, 1992

18  
19  
20

Jim Hill  
King County Executive

Work Program to Refine Countywide Planning Policies

The completion dates are points at which the GMPC is expected to review and consider amendments to the Countywide Planning Policies. Jurisdictions have additional tasks to complete or revise local comprehensive plans.

**PUBLIC REVIEW WILL CONTINUE AS MATERIALS ARE PREPARED AND RECOMMENDATIONS FROM JURISDICTIONS ARE DEVELOPED.**

<u>Task</u>	<u>GMPC Completion Date</u>
1. Scoping of additional issues requiring supplemental environmental review.	September 1992
2. Urban Growth Boundary Interim actions by cities and County.  Technical review of study areas.	One month after ratification October 1992
3. Centers and Capacity Urban and Manufacturing/Industrial Centers nomination & confirmation (LU-28 & 39)	December 1992
Dwelling units accommodated/distributed; employment growth distributed (LU-52 & LU-53)	December 1992
4. Affordable Housing: needs and distribution (AH-1) (includes recommendations from Task Force of GMPC private sector)	December 1992
5. Economic Development Policies (includes recommendations from Task Force of GMPC private sector)	December 1992
6. Rural Areas Rural character (LU-9) (includes recommendations from GMPC Task Force) Cities in rural areas growth areas (LU-26)	December 1992  January 1993

jbc:mmc  
ccpwk:62592

**REFINED COUNTYWIDE AFFORDABLE HOUSING POLICIES  
AFFORDABLE HOUSING TASK FORCE RECOMMENDATION  
March 17, 1993**

Note: See Attachment D for the full text of existing Countywide Affordable Housing Policies, including portions of AH-1 deleted in these recommended policies.

**V. AFFORDABLE HOUSING**

*Adequate housing, for all economic segments of the population, is a basic need of King County's residents and an issue of countywide concern. Affordable housing needs must be addressed by local governments working in cooperation with the private sector and nonprofit housing agencies.*

*The GMA requires countywide policies to address parameters for the distribution of affordable housing, including housing for all income groups. This complex issue requires adequate information regarding current housing resources and housing needs, which is being developed for comprehensive plan housing elements, as well as in-depth discussion of values and priorities for housing development.*

*Providing sufficient land for housing development is an essential step in promoting affordable housing. Affordable housing can be encouraged by zoning additional land for higher residential densities, which helps provide needed capacity for growth, reduces land development cost per unit, and allows for lower cost construction types such as attached dwellings. Higher density housing includes a range of housing types: small-lot single family, attached single family, mobile home parks, apartments and condominiums. In addition, zoning changes that permit additional housing in established areas, such as accessory units, carriage houses, and residences built above commercial uses, increase affordable housing opportunities.*

FW-24 All jurisdictions shall provide a diversity of housing types to meet a variety of needs and provide for housing opportunities for all economic segments of the population. ~~[[incomes-]]~~ All jurisdictions shall cooperatively establish a process to ensure an equitable and rational distribution of low income and affordable housing throughout the county in accordance with land use policies, transportation, and employment locations.

AH-1 All jurisdictions shall plan for housing to meet the needs of all economic segments of the population. Each jurisdiction shall specify, based on the projected number of net new housing units anticipated in its comprehensive plan, the estimated number of units which will be affordable for the following income segments: 0 to 50 percent of the countywide median household income, 50 to 80 percent of median, 80 to 120 percent of median, and above 120 percent of median. The estimates for housing affordable to

households below 80 percent of median income shall be consistent with countywide objectives for low and moderate income housing in Policy AH-2. The estimated number of units for each income segment shall be reported to the GMPC following adoption of the comprehensive plan, for the purposes of countywide monitoring of capacity for housing development. If the GMPC determines that the planned housing capacity for any income segment falls short of estimated demand for this housing on a countywide basis, the GMPC shall recommend actions to increase housing opportunities for this income segment.

[[AH-5]] Within the urban growth area, each jurisdiction shall demonstrate [[maximize]] its ability to accommodate sufficient, affordable housing for all economic segments of the population. Local actions may include zoning land for development of sufficient densities, revising development standards and permitting procedures as needed to encourage affordable housing, [[by-removing-regulatory-barriers,]] reviewing codes for redundancies and inconsistencies, and providing opportunities for a [[full]] range of housing types, such as accessory dwelling units, manufactured homes [[on-individual-lots]], group homes and foster care facilities, apartments, townhouses and attached single family housing.

AH-2 [[AH-1]] All jurisdictions shall share the responsibility for achieving a rational and equitable distribution of affordable housing to meet the housing needs of low and moderate income residents of King County. The distribution of housing affordable to low and moderate income households shall take into consideration [[reflect]] the need for proximity to lower wage employment, [[and]] access to transportation and human services, and the adequacy of infrastructure to support housing development; recognize each jurisdiction's past and current efforts to provide housing affordable to low and moderate income households; avoid overconcentration of assisted housing; and increase housing opportunities and choices for low and moderate income households in communities throughout King County. Each jurisdiction shall give equal consideration to local and countywide housing needs.

#### A. Existing Needs for Affordable Housing

Each jurisdiction shall participate in developing countywide housing resources and programs to assist the large number of low and moderate income households who currently do not have affordable, appropriate housing. These countywide efforts will help reverse current trends which concentrate low income housing opportunities in certain communities, and achieve a more equitable participation by local jurisdictions in low income housing development and services. Countywide efforts should give priority to assisting households below 50 percent of median income that are in greatest need and communities with high proportions of low and moderate income residents.

By October, 1993, the GMPC shall appoint elected and community representatives to develop recommendations for providing low and moderate income housing and related services. Within one year the committee shall recommend to the GMPC:

- a. new countywide funding source(s) for housing production and services, and a plan to establish this funding within three years;
- b. participation by local governments, including appropriate public and private financing, such that each jurisdiction contributes on fair share basis; and
- c. objectives for housing and related services, including measurable levels of housing production and costs to provide necessary related services.

Countywide programs should provide the following types of housing and related services:

- a. low income housing development, including new construction, acquisition, and rehabilitation;
- b. housing assistance, such as rental vouchers and supportive living services;
- c. assistance to expand the capacity of nonprofit organizations to develop housing and provide housing related services;
- d. programs to assist homeless individuals and families;
- e. programs to prevent homelessness; and
- f. assistance to low and moderate income home buyers.

#### B. Future Needs for Affordable Housing

Each jurisdiction shall specify the range and amount of housing affordable to low and moderate income households to be accommodated in its comprehensive plan. Each jurisdiction shall plan for a number of housing units affordable to households with incomes between 50 and 80 percent of the County median household income that is equal to 17 percent of its projected net household growth. In addition, each jurisdiction shall plan for a number of housing units affordable to households with incomes below 50 percent of median income that is either 20 percent or 24 percent of its projected net household growth. For this housing, the target percentage shall be determined using the Affordable Housing Jobs/Housing Index developed using Census-based information, which is contained in Attachment A. The GMPC should review the planning targets for low and moderate income housing as needed, and may

revise the target percentages as updated Census information or other housing data becomes available.

[[AH-2]] Each jurisdiction shall show in its comprehensive plan how it will use policies, incentives, regulations and programs to provide its share of housing affordable to low and moderate income households [[as-determined-by-the-process-outlined-in-AH-1]]. Each jurisdiction should apply strategies which it determines to be most appropriate to the local housing market. For example, units affordable to low and moderate income households may be developed through new construction, projects that assure long-term affordability of existing housing, or accessory housing units added to existing structures. Local actions may include:

- a. Identifying the costs to develop and preserve subsidized housing and other low-cost housing not provided by private development in the local housing market, and identifying sources of funding;
- b. Revising land use regulations as needed to remove any unreasonable requirements that may create barriers to siting and operating housing for special needs groups. Special needs housing serves persons who, by virtue of disability or other circumstance, face difficulty living independently and require supportive services on a transitional or long-term basis; and
- c. Adopting land use incentives programs or other regulatory measures to encourage private and nonprofit development.

Small, fully built cities and towns that are not planned to grow substantially under GMA may work cooperatively with other jurisdictions and/or subregional housing agencies to meet their housing targets.

In areas identified as city expansion areas, King County and cities should plan cooperatively for affordable housing development and preservation.

AH-3 Each jurisdiction shall evaluate its existing resources of subsidized and low-cost non-subsidized housing and identify housing that may be lost due to redevelopment, deteriorating housing conditions, or public policies or actions. Where feasible, each [[Each]] jurisdiction shall develop strategies to preserve existing low-income housing [[where-feasible]] and provide relocation assistance to low income residents who may be displaced.

AH-4 The GMPC shall identify ways to expand technical assistance to local jurisdictions in affordable housing techniques. Technical assistance should include project case studies and model ordinances covering such topics as development and financing of nonprofit housing, provision of housing-related services,

incentives programs for affordable housing, regulations that encourage well-designed higher density housing, improvements to development permit processing and standards to reduce development costs, and public education and involvement. Attachment B contains a summary of actions that local governments may use to encourage affordable housing.

AH-5 [[AH-4]] All jurisdictions shall monitor residential development within their jurisdiction and determine annually the total number of new and redeveloped units receiving permits and units constructed; housing types; developed densities; and remaining capacity for residential growth. Housing prices and rents also should be reported, based on affordability to four income categories: 0 to 50 percent of median household income, 50 to 80 percent of median, 80 to 120 percent of median, and above 120 percent of median. King County shall report annually on housing development, the rate of housing cost and price increases and available residential capacity countywide in its annual growth reporting.

Each jurisdiction shall determine annual targets for development and preservation of low and moderate income housing. Progress in achieving the targets shall be reported annually to the GMPC or its successor organization responsible for monitoring growth management implementation. Reports should include housing units receiving building permits by income category, total units constructed by income category, low and moderate income housing acquired or preserved, households receiving rental assistance, and other local activities to encourage development and preservation of low and moderate income housing. Reporting of annual housing production and activities should be coordinated with other required housing planning, such as the Comprehensive Housing Affordability Strategy prepared by jurisdictions receiving federal housing funds.tcw

The Affordable Housing and Data Technical Forums, which are comprised of city and county staff and private housing industry representatives, shall develop a uniform approach for monitoring housing permit activity, construction, and affordability. Where feasible, planning and monitoring for affordable housing should use the median household income for King County indexed by household size, published annually by the U.S. Department of Housing and Urban Development. Calculations of affordable house prices should assume standard Federal Housing Administration lending criteria and minimum downpayments.

AH-6 Every three years, beginning in 1996, the GMPC or its successor organization responsible for monitoring growth management implementation shall evaluate achievement of countywide and local goals for housing for all economic segments of the population. The GMPC shall consider annual reports prepared under policy AH-5 as well as market conditions and other factors affecting housing

development. If the GMPC determines that housing planned for any economic segment falls short of the need for such housing, the GMPC may recommend additional actions.

As part of its evaluation, the GMPC shall review local performance in meeting low and moderate income housing needs. The basis for determining local performance shall be a jurisdiction's participation in countywide or subregional efforts to address existing housing needs and actual development of the target percentage of low and moderate income housing units as adopted in its comprehensive plan. In determining performance the GMPC shall use reasonable judgment, and also shall consider actions taken to encourage development and preservation of low and moderate income housing, such as local funding, development code changes, and creation of new programs.

Attachment 1  
AFFORDABLE HOUSING JOBS/HOUSING INDEX

The Jobs/Housing Index was developed by the Affordable Housing Technical Forum as a way to adjust housing targets based on each jurisdiction's existing concentrations of low-cost housing and low-wage employment. A Low-Wage Jobs Index greater than one indicates that the proportion of lower wage employment is greater than the county average; a Low-Cost Housing Index greater than one indicates that the proportion of lower cost housing is less than the county average. The Jobs/Housing Index is computed by multiplying the jobs and housing indexes together.

Policy AH-2 establishes planning targets for housing affordable to households with incomes between 0 and 50 percent of the county median income. Based on the Jobs/Housing Index, jurisdictions should plan for a number of units that is either 20 or 24 percent of projected net new housing units, as follows:

Jobs/Housing Index greater than one: 24 percent.  
Jobs/Housing Index less than one: 20 percent.  
Jurisdiction for which Index could not be computed (shown as NA):  
20 percent.

**AFFORDABLE HOUSING  
JOBS/HOUSING INDEX**

Jurisdiction	Low-Wage Jobs		Low-Cost Housing		Jobs/Housing
	Jobs <sup>1</sup>	Index <sup>2</sup>	Units <sup>3</sup>	Index	Index
Algona	73	0.85	406	0.61	0.52
Auburn	5,362	0.83	9,245	0.65	0.54
Beaux Arts	NA	NA	3	20.74	NA
Bellevue	22,297	1.08	12,801	1.39	1.50
Black Diamond	59	1.28	259	0.73	0.93
Bothell	1,691	1.19	1,704	1.2	1.43
Carnation	64	0.85	248	0.81	0.69
Clyde Hill	31	0.52	21	26.07	13.56
Des Moines	1,564	1.27	4,473	0.74	0.94
Duvall	56	0.87	229	1.74	1.51
Enumclaw	1,174	1.17	2,106	0.65	0.76
Federal Way	6,384	1.26	14,107	0.89	1.12
Hunts Point	0	0	7	14.14	NA
Issaquah	1,676	1.17	1,594	1.01	1.18
Kent	8,067	0.78	11,526	0.69	0.54
Kirkland	5,472	1.17	6,955	1.17	1.37
Lake Forest Pk.	554	1.28	251	2.98	3.81
Medina	25	0.91	54	10.67	9.71
Mercer Island	1,697	1.11	1,227	3.21	3.56
Milton	NA	NA	77	1.08	NA
Normandy Park	352	1.23	488	2.68	3.30
North Bend	506	1.15	595	0.84	0.97
Pacific	147	0.85	1,107	0.67	0.57
Redmond	7,296	0.96	5,103	1.34	1.29
Renton	9,675	0.77	11,999	0.75	0.58
SeaTac	4,497	0.91	6,528	0.69	0.63
Seattle	129,451	1.02	134,526	0.87	0.89
Skykomish	NA	NA	72	0.63	NA
Snoqualmie	444	1.18	426	0.74	0.87
Tukwila	10,875	0.85	4,256	0.65	0.55
Yarrow Point	0	0	17	11.2	NA
<b>Cities</b>	<b>219,489</b>	<b>1.00</b>	<b>232,410</b>	<b>0.91</b>	<b>0.91</b>
<b>Uninc. KC:</b>	<b>32,885</b>	<b>1.03</b>	<b>66,775</b>	<b>1.32</b>	<b>1.36</b>
<b>KC TOTAL</b>	<b>252,374</b>	<b>1.00</b>	<b>299,185</b>	<b>1.00</b>	<b>1.00</b>

Source: King County Planning and Community Development Division, 1993.

tk:bcg:quinn  
17-Mar-93

**Notes**

1. Low-wage jobs are estimated using Puget Sound Regional Council employment data for five sectors, converted to lower income quartile households. King County Planning and Community Development, 1992.
2. Proportion of low-wage jobs relative to the county average.
3. Rental housing units with rents less than \$700 per month, plus owned housing units valued at less than \$100,000, in 1990 dollars. 1990 Census.
4. Proportion of low-cost housing relative to the county average.
5. Low-wage jobs index (2) multiplied by the low-cost housing index (4).

**Attachment 2**  
**LOCAL ACTIONS TO ENCOURAGE AFFORDABLE HOUSING**

This outline is provided for illustration purposes only. The Affordable Housing Task Force will report to the GMPC on affordable housing techniques by Summer, 1993. The report will evaluate the costs and benefits of various techniques, and suggest how they can be used most successfully. A brief summary of the report will be included in the Refined Policies.

**Land Use Techniques**

1. Accessory Dwelling Units
2. Manufactured Housing
3. Density Bonuses
4. Inclusionary Zoning
5. Transfer of Development Rights
6. Flexible Subdivision Standards
7. Exemptions from Impact Fees
8. Infill Development
9. Mixed-Use Development
10. Expedited Permit Processing

**Financing Techniques**

1. Local Housing Trust Funds
2. Commercial Development/Housing Linkage
3. Employer-Assisted Housing
4. Donation/Lease of Surplus Land or Buildings
5. Low and Moderate Income Home Ownership Programs
6. Private Financing for Low Income Housing Development
7. State and Federal Funding Sources

**Housing Preservation/Relocation Assistance**

1. Housing Repair and Rehabilitation
2. Acquisition by Nonprofit Organizations

3. Relocation Assistance for Displaced Tenants

**Community Involvement and Education**

1. Community Housing Needs Assessment
2. Design Review
3. Workshops
4. Housing Tours

**Attachment 3**  
**ISSUES RECOMMENDED FOR FURTHER ANALYSIS**

The Affordable Housing Task Force recommends that work continue on following topics:

**1. Existing Needs for Low and Moderate Income Housing**

The Refined Policies establish a work program for developing new housing resources and programs to address countywide housing needs.

**2. Affordable Housing Techniques**

The Affordable Housing Task Force will report to the GMPC by early summer, 1993, on actions local governments can take to encourage affordable housing. A summary of these actions will be included in the Refined Affordable Housing Policies

The Refined Policies call for the GMPC to establish additional technical assistance to cities for achieving affordable housing targets, including case studies and model ordinances. Staff will develop a proposal for this technical assistance.

**3. Review of Housing Needs Data and Jobs/Housing Index**

Additional 1990 Census data will be available later this year, which will allow a more detailed analysis of housing needs. More detailed review of the employment estimates used to establish the Jobs/Housing Index has also been requested. The GMPC may choose to revise affordable housing targets based on this review.

**4. Monitoring Housing Development and Affordability**

The Affordable Housing Policies adopted last summer and the recommended Refined Policies both create substantial new requirements for tracking housing development, land capacity and affordability. Questions were raised about how this information can be collected and reported, and how the resulting information would be used to evaluate or change land use policies in the future. The Refined Policies direct the Affordable Housing and Data Technical Forums to develop a uniform reporting format for tracking annual housing permits and construction. Staff will also estimate costs associated with this work.

Attachment 4  
COUNTYWIDE PLANNING POLICIES FOR AFFORDABLE HOUSING  
Adopted June, 1992

Note: Sections of policy AH-1 marked with a bar in the margin are not included in the recommended Refined Affordable Housing Policies.

## V. Affordable Housing

*Adequate housing, for all economic segments of the population, is a basic need of King County's residents and an issue of countywide concern. Affordable housing needs must be addressed by local governments working in cooperation with the private sector and nonprofit housing agencies.*

*The GMA requires countywide policies to address parameters for the distribution of affordable housing, including housing for all income groups. This complex issues requires adequate information regarding current housing resources and housing needs, which is being developed for comprehensive plan housing elements, as well as in-depth discussion of values and priorities for housing development.*

FW-24 All jurisdictions shall cooperatively establish a process to ensure an equitable and rational distribution of low-income and affordable housing throughout the county in accordance with land use policies, transportation, and employment locations. All jurisdictions shall provide a diversity of housing types to meet a variety of needs and incomes.

AH-1 All jurisdictions shall share the responsibility for achieving a rational and equitable distribution of affordable housing to meet the housing needs of low and moderate income residents in King County. The distribution of housing affordable to low and moderate-income households shall reflect the need for proximity to lower wage employment and access to transportation and human services; recognize each jurisdiction's past and current efforts to provide housing affordable to low and moderate-income households; avoid over-concentration of assisted housing; and increase housing opportunities and choices for low and moderate income households in communities throughout King County. Each jurisdiction shall give equal consideration to local and countywide housing needs.

The GMPC shall define and quantify affordable housing needs for low and moderate-income households and countywide objectives for distribution of affordable housing for low and moderate-income households. The process shall include involvement by housing industry representatives, housing interest groups, and community organizations. The Affordable Housing Technical Forum, which has representatives from the County and each city, shall prepare recommendations for the GMPC by August 1, 1992.

By October 1, 1992 each jurisdiction shall specify the range and amount of housing affordable to low and moderate-income households to be accommodated in its comprehensive plan, based on countywide objectives for distribution. By December 1, 1992 the GMPC will review, and the county and cities will ratify, the countywide objectives for distribution and each jurisdiction's proposed range and amount of affordable housing units.

The process shall address:

- a. Development and preservation of subsidized housing and low-cost market rate housing;
- b. The definition of low-income and moderate-income housing;
- c. Guidelines to meet affordable housing needs in individual jurisdictions as well as need throughout King County, including recognition for jurisdictions that already meet the guidelines;

- d. Strategies, including land use incentives, streamlined permitting processes, and funding commitments, to be adopted by all jurisdictions to provide affordable housing; and
- e. Guidelines to ensure that affordable housing is provided in conjunction with regional transportation planning, including funding for acquisition and rehabilitation to preserve existing affordable housing; funding and incentives for development of new housing in infill and redevelopment projects; and, subject to a legal determination, inclusionary requirements to ensure that a proportion of new residential development is affordable to low and moderate income households.

*Providing sufficient land for housing development is an essential step in promoting affordable housing. Affordable housing can be encouraged by zoning additional land for higher residential densities, which helps provide needed capacity for growth, reduces land development cost per units, and allows for lower cost construction types such as attached dwellings. Higher density housing includes a range of housing types: small-lot single family, attached single family, mobile home parks, apartments and condominiums. In addition, zoning changes that permit additional housing in established areas, such as accessory units, carriage houses, and residences built above commercial uses, increase affordable housing opportunities.*

- AH-2 Each jurisdiction shall show in its comprehensive plan how it will use policies, incentives, regulations and programs to provide its share of housing affordable to low and moderate-income households as determined by the process outlined in AH-1.
- AH-3 Each jurisdiction shall evaluate its existing resources of subsidized and low-cost non-subsidized housing and identify housing that may be lost due to redevelopment, deteriorating housing conditions, or public policies or actions. Each jurisdiction shall develop strategies to preserve existing low-income housing where feasible and provide relocation assistance to low income residents who may be displaced.
- AH-4 All jurisdictions shall monitor residential development within their jurisdiction and determine annually the total number of new units constructed, housing types, developed densities and remaining capacity for residential growth. King County shall report annually on housing development, the rate of housing cost and price increases and available residential capacity countywide.
- AH-5 Within the urban growth area, each jurisdiction shall maximize its ability to accommodate sufficient, affordable housing by removing regulatory barriers, reviewing codes for redundancies and inconsistencies and providing opportunities for a full range of housing types such as accessory dwelling units, manufactured homes on individual lots, apartments, townhouses and attached single family housing.

# GROWTH MANAGEMENT PLANNING COUNCIL AFFORDABLE HOUSING TASK FORCE

## GMPC REPRESENTATIVES

Cynthia Sullivan, King County Council, Task Force Chair  
Margot Blacker, Bellevue City Council  
Pat Burns, Auburn City Council  
Doris Cooper, Kirkland City Council  
Sherry Harris, Seattle City Council  
Judy Woods, Kent City Council

## COMMUNITY REPRESENTATIVES

Linda Alexander, Alexander and Ventura  
Bill Conner, Conner Development Company  
Marcia Gamble Hadley, King County Housing Partnership  
Sam Jacobs, Loucks & Lamb Attorneys at Law  
Ron Judd, Seattle/King County Building Trades Council, AFL-CIO  
Steve Kirk, West One Builder Banking  
Sheila Kollmorgen, League of Women Voters  
Bill Longbrake, Washington Mutual Savings Bank  
Carla Okigwe, Seattle-King County Housing Development Consortium  
Sam Pace, Windermere Building Services  
George Rolfe, University of Washington, Dept. of Urban Design and Planning  
Fred Stouder, Bucher, Willis & Ratliff  
Catherine Stanford, Lake Forest Park Planning Commission

## STAFF

Judy Chapman, King County Council Staff  
Elsie Crossman, City of Seattle  
Bruce Freeland, City of Bellevue  
Maureen Kostyack, King County Planning & Community Development Division

## ADOPTED COUNTYWIDE PLANNING POLICIES - 1992

### VIII. Economic Development and Finance

*Jurisdictions should cooperatively create an environment which sustains the economic vitality of the region and which contributes to manageable economic growth. Jurisdictions shall recognize that King County is part of a larger regional economy, which is strongly linked by trade to the national and international economies. Infrastructure investments should be focused into urban centers and manufacturing/industrial employment centers which are supported by transit. Countywide policies shall be integrated with economic development.*

FW-29 All jurisdictions shall contribute to the economic sustainability of the county in a manner which supports the countywide land use pattern. This is to be accomplished by providing cost-efficient quality infrastructure and public services at an adopted level of service specific to the local situation, providing affordable housing, promoting excellence in education, and protecting the environment.

FW-30 All jurisdictions shall act to increase work training and job opportunities for all residents and communities.

FW-31 All jurisdictions shall support the development of a regional economic development strategy consistent with the countywide land use pattern.

#### A. Economic Development Policies

ED-1 By December 1, 1992, the GMPC shall adopt Economic Development policies which:

- a. Establish the county's role in the regional economy;
- b. Maintain a strong economic base within King County;
- c. Encourage diversification of the economy;
- d. Maintain an adequate supply of land to support future economic development;
- e. Identify geographic areas to target public resources promoting economic development;
- f. Foster job training opportunities to maintain a highly educated work force;
- g. Protect the natural environment as a key economic value in this region;
- h. Consider the special needs of economically disadvantaged citizens and neighborhoods; and
- i. Include the assistance of private sector.

ED-2 By July 1, 1993 regional planning shall produce a regional industrial siting policy based on a regional assessment of the need for industrial zoned land and the availability of transportation and other infrastructure to serve it.

ED-3 Jurisdictions' comprehensive plans shall include economic development policies. These policies shall address the local economic concerns of each jurisdiction within the context of a regional economic development strategy.

ED-4 Each jurisdiction's comprehensive plan shall include an economic development element which will include an estimate of the type and number of jobs to be accommodated in the jurisdiction during the next 20 years.

ED-5 The county shall work with Snohomish and Pierce Counties to develop a joint 20-year regional economic development strategy.

## **B. Finance**

*A fiscal analysis is required by the GMA. This section of policies is intended to bring together references to financial matters found in earlier chapters (see Chapter II, "Rural Areas" and "Urban and Manufacturing/Industrial Centers," Sections B and D) and to provide direction for the fiscal analysis of the anticipated results of implementing the countywide planning policies.*

FW-32 To implement the Countywide Planning Policies, jurisdictions shall cooperatively identify regional funding sources and establish regional financing strategies by July 1, 1993. Such strategies shall consider the infrastructure and service needs of Urban Centers, Manufacturing/Industrial Centers, Activity Areas, Business/Office Parks, other activity concentrations, and rural areas. Such strategies shall also provide incentives to support the Countywide Planning Policies and should:

- a. Make existing and newly identified funding sources respond in the most flexible way to meet countywide needs;
- b. Ensure that a balance of services is available countywide to meet, among others, human service, public safety, open space and recreation, education, and transportation needs; and
- c. Evaluate current revenue and service demands and the potential for more effective coordination of service delivery.

**PROPOSED NEW COUNTYWIDE POLICIES FROM THE  
FISCAL ANALYSIS AND ECONOMIC DEVELOPMENT TASK FORCE - 1993**

**Economic Development Policies**

*The countywide Economic Development Policies are intended to assist jurisdictions in the establishment of policies and implementation of procedures conducive to a healthy and diverse economic climate. The goals are to benefit all county residents:*

- through retention and creation of viable employment and business opportunities;*
- by providing the foundation for a significant and stable tax base for the provision of governmental services and facilities;*
- by ensuring that economic activities are conducted in a responsible manner sensitive to environmental and civic concerns.*

**Definition of Economic Development**

*Economic Development is growth and change in the economy whereby the economic health of the region--its people, its business, its governments--is enhanced. An important component of achieving Economic Development is through the purposeful undertaking of public and private actions designed to achieve:*

- the maintenance of a strong economic base;*
- a diversification of the economy;*
- improved job training and educational opportunities;*
- the protection of the natural environment;*
- the empowerment of economically disadvantaged citizens and neighborhoods, and a partnership between the private and public sectors;*
- the maintenance and creation of higher (family) wage jobs.*

*This element of the Countywide Planning Policies is intended to provide a vision and policy direction for King County jurisdictions.*

**1. Strengthen, Expand, and Diversify the Economy**

ED-1 Local jurisdictions shall actively support the retention and expansion of the region's (multicounty's) economic base. Local jurisdictions shall work cooperatively on a regional basis and invite private sector participation to evaluate the trends, opportunities and weaknesses of the existing economy and to analyze the economic needs of key industries.

Local jurisdictions' comprehensive plans shall foster:

- a. the development and retention of those businesses and industries which export their goods and services outside the region. These businesses and industries are critical to the economic strength and diversification of the economy;
- b. a business climate which is supportive of business formation, expansion, and retention and recognizes the importance of small businesses in creating new jobs.

ED-2 Jurisdictions shall cooperate to establish regional (multicounty) economic diversification and development goals. Jurisdictions shall, in process of

comprehensive planning, identify the contribution they will make to the regional diversification and development goals, including the following:

- a. Working regionally, estimate the type and number of jobs (by SIC code, occupation, and current average wage) to be accommodated in the jurisdiction during the next 20 years, by five year increments;
- b. Recognize the importance of international trade in diversifying the local economy and the central role of the Port of Seattle in such trade.

ED-3 Jurisdictions shall develop strategies to identify, attract and retain industries, firms and jobs, within manufacturing and industrial areas.

## **2. Environment**

ED-4 Jurisdictions shall adopt economic development policies which will help protect the environment as a key economic value in the region. The policies shall:

- a. Encourage a relationship between the environment and the economy that results in environmental protection through regulatory processes that are understandable and economically efficient;
- b. Define how the jurisdiction will work cooperatively with businesses to assist them to comply with the statutory intent of environmental regulations;
- c. Reduce the regulatory burdens placed upon businesses whenever possible provided this does not impair protection measures.

ED-5 Jurisdictions, including sewer and water districts, shall utilize, in cooperation with water and electricity providers, cost effective programs that encourage water and power conservation in public facilities and in the private sector.

## **3. Human Resources: Economically Disadvantaged Citizens and Neighborhoods, Job Training and Education**

ED-6 Jurisdictions' comprehensive plans shall address the historic disparity in income and employment opportunities for minorities and disadvantaged individuals. The plans shall recognize the special needs of the economically disadvantaged and identify policies and community-based actions to involve them in improving their economic future.

ED-7 Job training, retraining, and educational opportunities are critical to develop and maintain a highly skilled workforce. Jurisdictions shall cooperate in efforts to meet these training and educational needs on a countywide basis:

- a. By facilitating the implementation of programs to meet the educational and training needs and to identify partnerships and funding opportunities where appropriate;
- b. Providing zoning and siting regulations for training and educational facilities which are supportive of their development.

## **4. Direct Governmental Actions: Land Supply, Infrastructure, and Permitting**

ED-8 Jurisdictions shall cooperate on a countywide basis to inventory, plan for, and monitor the land supply for commercial, industrial, institutional, resource and

residential uses, in five year increments, for the next 20 years. Using this information jurisdictions' comprehensive plans shall:

- a. Identify the amount, character and uses of land needed to achieve the jurisdiction's economic development goals;
- b. Ensure that development requirements do not unduly inhibit the development allowed under the designated zoning;
- c. Include an assessment of competing land uses where the current or future supply of land appears inadequate to meet all needs;
- d. Provide a mechanism to coordinate with other jurisdictions to achieve an appropriate land use balance.

ED-9 The land use element of comprehensive plans should foster a climate which is supportive of the siting needs of industrial users and that recognizes the important role they play in creating high-wage jobs. The element should:

- a. include an analysis of the long-term and short-term supply and the pressure on industrial-zoned land;
- b. ensure an adequate long-term supply of industrial-zoned land through appropriate zoning and supporting redevelopment;
- c. while keeping in place the mix of compatible commercial, retail, industrial and manufacturing uses allowed in industrial zones in many jurisdictions, ensure that industrial use of industrial-zone land is not unduly encroached upon or limited by non-supporting or incompatible uses;
- d. ensure continued availability of land for those industrial and supporting or compatible activities dependent on critical infrastructure as identified in local comprehensive plans. Jurisdictions should consider zoning or other means to ensure that an adequate proportion of the properties adjacent or near to major economic infrastructure facilities can be utilized to exploit fully the economic benefit of that infrastructure.

ED-10 Jurisdictions are encouraged to promote the siting of resource-based and agricultural-based industrial activities close to the location of the natural resource whether outside or inside the urban growth boundary. Jurisdictions are encouraged to recognize forest land as a sustainable economic resource.

ED-11 Where jurisdictions, including water and sewer districts, have responsibility to provide services or to plan for them they shall assure that the public facilities (streets, roads, highways, street and road lighting systems, traffic signals, domestic water systems, and storm and sanitary sewer systems) are constructed in a timely manner and maintained to support economic development.

ED-12 Jurisdictions shall cooperatively develop funding strategies for governmental infrastructure which take into account economic development goals, and consider the costs and benefits for the jurisdictions, and the region.

ED-13 Jurisdictions shall identify geographic areas that can be developed or redeveloped into manufacturing/industrial areas, and coordinate with utility providers to build the necessary infrastructure. Jurisdictions are encouraged to provide public incentives to promote basic employment associated with manufacturing.

ED-14 To maintain the economic vitality of King County, regulatory reform must occur with the implementation of GMA requirements. To carry out this goal, jurisdictions shall adopt development regulations with defined time periods for prompt approval of projects that conform with Countywide Planning Policies and the local jurisdiction's comprehensive plan. As a countywide benchmark, no later than January 1996, conforming project approval shall occur in less than 90 days, or in the case of tenant improvements, permits shall be issued within 45 days. To carry out this policy and establish the benchmark the following actions shall be taken:

- a. Adopting processes for neighborhood based preapplication review of mixed use and infill projects that increase land use intensity and density. Preapplication review shall occur within defined time periods and rely on adopted neighborhood standards.
- b. Eliminate redundant permit reviews;
- c. Establishing consistent mitigation requirements containing clear and feasible standards, and facilitating projects that meet these established standards;
- d. Focusing the scope of public appeal processes for a project to those issues that relate directly to specific impacts of the project; and
- e. Adopting procedures to perform concurrent permit review whenever possible.

ED-15 In order to process permits within the established time frames, jurisdictions shall develop uniform procedures, including incentives and penalties, and allocate sufficient resources to support the processing.

ED-16 Jurisdictions shall prepare non-project environmental impact statements to address, in a comprehensive manner, the probable significant adverse impacts of future development. Such statements may be for actions such as jurisdiction-wide issues, plans and regulations, or for geographic subareas. Review of subsequent project-specific proposals, which are consistent with the applicable policies and within the scope of the previous impact analysis, shall be limited to direct impacts of the specific proposals which were not analyzed in the previous environmental review.

ED-17 Jurisdictions are encouraged to establish a master utility permit process in conjunction with approval of land use permits such as short plats, subdivisions and master planned developments. Utilities shall include both publicly and privately owned utilities for electricity, natural gas, water, sanitary sewer, surface water management and telecommunications. All utility extensions and required new construction will be reviewed as part of the master utility permit.

## **5. Private/Public Partnerships**

ED-18 Jurisdictions shall foster the development and use of private/public partnerships to implement economic development policies, programs and projects.

## **6. Implementation, Monitoring and Evaluation**

ED-19 The Growth Management Planning Council or its successor and jurisdictions shall develop monitoring and evaluation systems, including benchmarks, by which they can evaluate performance in achieving economic development goals.

**PROPOSED REFINEMENTS TO EXISTING COUNTYWIDE PLANNING POLICIES  
FROM THE FISCAL ANALYSIS AND ECONOMIC DEVELOPMENT TASK FORCE**

*In addition to developing new policies, the Task Force recommends the following refinements to adopted polices:*

LU-39 Same as existing LU-39 except at the end of section c, 2 add: assuming a 10 percent increase in manufacturing jobs over the period.

*OLD LU-39 addresses the designation process for Manufacturing/Industrial Centers. It now reads, in part,*

- c. ...the Growth Management Planning Council shall review and confirm the Manufacturing/Industrial Centers that are elected by local jurisdictions..., or make adjustments based on:
2. The total number of centers in the county that are needed in the county over the next twenty years based on twenty years projected need for manufacturing land to satisfy regional projections of demand for manufacturing land.

Rationale: *The purpose of the amendment is to preserve a land base for future manufacturing/industrial activities, thus not precluding future opportunities to expand and diversify region's economic base. The Task Force recognizes that assuming an increase in manufacturing jobs runs counter to trends.*

LU-58 Office building development is directed primarily to Urban Centers. Office building development outside Urban Centers should occur within activity areas, including Business/Office Parks which can be supported by and promote transit, pedestrian and bicycle uses.

LU-59 Jurisdictions shall provide incentives for the development and redevelopment of an adequate supply of sites and facilities suitable for mixed light industrial/commercial and high technology uses commonly associated with Business/Office Parks.

LU-60 All jurisdictions shall establish mechanisms to encourage transit use. Examples of potential mechanisms include a charge for S.O.V. parking and/or a limit on the number of parking spaces for single occupancy vehicles. Bicycle and pedestrian supportive design should be encouraged.

LU-61 Jurisdictions are encouraged to site Business/Office Parks close to freeway and other major arterials where transit can potentially serve them. Where transit is available and can result in decreased demand for parking, higher density development should be encouraged.

LU-62 All jurisdictions should develop planning mechanisms to allow the expansion and conversion of Business/Office Parks to include mixed use areas. Jurisdictions should provide for inclusion of residential and neighborhood commercial land uses and open space within existing Business/Office Parks.

## **SUBURBAN CITIES RECOMMENDED ALTERNATIVE POLICIES**

Alternative ED-14 To maintain the economic vitality of King County, regulatory reform must occur with the implementation of GMA requirements. To carry out this goal, jurisdictions shall adopt development regulations with defined time periods for prompt approval of projects that conform with the countywide planning policies and the jurisdiction's comprehensive plans. To carry out this policy, the following actions should be taken:

- A. No later than January 1996, jurisdictions shall identify to the GMPC or its successor current permit process timeframes and barriers to speedy permit approval, including discussion of operational and cost considerations;
- B. Adopting processes for neighborhood based early review of mixed use and infill projects that increase land use intensity and density. Early review should occur within defined time periods and rely on adopted neighborhood standards;
- C. Eliminate redundant permit reviews and appeals;
- D. Establishing consistent mitigation requirements containing clear standards and facilitating projects that meet these established standards;
- E. Focusing the scope of public appeal processes for a project to those issues that relate directly to specific impacts of the project, and;
- F. Adopting procedures to perform concurrent permit review whenever possible.

Alternative LU-59 Jurisdictions, where consistent with their land use plan, should provide for the provision of an adequate supply of land suitable for Business/Technology/Warehouse Parks.

Alternative LU-60 Same as existing policy except for changing shall to should.

Alternative LU-61 Jurisdictions are encouraged to site Business/Technology/Warehouse Parks where transit can potentially serve them. Where transit is available and results in decreased demand for parking, higher density development may be considered.

Alternative LU-62 All jurisdictions should develop planning mechanisms to assist in the conversion of Office Parks to mixed use areas. Jurisdictions should provide for inclusion of residential and neighborhood commercial land uses and open space within existing Office Parks.

## **CITY OF SEATTLE RECOMMENDED ALTERNATIVE POLICY**

Alternative LU-59 Jurisdictions shall encourage location of Office/Business Parks within designated urban and manufacturing centers. Employment targets outside centers shall be directed to locations which can be effectively served by transit, and are part of employment concentrations. Large, low-density and auto oriented development shall be discouraged outside of manufacturing areas.

The following questions relate to the policies LU 58-62 as proposed by the Fis/ED Task Force. The City of Seattle has asked that these questions be included in the SEIS analysis:

1. How would this proposal differ from the 1985 King County Comprehensive Plan?
2. What density levels should office/business parks have to support cost effective transit service?
3. What are the land use and traffic impacts of a continued proliferation of office/business parks within the contiguous UGA, and in rural cities? Will they compete or attract commercial development from urban and manufacturing centers?
4. Can business/office parks develop in manufacturing/industrial areas, and in urban centers?

**MAGNET ALTERNATIVE  
COUNTYWIDE ECONOMIC DEVELOPMENT AND EMPLOYMENT**

**B. KING COUNTY POLICIES**

Develop a concept of a healthy and sustainable economy in which government will establish benchmarks to monitor the rate of economic and employment growth and will develop appropriate strategies to maintain, to the extent possible, a healthy balance between job formation and the ability of the rest of the system to deal with concomitant demands on housing, transportation and services. Strategies would include:

1. Streamline, shorten, and make more predictable regulatory constraints on doing business and on the expansion of existing business.
2. When appropriate in the economic cycle, develop incentives to increase the rate of new business formation and/or relocation.
3. Realistically match skills training for existing residents with projections of types and amounts of new jobs to be developed.
4. Establish a region-wide strategy for infrastructure funding, land assembly, and/or job-growth location to achieve a balance of jobs and housing in reasonable proximity to Puget Sound urban growth areas.
5. Encourage economic sustainability and develop incentives for: use and/or re-use of materials, business planning that includes "conservation" options, incremental compaction for increased land use efficiency, TDM and "least public cost" analysis (i.e., infrastructure, etc.) for business expansion and relocation.

**C. PRINCIPLE COUNTYWIDE BENCHMARKS**

(To be developed after review of Fis/ED Task Force recommendations)

**D. STRATEGIES**

(To be developed after review of Fis/ED Task Force recommendations)

## RURAL CHARACTER TASK FORCE

### Draft Recommended Refinements to the Countywide Planning Policies

#### A. Framework: Rural Character

- FW-RUa A fundamental component of the countywide planning strategy is to maintain the traditional character of the Rural Area with its mix of forests, farms, high-quality natural environment, rural cities and unincorporated rural centers, and variety of low-density residential uses. The most important components of the rural character are listed below:
- a) The abundant natural resources of the Rural Area shall be enhanced/maintained to achieve ecological balance and with minimal degradation of environmental quality;
  - b) Commercial and non-commercial farming, forestry, and fisheries activities shall be encouraged to continue and to expand as possible;
  - c) Community values of small-town atmosphere, safety, historical continuity, local business ownership and accessibility, and local provision of goods and services shall be encouraged to continue;
  - d) Rural residents shall base their activities and lifestyles on rural service levels and be largely self-sufficient and independent;
  - e) The Rural Areas shall be included as a major component of King County's public trails, open space and passive recreational system. Active recreational facilities shall be rural in character;
  - f) The Rural Areas shall offer important alternative and/or qualitative housing choices but shall not be considered a quantitatively significant part of the county's residential growth capacity;
  - g) King County's Rural Areas shall be recognized as providing a unique component of the county's economy through the production from cottage industries and from locally-grown agricultural crops and products;
  - h) Rural cities shall provide the support services needed for agricultural and forestry endeavors and provide a place for shopping, education, and other community functions.

## B. Framework: Tools to Protect

FW-RUB To achieve rural character King County and the cities, as appropriate, shall use a range of tools, including at least the following: land use designations, regulations (such as lot size and development standards), level of service standards (particularly for infrastructure), and incentives.

### 1. Land use designations and regulations.

RU-1 King County should designate areas within the Rural Area to encourage and expand farming and forestry. Areas that qualify for this designation could include the following:

- a. contiguous land enrolled in the current use assessment program as open space, agricultural or forest land under RCW 84.34, and contiguous land enrolled for tax purposes as timber land under RCW 84.33;
- b. land in proximity to designated Resource Lands;
- c. lots of 5 acres or more where the owners request such designation.

RU-2 Lands designated under policy RU-1 should have a limited range of uses (for example, residences at very low densities, resource-related uses and structures such as barns, but not institutional uses such as schools, or other public facilities with the possible exception of utility lines). In addition, development of adjacent lands should be conditioned to minimize land use conflicts and conversion pressures on these lands.

RU-3 The Rural Area shall have low densities which can be sustained by minimal infrastructure improvements, such as septic systems and rural roads.

RU-4 Development in urban areas shall not negatively impact rural areas by significantly increasing flood flows or pollution; urban generated traffic should not cause rural roads to be upgraded to urban standards.

RU-5 Planning for Rural Areas should comply with the following density guidelines:

- a. one home per 20 acres to protect viable small scale forestry activities as described in Policy RU-1.
- b. one home per 10 acres to protect small-scale farming activities.

- c. one home per 10 acres is also appropriate if the lands do not meet the criteria for (a) above, but the predominant lot size is 10 acres or larger; the lands are adjacent to or within one-quarter of a mile of a designated Agricultural or Forest Production District or legally approved long-term mineral resource extraction site; or, the lands contain significant floodplains, steep slopes or other environmentally constrained areas as defined by county ordinance or federal or state law.
- d. one home per 5 acres where the land is physically suitable and can be supported by rural services.
- e. For existing small lots in Rural Areas, residential development is permitted when applicable development standards such as Board of Health regulations for on-site sewage disposal can be met.

RU-6

To maintain rural character, and to minimize the need for additional infrastructure, very large lots (five acres or more) are desirable as the preferred residential development pattern. Clustering of development may be required in the Rural Area if it meets the following criteria:

- a. provides greater protection for natural environment/ resources;
- b. is compatible with surrounding land uses and development;
- c. will require only rural service levels;
- d. will sustain (not negatively impact) rural land uses/activities;
- e. will not result in a greater number of dwelling units or other structures than would be constructed under a conventional lotting pattern, unless a dedication of public open space is provided.

RU-7

King County may use transfer of density and density credits as incentives to plan and preserve rural lands in order to support dedication of significant portions of these lands for public ownership of open space, trails and protected natural systems, provided that the resulting development is consistent with rural character and can be served by rural infrastructure and services.

RU-8

Rural Areas should retain a high ratio of natural soils and permeable surface area to impermeable or compacted soils to maintain ground water recharge;

high water quality; and river and stream base flows essential to survival of wildlife and fish, and navigation and recreation. Long-term integrity of natural ecosystems should be a guiding principle in the location and intensity of land uses and public facilities in Rural Areas, operating standards for resource-based uses, and rural facility standards.

RU-9

Rural development standards should be designed to protect the natural environment. The tools to achieve this include: seasonal and maximum clearing limits; impervious surface limits; surface water management standards that emphasize preservation of natural drainage systems and water quality, and best management practices for resource-based activities.

RU-10

Rural Areas shall be recognized as significant recharge and storage of groundwater areas necessary for the maintenance of base flows in rivers and natural levels of lakes and wetlands. Measures to protect these areas shall include:

- a. A rural section within the surface water design manual requiring runoff be infiltrated except where potential groundwater contamination cannot be prevented by pollution source controls and stormwater pretreatment;
- b. infiltration as the preferred method of volume control, with other methods allowable only after infiltration has been ruled out for technical reasons.

RU-11

King County's Comprehensive Plan shall include policies to preserve opportunities for mining and to assure extractive industries maintain environmental quality and minimize impacts to adjacent land uses. The goal shall be to facilitate the efficient utilization of valuable mineral, oil and gas deposits when consistent with maintaining environmental quality and minimizing impacts.

## 2. Infrastructure.

RU-12

King County, cities adjacent to or surrounded by Rural Areas, and other agencies providing services to Rural Areas shall adopt standards for facilities and services in Rural Areas that protect basic public health and safety and the environment, but urban facilities and levels of service should not be provided to Rural Areas.

- RU-13 Rural level standards for streets should be refined to minimize clearing and grading, and avoid conflicts with the natural landscape. Pavement width should be no wider than needed to meet safety considerations and accommodate designated bicycle/pedestrian routes.
- RU-14 Rural water systems may be provided through private wells or community systems. They may also be professionally managed by applicable water purveyors according to the satellite management procedures of the Coordinated Water System Plans, and shall be designed to rural standards.
- RU-15 Standards for rural water service, to be developed through the rural design manual, should assure adequate quality and quantity for domestic supply and fire flow consistent with low rural residential densities and existing infrastructure commitments.
- RU-16 Regional public facilities which directly serve the public shall be discouraged from locating in rural areas.

### 3. Incentives and Implementation.

- RU-17 King County should evaluate additional ways that small-scale farming and forestry, and land and watershed stewardship can be encouraged through landowner incentive programs and community-based education. This should include:
- a. creating opportunities and incentives for voluntary cooperative management of woodlots and open space that is currently in separate ownerships;
  - b. providing technical assistance and information to landowner groups and community associations seeking to implement stewardship, habitat restoration and management plans;
  - c. providing outreach and assistance to small landowners wishing to participate in open space tax incentive programs;
  - d. ongoing evaluation of existing tax incentive programs, including the County's Public Benefit Rating System and the timber and agricultural current use assessment programs, to ensure they meet the needs of rural character preservation;
  - e. implementation of "right to farm" and "right to forestry" ordinances;
  - f. development of expedited permit review processes and/or permit exemptions for activities complying with cooperatively developed stewardship, habitat

restoration and resource management plans that include "best management practices".

- g. cooperation with State and Tribal Agencies in expediting regulatory review and technical assistance to cooperating landowners.

RU-18 King County shall work to achieve equitable tax assessments for those Rural Areas lands, regardless of size, impacted by the Sensitive Areas Ordinance, or dedicated to natural resource protection/restoration or open space, or included in the Public Benefit Rating System.

RU-19 King County in collaboration with affected governments, agencies and citizens shall prepare the following products:

- a. a manual on rural infrastructure design (including an examination of alternative sewage treatment technologies), fire/wildfire protection, and service standards;
- b. recommended revisions to the King County land development regulations to address issues such as incentives for reconsolidation of nonconforming and nonbuildable lots, application of current regulations if discretionary extensions of preliminary plat approvals are allowed, and subdivision site design to minimize conflict with nearby farming and forestry activities;
- c. a strategy to persuade the banking industry and its regulators to revise lending criteria to make it more feasible to put affordable housing on large lots, and to invest in environmentally sound land management practices;
- d. a strategy to persuade the federal and state governments to devise domestic water quality standards and monitoring requirements that protect the environment and public health at a reasonable cost so as to avoid financial pressure to convert Rural Areas to higher densities.

The Task Force recommends, also, that CPP LU-26 relating to cities in the Rural Area be amended by adding subpoints e and f.

LU-26 In recognition that cities in the rural area are generally not contiguous to the countywide Urban Growth Area, and to protect and enhance the options cities in rural areas provide, these cities shall be located within an Urban Growth Areas. These Urban Growth Areas generally will be islands separate from the larger Urban Growth Area located in the western portion of the county. Each city in the rural area,

King County and the GMPC shall work cooperatively to establish an Urban Growth Area for that city. Urban Growth Areas must be approved by the GMPC by January 1, 1993. The Urban Growth Area for cities in rural areas shall:

- a. Include all lands within existing cities in the rural area;
- b. Be sufficiently free of environmental constraints to be able to support rural city growth without major environmental impacts;
- c. Be contiguous to city limits;
- d. Have boundaries based on natural boundaries, such as watersheds, topographical features, and the edge of areas already characterized by urban development;
- e. Be maintained in large lots (preferably 10 acres or greater) with mandatory clustering provisions until such time as the city annexes the area; and
- f. Be implemented through interlocal agreement between the city and County, and special purpose districts, as appropriate, to assure that phasing of annexation and development within the Urban Growth Area are compatible with surrounding Rural and Resource areas.

\* \* \* \* \*  
THE TASK FORCE REQUESTS THIS LANGUAGE BE EVALUATED IN THE SEIS:  
Small-scale farming, forestry, and active ecological restoration should be recognized in King County's comprehensive plan as the only permanent land uses in those portions of the rural area not already zoned at densities of more than one unit per five acres. A residence should be allowed only on the condition that the homeowner provides active farming, forestry, and/or ecological restoration and stewardship.

Residential densities should be established at levels which minimize spill-over effects on farming and forestry and which represent a minimal burden on the land and streams. In its comprehensive plan update, King County should reevaluate its maximum density policies. Maximum densities of one unit per 20 acres and one unit per 35 acres are recommended. Large parcels should be required adjacent to designated agriculture and forest production districts.

"Ecological restoration and maintenance" refers to the process of altering forests, wetlands, creeks, streams, rivers, lakes, or other features to more closely resemble their natural state. Removal of invasive plant materials, planting native species, and restoring streambanks would be examples of common activities needed to carry out a restoration and stewardship plan.

JC:LM

June 16, 1993

Suburban Cities Association

## Rural Character Policies

Note: "RU" prefixes are new policies proposed by the task group, "LU" and "CO" prefixes are existing 1992 County-wide Policies.

## A. Framework: Rural Character

*FW-RUa A fundamental component of the county-wide planning strategy is to maintain the traditional character of the Rural Area with its mix of forests, farms, high-quality natural environments, rural cities and unincorporated rural centers, and variety of low-density residential uses. The most important components of the rural character are listed below:*

*(d) Rural residents shall base their activities and lifestyles on rural service levels and be largely self-sufficient and independent;*

**Recommendation:** Remove FW-RUa, (d); rural standards are addressed in RU-12 (see below). Also, policies should not dictate the lifestyle of rural residencies: "Rural residences shall be largely self-sufficient and independent".

**RU-12** King County, cities adjacent to or surrounded by Rural Areas, and other agencies providing services to Rural Areas shall adopt standards for facilities and services in Rural Areas that protect basic public health and safety and the environment, but urban facilities and levels of service should not be provided to Rural Areas.

**RU-3** *The Rural Area shall have low densities which can be sustained by minimal infrastructure improvements, such as septic systems and rural roads.*

*Handwritten notes:*  
If that be  
the case  
it not removed

Recommendation: Similar to KCPP, LU-8 which can be removed

**LU-8** Designated rural areas shall have low densities which can be sustained by minimal infrastructure improvements, such as septic systems and rural roads, without degrading the environment or creating the necessity for urban level of services.

*Handwritten:* RU-4

*Development in urban areas shall not negatively impact rural areas by significantly increasing flood flows or pollution; urban generated traffic should not cause rural roads to be upgraded to urban standards.*

Recommendation: Remove this policy, it was a last minute recommendation and was not reviewed by SCA representatives. This policy will be difficult to implement and may be unfavorable to many rural cities in need of improved facilities, particularly in response to recent growth.

*Handwritten:* RU-6

*To maintain rural character, and to minimize the need for additional infrastructure, very large lots (five acres or more) are desirable as the preferred residential development pattern. Clustering of development may be required in the Rural Area if it meets the following criteria:*

- a. provides greater protection for natural environmental/resources;*
- b. is compatible with surrounding land uses and development;*
- c. will require only rural service levels;*
- d. will sustain (not negatively impact) rural land uses/activities;*
- e. will not result in a greater number of dwelling units or other structures than would be constructed under a conventional lotting pattern, unless a dedication of public open space is provided.*

**Recommendation:** Remove reference to 5 acre lots. County wide policy LU-12 also addresses clustering and should be removed and replaced by this policy.

LU-12 To maintain rural character, and to minimize the need for additional infrastructure, while maximizing undeveloped land available for traditional rural uses, clustering of new development shall be required on all existing parcels of contiguous ownership of ten or more acres, provided that clustering shall be designed and scaled to be consistent with rural area character.

~~RU-14 Rural water systems may be provided through private wells or community systems. They may also be professionally managed by applicable water purveyors according to the satellite management procedures of the Coordinated Water System Plans, and shall be designed to rural standards.~~

**Recommendation:** Delete RU-14 and retain CO-16.

CO-16 All rural water systems outside existing service areas (planning areas) shall be professionally managed by the applicable water purveyor according to the satellite management procedures of the Coordinated Water System Plans, and designed to rural standards.

RU-19

*King County in collaboration with affected governments, agencies and citizens shall prepare the following products:*

- a. *a manual on rural infrastructure design (including an examination of alternative sewage treatment technologies), fire/wildfire protection, and service standards;*

**Recommendation:** RU-19, a., is a repeat of County Wide Policy LU-13, thus LU-13 should be deleted.

JUN-21-1993 08:09 FROM CITY OF ENUMCLAW

TO 28922062960119150058 P.05

LU-13

King County, cities that are adjacent to or are surrounded by rural designated areas, and other agencies that provide services to rural areas shall form a technical committee to prepare a manual on rural infrastructure design, fire/wildfire protection, and service standards.

Note: The Task Force staff recommended the addition of "e" and "f" to the existing County-wide Policy LU-26, dealing with rural cities.

LU-26

In recognition that cities in the rural area are generally not contiguous to the county-wide Urban Growth Area, and to protect and enhance the options cities in rural areas provide, these cities shall be located within an Urban Growth Area located in the western portion of the county. Each city in the rural area, King County and the GMPC shall work cooperatively to establish an Urban Growth Area for that city. Urban Growth Areas must be approved by the GMPC by January 1, 1993. The Urban Growth Area for cities in rural areas shall:

- a. Include all lands within existing cities in the rural area;
- b. Be sufficiently free of environmental constraints to be able to support rural city growth without major environmental impacts;
- c. Be contiguous to city limits;
- d. Have boundaries based on natural boundaries, such as watersheds, topographical features, and the edge of areas already characterized by urban development;
- e. *Be maintained in large lots (preferably 10 acres or greater) with mandatory clustering provisions until such time as the city annexes the area;*
- f. *Be implemented through inter-local agreements between the city and County, and special purpose districts, as appropriate, to assure that phasing of annexation and development within the Urban Growth Area are compatible with surrounding Rural and Resource areas.*

Recommendation: Delete e and f, and replace with (This is the original Task Force language):

JUN-21-1993 08:10 FROM CITY OF ENUMCLAW

TO 28802862960119150058 P.06

- e. a model inter-local agreement for use by King County, the cities, and special purpose districts to assure that annexations or incorporations in or near Rural Areas comply with the rural concepts of the Comprehensive Plan and the Growth Management Act; the agreements between individual cities and the County should be established to ensure protection of surrounding open space. Lot sizes in potential annexation areas should be large enough to allow efficient subdivision in the future. Lot sizes of 10 acres or clustering provisions are recommended.

THE TASK FORCE REQUESTS THIS LANGUAGE BE EVALUATED IN THE SEIS: *Small-scale farming, forestry, and active ecological restoration should be recognized in King County's comprehensive plan as the only permanent land uses in those portions of the rural area not already zoned at densities of more than one unit per five acres. A residence should be allowed only on the condition that the homeowner provides active farming, forestry, and/or ecological restoration and stewardship.*

*Residential densities should be established at levels which minimize spill-over effects on farming and forestry and which represent a minimal burden on the land and streams. In its comprehensive plan update, King County should reevaluate its maximum minimum density policies. ~~Maximum~~ Minimum densities of one unit per 20 acres and one unit per 35 acres are recommended. Large parcels should be required adjacent to designated agriculture and forest production districts.*

Recommendation: Highly supported, should be included in policy packet once reviewed in SEIS.

NOTE: "Maximum" should be "Minimum".

**MAGNET ALTERNATIVE**

**June, 1993  
Draft #8**

©

## PREFACE

This document describes key features of a strategy that seeks to make urban growth areas and urban centers magnets for future growth. It has been prepared at the request of King County, to allow the County to complete environmental review pursuant to SEPA for Countywide Planning Policies. It is not offered as a substitute for existing policies and not because those who have been involved in its preparation are uniformly convinced that the magnet approach is a "better" strategy. Rather, it is offered as an alternative for environmental review to allow the environmental review process to function as required by law with the outcome being a clear committed vision of our future selected after thoughtful consideration of environmental, fiscal and social impacts of the alternatives.

## INTRODUCTION

The growth trends of the last twenty years cannot be sustained in the next two decades. Decline in both affordability and mobility threaten King County's regional and global competitiveness. Increasing complexity of our regulatory system impedes job growth and does not provide long term protection of the natural environment. Urban areas are frequently becoming places to escape from and not areas in which to raise families. Countywide Planning Policies should focus on a framework of key goals and benchmarks to address these issues in a consistent and coordinated manner, leaving the choice of strategies to achieve these goals/benchmarks to the local government with the land use authority to implement the strategies.

## VISION FOR KING COUNTY 2012

### Where we Started:

- ♦ the adopted vision was realistic and balanced founded on a limited set of key measurable and attainable goals and objectives leaving decisions regarding local implementation strategies to city elected officials and citizens of these cities;

- ◆ founded on a true public/private partnership including business, labor and community groups who joined in a shared commitment to alter trends that were making urban living less attractive;
- ◆ our overarching goal was to restore competitiveness on a sustainable basis of King County as a center for trade, education and culture, thereby improving the quality of life of King County residents and the livability of our region;
- ◆ established a planning process, joined in by all local governments, founded on principles of "least cost" management with critical benchmarks established to judge performance in achieving GMA goals;
- ◆ incentives for residential development were used as the primary means to increase densities in urban areas, including increasing household size in existing urban areas and for encouraging the redevelopment of existing industrial and manufacturing areas; and
- ◆ the adopted vision recognized that to implement the vision, a myriad of free individual and business choices would be required, not simply regulation; and that therefore, the proper role for the public sector in developing implementing strategies would be to create incentives, not barriers for these choices.

What We Did:

- ◆ maintained critical areas needed to sustain essential environmental values;
- ◆ made redevelopment of under-utilized urban areas attractive and competitive areas for growth;
- ◆ reduced congestion in part by using demand management strategies to reduce, on a per capita basis, vehicle miles traveled per year;
- ◆ increased home ownership and housing opportunities for all economic segments of our community;
- ◆ stopped the decline in affordability;

developed a concept of sustainable economy that:

- relieved regulatory burdens on existing businesses
  - matched skills education to new job-growth location to achieve reasonable balances of jobs and housing in urban areas
  - provided incentives for economic sustainability in materials, provision of services, land consumption and transportation
- ◆ improved skill level of work force;
  - ◆ met infrastructure needs utilizing least cost planning methodologies in a manner that fairly balanced cost between new and existing residents;
  - ◆ through incremental actions, reduced per capita land consumption and created a more cost effective balance between the location of jobs and housing;
  - ◆ increased community satisfaction with urban living by:
    - increased per capita ratio of parks and open space
    - improved K-12 educational achievement
    - reduced crime
    - involved neighborhood residents pro-actively in the decisions that affect them

#### FRAMEWORK POLICIES

##### FRAMEWORK

- ◆ Test all countywide planning policies against the three part test set for in the Snoqualmie decision i.e.:
  - policies must address regional issues only
  - policies can provide substantive direction only to comprehensive plans
  - policies must be consistent with all relevant provisions of the GMA
- ◆ Establish a framework for "least cost planning"\* and prioritize financial/funding programs that are allocated on a regional basis to cities who meet principal countywide benchmarks using least cost planning.

\* See Exhibit A for a description of "Least Cost Planning."

- ◆ Establish a Countywide Progress Board composed of both public and private sector representatives chaired by the County Executive. The principle function of the Board being to monitor and report annually on progress in achieving benchmarks.
- ◆ Left development and implementation of strategies to achieve benchmarks to county and city decision makers and local public processes.

## CRITICAL AREAS

### A. GMA PLANNING GOAL

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

### B. PRINCIPAL COUNTYWIDE BENCHMARK

- ◆ By 2000, endeavor to establish a sustainable balanced resource mix on a drainage basin basis, of those critical areas needed for flood control, aquifer recharge, water purification and fish and wildlife habitat.
- ◆ By 2010, ensure that all needed critical areas are in public ownership or are protected through regulatory programs with on- or off-site density transfers.

### C. STRATEGIES TO ACHIEVE BENCHMARKS

- ◆ Cities and the county shall cooperatively establish for each drainage basin within the county a critical area needs analysis based on realistic and achievable standards and then designate such areas needed to achieve the critical area benchmark.
- ◆ Where the critical areas needs analysis indicates a deficiency in existing critical areas for a basin, establish programs, using public funding sources, for elimination of the deficit.
- ◆ Establish basinwide programs for such critical areas acquisition that requires all applicants to protect needed critical areas or contribute fees in lieu of protecting critical areas.

- ◆ For geologically hazardous areas, ensure that engineering solutions are adequate to prevent failure during high stress periods and improper maintenance.
- ◆ Ensure that critical area regulatory programs allow for density transfer so that no individual property owner bears an obligation to protect critical areas to any greater extent than does the general public and reduction of fees where full density transfer is not permitted.
- ◆ Ensure that property tax valuation assessments account for the designation of critical areas.

## URBAN GROWTH AREAS

### A. GMA PLANNING GOALS

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

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

### B. PRINCIPAL COUNTYWIDE BENCHMARKS

- ◆ Consistent with other benchmarks, accommodate an established percentage of the 20 year OFM population forecast and the PSRC employment forecast within all cities located in King County and designated unincorporated urban growth areas. (OFM 2010 Forecast projects 325,814 new residents and PSRC projects 332,800 new jobs. 91.5% of 1990 County population located in UGA.)
- ◆ Utilize opportunities for infill, renovation and redevelopment within existing developed areas in order to increase the countywide average rate of development activity within these areas as follows:
  1. By 2000, accommodate on the average countywide at least twenty-five percent (25%) of all new urban growth through infill, renovation and redevelopment of existing, developed lands;
  2. By 2010, increase this countywide average to a ratio of at least fifty percent (50%).

- ◆ Through 2000, ensure that at least a six (6) year supply of developable urban growth area land, served with adequate public facilities and services, is available annually so that urban growth area benchmarks can be achieved without affecting either the livability of existing neighborhoods or the affordability of land for both residential and nonresidential development.

C. STRATEGIES TO ACHIEVE BENCHMARKS

- ◆ Establish monitoring systems to track utilization of developable land served by adequate public facilities and services.
- ◆ By interlocal agreement, establish 2010 population and employment targets for each city in the county.
- ◆ Establish programs that encourage the retention and attraction of higher population densities per square mile to designated areas within cities within the urban growth areas, such as urban hubs, residential and neighborhood villages.
- ◆ Establish programs to encourage new job growth in designated manufacturing and industrial centers.
- ◆ Establish programs that make the reuse of existing industrial areas competitive within the development of new areas.

TRANSPORTATION FACILITIES AND STRATEGIES

A. GMA PLANNING GOAL

Transportation. Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.

B. KING COUNTY POLICIES

1. Regional Priorities. Implementation of transportation capital projects shall be based upon regional priorities that contribute to a statewide multimodal transportation system, coordinated with city and adjoining county comprehensive plans.

2. Transportation Mode Flexibility

- ♦ The regional plan must allow ease in the transition from one mode of transportation to another and must be flexible over time and meet the needs of the community in the future.
- ♦ The movement of goods must be an integral component of the regional transportation plan.

3. Non-Motorized Transportation. Pedestrian and bicycle travel, and adequate routes should be a part of the transportation system and developed on a coordinated, regional basis.
4. Public Participation. Public involvement and participation in addressing transportation issues should be an important element in establishing and implementing regional and local transportation systems.
5. System Characteristics. The regional transportation system should include a commuter rail service element but with emphasis on improving the existing road and highway system for efficient HOV use.
6. Financing. The regional transportation system should be financed with federal, state and local contributions.

C. PRINCIPAL COUNTYWIDE BENCHMARKS

1. Meet deadlines and targets established by King County Commute Trip Reduction Plan (King County Ordinance 10733):

Miles Traveled Per Employee Per Year	% of Reduction	Year
	15	1995
	25	1997
	35	1999

2. Meet Mode-Split

Targets	% of Total	Year
SOV		1998
HOV		2003
NMT		2008

3. Meet Financing Targets for Regional System % of Total

Federal

State

Local

4. Meet High Capacity Transit Targets/Regional Transit Implementation

Operational Date

Everett/Tacoma Heavy Rail  
Commuter Service

5. Increase Public and Private Transit Use: % Year

- ◆ Increase number of routes
- ◆ Increase number of spaces in park and ride lots
- ◆ Increase ridership

6. Meet HOV expansion targets

Miles of Lanes Year

7. Increase existing roadway capacity to move goods and people % Year

- ◆ reduction in PM peak single occupant vehicles by demand management
- ◆ additional miles of new and expanded roadways

D. STRATEGIES TO ACHIEVE BENCHMARKS

1. Phasing and Flexibility

- ◆ Establish phases for implementation based on cost and time requirements.

- ◆ Those transportation system improvements which are of relatively low cost, and can be implemented in a relatively short time (the HOV system, improved public transit and commuter rail on existing lines) should be implemented first.
  - ◆ Implementation should take place in well-defined increments, retaining sufficient flexibility to take advantage of unforeseen changes and new technology.
2. High Capacity Transit/Regional Transit Project ("HCT/RT")
- ◆ Implement heavy rail commuter service between Everett and Tacoma on existing tracks immediately.
  - ◆ Implement improved public transit service throughout the region as soon as possible. This should include expanded routes, new park and ride lots, and a variety of system management and demand management strategies.
  - ◆ Begin implementation of the new high capacity rail transit system after the initial elements are completed to allow maximization of their use.
3. Inter/Intra Community Transit (See City Seattle RTP Amendment Package)
- ◆ Develop inter-community trunk bus service to enhance mobility between communities.
  - ◆ Develop intra-community neighborhood transit services to provide a variety of collector/distributor and circulation services for all kinds of trips.
4. Freeways/Highways/Arterials
- ◆ Construct improvements to increase the efficiency of the existing roadway system.
  - ◆ Complete the high occupancy vehicle (HOV) system immediately.

5. Siting Regional and Countywide Transportation Facilities
  - ◆ Identify significant regional and countywide land acquisition needs for transportation purposes and establish a process for prioritizing and siting such facilities. This should be a cooperative effort between King County, the cities, the Puget Sound Regional Council, the State, Metro, and other transportation providers.
6. Financing
  - ◆ Obtain federal and state revenues to provide a significant proportion of new investment in both the roadway and transit elements as a part of a balanced transportation program.
  - ◆ Rely on user fees, such as taxes on motor vehicle fuels and excise taxes on motor vehicles for state and local funding plans.
7. Transportation/Level of Service (LOS)/Mode Split
  - ◆ Establish acceptable definitions of service. These standards should emphasize mobility of goods and people within the region as a whole, and should not necessarily mean continued use of traditional intersection-measured level-of-service standards.
  - ◆ Levels of mobility should vary according to density and acceptable levels of congestion.
  - ◆ Establish mode split targets for transportation corridors.
8. Public Participation
  - ◆ The public should participate in the establishment and approval of local taxes and system plans for rail transit.
  - ◆ The public should participate in establishing acceptable mobility standards and congestion levels for neighborhoods and urban centers.

## AFFORDABLE HOUSING

### A. GMA PLANNING GOAL

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

### B. PRINCIPAL COUNTYWIDE BENCHMARK

- ◆ By 2010, ensure that 70% of King County households have market sensitive opportunities to own their own detached or attached residences. (In 1990, 56% of King County households owned their own homes).
- ◆ By 2010, recognizing some may choose to do so, ensure that market-based housing opportunities exist so that no King County household must spend more than 30% of income for housing. (In 1990, 18% of King County owner occupied households, and 38% of King County renter occupied households, were required to spend more than 30%)
- ◆ By 2000, reduce, on a per capita basis, the amount of land required for housing.

### C. SPECIFIC STRATEGIES

- ◆ [To be developed after review of Affordable Housing Task Force recommendations]

## COUNTYWIDE ECONOMIC DEVELOPMENT AND EMPLOYMENT

### A. GMA PLANNING GOAL

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

Permits. Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.

B. KING COUNTY POLICIES

Develop a concept of a healthy and sustainable economy in which government will establish benchmarks to monitor the rate of economic and employment growth and will develop appropriate strategies to maintain, to the extent possible, a healthy balance between job formation and the ability of the rest of the system to deal with concomitant demands on housing, transportation and services. Strategies would include:

- ◆ Streamline, shorten, and make more predictable regulatory constraints on doing business and on the expansion of existing business.
- ◆ When appropriate in the economic cycle, develop incentives to increase the rate of new business formation and/or relocation.
- ◆ Realistically match skills training for existing residents with projections of types and amounts of new jobs to be developed.
- ◆ Establish a region-wide strategy for infrastructure funding, land assembly, and/or job-growth location to achieve a balance of jobs and housing in reasonable proximity to Puget Sound urban growth areas.
- ◆ Encourage economic sustainability and develop incentives for: use and/or re-use of materials, business planning that includes "conservation" options, incremental compaction for increased land use efficiency, TDM and "least public cost" analysis (i.e., infrastructure, etc.) for business expansion and relocation.

C. PRINCIPLE COUNTYWIDE BENCHMARKS

[To be developed after review of Fis/Ed Task Force recommendations]

D. STRATEGIES

[To be developed after review of Fis/Ed Task Force recommendations]

PROMOTION OF CONTIGUOUS AND ORDERLY DEVELOPMENT AND PROVISION OF URBAN SERVICES

A. GMA PLANNING GOAL

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

B. PRINCIPLE COUNTYWIDE BENCHMARKS

- ◆ By 2000, ensure that existing capital facilities capacity is utilized first and public capital investments for new infrastructure capacity are targeted to urban areas that allow other benchmarks to be achieved on a least cost basis.
- ◆ By 2010, through publicly approved finance programs, eliminate infrastructure deficiencies within the six year land supply area as they exist in 1990.
- ◆ By July, 1994, ensure that impact-fees imposed on new development within the six year land supply area do not exceed three percent (3%) of the value placed on building permits for the new development.
- ◆ Ensure that within the six year land supply area all water and sewer systems and fire protection facilities are adequate to serve development at the time of permanent occupancy.
- ◆ Ensure that within the six year land supply area all local transportation facilities, public schools and parks are adequate to serve development, based on locally established benchmarks, within a realistic achievable time frame based on adopted capital facility plans.

C. STRATEGIES TO ACHIEVE BENCHMARKS

- ◆ Establish capital facilities plans to provide adequate public facilities for at least a six year land supply using least cost analysis to ensure that urban growth area benchmarks are achieved.

- ◆ Cities and the county shall establish public facility adequacy standards using the following measures:
  1. For public schools, student/teacher ratio.
  2. For roads, through 1995 ITE Level of Service; thereafter based on new measures of multimodel mobility.
  3. For public parks, acres per 1000 people
- ◆ A countywide strategy (including both public and private funds) shall be developed by, cities and the county to finance public facilities needed to serve urban growth consistent with benchmarks.
- ◆ For public facilities having existing deficiencies, public facility adequacy standards shall be phased to ensure that urban growth benchmarks are achieved.

**NATURAL RESOURCE LANDS: AGRICULTURAL, FORESTRY AND MINERAL**

**A. GMA PLANNING GOAL**

Natural Resource Industries. Maintain and enhance natural resource-based industries, including productive timber, agricultural and mining industries in designated natural resource lands. As provided in the GMA, designated natural resource lands should include lands of long term commercial significance. Encourage the conservation of productive forest and agricultural lands in the designated areas, and discourage incompatible uses.

**B. PRINCIPLE COUNTYWIDE BENCHMARK**

Maintain and enhance 1990 productivity levels for designated resource lands.

**C. STRATEGIES TO ACHIEVE BENCHMARKS**

Specific strategies, if any are required in addition to those already mandated by the GMA, should be determined after review of recommendations of the regional pilot basin/watershed plans scheduled for completion by December 31, 1993.

## RURAL AREAS

### A. GMA REQUIREMENT

Counties shall include a rural element including lands that are not designated for urban growth, agriculture, forest, or mineral resources. The rural element shall permit land uses that are compatible with the rural character of such lands and provide for a variety of rural densities. (RCW 36.70A.070 (5)).

### B. KING COUNTY POLICIES

At this time, no specific benchmarks or strategies are offered for rural areas. While countywide rural policies are not required by the GMA, we recognize that the rural element of King County's Comp Plan may influence the success of our proposed strategies. While specific benchmarks and strategies have been deferred until after the Rural Character Task Force Report is available, the SEIS should consider the following:

- ◆ Cities in the Rural Area should be treated as magnets for urban growth, as required by the GMA, the same as other cities in the County and the impact on these cities of "Magnet" proposals for urban areas should be analyzed in the SEIS.
- ◆ Impacts of a range of population/employment forecasts should be analyzed in the SEIS for rural areas located outside of rural cities. These areas currently account for 7.4% of 1990 County population. For 2010, the SEIS should assess the impact of increasing and decreasing the 1990 percentage of growth accommodated in rural areas.

### C. PRINCIPAL COUNTYWIDE BENCHMARKS

[To be developed after review of Rural Character Task Force]

### D. SPECIFIC STRATEGIES TO ACHIEVE BENCHMARKS

[To be developed after review of Rural Character Task Force recommendations]

## SITING PUBLIC CAPITAL FACILITIES

### A. GMA REQUIREMENT

- ◆ Ensure through interjurisdictional cooperation the siting of public capital facilities of a countywide or statewide nature, which generally have characteristics that make these facilities extremely difficult to site.

### B. PRINCIPLE COUNTYWIDE BENCHMARK

- ◆ By 1995, establish a countywide process for the cooperative siting of public capital facilities.
- ◆ By 1995, establish and implement a facilities mitigation program, including amenities or incentives to successfully site public capital facilities that serve more than one city or unincorporated urban area community.

### C. STRATEGIES TO ACHIEVE BENCHMARKS

- ◆ Define public capital facilities of a countywide or statewide nature.
- ◆ Develop and implement a public process to cooperatively site public capital facilities, including both the neighborhood and regional inter-county perspective.
- ◆ Establish and use an incentive mitigation program where the cost to build and operate the facility includes the full cost to mitigate the facility's impacts.
- ◆ Consider public-private partnerships for siting, building and operating a public capital facility.
- ◆ Evaluate sites for public capital facilities in the greater context of established development patterns, including transportation and utility corridors.
- ◆ Assure the siting process adequately considers future population needs (i.e. fewer & bigger facilities or more & smaller facilities).
- ◆ Structure the incentive mitigation program so that the mitigation motivates or compels jurisdictions to compete for and accept the facility.

- ♦ Include the least-cost option as one of the required facility alternatives studied when selecting a route or a site for a public capital facility.
- ♦ Leverage where possible public capital facility funding with private funding to increase investment at a project and/or geographical location level.

## QUALITY OF URBAN LIVING/COMMUNITY CHARACTER

### A. GMA PLANNING GOALS

- ♦ Open space and recreation. Encourage the retention of open space development of recreational opportunities, converse fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.
- ♦ Historic preservation. Identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance.

### B. KING COUNTY POLICY

Sense of Control: Develop & maintain governmental structures that permit substantive, effective citizen involvement in planning and implementing neighborhood development and improvement strategies at the neighborhood level.

Affordability and Accessibility of Housing: Use market tools (zoning, modeling, development incentives) and leveraged subsidies (home-ownership, rent assistance) to create a full range of housing to meet the needs of all segments of the housing market.

Environmental Quality: Develop benchmarks critical to urban area and sub-area (neighborhood) environmental quality & ensure their implementation as a condition of new development (such benchmarks might include noise, air quality, congestion, permeable open-space, traffic speed, "community character" in design of buildings, etc.)

### C. PRINCIPLE COUNTYWIDE BENCHMARKS (for urban growth areas)

- ♦ By 2010, increase the acreage per capita for regional parks and recreation facilities.
- ♦ By 2010, increase by 25% the 1990 acreage per capita of open space in public ownership through purchase.

- ◆ By 2010, increase K-12 educational achievement through, in part, reducing the student/teacher ratio.
- ◆ By 2010, reduce crime rates to below those experienced in 1990.
- ◆ By 2010, increase facilities and services for homelessness, mental health, and drug/alcohol treatment, located countrywide.

D. SPECIFIC STRATEGIES TO ACHIEVE BENCHMARKS

- ◆ Establish a subarea or neighborhood-based planning/benchmark process of neighborhoods that request them that includes:
  1. Substantive citizen involvement in "bottom-up" planning and reviewing new development and redevelopment to "direct democracy" (neighborhood) level.
  2. Ongoing participation and government empowered volunteer activities to improve neighborhood ability develop & implement strategies for:
    - housing accessibility and affordability;
    - transportation facilities and services;
    - meeting human needs (siting and implementation of human service, elderly, and health care facilities and services);
    - public arts, festivals and amenities;
    - land assembly for new development and/or needed neighborhood facilities
    - recreational opportunities
    - public facilities siting and mitigation.
- ◆ Establish and conduct on an annual basis a countywide community satisfaction survey.
- ◆ Jurisdictions shall establish a pre-application community review process for site specific review, applying the community's pre-determined standards to infill and redevelopment projects subject to enforceable permit processing timelines.

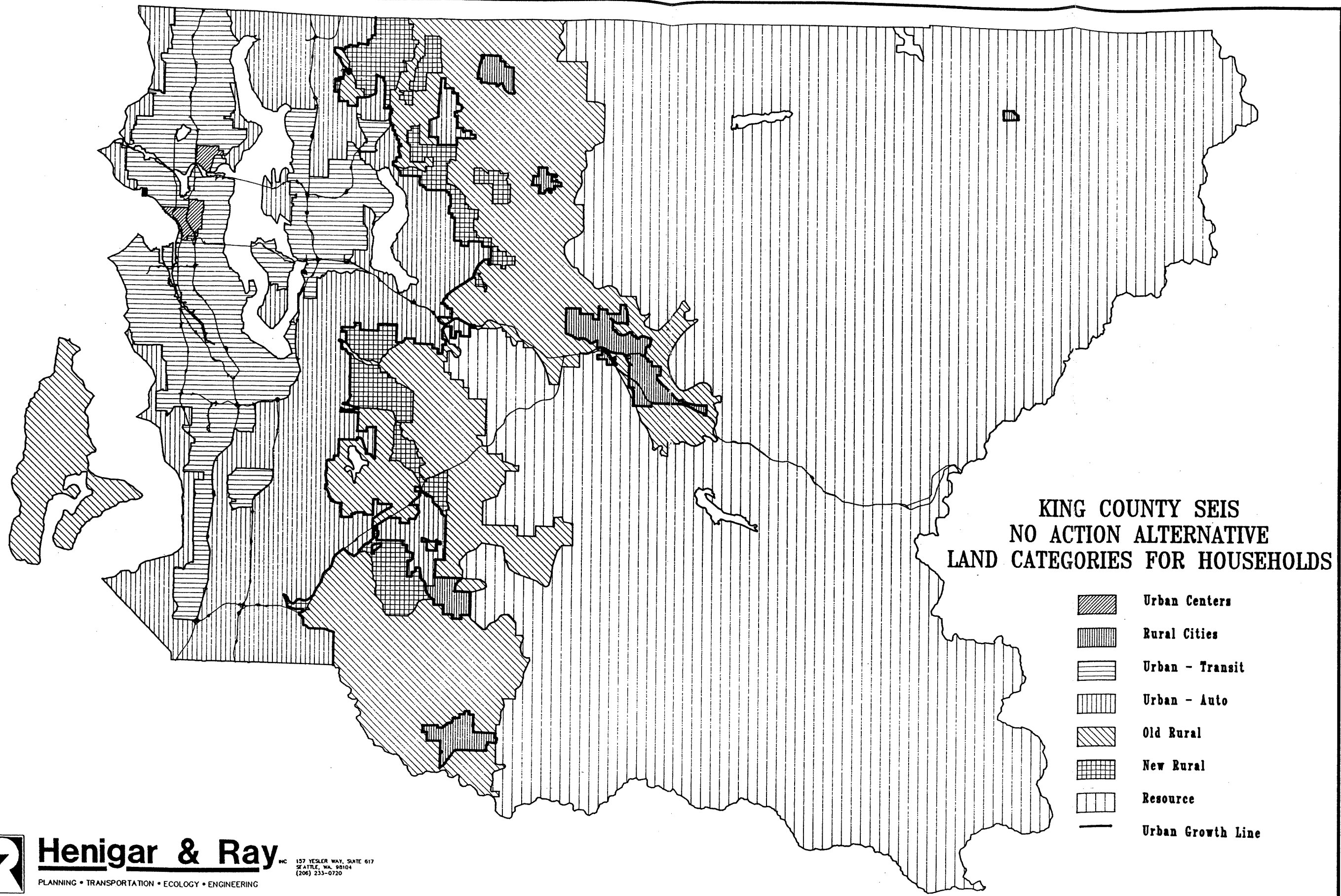
## EXHIBIT A

### LEAST COST PLANNING









"Least cost planning" is a process that defines a series of quantifiable and measurable goals that create an overall target quality of life, measured by benchmarking. Next, potential strategies are developed that contribute to achieving the benchmarks. Those strategies are then assessed for their "cost effectiveness", determined by analyzing total costs (regardless of who pays) and benefits of each strategy on a long term (eg 20 year) basis. The strategies or combination of strategies that have the "least cost" to achieve the benchmarks, should be considered, if not selected. Externalities, such as neighborhood character and environmental impacts, can be incorporated via the "quality of life" benchmarks, or by assigning them quantifiable "values" for inclusion in the "cost" equation.

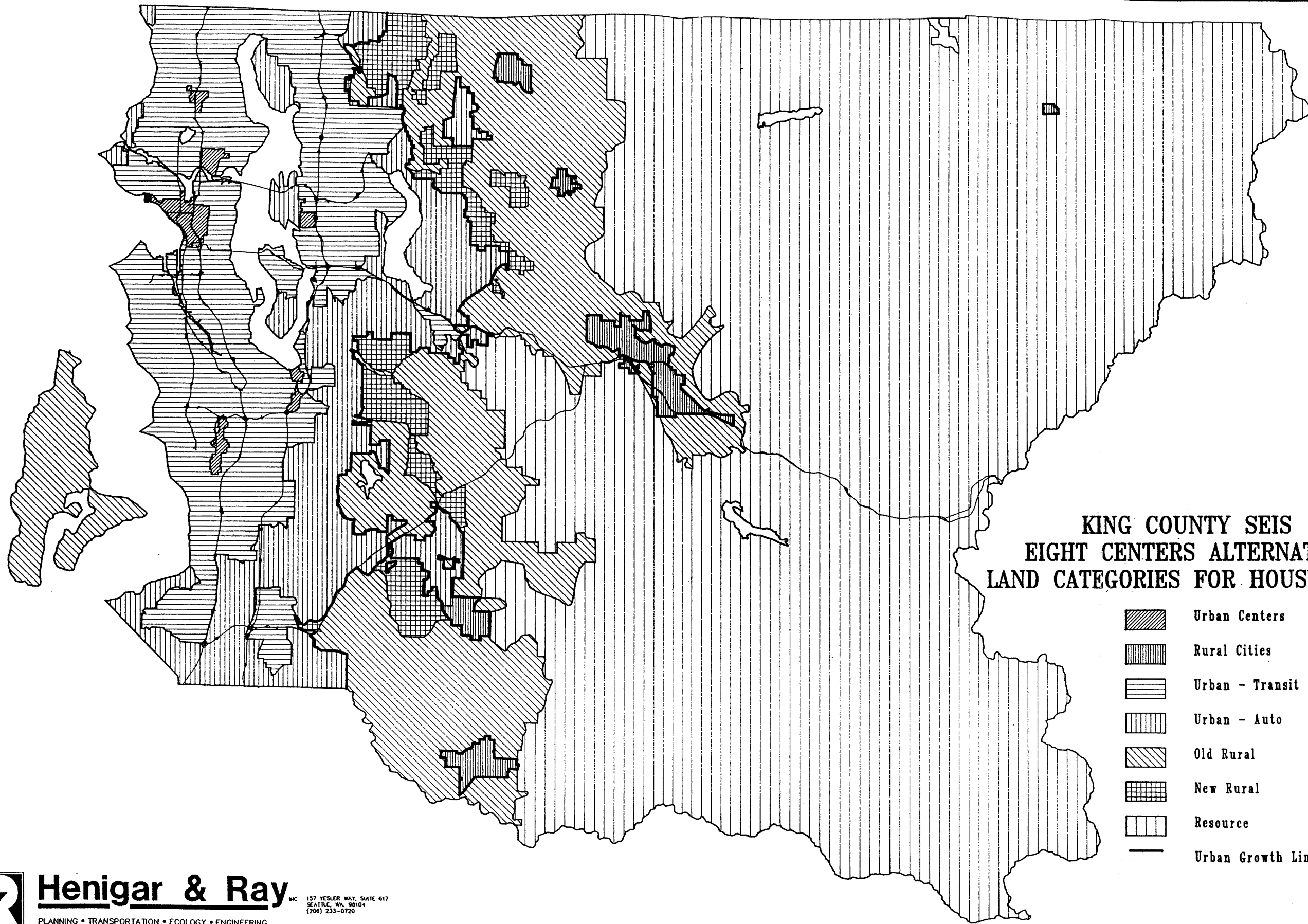
Guidelines for a successful least cost process:

1. Least cost does not allow deterministic planning. All strategies or mix of strategies must be considered.
2. Avoid costs through increasing utilization and efficiency of existing assets before developing new assets.
3. Avoid new capital costs by taking full advantage of voluntary, demand-side management (reducing capacity demands) and increasing operating efficiencies.
4. Encourage voluntary, demand-side management through the creation of monetary and regulatory incentives.
5. Agree upon a fair and consistent mechanism for valuing strategies to meet benchmarks.











**KING COUNTY SEIS  
NO ACTION ALTERNATIVE  
LAND CATEGORIES FOR HOUSEHOLDS**

-  Urban Centers
-  Rural Cities
-  Urban - Transit
-  Urban - Auto
-  Old Rural
-  New Rural
-  Resource
-  Urban Growth Line



**KING COUNTY SEIS  
EIGHT CENTERS ALTERNATIVE  
LAND CATEGORIES FOR HOUSEHOLDS**

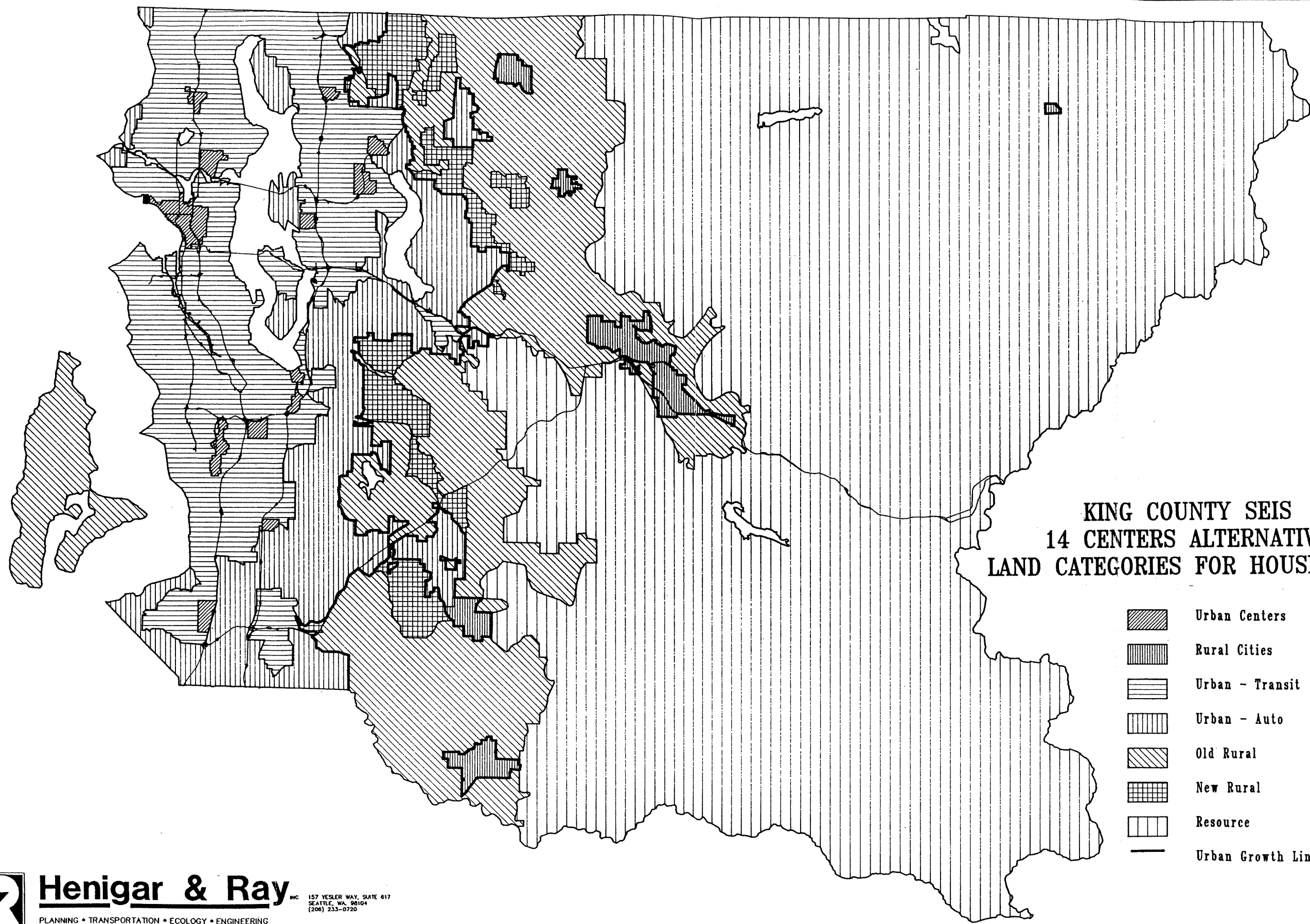
-  Urban Centers
-  Rural Cities
-  Urban - Transit
-  Urban - Auto
-  Old Rural
-  New Rural
-  Resource
-  Urban Growth Line











**Henigar & Ray**

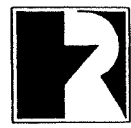
PLANNING • TRANSPORTATION • ECOLOGY • ENGINEERING

157 YESLER WAY, SUITE 617  
SEATTLE, WA, 98104  
(206) 233-0720



**KING COUNTY SEIS  
14 CENTERS ALTERNATIVE  
LAND CATEGORIES FOR HOUSEHOLDS**

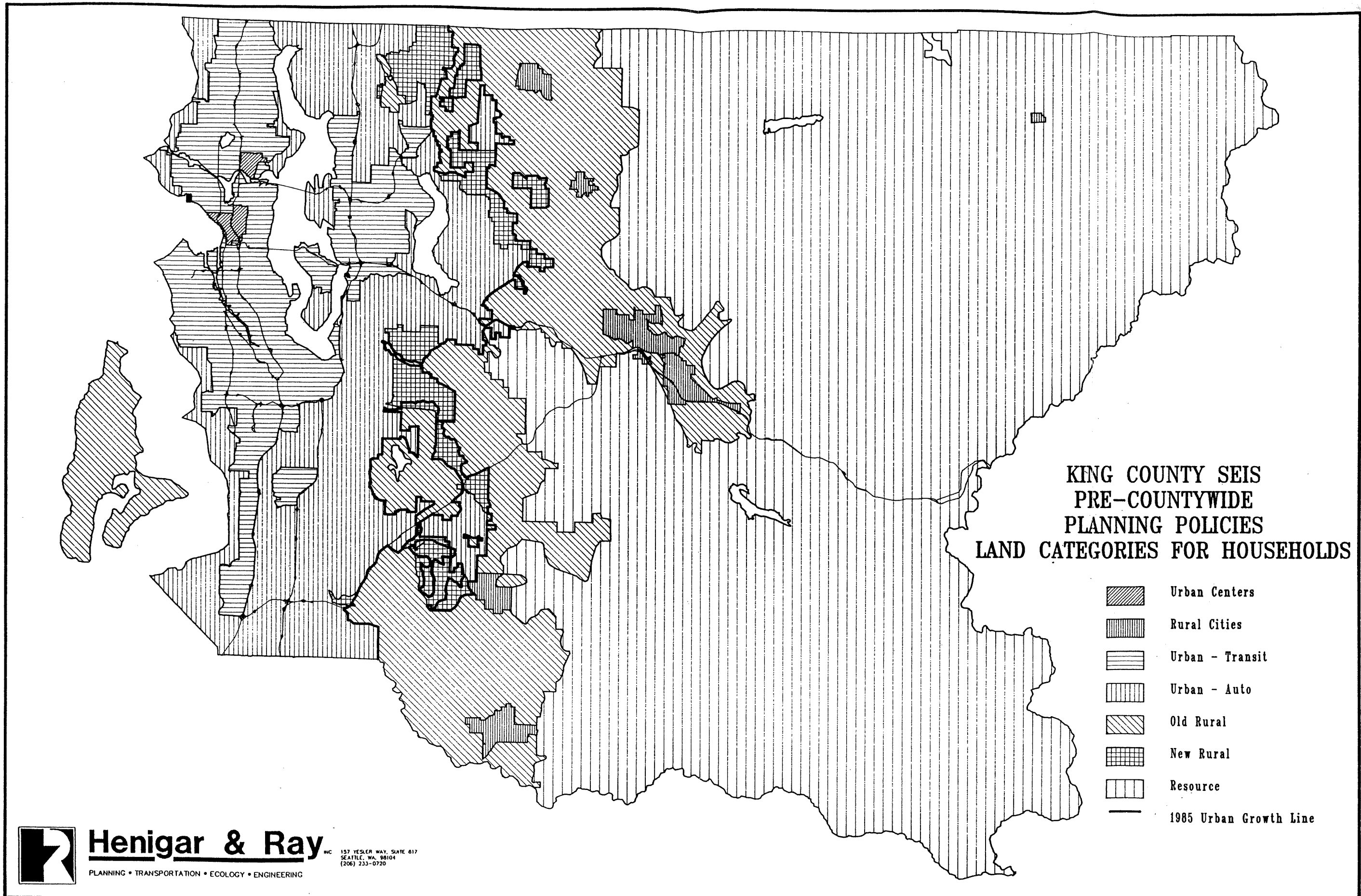
-  Urban Centers
-  Rural Cities
-  Urban - Transit
-  Urban - Auto
-  Old Rural
-  New Rural
-  Resource
-  Urban Growth Line











**Henigar & Ray**

PLANNING • TRANSPORTATION • ECOLOGY • ENGINEERING

157 YESLER WAY, SUITE 617  
SEATTLE, WA, 98104  
(206) 233-0720



**KING COUNTY SEIS  
 PRE-COUNTYWIDE  
 PLANNING POLICIES  
 LAND CATEGORIES FOR HOUSEHOLDS**

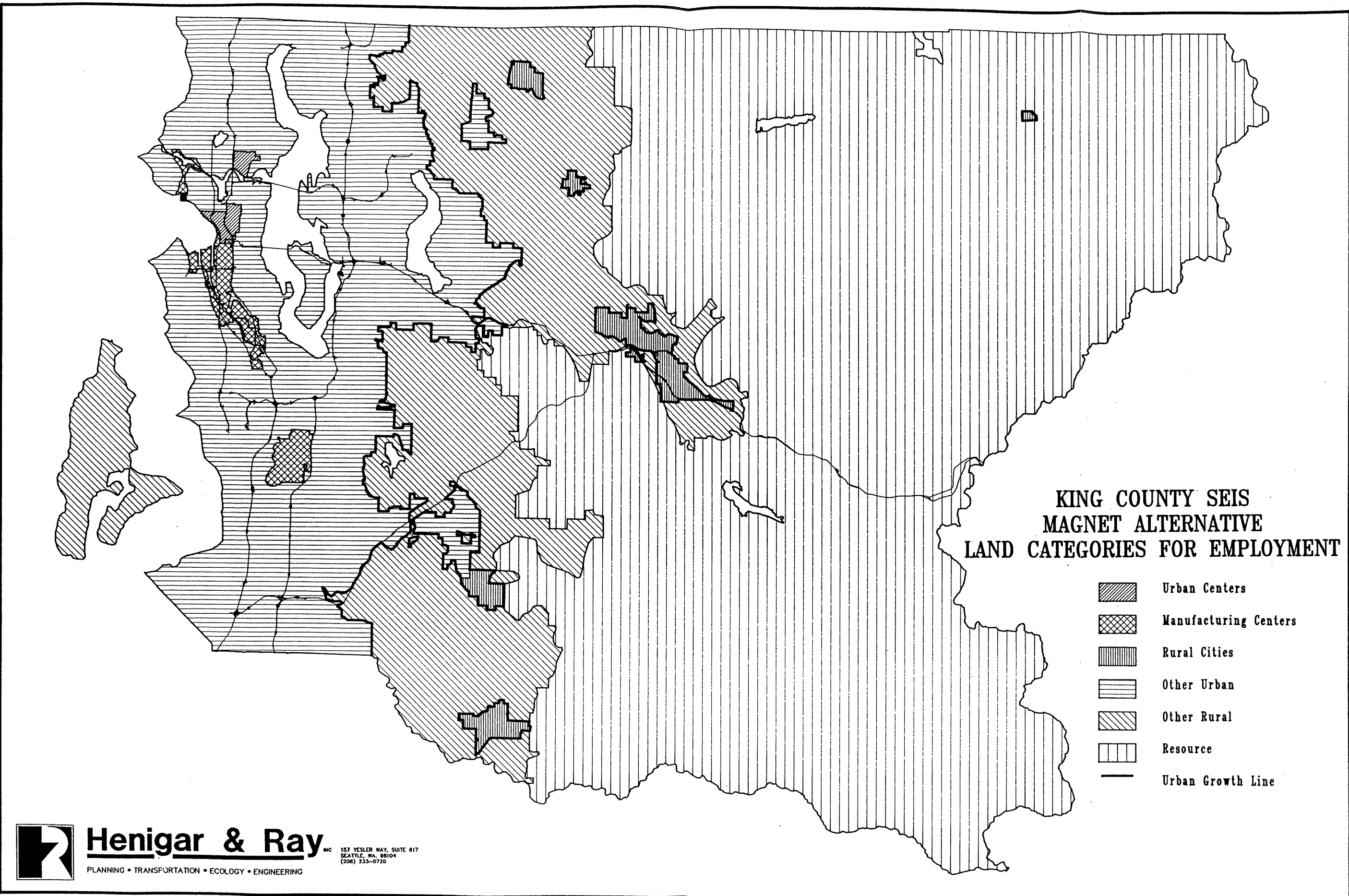
-  Urban Centers
-  Rural Cities
-  Urban - Transit
-  Urban - Auto
-  Old Rural
-  New Rural
-  Resource
-  1985 Urban Growth Line



**Henigar & Ray**

INC 157 YESLER WAY, SUITE 617  
 SEATTLE, WA 98104  
 (206) 233-0720

PLANNING • TRANSPORTATION • ECOLOGY • ENGINEERING



**Henigar & Ray** INC

PLANNING • TRANSPORTATION • ECOLOGY • ENGINEERING

157 YESLER WAY, SUITE 617  
SEATTLE, WA, 98104  
(206) 233-0720

## SPECIFIC POLICIES RELATED TO ALTERNATIVE D

### CRITICAL AREAS

#### The King County Comprehensive Plan

The 1985 King County Comprehensive Plan describes the natural features requiring special consideration in land use decisions, and establishes policies to reduce hazards and prevent adverse environmental impacts. These features are: steep slopes, seismic hazards, coal mine hazards, water quality, drainage systems, rivers, streams and water bodies, wetlands, floodplains and aquifers. The Plan encourages growth and development patterns that are compatible with natural features; alteration of natural features is discouraged. County policies addressing critical areas are found in chapters 2,4,5,6,7, and 8 of the Comprehensive Plan. Policies countywide in nature are the following:

E-101 King County should protect and enhance environmental quality through land use plans, surface water management programs and park master plans, developments approvals, incentive programs, and cooperative work with citizens, land owners, and public and private agencies responsible for environmental protection.

E-105 King County should work with cities, adjacent counties, state and federal agencies, land owners and other citizens to promote and protect all aspects of environmental quality and preserve open space.

E-301 Land use plans and zoning should reflect natural constraints.

CI-109 Locations for commercial and industrial development should be based on the land's natural capacity for development. Floodplains, wetlands, steep slopes, landslide and erosion hazard areas should not be designated for commercial or industrial development because they may pose a danger to development, or perform highly valuable ecological functions.

F-331 Watershed basin plans should provide for multiple use - including recreation, fish and wildlife enhancement, and flood protection, erosion control and open space.

### RESOURCE LANDS

#### King County Comprehensive Plan

King County Comprehensive Plan designates lands for use by resource industries and establishes policies to guide planning and regulation to conserve valuable farmlands, forest lands and mineral resources, and to encourage and promote their productive management by resource industries. County policies addressing resource lands are found in Chapters two, four, and seven of the Comprehensive Plan. Policies that are countywide in nature are the following:

PC-119 King County should provide for long-term conservation of Resource lands for productive agriculture, forestry, and mineral extraction.

E-312 Water resources should be managed for multiple uses - including recreation, fish and wildlife, flood protection, erosion control, water supply, energy production, and open space. Use of water resources for one purpose should, to the fullest, extent possible, preserve opportunities for other uses.

E-321 Water quality, natural drainage, fish and wildlife habitat, and aesthetic functions of rivers, streams, lakes and Puget Sound should be protected.

RL-103 King County should work with cities, other public agencies, and private land owners to conserve public and private Resource Lands, and to encourage continued resource management.

RL-104 Resource industries should use management practices that protect the environment and adjacent land uses, and maintain the long term productivity of the resource base.

RL-210 King County should offer incentives to encourage conservation of forest lands in Urban, Transitional and Rural Areas. When conservation of a forest parcel is assured, adjacent land uses, utilities and transportation should be designed to reduce conflicts with forestry.

RL-307 King County should work with cities to conserve agriculture and farmland in Agricultural Production Districts. Land within Agricultural Production Districts should only be annexed cities of incorporated when agricultural protection is assured, such as through an interlocal agreement.

RL-410 Truck traffic for mining operations should avoid neighborhood collector or local access streets. Where two or more arterials serve a mining operation, truck traffic should use routes which produces the lower peak traffic volumes and otherwise reduces hazards to residential or agricultural traffic on arterials. In Urban Areas, mining operations should have direct access to arterials.

### **Economic Development Plan**

The Economic Development Plan contains a section on Community Development; Chapter three addresses Countywide resource lands issues in the following policies:

CD-13 Community plans for rural areas will address regional and local economic development issues through the following actions:

a. Develop plans for Rural Activity Centers that provide capacity for retail stores and services adequate to meet the frequent shopping needs for the population that can be accommodated at build-out;

b. Develop land use plans that encourage a variety and diversity of industries and business in Rural Activity Centers to provide for a healthy local tax base for rural cities and service districts, and to provide relief from severe local unemployment problems;

c. Develop plans and programs for unincorporated areas outside of activity centers that encourage productive management of resource lands, and that take advantage of the potential for tourism and recreation provided by the open space, farms and forest, mining operations, historic sites, small towns, and scenic natural features in rural areas;

d. Establish interlocal agreements to promote cooperative land use, facility and economic development planning, including agreement on annexation areas.

## **RURAL AREAS**

### **King County Comprehensive Plan**

The 1985 King County Comprehensive Plan designates rural areas with the goal of maintaining rural community character as a valued part of King County diversity, provide choice in living environments, maintain a link to King County's heritage, allow small scale farming and forestry, and buffer valuable resource lands. Comprehensive Plan Rural Area policies that are countywide in nature are addressed in under Rural Activity Centers.

### **Economic Development Plan**

The Action Program of the Economic Development Plan, Chapter 3, addresses rural areas in relation to community plans in the following policy:

CD 13: Community Plans for rural areas will address regional and local economic development issues through the following actions:

a. Develop plans for Rural Activity Centers that provide capacity for retail stores and services adequate to meet the frequent shopping needs of the population that can be accommodated at build-out;

b. Develop land use plans that encourage a variety and diversity of industries and businesses in Rural Activity Centers to provide for a healthy local tax base for rural cities and service districts, and to provide relief from severe local unemployment problems;

c. Develop plans and programs for unincorporated areas outside of activity centers that encourage productive management of resource lands, and that take advantage of the potential for tourism and recreation provided by the open space, farms and forests, mining operations, historic sites, small towns, and scenic natural features in rural areas;

d. Establish interlocal agreements to promote cooperative land use, facility and economic development planning, including agreement on annexation areas.

## **URBAN AREAS**

## **King County Comprehensive Plan**

The 1985 King County Comprehensive Plan describes urban areas as areas where most new housing and jobs will locate, and where most public spending for facilities, services and open space will be focused, to assure liveability and efficiency. Urban Areas include incorporated cities and contain most of the County's population and economic base. The plan encourages residential and employment growth within urban areas in a pattern that protects environmental quality and aesthetic features, encourages community diversity, provides economic opportunities, and other benefits. Urban area designations are shown on the Comprehensive Plan map as amended. The following policies in the Comprehensive Plan addressing Urban Areas are countywide in nature.

PC-101 King County should encourage most population and employment growth to locate in Urban Areas, especially in cities.

R-103 King County should encourage most new residential development to occur in Urban Areas, in locations where facilities and services can be provided at the lowest public cost. Urban Areas should have a variety of housing types and prices, including mobile home parks, multifamily development, townhouses, and single family development.

PI-302 King County should work with the cities to focus growth within their boundaries and should support annexations when consistent with the King County Comprehensive Plan. King County should support incorporation when formation of cities is appropriate to assure adequate facilities and services for growth consistent with the Plan.

PI-303 King County should play an active role in municipal annexations, supporting them when consistent with land use plans, and opposing them when inconsistent.

PI-304 King County and its cities should work together to identify future annexation areas. Interlocal agreements should be used to ensure consistent land use policies and public improvement standards within agreed-upon annexation areas. This process should provide extensive opportunities for participation by affected residents, landowners and affected governmental agencies.

PI-305 In identified future annexation areas, cities should be able to extend services prior to annexation.

## **Economic Development Plan**

The Economic Development Plan promotes Comprehensive Plan policies to concentrate growth in urban areas. Policies countywide in nature are the following:

CD-7 King County will expand its series of reports and issue papers on development trends to strengthen data and analysis on commercial and industrial development trends and their implications for adopted economic development goals and policies. Data/analysis should

include:

- a. Countywide capacity of city and unincorporated employment centers to accommodate regional employment growth, including vacant land and capacity for redevelopment;
- b. A comparison of the region's employment growth capacity with residential development capacity;
- c. Countywide capacity of land use plans to accommodate growth in basic industries and to maintain economic diversity;
- d. Capacity of local land use plans to accommodate a balance of households and employment at build out;
- e. Capacity of public infrastructure serving Activity Centers, such as roads, sewers and water supply systems, to accommodate forecast and planned growth and economic development;
- f. Indications of potential community distress, based on regional economic changes and local indicators of distress; and
- g. Recommendations for County action to address identified issues or expand study of the issue.

CD-11 King County will include an analysis of local economic conditions, needs and opportunities in community plan profiles and in background data prepared for future community plan updates, including:

- a. Economic attributes of the plan area and adjacent cities, such as local employment sources and levels; major local employers, growth trends and forecast; information on where residents work and population/demo-graphics;
- b. Capacity to accommodate employment growth and economic diversity in the plan area and adjacent cities;
- c. Comparison of long term household growth capacity, and capacity for employment growth in the plan area, adjacent areas and cities;
- d. Information on work and shopping trip destinations and average commute lengths;
- e. An assessment of potential future economic development opportunities and options for taking advantage of desirable opportunities;
- f. Assessment of tax revenue issues for Urban and Rural Activity Centers.

This analysis/assessment will provide a strong basis for local economic development strategies for urban communities and rural areas.

**CD-12** Community plans for Urban Areas and Urban Activity Centers will address regional and local economic development issues as follows:

- a. Work with cities to determine expansion needs of city or unincorporated activity centers, to accommodate industry and employment growth targets as described in CD-4.
- b. Develop plans for urban activity centers that encourage employment diversity, including basic industries, support services, wholesale and retail trade;
- c. Address local tax base and revitalization issues;
- d. Designate neighborhood or community centers in locations consistent with Comprehensive Plan direction to provide for small, frequent centers for local shopping and service businesses;
- e. Evaluate plan alternatives to ensure that each action alternative provides zoned capacity for a local balance of jobs and households at buildout, considering capacity in the plan area, and adjacent plan areas and cities; and
- f. Establish interlocal agreements with appropriate cities to indicate future annexation or incorporation plans for unincorporated activity centers, as needed to implement County plans and policies.

## **URBAN ACTIVITY CENTERS**

### **King County Comprehensive Plan**

The King County Comprehensive Plan defines Urban Activity Centers as major concentrations of commercial and industrial development in unincorporated King County, and similar concentrations within cities. According to the Comprehensive Plan, King County will designate centers for commercial and industrial uses based on existing development patterns and availability of public facilities and services. The following policies are Countywide in nature;

**PC-103** King County should encourage development of Urban Activity Centers to meet the needs of the region's economy and to provide employment, shopping, services, and leisure-time amenities in diverse locations in all Urban Areas.

**CI-201** Urban Activity Centers should have a mix of uses, including several or all of the following:

- a. Retail stores and services;
- b. Small, medium and large scale professional offices and business parks;

- c. Multifamily housing and mixed-use development;
- d. Heavy commercial uses, such as wholesale trade; and
- e. Light to heavy manufacturing, and manufacturing parks.

CI-202 The size of each Urban Activity Center and mix of uses within it should be established based on regional and local needs and constraints. Plans for each Urban Activity Center should:

- a. Provide for a reasonable share of the regional economic development needs identified by the King County Economic Development Plan;
- b. Provide the opportunity for a local balance of jobs and population, in conjunction with other nearby Urban Activity Centers;
- c. Be based on the long-term availability and cost of public facilities and services, to ensure adequate transportation, sewers, public water, police and fire service can be provided cost-effectively; and
- d. Complement land use plans for Urban Activity Centers nearby, to reduce public facility costs and encourage compact development patterns.

CI-204 The amount of land designated for retail development in Urban Activity Centers should be based on the amount of residential development planned for the surrounding area, to provide for the existing and future shopping needs of communities, while encouraging compact development patterns.

CL-209 Urban Activity Centers not originally designated in the Comprehensive Plan Map may be proposed as amendments, and the proposal should be subject to thorough public review from a county-wide perspective. King County should designate new Urban Activity Centers when adequate public facilities and services and private improvements can be provided cost effectively, and:

- a. A new center is needed to provide nearby jobs, goods, and services to residents of Urban Areas, or because economic development cannot reasonably be accommodated in existing Urban Activity Centers; and
- b. Development of a new Urban Activity Center would not adversely affect provision of public facilities and services to existing incorporated or unincorporated Urban Activity Centers nearby.

C-210 Locations designated as Urban Activity Centers should be in areas where public or private improvements and services can be provided cost-effectively in time to meet the need. The location should be served by high capacity arterials or a freeway interchange, and in an area that can be cost effectively served by utilities, transit, and police and fire protection.

CI-211 Urban Activity Centers should be approximately three to six miles apart, allowing

for short work and shopping trips while providing for distinct and separate centers.

Policies CI-212 through CI-235 outline design specifications for Urban Activity Centers for commercial and industrial uses.

### **Economic Development Plan**

The Economic Development Plan defines Urban Activity Centers to include cities with major employment concentrations, and similar concentrations in unincorporated areas.

CD 12 Community plans for urban areas and Urban Activity Centers will address regional and local economic development issues as follows:

- a. Work with cities to determine expansion needs of city or unincorporated activity centers, to accommodate industry and employment growth targets as described in CD 4;
- b. Develop plans for urban activity centers that encourage employment diversity, including basic industries, support services, wholesale and retail trade;
- c. Address local tax base and revitalization issues;
- d. Designate neighborhood or community centers in locations consistent with Comprehensive plan direction to provide for small, frequent centers for local shopping and service businesses;
- e. Establish interlocal agreements with appropriate cities to indicate future annexation or incorporation plans for unincorporated activity centers, as needed to implement County plans and policies.

### **RURAL ACTIVITY CENTERS**

#### **King County Comprehensive Plan**

The 1985 Comprehensive Plan defines Rural Activity Centers as incorporated cities in rural areas, and clusters of business and housing in unincorporated rural areas. King County does not directly influence land use within the incorporated Rural Activity Centers, but should work with these Activity Centers to encourage development that will meet the needs of rural residents and resource industries.

PC-116 King County should work with the Rural Activity Centers to establish realistic areas for expansion of these towns by annexation and to ensure provision of necessary services for these expansion areas. Residential development at suburban or urban densities in these areas should be permitted if consistent with the plans for these towns, to the extent that services are or can be made available. Densities in these expansion areas may decrease adjacent to Rural Areas

to provide a transition between Rural Activity Centers and Rural Areas.

PC-117 Commercial and industrial development in Rural Areas should locate in existing Rural Activity Centers, to provide employment, shopping, services and housing opportunities that will reinforce these towns as rural centers, at a scale compatible with surrounding roads, utilities, and rural character. Rural Activity Centers also should contain higher density housing. King County should work with Rural Activity Centers to plan for growth consistent with long-term protection of surrounding Rural Areas and Resource Lands.

CI-501 Rural Activity Centers serve as the activity centers for Rural Areas and should include several or all of the following land uses:

- a. Retail stores and services intended to serve the surrounding Rural Area population and to provide supplies for resource industries;
- b. Residential development, including single family housing on small lots as well as multifamily housing and mixed use developments; and
- c. Other commercial and industrial uses, including commercial recreation facilities, resource based industries and light industry.

CI-502 King County should work cooperatively with incorporated Rural Activity Centers to plan for commercial and industrial development. The amount of growth should be sufficient to ensure a sound economic base; be served by adequate facilities and services; be compatible with surrounding roads, utilities, and rural residential uses; and protect resource lands.

Policies CI-503 through CI-507 address design and improvement standards for Rural Activity Centers in King County.

### **Economic Development Plan**

The goals and policies of the Economic Development Plan incorporate economic development needs into ongoing community development needs. Policies countywide in nature are the following:

CD 5: King County will work with cities to plan for economic growth and unincorporated areas, as follows:

- a. Promote city and county agreement on economic development strategies and land use plans for unincorporated areas, as follows:
- b. Determine long range annexation and incorporation plans and establish interlocal agreements as needed to implement economic development policies for existing and new commercial and industrial areas.

CD 13: Community plans for rural areas will address regional and local economic development issues through the following actions:

- a. Develop plans for Rural Activity Centers that provide capacity for retail stores and services adequate to meet the frequent shopping needs of the population that can be accommodated at build-out;
- b. Develop land use plans that encourage a variety and diversity of industries and businesses in Rural Activity Centers to provide for a healthy local tax base for rural cities and service districts, and to provide relief from severe local unemployment problems;
- c. Develop plans and programs for unincorporated areas outside of activity centers that encourage productive management of resource lands, and that take advantage of the potential for tourism and recreation provided by the open space, farms and forests, mining operations, historic sites, small towns, and scenic natural features in rural areas;
- d. Establish interlocal agreements to promote cooperative land use, facility and economic development planning, including agreement on annexation areas.

## **TRANSPORTATION**

### **King County Comprehensive Plan**

The transportation policies in the 1985 King County Comprehensive Plan reflect the varied transportation needs generated by development in urban, transitional and rural areas. These policies also establish a framework for functional plans for the highway and street system, transit, and major bicycle and pedestrian facilities. The following transportation policies are countywide in nature:

PC-203 In cooperation with cities and other service providers, King County should set service level standards as the basis for defining the adequacy of facilities and services, consistent with the plan concept's growth and development pattern. These standards should:

- a. Distinguish between the public facility and service needs of Urban and Rural areas;
- b. Specify which facilities and services are essential to protect public health, safety and welfare, and which are needed to enhance community quality;
- c. Specify which facilities and services must be provided or assured as development occurs, and which may follow as needs arise;
- d. Be clearly defined (measurable when possible); and
- e. Encourage allocation of facility and service costs efficiently and equitably between regional and local taxpayers and ratepayers, and between existing communities and new

development.

F-201 King County should design its transportation facilities and services to minimize air, water and noise pollution, and disruption of natural surface water drainage. Safety and accident prevention also should be paramount concerns.

F-202 Transportation facilities should not be located in environmentally sensitive areas unless it is unavoidable and their design and construction adequately mitigate adverse impacts. Transportation facilities also should not be located in a manner that would increase development pressure on environmentally sensitive areas or Resource Lands.

F-203 Energy-efficient transportation facilities and services such as buses, vans, carpools, bikeways and high occupancy vehicle lanes should be encouraged in appropriate locations.

F-204 Accessible and convenient transportation facilities and services should be made available to elderly and disabled citizens.

F-205 and F-206 establish King County's general approach to funding transportation facilities.

F-207 through F-227 address King County's standard design requirements for freeways, arterials, and local access streets.

F-224 Transit service should reinforce the objective of encouraging growth in Urban Areas.

F-225 Transit investment in Rural Areas should emphasize local service for transit-dependent residents rather than commuter service to Urban and Transitional Areas. Commuter service to these areas for Rural Areas residents should be provided primarily by park-and-ride lots, in Urban and Transitional Area locations convenient to Rural Areas.

F-226 Transit centers (major transfer points) should be located in Urban Activity Centers.

F-227 Transit centers should include safe and convenient bus, pedestrian and bicycle access that minimizes conflicts with other traffic.

F-228 through F-235 address bus shelters, park and ride lots, location of development in respect to transit, and pedestrian and bicycle transportation.

F-236 Metropolitan-scale commercial aviation facilities and other airports above the Federal Aviation Administration (FAA) "General Utility" classification should locate on very large sites close to major population centers and be well served by highways and public transit. Adequate roads and transit must be available or provided concurrently with any airport development.

F-237 Siting decisions on any new aviation facility in King County should be supported by a regional planning process that encompasses all counties in the Puget Sound area, involves affected agencies at all levels of government, and allows cumulative impacts to be analyzed. Siting decisions on any new aviation facility in King County (including small airfields in Rural

Areas) should consider the proposal relative to other airfields and airports in the Puget Sound region (King, Pierce, Snohomish and Kitsap Counties).

F-238 General aviation facilities ("General Utility" FAA classification) should be located in or near existing or new Urban Activity Centers. Proposals for new general aviation facilities should be considered Comprehensive Plan Map amendments that would create new Urban Activity Centers. They should have adequate fire protection and other public facilities and services and have major arterial access from a nearby freeway. All required facilities and services must be provided concurrently with any airport development if they are not already in place.

F-239 through F-245 address FAA regulation compliance, airport approach zones, small airfields, landing fields, and passenger and freight terminals.

### **King County Transportation Plan**

The Transportation Plan for King County is a functional plan consistent with the goals and policies of the Comprehensive Plan. The Transportation Plan identifies all of the policies in the Comprehensive Plan related to transportation. For Countywide Transportation Plan policies see Comprehensive Plan policies above.

## **Economic Development Plan**

The Economic Development Plan encourages regional efforts to address common infrastructure problems in the following policy:

CD 19: King County will strengthen its work with cities and local and regional service providers to identify and address regional infrastructure needs, through the following actions:

a. Maintain and update information on capacity problems in the Countywide road system, including County roads in unincorporated areas, and roads in cities that are part of the regional transportation system, through periodic updates to the Transportation Plan;

b. Continue to work with cities, businesses, property owners and economic development groups to plan and implement subregional transportation improvements that promote efficient commutes for workers, and efficient business travel between activity centers, through projects such as the Eastside Transportation Program and the Green River Valley transportation program;

c. Strengthen work with Metro and the cities, through participation on the Metro Council and joint public transportation projects and programs, to address public transportation needs that either expand road capacity or promote more efficient use of existing roads;

## **COMMUNITY CHARACTER AND OPEN SPACE**

### **King County Comprehensive Plan**

The KKCP provides policies to support Open Space and Community Character initiatives in King County. Policies that are countywide in nature are the following:

E-102 King County should preserve and enhance natural beauty by encouraging community development patterns and site planning that maintain and enhance natural landforms, and by identifying and preserving open space.

E-203 Land of regional significance should be identified for preservation as parks or open space through a process involving King County residents, land owners, cities and other government agencies, and conservation and sports groups.

E-204 Local residents should have a significant role in determining priorities for meeting the local open space needs of their community.

E-212 Major recreational facilities that generate large amounts of traffic (for example, swimming pools) should be located on sites with direct arterial access, preferably grouped with

other traffic generators and/or within Urban Activity Centers, Community Centers, Neighborhood Centers or Rural Activity Centers.

PC-117 Commercial and industrial development in Rural Areas should locate in existing Rural Activity Centers, to provide employment, shopping, services and housing opportunities that will reinforce these towns as rural centers, at a scale compatible with surrounding roads, utilities, and rural character. Rural Activity Centers also should contain higher density housing. King County should work with Rural Activity Centers to plan for growth consistent with long-term protection of surrounding Rural Areas and Resource Lands.

HS-101 King County should work with residents, property owners, community groups, cities and other public agencies to identify, evaluate and protect heritage sites.

### **King County Open Space Plan**

The 1988 King County Open Space Plan serves as an implementation plan for the Comprehensive Plan. Although the policies in the Open Space Plan are intended for King County the following policies are also countywide in nature:

OS-107 King County should participate with federal, state, and other local government agencies in land trades and joint acquisitions, or contribute to other agencies' acquisitions, of regionally important open space lands.

OS-113 King County should experiment with a limited "transfer of development rights program" for residential densities by adopting an ordinance authorizing such transfers in the following instances and subject to the following conditions:

- o the sending and receiving properties are controlled by one legal entity;
- o the sending property is certified as suitable for inclusion in the Open Space System by the Natural Resources and Parks Division in accordance with the Open Space Evaluation System described in this plan;
- o the development rights transferred from the sending property are based on zoned density consistent with the King County Comprehensive Plan;
- o at the discretion of the Natural Resources and Parks Division,
  - the sending property is donated to King County Natural Resources and Parks Division, or a certified public land trust in fee; OR,
  - a permanent conservation easement is given to King County Natural Resources and Parks Division or a certified public land trust in accord with conditions acceptable to the Natural Resources and Parks Division, in which instance, the lands will not also be eligible for current use taxation;

- o properties in the "Urban Areas: designated by the Comprehensive Plan may only receive development rights from other urban properties;

- o properties in "Rural Activity Centers" designated by the Comprehensive Plan or community plans may only receive development rights from other rural properties.

- o the transfer of development rights should be consistent with the applicable community plan and be approved by the King County Council through rezoning of the receiving property.

## **AFFORDABLE HOUSING**

### **King County Comprehensive Plan**

The 1985 King County Comprehensive Plan provides guidelines for urban areas to maintain a diversity of housing choices. Urban Areas include incorporated areas in the Comprehensive Plan. The following policies are Countywide in nature:

PC-102 Residential development in Urban Areas should include a full range of single family and multifamily housing types. The overall density of Urban Areas should be high enough to support efficient urban services and provide affordable housing choices, with a variety of high, medium and low densities based on landform, environmental suitability, and availability or planned availability of facilities and services.

R-101 King County should encourage and promote a wide range of residential development types and densities in various parts of King County to meet the needs of a diverse population and provide affordable housing choices for all income levels.

R-303 Density credits should be encouraged in Urban Areas and Rural Activity Centers with adequate facilities and services to achieve important public benefits such as innovative low cost housing, significant historic preservation, or energy conservation. Density credits should be available to single family detached housing developments, multi-family projects, or developments combining both attached and detached dwelling units.

### **King County Affordable Housing Policy Plan**

The Affordable Housing Policy Plan (1987) implements the goals and policies of the Comprehensive Plan. The Affordable Housing Policy Plan evaluates the impact of County codes and regulations on housing affordability, and identifies tools and incentives for affordable housing. The following policy is countywide in nature:

Policy 4. King County should promote a fair share of affordable housing in all urban areas and rural activity centers through land use planning and housing assistance initiatives to increase housing opportunities for low and moderate income households.

## CONTIGUOUS AND ORDERLY DEVELOPMENT

### King County Comprehensive Plan

The 1985 King County Comprehensive Plan provides a framework in which King County, the cities, special purpose districts, and other public agencies, can cooperate in managing growth and development, as well as establishing a predictable and orderly process for accommodating change. Policies Countywide in nature are the following:

PC-101 King County should encourage most population and employment growth to locate in Urban Areas, especially in cities.

PC-102 Residential development in Urban Areas should include a full range of single family and multifamily housing types. The overall density of Urban Areas should be high enough to support efficient urban services and provide affordable housing choices, with a variety of high, medium and low densities based on landform, environmental suitability, and availability or planned availability of facilities and services.

PC-103 King County should encourage development of Urban Activity Centers to meet the needs of the region's economy and to provide employment, shopping, services, and leisure-time amenities in diverse locations in all Urban Areas.

PC-116 King County should work with the Rural Activity Centers to establish realistic areas necessary for expansion of these towns by annexation and to ensure provision of necessary services for these expansion areas. Residential development at suburban or urban densities in these areas should be permitted if consistent with the plans for these towns, to the extent that services are or can be made available. Densities in these expansion areas may decrease adjacent to Rural Areas to provide a transition between Rural Activity Centers and Rural Areas.

PC-117 Commercial and industrial development in Rural Areas should locate in existing Rural Activity Centers, to provide employment, shopping, services and housing opportunities that will reinforce these towns as rural centers, at a scale compatible with surrounding roads, utilities, and rural character. Rural Activity Centers also should contain higher density housing. King County should work with Rural Activity Centers to plan for growth consistent with long-term protection of surrounding Rural Areas and Resource Lands.

PC-203 In cooperation with cities and other service providers, King County should set service level standards as the basis for defining the adequacy of facilities and services, consistent with the plan concept's growth and development pattern. (See page 14, KCCP for standards)

PI-202 In substance and content, King County's land use regulations should:

e. Be coordinated with cities, special districts, and other public agencies to promote compatible development standards throughout King County.

PI-304 King County and its cities should work together to identify future

annexation areas. Interlocal agreements should be used to ensure consistent land use policies and public improvement standards within agreed-upon annexation areas. This process should provide extensive opportunities for participation by affected residents, landowners and affected governmental agencies.

The following Comprehensive Plan policies address standards for most commercial and industrial development in unincorporated areas, and provide the basis for King County's work with cities on plans for commercial and industrial development.

CI-102 King County, in cooperation with the cities, should make every feasible effort to make a supply of physically suitable and services sites potentially available to meet the needs of new and expanding businesses in appropriate locations.

CI-108 King County should encourage a wide range of commercial and industrial development in Urban Activity Centers and Rural Activity Centers, and should provide for small-scale retail stores, offices and services in Community and Neighborhood Centers. commercial and industrial development should occur primarily in compact centers.

CI-109 Locations for commercial and industrial development should be based on the land's natural capacity for development. Floodplains, wetlands, steep slopes, landslide and erosion hazard areas should not be designed for commercial or industrial development because they may pose a danger to development, or perform highly valuable ecological functions.

### **Economic Development Plan**

Economic and Development Plan goals and policies support the Comprehensive Plans recommended land use and development patterns.

CD 5: King County will work with cities to plan for economic growth in both cities and unincorporated areas, as follows:

a. Promote city and county agreement on economic development strategies and land use plans for incorporated and unincorporated Activity Centers through cooperative planning projects and interlocal agreements; and

b. Determine long range annexation and incorporation plans and establish interlocal agreements as needed to implement economic development policies for existing and new commercial and industrial areas.

CD 7: King County will expand its series of reports and issue papers on development trends to strengthen data and analysis on commercial and industrial development trends and their implications for adopted economic development goals and policies. Data/analysis should include:

- a. Countywide capacity of city and unincorporated employment centers to accommodate regional employment growth, including vacant land and capacity for redevelopment;
- b. A comparison of the region's employment growth capacity with residential development capacity;
- c. Countywide capacity of land use plans to accommodate growth in basic industries and to maintain economic diversity;
- d. Capacity of local land use plans to accommodate a balance of households and employment at build out;
- e. Capacity of public infrastructure serving Activity Centers, such as roads, sewers and water supply systems, to accommodate forecast and planned growth and economic development;
- f. Indications of potential community distress, based on regional economic changes and local indicators of distress; and
- g. Recommendations for county action to address identified issues or expand study of the issue.

CD 12 Community plans for Urban Areas and Urban Activity Centers will address regional and local economic development issues as follows: (See page 3.22, EDP)

CD 13 Community plans for rural areas will address regional and local economic development issues through the following actions: (See page 3.24, EDP).

## SITING CAPITAL FACILITIES OF A COUNTYWIDE OR STATEWIDE NATURE

### King County Comprehensive Plan

The 1985 King County Comprehensive Plan supports interjurisdictional cooperation in providing facilities and services. The Comprehensive Plan is intended to provide a unifying framework for facility and service planning by King County's many independent jurisdictions. Policies Countywide in nature for siting public capital facilities are the following:

PI-102                    The King County Comprehensive Plan provides a general policy framework for community plans, functional plans, and land use regulations. This framework:

- c.        Provides policy directions for more detailed local and community plans, functional plans, and the capital improvement programs of King County;
- g.        Establishes criteria for provision of public facilities and services by King County and other agencies.

PI-107                    Functional Plans for facilities and services should:

- a.        Define required service levels for Urban, Transitional and Rural Areas;
- b.        Provide standards for location, design and operation of public facilities and services;
- c.        Specify adequate, stable and equitable methods of paying for public facilities and services;
- d.        Be the basis for scheduling needed facilities and services through capital improvement programs;
- e.        Plan for maintenance of existing facilities;
- f.        Be consistent with the Comprehensive Plan; and
- g.        Propose specific amendments to the Comprehensive Plan when needs for change have been identified in the functional plan process.

PI-306                    Special service district annexations should support land uses by Comprehensive Plan and community plans. Special service district annexations should be coordinated with municipal annexations and incorporation. Installed facilities should assure adequate and reliable service consistent with possible city and district change-overs in jurisdiction, giving preference to city standards for such facilities where they are more stringent than district standards.

PC-204                    King County should concentrate facilities and services in Urban Areas to

make them attractive places to live and work and to achieve economies in public spending.

PC-205            Within Urban Areas, King County may establish geographic target areas in unincorporated King County that will have high priority for public facility and service improvements. These target areas should be established, following study and public review, in locations where public facility and service improvements would most effectively advance King County's economic development, energy efficiency, or affordable housing objectives. These target areas may shift over time as improvements are installed and adopted service level standards are attained.

F-115            Public facilities should be located, designed, and operated to be compatible with neighboring uses.

F-116            Utility structures such as telephone exchange buildings, telecommunications towers, transformer stations, sewage treatment plants, and solid waste facilities should adjoining non-residential uses wherever possible. They should be designed and operated to be compatible with neighboring uses.

F-118            Public facilities that serve large areas and are used directly by the general public should be located in or near Urban Activity Centers or Rural Activity Centers.

F-236            Metropolitan-scale commercial aviation facilities and other airports above the Federal Aviation Administration (FAA) "General Utility" classification should locate on very large sites close to major population centers and be well served by highways and public transit. Adequate roads and transit must be available or provided concurrently with airport development.

### **Economic Development Plan**

The Economic Development Plan encourages commitment to cooperative planning among jurisdictions and agencies in order to have an effective countywide infrastructure system.

CD 19:           King County will strengthen its work with cities and local and regional service providers to identify and address regional infrastructure needs, through the following actions:

a.            Maintain and update information on capacity problems in the Countywide road system, including County roads in unincorporated areas, and roads in cities that are part of the regional transportation system, through periodic updates to the Transportation Plan;

b.            Continue to work with cities, businesses, property owners and economic development groups to plan and implement subregional transportation improvements that promote efficient commutes for workers, and efficient business travel between activity centers, through projects such as the Eastside Transportation Program and the Green River Valley transportation program;

c.            Strengthen work with Metro and the cities, through participation on the Metro Council and ongoing public transportation projects and programs, to address public

transportation needs that either expand road capacity or promote more efficient use of existing roads;

d. Continue to work with cities, and other public agencies to identify and address existing and potential surface water problems in urbanizing areas, through basin planning and through the Surface Water Management Program;

e. Continue to work with cities and other public agencies to identify/address existing and potential ground water problems through ground water management programs to protect important recharge areas;

f. Continue to participate in regional and subregional planning projects with sewer and water service providers and fire districts to identify Countywide needs, set standards, establish priorities and identify funding mechanisms;

g. Continue to take an active role in regional and subregional water service planning, through work with Regional Water Associations and other water supply planning programs, to agree upon service areas, set common facility standards, and assure adequate long term water supply.

## **ECONOMIC DEVELOPMENT AND FISCAL IMPACT**

### **King County Comprehensive Plan**

The 1985 King County Comprehensive Plan encourages most economic development in Urban Activity Centers and Rural Activity Centers Countywide. The Plan calls for designating centers for commercial and industrial uses based on existing development patterns and availability or planned availability of public services.

PC-103 King County should encourage development of Urban Activity Centers to meet the needs of the region's economy and to provide employment, shopping, services, and leisure-time amenities in diverse locations in all Urban Areas.

PC-117 Commercial and industrial development in Rural Areas should locate in existing Rural Activity Centers, to provide employment, shopping, services and housing opportunities that will reinforce these towns as rural centers, at a scale compatible with surrounding roads, utilities, and rural character. Rural Activity Centers also should contain higher density housing. King County should work with Rural Activity Centers to plan for growth consistent with long-term protection of surrounding Rural Areas and Resource Lands.

CI-108 King County should encourage a wide range of commercial and industrial development in Urban Activity Centers and Rural Activity Centers, and should provide for small-scale retail stores, offices and services in Community and Neighborhood Centers. Commercial and industrial development should occur primarily in compact centers.

CI-202 The size of each Urban Activity Center and mix of uses within it should be established based on regional and local needs and constraints. Plans for each Urban Activity Center should:

- a. Provide for a reasonable share of the regional economic development needs identified by the King County Economic Plan;
- b. Provide the opportunity for a local balance of jobs and population, in conjunction with other nearby Urban Activity Centers;
- c. Be based on the long-term availability and cost of public facilities and services, to ensure adequate transportation, sewers, public water, police and fire service can be provided cost-effectively; and
- d. Complement land use plans for Urban Activity Centers nearby, to reduce public facility costs and encourage compact development patterns.

CI-502 King County should work cooperatively with incorporated Rural Activity Centers to plan for commercial and industrial development. The amount of growth should be sufficient to ensure a sound economic base; be served by adequate facilities and services; be compatible with surrounding roads, utilities, and rural residential uses; and protect Resource Lands.

### **King County Economic Development Plan**

Policies in the Economic Development Plan encourage economic development that will enhance the overall quality of life in King County. The Plan recognizes the local economy is Countywide and region-wide and policies and goals require interjurisdictional coordination to be successful in their implementation.

The following policies outline the general principles in the Economic Development Plan that are used to promote economic development Countywide. For more details see Chapter III of the Economic Development Plan.

CD-5 King County will work with cities to plan for economic growth in both cities and unincorporated areas, as follows:

- a. Promote city and county agreement on economic development strategies and land use plans for incorporated and unincorporated Activity Centers through cooperative planning projects and interlocal agreements; and
- b. Determine long range annexation and incorporation plans and establish interlocal agreements as needed to implement economic development policies for existing and new commercial and industrial areas.

ED-1 Economic development activities should contribute to real economic growth and increased productivity.

ED-2 King County should encourage economic diversification, particularly through growth in industries that strengthen our export base, substitute local products for imports, or have high local value added or local linkages.

ED-3 King County should continue to seek and encourage growth in industries that contribute to an increased standard of living for the workforce.

ED-4 King County programs should increase economic opportunity and achievement among segments of society.

ED-5 Economic development should be encouraged in all communities within King County.

ED-6 King County should contribute to local business formation, retention and expansion, by assuring a supportive business environment.

ED-7 Economic development activities should focus on developing long-term capacity for economic growth.

ED-8 King County should welcome and promote economic activity that maintains and enhances our high quality environment.

ED-9 King County should continue to strengthen cooperation among jurisdictions, all levels of government and other institutions in economic development programs.

ED-10 King County should retain the flexibility to take advantage of changing opportunities, within the context of specific goals and policies.

**Countywide Planning Policies  
Urban Growth Areas;  
Technical Study Areas - Renton and Issaquah  
June 16, 1993**

A-6

**General Background:**

As it completed recommendations on Countywide Planning Policies (CPP) in June 1992, the GMPC directed staff to continue work on certain Technical Review Areas on the Urban Growth Area (UGA) boundary. These Areas are only the following: mapped areas labeled NC-1, NC-3, R-1, R-2, R-3 and, based on GMPC action at the June 3rd meeting, additional areas adjacent to the eastern boundary of the City of Issaquah. These additional areas were reviewed by the GMPC at its March 17, 1993 meeting, and recommended on to the County Council for adoption and city ratification.

The attached issue papers include the staff recommendation for each Technical Review Area as well as key issues and analysis. Staff recommendations are based on Countywide Planning Policy LU-14 (attached) which establishes criteria for the designation of the Urban Growth Area. Workshops were held in the Renton area to solicit public input. This report is available from staff.

King County staff has worked with staff from both the City of Issaquah and the City of Renton during the analysis of these technical review areas. The Renton City Council adopted Resolution No. 2960 on April 5, 1993 which designates urban growth area boundaries for the City of Renton and is consistent with the staff recommendations for technical review areas in this report.

On June 7, 1993 the Renton City Council was asked to review its recommendation for parts of technical review area R-3 by a property owner and agreed to do this. The results of this review were not available at the time this report was mailed.

**Process for dealing with recommendations on Technical Review Areas**

Recommendations to amend the Countywide Planning Policies are subject to King County Council adoption and city ratification pursuant to the interlocal agreement on the CPP adoption process. Therefore, recommendations on Technical Review Areas that would change the UGA are subject to County adoption and city ratification. Until adoption/ratification of amendments occur, the Washington State Boundary Review Board for King County "should be governed in its decisions by the interim urban growth area boundary and the adopted and ratified countywide planning policies..." (LU-24, in part).

**Action Proposed for the GMPC**

Staff is recommending GMPC action on the five Technical Review Areas (NC-1, NC-3, R-2, R-3, R-1) detailed in the attached reports. A summary of those recommendations is as follows:

- |                          |                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------|
| <u>NC-1</u> (540 Acres)  | Retain Urban designation on 84% of the review area; redesignate 16% of the area to Rural.   |
| <u>NC-3</u> (373 Acres)  | Retain Urban designation                                                                    |
| <u>R-2</u> (182 Acres)   | Retain Urban designation                                                                    |
| <u>R-3</u> (446 Acres)   | Redesignate to Rural                                                                        |
| <u>R-1</u> (1,510 Acres) | Retain Rural on 22% of the review area; redesignate the remaining 78% of the area to Urban. |

## GROWTH MANAGEMENT PLANNING COUNCIL

Countywide Planning Policies  
Urban Growth Areas;  
Issaquah Technical Study Areas - NC-1  
June 16, 1993

<u>Status Report:</u> Issaquah Technical Review Area NC-1
<u>1992 CPP Designation:</u> Urban
<u>1993 Staff Recommendation:</u> Retain Urban designation on 84% of the review area; redesignate 16% of the area to Rural

The GMPC directed City and County staff to work together to address three Technical Review Areas concerning the Urban Growth Boundary near Issaquah. Two of the areas which were not shown on the Technical Review Area map were reviewed by the GMPC at the March 17, 1993 meeting. The third area (labeled NC-1) is shown on the attached map.

### Background:

- 540 acres encompassing 78 parcels
- Designated Urban by 1985 King County Comprehensive Plan
- Current zoning under Newcastle Community Plan is Growth Reserve 2.5 with development conditions (GR-2.5\*P)
- Residentially subdivided parcels (17) located in the southwest corner of Section 32 comprise approximately 88 acres. The City of Issaquah has determined that these parcels can not receive necessary urban services within the 20 year planning horizon and should be redesignated to Rural.
- Approximately 63% (i.e. 393.78 acres) of Technical Review Area NC-1 is owned by Northwest Property Investors, Inc., and is characterized by undeveloped land. These parcels make up approximately 40% of the 975 acres that are owned by Northwest Property Investors, Inc., and which the 1979 Newcastle Community Plan designated as a potential master plan village development (i.e. the East Village) on Cougar Mountain.
- Within the Issaquah Creek Basin Plan area. Plan will recommend a multimillion dollar project which, if constructed, will partially restore channel and floodplain conveyance and alleviate some of the flooding problems in lower Tibbetts Creek.
- Until Basin project is completed, it would be ill-advised to allow any urban development in the basin.
- Limited capability of the channel and floodplain to accommodate increases in stormwater and sediment will dictate an extremely cautious approach to upstream development.

## Issues:

Because of the environmental sensitivity of the Urban portions of Section 32, staff recommends that King County and the City of Issaquah consider the Urban Separator designation through the joint planning process.

The Urban Separator classification as described in Countywide Planning Policy LU-15 is intended to provide a framework for further refinement. Urban separator is currently defined in Countywide Planning Policy LU-15 as follows:

**Urban separators are low density areas or areas of little development and must be within the Urban Growth Area. Urban separators shall be defined as permanent low density land which protect resource lands and environmentally sensitive area and create open space corridors within and between urban areas which provide environmental, visual, recreational and wildlife benefits. These lands shall not be redesignated in the future to other urban uses or higher densities.**

King County and the City of Issaquah will undertake joint planning for the entire property through the Potential Annexation Area process. This process calls for King County and the city to establish city potential annexation areas including growth phasing and development standards within these areas. Public process and discussion will occur during Potential Annexation Area negotiations. The Potential Annexation Area will be established by interlocal agreement before July 1994, with phasing and development conditions to be addressed in a subsequent interlocal to be completed by early 1995.

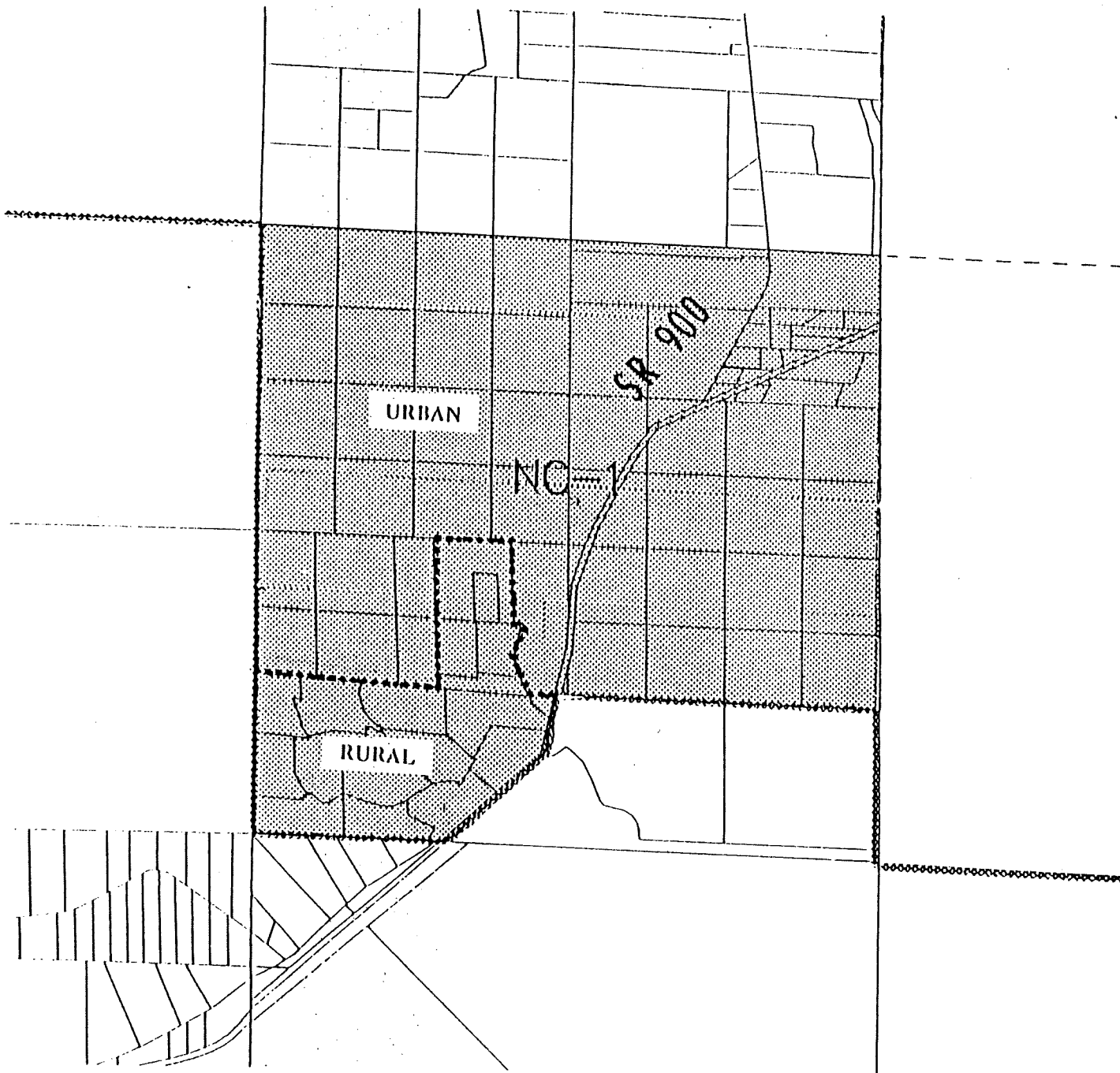
As a coordinating partner with King County in the preparation of the draft Issaquah Creek Basin Plan, published in December 1992, the City of Issaquah believes that the basin issues, as well as the options for development must be established in the context of the total property, which is under single ownership. The City supports the establishment of a joint planning agreement with King County for the entire 975 acre property in which to mutually reconcile basin issues as well as other City and County community planning issues.






Key components of the joint planning agreement will specify the appropriate densities and zoning (including Urban Separator refinements), development standards, impact mitigation and future annexation within the potential annexation area. Placing the majority of Technical Review Area NC-1 within the urban boundary does not automatically signify development approval. Adequacy, concurrency and environmental tests would still be required and have to be met.

tk:cnc:lx

# KING COUNTY GMPC CURRENTLY DESINGATED URBAN

## TECHNICAL REVIEW AREA NC-1



-  Parcels
-  Countywide Planning Policies UGA line
-  Cities (Incorporated Areas)
-  Technical Review Area
-  Proposed UGA line

King County PCDD  
Geographic Information System

Scale 1:11528

This map is intended for planning purposes only and is not guaranteed to show accurate measurements.

Boundaries may be incomplete and are the best available at the current time.

This map may include parcels split for planning purposes.

Street right of way is not shown.

June 07, 1993

## GROWTH MANAGEMENT PLANNING COUNCIL

Countywide Planning Policies  
Urban Growth Areas;  
Renton Technical Study Area - NC-3  
June 16, 1993

<b>Status Report:</b> Renton Technical Review Area NC-3
<b>1992 CPP Designation:</b> Urban
<b>1993 Staff Recommendation:</b> Retain Urban designation.

The GMPC directed City and County staff to work together to address four Technical Review Areas concerning the Urban Growth Boundary near Renton. These four areas are known as NC-3, R-2, R-3 and R-1. Technical Review Area NC-3 is shown on the attached map.

King County and the City of Renton held two public workshops to discuss land use designations in the technical review areas near Renton. The first meeting was held on September 17, 1992 and attended by about 70 people. The second meeting was held on April 28, 1993 and was attended by approximately 60 people. Both King County and City of Renton staff fielded numerous calls from the public on the technical review areas and also met with interested parties throughout the review process.

### Background:

- 373 acres encompassing 68 parcels
- Designated Urban by 1985 King County Comprehensive Plan
- Current zoning under Newcastle Community Plan is Suburban Cluster with development conditions (SC-P)
- This land is not necessary to meet the Renton and surrounding area growth capacity requirements for next 20 years
- Currently outside of Local Service Area Boundary and not served by sewers. However, both sewer and water are accessible.
- Existing development pattern is rural. The area is heavily forested and provides wildlife habitat linkages with the King County Cougar Mountain Park.
- Contributes runoff (sedimentation and erosion) to May Creek drainage basin
- Amount of conversion from vegetation to impermeable surface is an important consideration
- Whitegate subdivision proposed for this area is to include 124 lots on 123.88 acres.
- Provides open space corridor and wildlife benefits

## Issues:

Because of the environmental sensitivity, open space and wildlife benefits of Technical Review Area NC-3, staff recommends that King County and the City of Renton consider the Urban Separator designation through the joint planning process.

The Urban Separator classification as described in Countywide Planning Policy LU-15 is intended to provide a framework for further refinement. Urban separator is currently defined in Countywide Planning Policy LU-15 as follows:

Urban separators are low density areas or areas of little development and must be within the Urban Growth Area. Urban separators shall be defined as permanent low density land which protect resource lands and environmentally sensitive area and create open space corridors within and between urban areas which provide environmental, visual, recreational and wildlife benefits. These lands shall not be redesignated in the future to other urban uses or higher densities.

King County and the City of Renton will undertake coordinated planning for this area through the Potential Annexation Area process. The Potential Annexation Area will be established by interlocal agreement before July 1994, with phasing and development conditions to be addressed in a subsequent interlocal to be completed by early 1995.

King County and the City of Renton are currently preparing a Basin Plan for the area. The Executive Proposed Basin Plan is scheduled to be transmitted in October of 1994, with adoption anticipated in June of 1995.

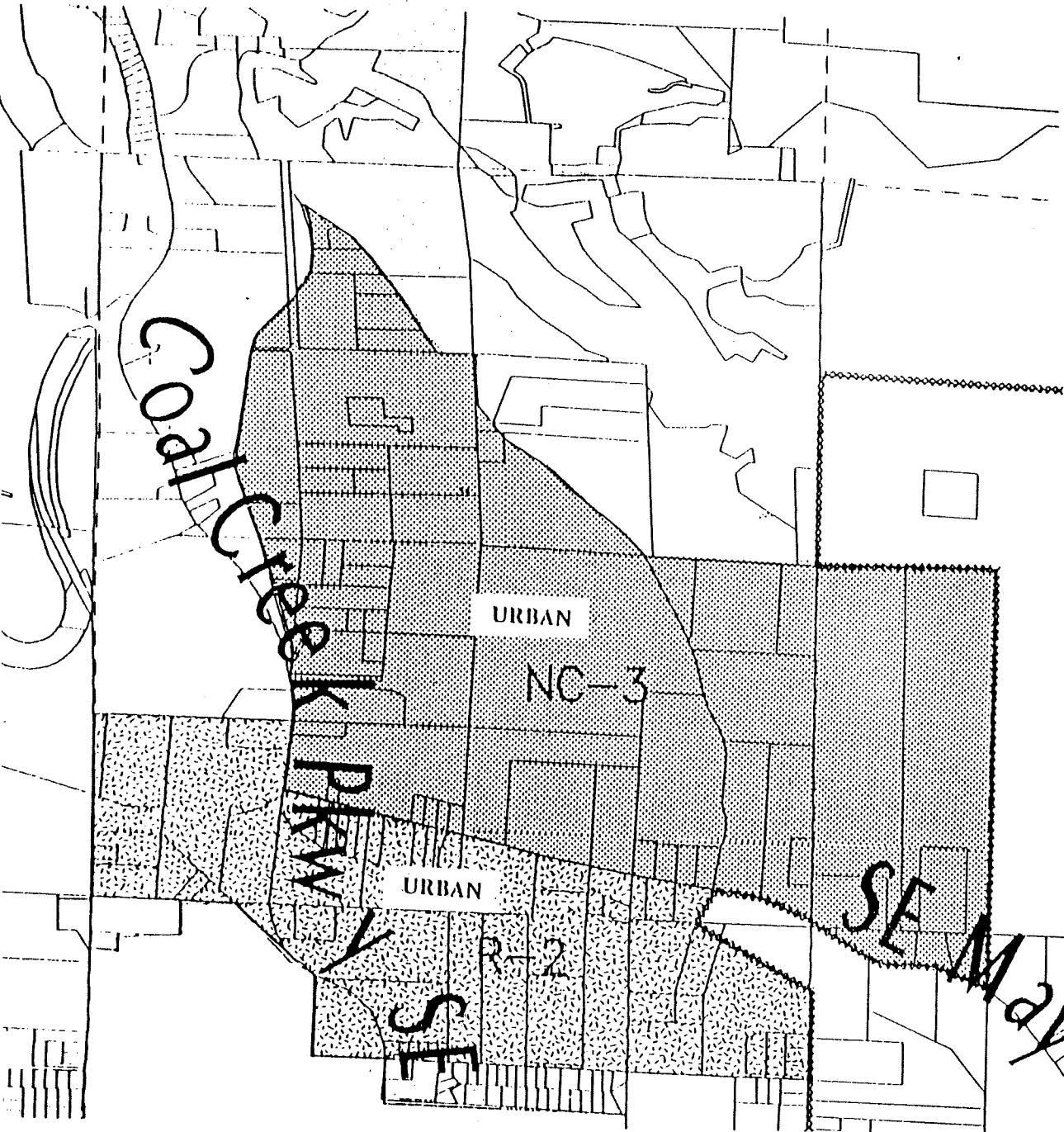
The City of Renton currently recommends Resource Conservation zoning for this area (1 dwelling unit per 10 acres). Specific zoning (densities) will likely result from the Basin Plan Process.






Key components of the joint planning agreement will specify the appropriate densities and zoning (including Urban Separator refinements), development standards, impact mitigation and future annexation within the potential annexation area. Placing Technical Review Area NC-3 within the urban boundary does not automatically signify development approval. Adequacy, concurrency and environmental tests would still be required and have to be met.

tk:c:nc3x

# KING COUNTY GMPC CURRENTLY DESIGNATED URBAN

## TECHNICAL REVIEW AREAS NC-3 AND R-2



-  Parcels
-  Subdivisions that contain smaller parcels
-  Countywide Planning Policies UGA line
-  Cities (Incorporated Areas)
-  Technical Review Area

King County PCDD  
Geographic Information System

Scale 1: 10424

This map is intended for planning purposes only and is not guaranteed to show accurate measurements.

Boundaries may be incomplete and are the best available at the current time.

This map may include parcels split for planning purposes.

Street right of way is not shown.

June 04, 1993

## GROWTH MANAGEMENT PLANNING COUNCIL

Countywide Planning Policies  
Urban Growth Areas;  
Renton Technical Study Area - R-2  
June 16, 1993

<u>Status Report:</u> Renton Technical Review Area R-2
<u>1992 CPP Designation:</u> Urban
<u>1993 Staff Recommendation:</u> Retain Urban designation.

The GMPC directed City and County staff to work together to address four Technical Review Areas concerning the Urban Growth Boundary near Renton. These four areas are known as NC-3, R-2, R-3 and R-1. Technical Review Area R-2 is shown on the attached map.

King County and the City of Renton held two public workshops to discuss land use designations in the technical review areas near Renton. The first meeting was held on September 17, 1992 and attended by about 70 people. The second meeting was held on April 28, 1993 and was attended by approximately 60 people. Both King County and City of Renton staff fielded numerous calls from the public on the technical review areas and also met with interested parties throughout the review process.

### Background

- ° 182 acres encompassing 62 parcels
- ° Designated Urban by 1985 King County Comprehensive Plan
- ° Current zoning under Newcastle Community Plan is Suburban Cluster with development conditions (SC-P)
- ° Not necessary to meet area capacity requirements for next 20 years
- ° Existing development pattern is rural. The area is surrounded by urban development but remains at low densities with large undeveloped tracts.
- ° Outside of Local Service Area Boundary (not served by sewer)
- ° Sedimentation and erosion are occurring within May Creek drainage basin
- ° Amount of conversion from vegetation to impermeable surface is an important consideration.
- ° Stonegate subdivision proposed for this area and neighboring land is to include 53 lots on 38.4 acres. Six of the lots are to be located within Technical Review Area R-2

Issues:

Because of the environmental sensitivity and open space benefits of Technical Review Area R-2, staff recommends that King County and the City of Renton consider the Urban Separator designation through the joint planning process.

The Urban Separator classification as described in Countywide Planning Policy LU-15 is intended to provide a framework for further refinement. Urban separator is currently defined in Countywide Planning Policy LU-15 as follows:

Urban separators are low density areas or areas of little development and must be within the Urban Growth Area. Urban separators shall be defined as permanent low density land which protect resource lands and environmentally sensitive area and create open space corridors within and between urban areas which provide environmental, visual, recreational and wildlife benefits. These lands shall not be redesignated in the future to other urban uses or higher densities.

King County and the City of Renton will undertake coordinated planning for this area through the Potential Annexation Area process. The Potential Annexation Area will be established by interlocal agreement before July 1994, with phasing and development conditions to be addressed in a subsequent interlocal to be completed by early 1995.

King County and the City of Renton are currently preparing a Basin Plan for the area. The Executive Proposed Basin Plan is scheduled to be transmitted in October of 1994, with adoption anticipated in June of 1995.

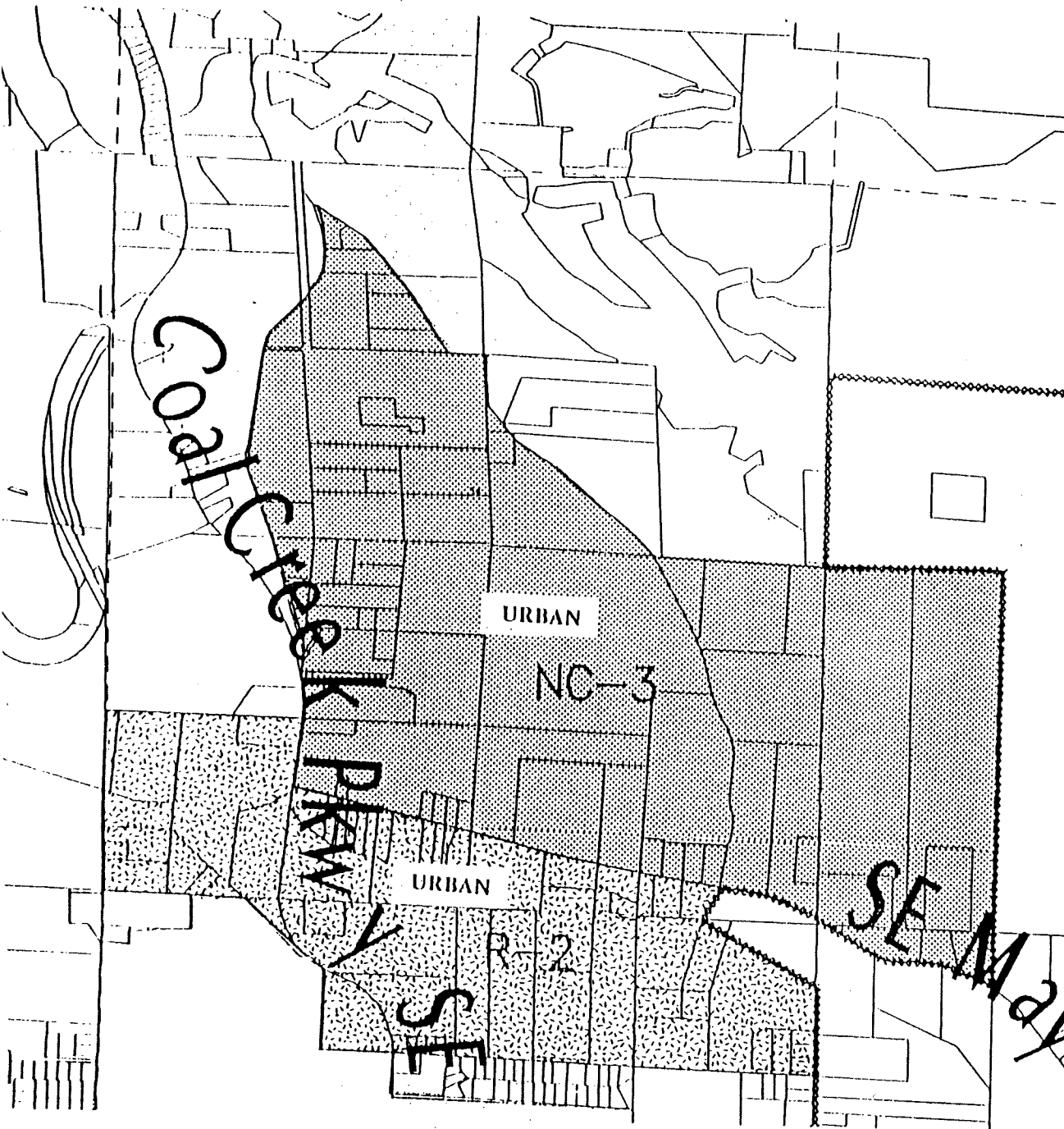
The City of Renton currently recommends Resource Conservation zoning for this area (1 dwelling unit per 10 acres). Specific zoning (densities) will likely result from the Basin Plan Process.






Key components of the joint planning agreement will specify the appropriate densities and zoning (including Urban Separator refinements), development standards, impact mitigation and future annexation within the potential annexation area. Placing Technical Review Area R-2 within the urban boundary does not automatically signify development approval. Adequacy, concurrency and environmental tests would still be required and have to be met.

tk:c:r2x

KING COUNTY  
 GMPC CURRENTLY DESIGNATED  
 URBAN

TECHNICAL REVIEW AREAS NC-3 AND R-2



-  Parcels
-  Subdivisions that contain smaller parcels
-  Countywide Planning Policies UGA line
-  Cities (Incorporated Areas)
-  Technical Review Area

King County PCDD  
 Geographic Information System  
 Scale 1:10424

This map is intended for planning purposes only and is not guaranteed to show accurate measurements.

Boundaries may be incomplete and are the best available at the current time.

This map may include parcels split for planning purposes.

Street right of way is not shown.

June 04, 1993

Countywide Planning Policies  
Urban Growth Areas;  
Renton Technical Study Area - R-3  
June 16, 1993

<u>Status Report:</u> Renton Technical Review Area R-3
<u>1992 CPP Designation:</u> Urban
<u>1993 Staff Recommendation:</u> Redesignate to Rural

The GMPC directed City and County staff to work together to address four Technical Review Areas concerning the Urban Growth Boundary near Renton. The four areas are known as NC-3, R-2, R-3 and R-1. Technical Review Area R-3 is shown on the attached map.

King County and the City of Renton held two public workshops to discuss land use designations in the technical review areas near Renton. The first meeting was held on September 17, 1992 and attended by about 70 people. The second meeting was held on April 28, 1993 and was attended by approximately 60 people. Both King County and City of Renton staff fielded numerous calls from the public on the technical review areas and also met with interested parties throughout the review process.

The Renton City Council Resolution No. 2960 adopted on April 5, 1993 designates urban growth area boundaries for the City and is consistent with the staff recommendations for technical review R-3. On June 7, 1993 the Renton City Council was asked to review its recommendation for parts of technical review area R-3 by a property owner and agreed to do this. The results of this review were not available at the time this report was mailed.

### Background

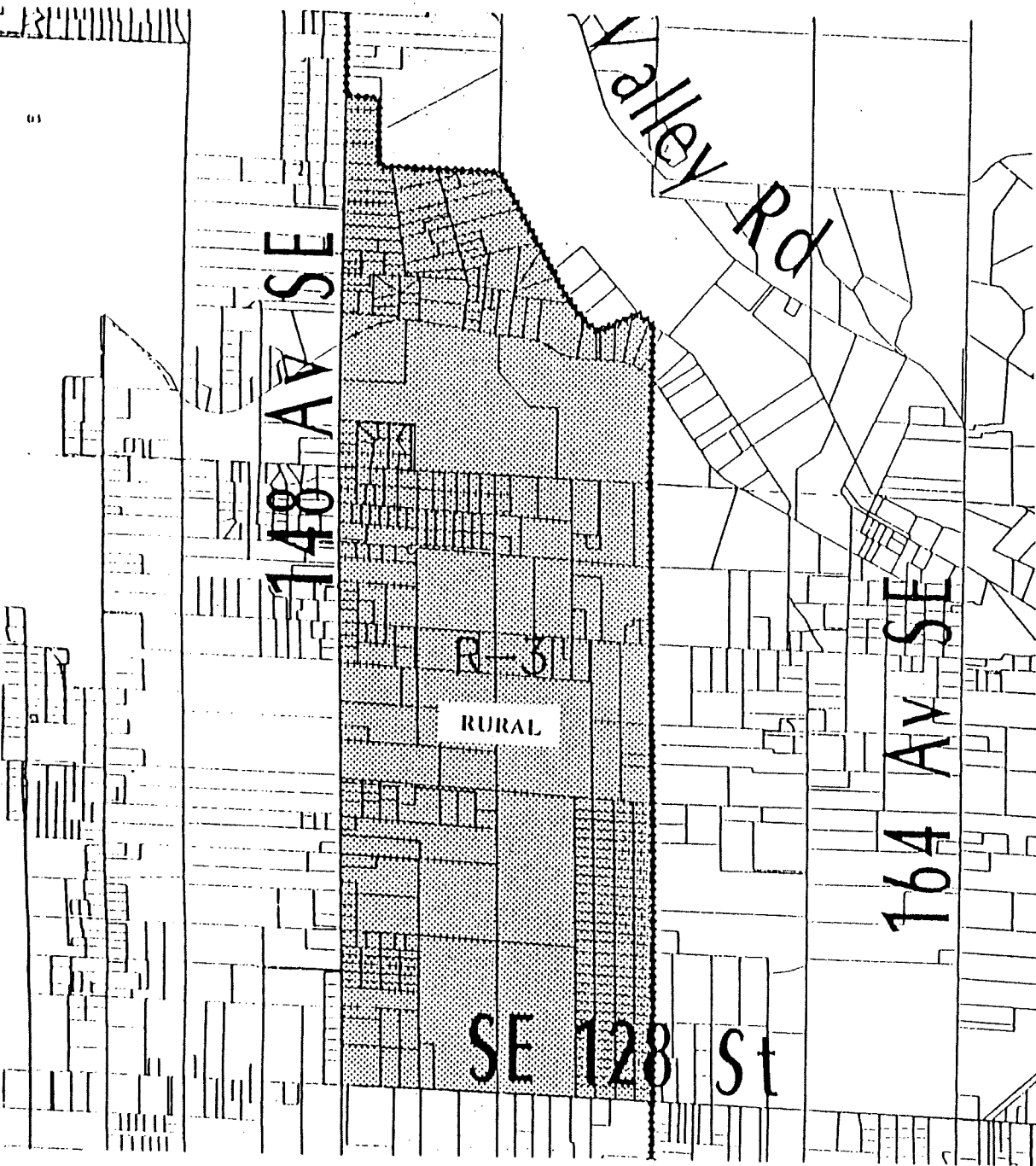
- 446 acres encompassing 403 parcels
- Designated Urban by 1985 King County Comprehensive Plan
- Current zoning under Newcastle Community Plan is Suburban Residential (SR 15,000)
- Not necessary to meet area capacity requirements for next 20 years
- The area is semi-rural, with some smaller lots and subdivisions, but there are many large tracts of vacant land. 34% of the total acreage is in parcels greater than 2.5 acres.
- Outside of Local Service Area Boundary (not served by sewer)
- Contributes surface water runoff to the May Valley





### Issues

The staff recognizes that some pockets of smaller lots and subdivisions exist, but there are many large tracts of vacant land and opportunities exist for small scale agricultural uses and maintenance of resource lands.

Expansion of services to urban levels is not expected to be feasible within 20 year planning horizon. The City of Renton does not plan for this area to be within its Urban Growth Area. Much of this Technical Review Area is located within the May Creek Drainage Basin which would be adversely impacted by new urban development within the area. Specific zoning (densities) will likely result from the Basin and/or Community Plan Process.

KING COUNTY  
 GMPC CURRENTLY DESIGNATED  
 URBAN  
 TECHNICAL REVIEW AREA R-3



-  Parcels
-  Countywide Planning Policies UGA line
-  Cities (Incorporated Areas)
-  Technical Review Area

King County PCDD  
 Geographic Information System  
 Scale 1:12347

This map is intended for planning purposes only and is not guaranteed to show accurate measurements.

Boundaries may be incomplete and are the best available at the current time.

This map may include parcels split for planning purposes.

Street right of way is not shown.

JUNE 03, 1993

# GROWTH MANAGEMENT PLANNING COUNCIL

Countywide Planning Policies  
Urban Growth Areas;  
Renton Technical Study Area - R-1  
June 16, 1993

Status Report: Renton Technical Review Area R-1

1992 CPP Designation: Rural

1993 Staff Recommendation: Retain Rural on 22% of the review area; redesignate the remaining 78% of the area to Urban.

The GMPC directed City and County staff to work together to address four Technical Review Areas concerning the Urban Growth Boundary near Renton. These four areas are known as NC-3, R-2, R-3 and R-1. Technical Review Area R-1 is shown on the attached map.

King County and the City of Renton held two public workshops to discuss land use designations in the technical review areas near Renton. The first meeting was held on September 17, 1992 and attended by about 70 people. The second meeting was held on April 28, 1993 and was attended by approximately 60 people. Both King County and City of Renton staff fielded numerous calls from the public on the technical review areas and also met with interested parties throughout the review process.

## Background:

- 1,510 acres encompassing 1,813 parcels
- Designated Urban by 1985 King County Comprehensive Plan
- Current zoning under Newcastle Community Plan is Suburban Residential (SR 15,000) and Residential Single Family (RS 15,000)
- This land is not necessary to meet Renton and surrounding area growth capacity requirements for next 20 years
- Existing development pattern is urban with some larger undeveloped parcels along the perimeter
- Outside of Local Service Area Boundary (not served by sewer)

## Issues








This area is developed with septic systems only. Sewers are presently not available even though 67% of acreage is in parcels which are 2.5 acres or less. The area is within Cedar River Basin and is located over the Cedar River aquifer.

The City of Renton may want to institute growth phasing to prohibit development until services are available. Specific zoning (densities) will likely result from the Basin and/or Community Plan Process. King County would implement any zoning changes through the Comprehensive Plan and/or regulations development process.



KING COUNTY  
 GMPC CURRENTLY DESIGNATED  
 RURAL

TECHNICAL REVIEW AREA R-1

-  Parcels
-  Subdivisions that contain smaller parcels
-  Countywide Planning Policies UGA line
-  Cities (Incorporated Areas)
-  Parcels or Subdivisions not yet completed
-  Technical Review Area
-  Proposed UGA line

King County PCDD  
 Geographic Information System  
 Scale 1:13313

This map is intended for planning purposes only and is not guaranteed to show accurate measurements.

Boundaries may be incomplete and are the best available at the current time.

This map may include parcels not shown for planning purposes.

Street right of way is not shown.

## STAFF REPORT:

### TECHNICAL AMENDMENTS TO THE URBAN-RURAL LINE

The July 1992 Countywide Planning Policies established a Countywide Urban Growth Boundary. LU-14 of the Countywide Planning Policies (Attachment A) establish criteria for the Urban Growth Boundary.

The map use to establish the Urban Growth Boundary (UGB) was hand drawn on a small scale base map and later on digitized and fed to a computer. Because of the scale of the base map, there were areas where some of the details were lost in the process of digitizing.

Several recent incorporations should also be accurately reflected in the Urban Growth Boundary, such as the incorporation of the City of Woodinville.

These minor adjustments have been categorized to 3 groups:






- A. Digitizing Errors
- B. Corporate limits, Zoning corrections
- C. Corrections to property lines or Local Service Areas (LSA)

The attached map (Attachment B) shows these areas of concern in more detail. Other Technical Amendments reviewed by GMPC on March 17th and June 19th are categorized as "S" for Staff recommendations.

RENTON AND ISSAQUAH  
 TECHNICAL REVIEW AREAS  
 AS DESIGNATED BY THE  
 KING COUNTY  
 GROWTH MANAGEMENT  
 PLANNING COUNCIL

URBAN  
 GMPC Currently Designated Urban  
 Technical Review Areas:  
 UC-3, R-2, R-3, UC-1

RURAL  
 GMPC Currently Designated Rural  
 Technical Review Area: R-1

-  Technical Review Area
-  Countywide Planning Policies UGA line
-  Urban Separator
-  Parcels
-  Subdivisions (contain smaller parcels)

King County PCDD  
 Geographic Information System

May 28, 1993

This map is intended for planning purposes only and is not guaranteed to show accurate measurements.

Boundaries may be incomplete and are the best available at the current time.

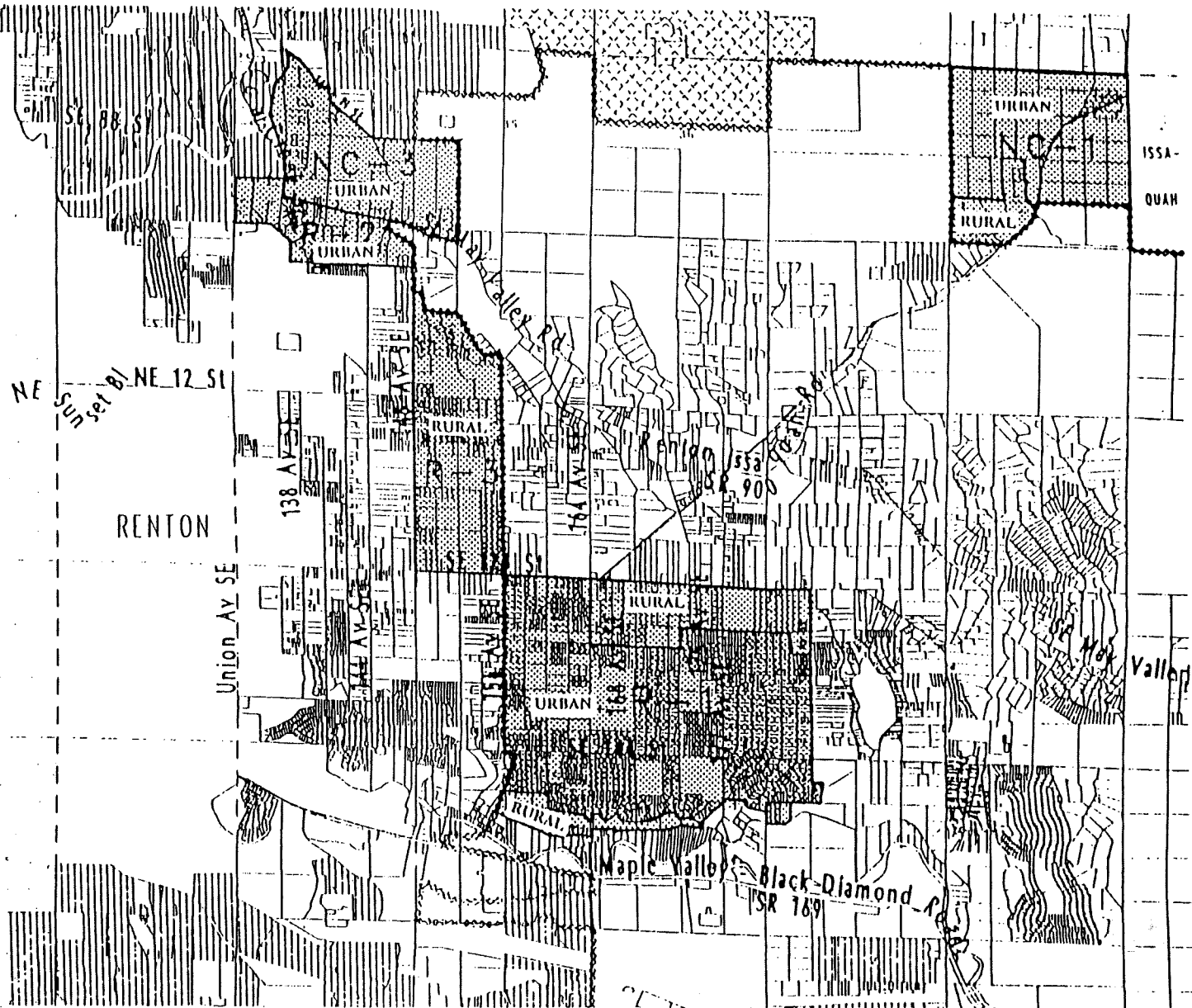
This map may include parcels split for planning purposes.

Street right of way is not shown.

0 100 200 300 400 500



1111



---

LAND USE - APPENDIX B

TABLE B-1

VACANT LAND ZONED FOR RESIDENTIAL USE, 1991:  
SINGLE FAMILY V. MULTIFAMILY

Jurisdiction	TOTAL VACANT ACRES			
	Total Vacant	SF	MF	%MF
<b>URBAN - CITIES</b>				
Algona	NA	NA	NA	NA
Auburn	3,151	2,271	881	28%
Beaux Arts Vill.	0	0	0	NA
Bellevue	1,547	1,391	156	10%
Black Diamond	NA	NA	NA	NA
Bothell	122	112	10	8%
Carnation	192	190	2	1%
Clyde Hill	6	6	0	0%
Des Moines	225	173	51	23%
Duvall	326	302	24	7%
Enumclaw	537	493	44	8%
Federal Way	2,610	2,346	265	10%
Hunts Point	2	2	0	0%
Issaquah	566	517	49	9%
Kent	587	364	224	38%
Kirkland	479	419	60	13%
Lake Forest Pk	46	45	1	2%
Medina	41	41	0	0%
Mercer Island	243	239	4	2%
Milton	NA	NA	NA	NA
Normandy Pk	200	200	0	0%
North Bend	186	146	40	21%
Pacific	263	263	0	0%
Redmond	869	684	185	21%
Renton	1,743	1,628	115	7%
SeaTac	247	230	17	7%
Seattle	2,286	1,579	707	31%
Skykomish	131	131	0	0%
Snoqualmie		0	NA	NA
Tukwila	357	329	28	8%
Yarrow Point		0	NA	NA
<b>Urban Cities Total:</b>	<b>16,962</b>	<b>14,101</b>	<b>2,862</b>	<b>17%</b>
<b>URBAN - UNINCORP.</b>				
Bear Creek	3,020	1,770	1,250	41%
East Samm	6,148	6,094	54	1%
Eastside	103	103	0	0%
Fed Way	2,875	2,782	93	3%
Gr. River Val.	182	182	0	0%
Highline	1,085	872	213	20%
Newcastle	5,860	5,799	61	1%
Northshore	1,641	1,508	133	8%
Shoreline	662	636	26	4%
Soos Creek	5,541	5,337	204	4%
Tahoma Rav. Hts.	7,803	7,742	61	1%
<b>Urban Unicorp. Total:</b>	<b>34,920</b>	<b>32,825</b>	<b>2,095</b>	<b>6%</b>
<b>Total Urban:</b>	<b>51,882</b>	<b>46,926</b>	<b>4,957</b>	<b>10%</b>
<b>Rural Unincorp. KC</b>	<b>63,368</b>	<b>63,352</b>	<b>16</b>	<b>0%</b>
<b>KC TOTAL:</b>	<b>115,250</b>	<b>110,278</b>	<b>4,973</b>	<b>4%</b>

Sources: King County Data Resources Technical Forum, 1993. Vacant = lands with zero improvements value, except for Seattle. (improvements less than or = .1% of land value). Unincorporated % multifamily based on 1992 data. Urban unincorporated areas include urban designated areas prior to enactment of Countywide Planning Policies (CPP "new" rural area is included).

**TABLE B-2**

**Vacant Commercial and Industrial Land  
(in Acres)**

<b>Cities</b>	<b>Data Forum (1991)</b>	<b>EDC Survey (1990)</b>
<b>Auburn</b>	1,727	1,691
<b>Bellevue</b>	150	172
<b>Des Moines</b>	198	na
<b>Federal Way</b>	822	na
<b>Issaquah</b>	115	80
<b>Kent</b>	1,689	1,164
<b>Kirkland</b>	155	181
<b>Lake Forest Pk.</b>	0	na
<b>Normandy Park</b>	5	na
<b>Redmond</b>	694	981
<b>Renton</b>	1,123	535
<b>Seatac</b>	22	na
<b>Seattle</b>	666	na
<b>Skykomish</b>	0	na
<b>Tukwila</b>	121	195
<b>Uninc. King County</b>	1,701	na
<b>TOTAL:</b>	<b>9,188</b>	<b>4,999</b>

vacomm.wk1/nm/11/30/93

Source: King County Planning and Community Development Division, 1992

**TABLE B-3**  
**Dwelling Unit Capacity on Land Zoned For Residential Use, 1991**  
**Discounted for Market Factors**

Jurisdiction CITIES	Existing Units	Capacity on Vacant Land	Redevelop Capacity	Total New Capacity
Algona	624	493	NA	493
Auburn	13,627	10,218	3,751	13,969
Beaux Arts	115	0	NA	0
Bellevue	37,334	4,201	15,269	19,470
Bl Diamond	574	974	NA	974
Bothell (KC part)	5,151	2,498	1,026	3,524
Carnation	431	122	56	178
Clyde Hill	1,079	8	0	8
Des Moines	6,650	916	1,453	2,369
Duvall	985	663	198	861
Enumclaw	3,034	1,119	NA	1,119
Fedl Way	28,919	8,206	3,178	11,384
Hunts Pt	185	5	0	5
Issaquah	3,564	2,693	567	3,260
Kent	18,585	4,198	5,796	9,994
Kirkland	19,030	1,966	3,399	5,365
Lk Forest Pk	1,046	81	146	227
Medina	1,164	17	0	17
Mercer Isl	8,424	585	NA	585
Milton	264	69	0	69
Normandy Pk	2,365	263	506	769
North Bend	957	843	NA	843
Pacific	1,603	1,162	NA	1,162
Redmond	16,818	3,385	1,409	4,794
Renton	19,576	1,350	2,310	3,660
SeaTac	10,110	1,137	6,476	7,613
Seattle	249,622	34,546	61,395	95,941
Skykomish	145	45	0	45
Snoqualmie	610	2,813	0	2,813
Tukwila	6,375	2,069	899	2,968
Yarrow Pt	373	18	0	18
<b>Subtotals</b>	<b>459,339</b>	<b>86,663</b>	<b>107,834</b>	<b>194,497</b>
<b>Unincorp Png Areas (Urban Designated Within 30 Year Line)</b>				
Bear Creek	6,800	7,020	0	7,020
East Samm	10,900	8,280	2,240	10,520
Eastside	600	138	698	836
Federal Way	11,200	4,806	1,990	6,796
Gr River Val	1,050	167	15	182
Highline	33,600	7,439	6,581	14,020
Newcastle	16,700	4,950	2,560	7,510
Northshore	24,500	6,030	4,640	10,670
Shoreline	24,000	2,156	3,824	5,980
Soos Creek	33,400	12,272	4,970	17,242
Tahoma Rav Hts	12,100	7,200	2,000	9,200
<b>Subtotals</b>	<b>174,850</b>	<b>60,458</b>	<b>29,518</b>	<b>89,976</b>
<b>Unincorp. Rural Areas</b>				
Rural Before 7/92	19,000	16,142	2,532	18,674
Rural Added 7/92	13,000	9,180	1,440	10,620
City Expansion Areas	1,000	5,568	982	6,550
<b>Subtotals</b>	<b>33,000</b>	<b>30,890</b>	<b>4,954</b>	<b>35,844</b>
<b>GRAND TOTAL</b>	<b>667,189</b>	<b>178,011</b>	<b>142,306</b>	<b>320,317</b>

Source: King County Data Resources Technical Forum, 1993.

capmap4.wk3/11-30-93

Notes: These data have been discounted for market factors, as explained in the text, for purposes of the SEIS. By agreement of the Data Forum, individual jurisdictions will make their own judgments about market factors. These may be different from those assumed in this table. Unincorporated Rural Area includes separate estimate for Rural City expansion area, per adopted Community Plans.

**TABLE B-4**  
**COMMERCIAL / INDUSTRIAL LAND CAPACITY ESTIMATES, 1991**  
**DISCOUNTED FOR MARKET FACTORS**

Jurisdictions	Sq. Ft. Vac. Commercial	Sq. Ft. Vac. Industrial	Sq. Ft. Redev. Commercial	Sq. Ft. Redev. Industrial	Sq. Ft. Comm. Capacity	Sq. Ft. Ind. Capacity	Total Capacity
Algona							
Auburn	1,441,755	2,382,678	546,549	859,051	1,988,304	3,241,729	5,230,033
Beaux Arts							
Bellevue	1,362,252	694,184	21,634,151	912,695	22,996,403	1,606,879	24,603,282
Black Diamond							
Bothell							
Carnation							
Clyde Hill							
Des Moines	1,147,226	4,032,167	368,758	0	1,515,984	4,032,167	5,548,151
Duvall							
Enumclaw							
Federal Way	2,950,988	3,718,625	1,034,034	851,676	3,985,021	4,570,301	8,555,323
Hunts Point							
Issaquah	3,324,150	109,771	498,499	66,905	3,822,649	176,676	3,999,325
Kent	4,908,081	11,779,375	3,168,642	4,438,330	8,076,722	16,217,705	24,294,427
Kirkland	1,824,597	1,357,877	1,646,333	298,519	3,470,930	1,656,396	5,127,326
Lake Forest Pk.	0	0	234	0	234	0	234
Medina							
Mercer Island							
Milton	37,800	0	0	0	37,800	0	37,800
Normandy Pk.	77,780	0	0	0	77,780	0	77,780
North Bend							
Pacific							
Redmond	2,043,518	6,377,837	1,044,094	4,263,811	3,087,611	10,641,649	13,729,260
Renton	4,688,160	7,467,575	2,378,381	5,083,072	7,066,541	12,550,647	19,617,189
SeaTac	1,225,211	1,177,890	19,709,190	4,661,332	20,934,401	5,839,222	26,773,623
Seattle	50,773,856	43,089,399	53,440,416	0	104,214,272	43,089,399	147,303,671
Skykomish	0	0	0	0	0	0	0
Snoqualmie							
Tukwila	1,162,743	1,226,502	4,023,890	13,434,929	5,186,633	14,661,431	19,848,064
Yarrow Point							
<b>Total Cities:</b>	<b>76,968,116</b>	<b>83,413,881</b>	<b>109,493,169</b>	<b>34,870,321</b>	<b>186,461,285</b>	<b>118,284,202</b>	<b>304,745,487</b>
<b>Uninc. KC:</b>	<b>2,638,101</b>	<b>6,692,314</b>	<b>2,383,630</b>	<b>2,968,447</b>	<b>5,021,730</b>	<b>9,660,761</b>	<b>14,682,491</b>
<b>KC TOTAL:</b>	<b>79,606,217</b>	<b>90,106,195</b>	<b>111,876,798</b>	<b>37,838,768</b>	<b>191,483,015</b>	<b>127,944,963</b>	<b>319,427,978</b>

Source: King County Data Resources Technical Forum, 1992.

nm/COMMER.WK1/11-30-93

Note: The City of Seattle used an expanded definition of vacant land that included parcels where the ratio of improvement value to land value was one-tenth of one percent or less. In the city's industrial zone, this expanded definition resulted in a significant amount of redevelopment potential that is not reported in the table. Unincorporated King County includes rural as well as urban designated areas. These data have been discounted for market factors, as explained in the text, for purposes of the SEIS. By agreement of Data Forum, individual jurisdictions will make their own judgments about market factors. These may be different from those assumed in this table.

**TABLE B-5**

**Dwelling Unit Capacity on Vacant Urban Land Zoned For Residential Use, 1991:**

**Single Family V. Multifamily, Discounted for Market Factors**

Jurisdiction	ADDITIONAL DWELLING UNIT CAPACITY			
	Tot. Addn'l	SF	MF	%MF
Algona	493	493	NA	NA
Auburn	10,218	8,204	2,013	20%
Beaux Arts Vill.	0	0	0	NA
Bellevue	4,201	2,255	1,946	46%
Black Diamond	974	747	227	23%
Bothell	2,498	1,938	560	22%
Carnation	122	111	12	10%
Clyde Hill	8	8	0	0%
Des Moines	916	373	543	59%
Duvall	663	529	134	20%
Enumclaw	1,119	663	455	41%
Federal Way	8,206	5,613	2,593	32%
Hunts Point	5	5	0	0%
Issaquah	2,693	986	1,707	63%
Kent	4,199	1,021	3,179	76%
Kirkland	1,966	1,030	936	48%
Lake Forest Pk	81	78	3	3%
Medina	17	17	0	0%
Mercer Island	585	515	70	12%
Milton	69	69	0	0%
Normandy Pk	263	263	0	0%
North Bend	843	445	399	47%
Pacific	1,162	468	694	60%
Redmond	3,385	1,805	1,580	47%
Renton	1,350	788	563	42%
SeaTac	1,137	786	351	31%
Seattle	34,546	6,046	28,499	82%
Skykomish	45	45	0	0%
Snoqualmie	NA	NA	NA	NA
Tukwila	2,069	1,507	563	27%
Yarrow Point	18	18	0	0%
<b>City Total:</b>	<b>83,850</b>	<b>36,824</b>	<b>47,026</b>	<b>56%</b>
Bear Creek	7,020	3,900	3,510	50%
East Samm	8,280	5,500	3,330	40%
Eastside	138	153	0	0%
Fed Way	4,806	3,790	1,395	29%
Gr.River Val.	167	186	0	0%
Highline	7,439	3,440	4,343	58%
Newcastle	4,950	4,465	932	19%
Northshore	6,030	4,130	2,313	38%
Shoreline	2,156	1,786	549	25%
Soos Creek	12,272	10,861	2,498	20%
Tahoma Rav.Hts.	7,200	7,175	743	10%
<b>Uninc. KC:</b>	<b>60,458</b>	<b>40,847</b>	<b>19,611</b>	<b>32%</b>
<b>KC TOTAL:</b>	<b>144,309</b>	<b>77,672</b>	<b>66,637</b>	<b>46%</b>

Sources: King County Data Resources Technical Forum, 1993. Vacant = lands with zero improvements value, except for Seattle (improvements less than or = .1% of land value). Unincorporated % multifamily based on 1992 data. Table does not include potential capacity available from redevelopment. Unincorporated areas only include Urban designated areas west of the Countywide Planning Policies urban/rural line. Snoqualmie not included due to lack of information on single family/multifamily split. Table does not include Rural city expansion areas.

---

AFFORDABLE HOUSING - APPENDIX C

TABLE C-1  
COMPARATIVE SALE PRICES FOR SINGLE FAMILY HOMES IN KING COUNTY

Subareas	1st Qtr 1992	1st Qtr 1993	% Change
1 Sea-Tac	\$128,971	\$125,694	-2.5%
8 Burien	\$155,855	\$155,632	-0.1%
11 Des Moines	\$124,203	\$131,587	5.9%
27 Riverton/Tukwila	\$101,836	\$107,485	5.5%
30 White Center	\$107,312	\$109,278	1.8%
Highline	\$120,271	\$121,474	1.0%
31 Enumclaw	\$117,121	\$133,046	13.6%
36 Maple Valley	\$152,247	\$153,375	0.7%
2 Auburn	\$122,491	\$137,066	11.9%
16 Kent	\$140,415	\$146,535	4.4%
26 Renton	\$136,958	\$143,175	4.5%
South County	\$134,044	\$142,355	6.2%
13 Federal Way	\$146,134	\$140,077	-4.1%
Vashon Island	\$144,622	\$172,150	19.0%
32 Factoria	\$233,051	\$244,151	4.8%
33 Issaquah	\$221,783	\$237,553	7.1%
5 Bellevue East	\$202,914	\$205,985	1.5%
6 Bellevue West	\$293,026	\$288,870	-1.4%
17 Kirkland	\$207,178	\$220,611	6.5%
20 Mercer Island	\$440,134	\$342,227	-22.2%
25 Redmond	\$200,571	\$218,892	9.1%
Eastside	\$227,906	\$237,369	4.2%
7 Bothell	\$152,022	\$170,730	12.3%
34 Juanita	\$165,853	\$172,099	3.8%
35 Woodin/Totem	\$229,369	\$232,821	1.5%
Northshore	\$193,661	\$201,407	4.0%
Snoqualmie	\$151,925	\$156,432	3.0%
21 Shoreline	\$155,123	\$154,509	-0.4%

TABLE C-1  
COMPARATIVE SALE PRICES FOR SINGLE FAMILY HOMES IN KING COUNTY

Subareas	1st Qtr 1992	1st Qtr 1993	% Change
3 Ballard	\$139,739	\$141,222	1.1%
4 Beacon Hill	\$112,545	\$123,289	9.5%
9 Cap Hill/Eastlake	\$245,254	\$291,279	18.8%
10 Central	\$123,091	\$123,180	0.1%
15 Greenlake/Wall	\$151,597	\$152,313	0.5%
18 Madison/Leschi	\$598,249	\$293,601	-50.9%
19 Magnolia	\$263,557	\$235,000	-10.8%
22 North Seattle	\$148,906	\$150,908	1.3%
23 Queen Anne	\$249,788	\$217,817	-12.8%
24 Rainier Valley	\$130,818	\$114,675	-12.3%
28 University	\$182,573	\$183,259	0.4%
29 West Seattle	\$152,775	\$175,573	14.9%
Seattle	\$170,358	\$167,394	-1.7%
King County	\$170,913	\$173,123	1.3%

TABLE C-2  
COMPARATIVE RENTS FOR  
TWO BEDROOM APARTMENTS IN KING COUNTY

	SUBAREAS	1st Qtr 1992	1st Qtr 1993	% CHANGE
1	SeaTac	\$510	\$512	0.4%
8	Burien	\$482	\$532	10.4%
11	Des Moines	\$510	\$526	3.1%
27	Riverton/Tukwila	\$554	\$553	-0.2%
30	White Center	\$531	\$558	5.1%
	HIGHLINE	\$517	\$536	3.6%
31	Enumclaw	\$556	\$563	1.3%
2	Auburn	\$495	\$491	-0.8%
16	Kent	\$518	\$532	2.7%
26	Renton	\$535	\$552	3.2%
	SOUTH COUNTY	\$526	\$535	1.6%
13	FEDERAL WAY	\$518	\$529	2.1%
32	Factoria	\$658	\$716	8.8%
33	Issaquah	\$621	\$685	10.3%
5	Bellevue East	\$607	\$625	3.0%
6	Bellevue West	\$683	\$646	-5.4%
17	Kirkland	\$661	\$697	5.4%
20	Mercer Island	\$626	\$582	-7.0%
25	Redmond	\$649	\$663	2.2%
	EASTSIDE	\$644	\$659	2.4%
7	Bothell	\$582	\$604	3.8%
34	Juanita	\$627	\$642	2.4%
35	Woodin/Totemm	\$596	\$625	4.9%
	NORTHSHORE	\$602	\$624	3.7%
21	SHORELINE	\$595	\$585	-1.7%
3	Ballard	\$572	\$622	8.7%
4	Beacon Hill	\$530	\$546	3.0%

TABLE C-2  
COMPARATIVE RENTS FOR  
TWO BEDROOM APARTMENTS IN KING COUNTY

	SUBAREAS	1st Qtr 1992	1st Qtr 1993	% CHANGE
9	Cap Hill/Eastlake	\$668	\$680	1.8%
10	Central	\$699	\$708	1.3%
12	Dwntn Seattle	\$851	\$824	-3.2%
14	First Hill	\$692	\$706	2.0%
15	Greenlake/Wall	\$718	\$668	-7.0%
18	Madison/Leschi	\$866	\$863	-0.3%
19	Magnolia	\$658	\$680	3.3%
22	North Seattle	\$577	\$609	5.5%
23	Queen Anne	\$722	\$736	1.9%
24	Rainier Valley	\$426	\$447	4.9%
28	University	\$640	\$670	4.7%
29	West Seattle	\$593	\$613	3.4%
	SEATTLE	\$655	\$669	2.2%
	KING COUNTY	\$609	\$623	2.3%

Table C-3  
 First Quarter Rents, Rental Affordability Gap  
 King County 1992 AND 1993: TWO BEDROOM / ONE BATH APARTMENTS

		1992 Renter Affordable				1993 Renter Affordable			
		Income Level		Hhold Income	Mo. Rent		Hhold Income	Mo. Rent	
		Median		\$25,489	\$637		\$25,434	\$636	
		Low		\$12,745	\$319		\$12,717	\$318	
		1992 Spring Rents	% of Med. Income	AFFORDABILITY GAP		1992 Spring Rents	% of Med. Income	AFFORDABILITY GAP	
SUBAREAS				Median Income	Low Income			Median Income	Low Income
1	SeaTac	\$510	24.1%	\$126	(\$192)	\$512	24.2%	\$124	(\$194)
8	Burien	\$482	22.7%	\$154	(\$164)	\$532	25.1%	\$104	(\$214)
11	Des Moines	\$510	24.1%	\$126	(\$192)	\$526	24.8%	\$110	(\$208)
27	Riverton/Tukwila	\$554	26.1%	\$82	(\$236)	\$553	26.1%	\$83	(\$235)
30	White Center	\$531	25.1%	\$105	(\$213)	\$558	26.3%	\$78	(\$240)
	HIGHLINE	\$517	24.4%	\$118	(\$199)	\$536	25.3%	\$100	(\$218)
31	Enumclaw	\$556	26.2%	\$80	(\$238)	\$563	26.6%	\$73	(\$245)
2	Auburn	\$495	23.4%	\$141	(\$177)	\$491	23.2%	\$145	(\$173)
16	Kent	\$518	24.4%	\$118	(\$200)	\$532	25.1%	\$104	(\$214)
26	Renton	\$535	25.2%	\$101	(\$217)	\$552	26.0%	\$84	(\$234)
	SOUTH COUNTY	\$526	24.8%	\$110	(\$208)	\$535	25.2%	\$101	(\$217)
13	FEDERAL WAY	\$518	24.4%	\$118	(\$200)	\$529	25.0%	\$107	(\$211)
32	Factoria	\$658	31.0%	(\$22)	(\$340)	\$716	33.8%	(\$80)	(\$398)
33	Issaquah	\$621	29.3%	\$15	(\$303)	\$685	32.3%	(\$49)	(\$367)
5	Bellevue East	\$607	28.6%	\$29	(\$289)	\$625	29.5%	\$11	(\$307)
6	Bellevue West	\$683	32.2%	(\$47)	(\$365)	\$646	30.5%	(\$10)	(\$328)

Table C-3  
 First Quarter Rents, Rental Affordability Gap  
 King County 1992 AND 1993: TWO BEDROOM / ONE BATH APARTMENTS

		1992 Renter Affordable				1993 Renter Affordable			
		Income Level		Hhold Income	Mo. Rent		Hhold Income	Mo. Rent	
		Median		\$25,489	\$637		\$25,434	\$636	
		Low		\$12,745	\$319		\$12,717	\$318	
		1992 Spring Rents	% of Med. Income	AFFORDABILITY GAP		1992 Spring Rents	% of Med. Income	AFFORDABILITY GAP	
SUBAREAS				Median Income	Low Income			Median Income	Low Income
1	SeaTac	\$510	24.1%	\$126	(\$192)	\$512	24.2%	\$124	(\$194)
17	Kirkland	\$661	31.2%	(\$25)	(\$343)	\$697	32.9%	(\$61)	(\$379)
20	Mercer Island	\$626	29.5%	\$10	\$308	\$582	27.5%	\$54	(\$264)
25	Redmond	\$649	30.6%	(\$13)	(\$331)	\$663	31.3%	(\$27)	(\$345)
	EASTSIDE	\$644	30.4%	(\$8)	(\$326)	\$659	31.1%	(\$23)	(\$341)
7	Bothell	\$582	27.5%	\$54	(\$264)	\$604	28.5%	\$32	(\$286)
34	Juanita	\$627	29.6%	\$9	(\$309)	\$642	30.3%	(\$6)	(\$324)
35	Woodin/Totem	\$596	28.1%	\$40	(\$278)	\$625	29.5%	\$11	(\$307)
	NORTHSHORE	\$602	28.4%	\$34	(\$284)	\$624	29.4%	\$12	(\$306)
21	SHORELINE	\$595	28.1%	\$41	(\$277)	\$585	27.6%	\$51	(\$267)
3	Ballard	\$572	27.0%	\$64	(\$254)	\$622	29.3%	\$14	(\$304)
4	Beacon Hill	\$530	25.0%	\$106	(\$212)	\$546	25.8%	\$90	(\$228)
9	Cap Hill/Eastlake	\$668	31.5%	(\$32)	(\$350)	\$680	32.1%	(\$44)	(\$362)
10	Central	\$699	33.0%	(\$63)	(\$381)	\$708	33.4%	(\$72)	(\$390)
12	Dwntn Seattle	\$851	40.2%	(\$215)	(\$533)	\$824	38.9%	(\$188)	(\$506)
14	First Hill	\$692	32.6%	(\$56)	(\$374)	\$706	33.3%	(\$70)	(\$388)

Table C-3  
 First Quarter Rents, Rental Affordability Gap  
 King County 1992 AND 1993: TWO BEDROOM / ONE BATH APARTMENTS

		1992 Renter Affordable				1993 Renter Affordable			
<u>Income Level</u>		<u>Hhold Income</u>		<u>Mo. Rent</u>		<u>Hhold Income</u>		<u>Mo. Rent</u>	
Median		\$25,489		\$637		\$25,434		\$636	
Low		\$12,745		\$319		\$12,717		\$318	
		1992 Spring Rents	% of Med. Income	AFFORDABILITY GAP		1992 Spring Rents	% of Med. Income	AFFORDABILITY GAP	
SUBAREAS				Median Income	Low Income			Median Income	Low Income
1	SeaTac	\$510	24.1%	\$126	(\$192)	\$512	24.2%	\$124	(\$194)
15	Greenlake/Wall	\$718	33.9%	(\$82)	(\$400)	\$668	31.5%	(\$32)	(\$350)
18	Madison/Leschi	\$866	40.9%	(\$230)	(\$548)	\$863	40.7%	(\$227)	(\$545)
19	Magnolia	\$658	31.0%	(\$22)	(\$340)	\$680	32.1%	(\$44)	(\$362)
22	North Seattle	\$577	27.2%	\$59	(\$259)	\$609	28.7%	\$27	(\$291)
23	Queen Anne	\$722	34.1%	(\$86)	(\$404)	\$736	34.7%	(\$100)	(\$418)
24	Rainier Valley	\$426	20.1%	\$210	(\$108)	\$447	21.1%	\$189	(\$129)
28	University	\$640	30.2%	(\$4)	(\$322)	\$670	31.6%	(\$34)	(\$352)
29	West Seattle	\$593	28.0%	\$43	(\$275)	\$613	28.9%	\$23	(\$295)
	SEATTLE	\$658	31.0%	(\$22)	(\$340)	\$669	31.6%	(\$34)	(\$352)
	KING COUNTY	\$609	28.7%	\$27	(\$291)	\$623	29.4%	\$13	(\$305)
CHANGE IN AVERAGE RENT 1st Qtr 1992 - 1st Qtr 1993:							+ 2.3%		

## Appendix C-4

### **Additional References For Affordable Housing**

#### Review of housing analysis in Vision 2020 EIS (EIS) Technical Reports

Documentation for the analysis of housing impacts in the EIS is found in two reports prepared for PSCOG: The Impacts of VISION 2020 Alternatives on Housing Costs in the Puget Sound Region, Cambridge Systematics, June 1990 and VISION 2020: Housing Analysis Supplementary Report, Cogan Sharpe Cogan and Pacific Development Concepts, October 1990.

The Cambridge Systematics report provided a research review of factors involved in housing costs at the regional and local level plus a quantitative analysis of impacts of the plan alternatives on housing costs in the Puget Sound Region. Overall, the study concluded that population and income factors had vastly more influence than local variations and that the plan alternatives did not cause major cost shifts.

The authors anticipated less cost implications from the No Action alternative, which at the time contained no growth management techniques except at highway intersections--due to lack of mobility in the region. The Existing Plans alternative has fewer growth management techniques than the centers alternatives and so was expected to have less effect on housing costs. They also stated that the multiple centers alternative would cause less increase in costs than the major centers alternative.

The Supplementary Report included a report on housing affordability needs and a description of possible strategies to mitigate housing cost increases for low and moderate income households in the region.

#### Review of Recent Literature on Determinants of Housing Cost from Regional and Local Perspectives

A draft statistical analysis of "Housing Prices in the Seattle Metropolitan Area" prepared by Tom Kirm of the Seattle Planning Department in April 1991 is an attempt to explain why Seattle's housing prices rose higher than other cities in the 1975-90 period.

The draft states that population and per capita income are the strongest demand measures. They also found that "...demand conditions alone were insufficient to explain housing price behavior. Supply conditions were...roughly as important as demand factors" (p. 3).

The factors found to be important are geographic constraint on land supply, restrictive land use regulations, and congested traffic. The Seattle area scores high on geographic constraint and congested traffic, and moderately high on regulatory restrictiveness.

The Technical Report, Managing Growth to Promote Affordable Housing: Revisiting Oregon's Goal 10 was published in 1991 by 1000 Friends of Oregon and prepared in

conjunction with the Home Builders Association of Metropolitan Portland. The report demonstrates the results of the Metropolitan Housing Rule 660 of 1987, which specified overall residential densities of 6, 8, or 10 units per acre and at least a 50:50 ratio of multi-family to single family housing in the Portland Metro area.

Multi-family production during 1985-89 exceeded earlier years and met the 50:50 ratio. To implement Rule 660 multi-family zoned land was increased by 400 percent. Because of increased multi-family building, 1,200 acres which would have been developed were still available for housing. Though increased production could not be said to cause affordability, rental housing was affordable by 77 percent of the households in 1989. In addition, a correlation was found between size of lot and house prices for single family housing.

Given changes in the market and restrictions on multi-family financing, the report recommends establishing minimum zoning and extension of the Metropolitan Rule to the entire State of Oregon.

A study of Future Housing Prices in King County, Washington Center for Real Estate Research, Goolsby, Joerding and Kling, 1991, expects housing prices "to oscillate about a long run trend established by the impact of increasing population, increasing real income, and inflationary price increases on a given supply of urban space." p. i.

Housing Affordability and Density, a report with supplements prepared by faculty from the University of Washington's Department of Architecture for the Washington State Department of Community Development in 1992, does not provide independent or any quantitative analysis of the factors affecting affordability. It does offer a catalogue of strategies for reducing regulatory costs and some design ideas for affordable housing.

Brower, Godschalk and Porter, eds., Understanding Growth Management. Critical Issues and a Research Agenda, ULI, 1989, contains a series of articles by noted researchers on topics relating to the impacts of growth management regulations. In particular, William Fischel's article "What Do Economists Know About Growth Controls? A Research Review" reviews nearly 100 studies, primarily of the impacts of regulations on housing or residential land costs.

The article concludes that "...growth controls do affect housing and other land-use markets and that such effects are, on balance, inefficient....Aside from their adverse effects on the cost of housing, inefficiently restrictive growth controls probably cause metropolitan areas to be too spread out."(p. 80-81) A significant limitation on using the studies reviewed is that they didn't focus on the effects of statewide growth management programs. It is possible that statewide controls produce a case similar to that of an isolated community. Some studies reviewed showed little cost impact of growth controls if the jurisdiction was isolated. However, in Washington State, some counties have lower land costs and may also have less stringent policies. Shifts in growth between counties with more or less rigorous controls might be an analogous impact to those between cities with and without growth controls.

---

TRANSPORTATION - APPENDIX D

Table D-1  
Screenline Locations

SC#	A Node	B Node	Regional Volumes Facility	Actual ADT 1990
13	1383	2429	Auburn Way (SR 164)	15800
13	1385	3092	Auburn-Black Diamond Road	10430
13	1387	2446	Lea Hill Road SE/SE 312th Street	5993
13	3092	3093	Echo Lake Cutoff Road (SR 18)	23200
13			TOTAL	55423
17	1399	1411	Kent-Kangley Road (SR 516)	29500
17	1403	5583	SE 256th Street	9514
17	1409	1410	SE 240th Street	11904
17	1651	5593	SE 223rd Street/Drive	NCA
17	1652	5592	SE 208th Street	12086
17	5577	5582	SE 248th Street	2944
17			TOTAL	65948
19	1350	1427	Military Road	5882
19	1351	1443	Highway 99	33600
19	1352	1438	Des Moines Memorial	16838
19	1439	1441	1st Avenue/SR 509	15300
19			TOTAL	71620
20	961	2511	161st Ave SE/156th Ave SE	4392
20	1348	2873	Orilla Road South	26441
20	1414	2751	E Valley Rd/84th Ave South	20000
20	1421	1426	Frager Rd/Southcenter Parkway	4500
20	1422	1654	SR 515	19600
20	1424	2755	W Valley Highway (SR 181)	27300
20	1653	1656	140th Avenue SE	14469
20	2513	2514	Petrovitsky	8242
20	2786	2788	116th Avenue SE	5427
20	2789	2790	Talbot Road Street	9600
20	3195	3352	SR 167	75300
20	4928	4929	HOV on SR 167 (2010)	0
20			TOTAL	215271

Table D-1  
Screenline Locations

SC#	A Node	B Node	Regional Volumes Facility	Actual ADT 1990
21	1668	1670	Maple Valley Road	26500
21	1669	2787	SE 158th Street/Beacon Way	800
21	1677	2529	Sunset Blvd NE	18400
21	1678	2528	NE 4th Street	20800
21	2509	2786	SE 176th Street/ Petrovitsky	24305
21	2793	2795	SE 95th Way	1065
21			TOTAL	91870
26	1568	5511	Admiral Way	0
26	3203	3204	West Seattle Bridge	92200
26	3323	3324	1st Ave Bridge	77000
26			TOTAL	169200
27	1510	1514	Martin Luther King Jr. Way	28000
27	1512	1513	Rainier Ave South	19100
27			Beacon Ave South	9800
27	1516	5534	Airport Way South	13400
27	1517	5535	E. Marginal Way	23000
27	1540	2784	16th Ave S Bridge	23500
27	3187	3575	I-5	176100
27	4851	4938	HOV on I-5 (2000)	0
27			TOTAL	292900
28	895	2959	Edmonds Ave NE	7000
28	1491	2532	Lake Washington Blvd N	6000
28	1674	1687	Front St/Issaquah Hobart Road	15829
28	1675	1685	Renton-Issaquah Road (SR 900)	9100
28	1677	2793	Coal Creek Pkwy SE/138th Ave SE/DUV	13800
28	2529	2795	132nd Ave SE	NCA
28	3105	3362	I-405	101245
28	4806	4821	HOV on 405	14270
28			TOTAL	167244
29	1573	2913	E Marginal Way	13400

Table D-1  
Screenline Locations

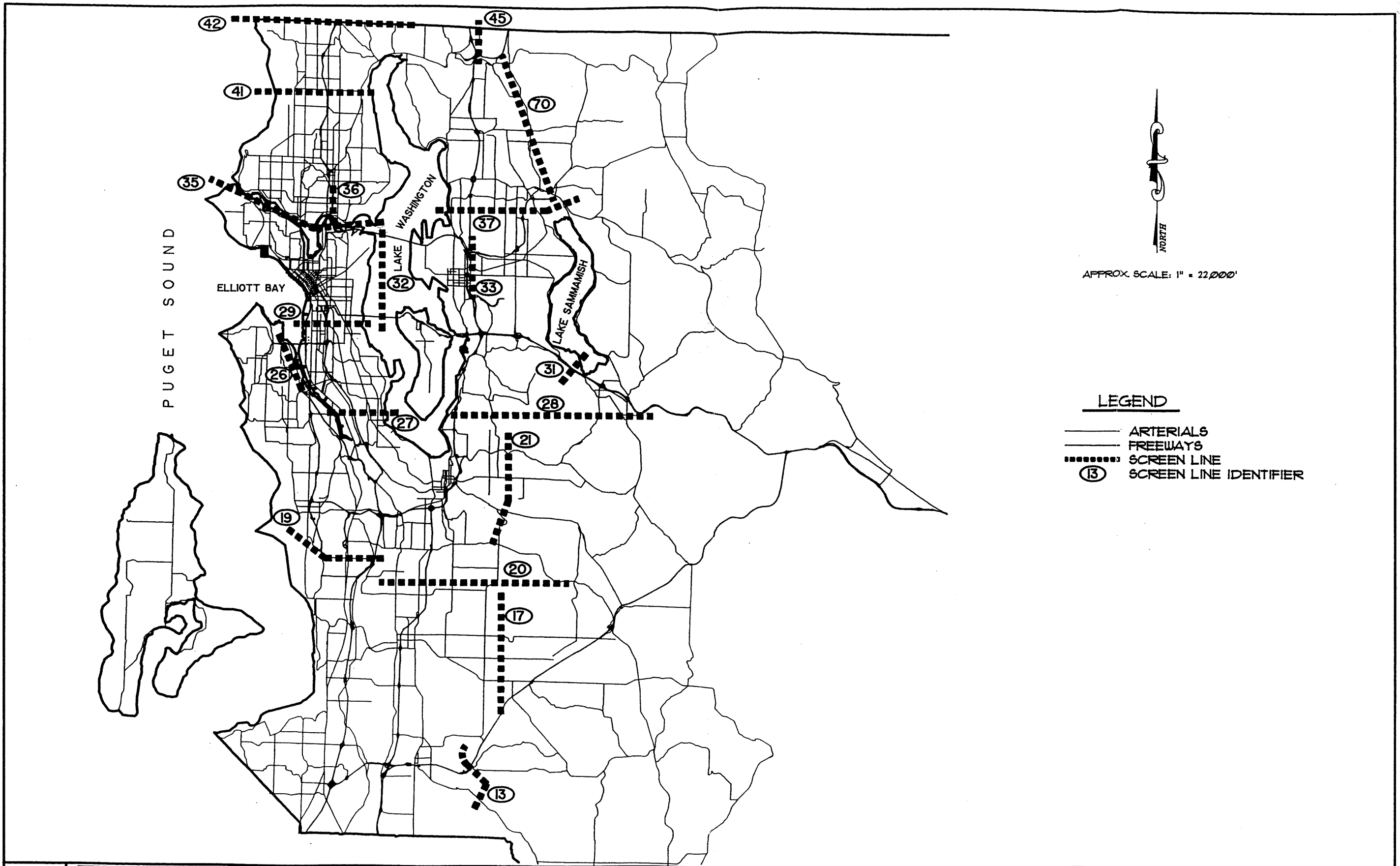
SC#	A Node	B Node	Regional Volumes Facility	Actual ADT 1990
29	1578	1587	Martin Luther King Way South	14800
29	1579	1583	Beacon Ave South	13500
29	1579	1796	12th Ave/15th Ave	18000
29	1580	1582	4th Ave South	20300
29	1581	2912	1st Ave South	22200
29	1583	1643	6th Ave South	18100
29	1584	1585	Rainier Ave South	35600
29	1584	1586	SW 23rd St	11000
29	3193	3194	I-5	193100
29	3208	3257	SR 99 Viaduct	73100
29	4856	4857	I-5 HOV (2000)	0
29	5571	5572	Airport Way South	10000
29			TOTAL	443100
31	1684	1690	Newport Way	3695
31	3118	3119	I-90	77260
31			TOTAL	80955
32	3113	3224	I-90	107990
32	3126	3999	SR 520	108035
32	4893	4894	HOV on I-90 (1991)	0
32			TOTAL	216025
33	1732	4490	Main Street	11800
33	1741	4486	8th Street	48300
33	1747	1748	12th Street	20100
33	1767	1768	Northrup Way	17700
33	2754	3256	4th Street	26600
33	2900	3110	SE 7th Street	15800
33	3112	3129	SE 520	110743
33	4814	4910	HOV on SR 520 (2000)	0
33			TOTAL	251043
35	1605	1960	University Bridge	31000
35	1623	1959	Fremont Bridge	32700

Table D-1  
Screenline Locations

SC#	A Node	B Node	Regional Volumes Facility	Actual ADT 1990
35	1628	1629	Ballard Bridge	55300
35	1635	3319	Montlake Bridge	60700
35	3222	3223	Aurora Bridge	75600
35	3253	3351	I-5 Rev	38925
35	3260	3261	I-5	211850
35			TOTAL	506075
36	1960	1967	Pacific Street	10000
36	1986	4064	NE 42nd Street	NCA
36	1987	4065	NE 45th Street	37900
36	1990	4066	NE 50th Street	22500
36			TOTAL	70400
37	1767	4048	116th Ave NE	6700
37	2211	2212	Lk Washington Blvd NE	28900
37	2213	2850	108th Ave NE	12000
37	2214	2834	148th Ave NE	22146
37	2215	3159	W Lake Sammamish Pkwy	20000
37	2217	3160	Redmond-Fall City Rd SR 202	46500
37	2841	2946	140th Ave NE	10731
37	3112	3132	I-405	152630
37	3158	3159	SR 520	58865
37	4046	4047	132nd Ave NE	5900
37	4814	4815	HOV on I-405 (2000)	0
37	4956	4957	HOV on SR 520 (2000)	0
37	4958	5884	HOV on Redmond Fall City Rd SR 202 (2 Total)	0
37			TOTAL	364372
41	2100	2109	5th Ave NE	6500
41	2103	2113	Greenwood/3rd Ave NW	33700
41	2104	2108	15th Ave NE/30th Ave NE	22800
41	2105	2106	Lake City Way	39300
41	2110	2846	Meridian Ave N/Stoneway	9600
41	2111	2112	Aurora Ave North	37300

Table D-1  
Screenline Locations

SC#	A Node	B Node	Regional Volumes Facility	Actual ADT 1990
41	3270	3271	I-5	172740
41	4881	4882	HOV on I-5	4040
41			TOTAL	325980
42	995	998	Brier Road	NCA
42	998	2562	Locust Way	5268
42	2015	2153	76th Ave West	8000
42	2128	2561	Cedar Way	3848
42	2141	2155	100th Ave/Firdale	15425
42	2142	2143	Pacific Highway/SR 99	29700
42	2143	2144	Edmonds Way/SR 104	23000
42	2146	2201	56th Ave West	3934
42	3273	3274	I-5	122115
42	4884	4885	HOV on I-5	1815
42			TOTAL	213105
45	2248	2254	Woodinville-Redmond Rd SR 200	5802
45	2643	3137	NE 195th Street	2543
45	3136	3143	SR 522	40500
45			TOTAL	48845
70	2222	2224	SR 908	42200
70	2235	2236	NE 124th Street	18234
70	2241	2242	NE 145th Street	9500
70	2247	2280	NE 175th Street	26000
70	2281	5256	NE 85th Street	14400
70	3159	3160	SR 520	44100
70	4957	4958	HOV on SR 520 (2000)	0
70			TOTAL	154434



SCALE AS NOTED	<b>Henigar &amp; Ray</b> INC. 157 YESLER WAY, SUITE #17 SEATTLE, WA 98104 (206) 233-0730 PLANNING • TRANSPORTATION • ECOLOGY • ENGINEERING	NO.	DATE	REVISION	APP'D. BY	<b>KING COUNTY SEIS SCREENLINE MAP</b>	JOB NO. 935-3184	
DRAWN A.S.							P.S. NO.	
CHECKED C.F.C.								FILE NO.
DATE 12/17/93								SEC. TWP. RGE.
							SHT 1 OF 1	

---

**POLICE/FIRE/EMERGENCY RESPONSE - APPENDIX E**

**TABLE E-1: FIRE PROTECTION DISTRICTS  
EXISTING AND PLANNED CAPITAL FACILITIES**

District	Existing Facilities	Planned Facilities
2	Headquarters: 15100 8th Ave SW Seattle Manned Station: 151 S. Normandy Rd Seattle	Planned expansion of manned station in 6 months
4	Station 61: 1016 N. 175th, Seattle Station 62: 1847 NW 195th, Seattle Station 63: 1410 NE 180th, Seattle	
5	Contract with Seattle	
10	Station 211: 175 NW Newport Way Issaquah, WA Station 212: 8641 Preston Fall City Rd SE Preston, WA Station 213: 4225 180th Ave SE Bellevue, WA Station 214: 15132 Tiger Mountain Rd SE Issaquah, WA Station 221: 2030 212 Ave SE Issaquah, WA Station 222: 1851 228 Ave NE Redmond, WA Station 223: 3425 Pine Lake Rd SE Issaquah, WA Station 231: 16135 SE 113 Place Renton, WA Station 232: 20505 SE 152 Renton, WA Station 241: 3600 Tolt Ave NE Carnation, WA Station 242: 10644 E. Lake Joy Drive NE Carnation, WA Station 243: 28901 Carnation Farms Rd Carnation, WA	Office space, communication facility, vehicle and facility maintenance shop, and training facilities will need to be expanded. Plans are currently being developed to construct a new administrative building, communications center, vehicle and facilities maintenance shop and training facility. Property has not been purchased at this time, but they are looking for a site on the Pine Lake Plateau. In addition, a new fire station is possible in the vicinity of the May Valley Road and Hobart Road.
11	Headquarters Station 13: 1243 SW 112th Station 14: 1606 S. 128 Maintenance facility: 1243 SW 112th	Locations and capacities of new and expanded facilities: New fire dispatch facility for the fire departments on the "Salt Water" Ridge between Seattle and Tacoma. This ridge includes Fire Districts 2, 11, 26 and 39 and the Cities of Burien, Normandy Park, Sea Tac, Des Moines and Federal Way.
13	Station 1: 10019 SW Bank Rd. Vashon, WA 98070 Station 2: 10330 SW Burton Dr. Vashon, WA 98070 Station 3: 30241 131st SW Vashon, WA 98070 Station 4: 26316 99th Ave SW Vashon, WA Station 5: 11983 Vashon HWY SW Vashon, WA	Building a new station at 10020 SW Bank Rd.
14	Nothing Reported	

**TABLE E-1: FIRE PROTECTION DISTRICTS  
EXISTING AND PLANNED CAPITAL FACILITIES**

District	Existing Facilities	Planned Facilities
15	Station 51: 18030 73rd Ave NE Bothell, WA 98011 Station 54: 15036 70th Ave NE Bothell, WA 98011	New station at 17220 Brookside Blvd NE Seattle, WA 98155
17	Station 171: 25313 Baker St Black Diamond, WA 98010 Station 172: 22015 SE 296th St Kent, WA 98042	They need a new headquarters station that will be in approximately the same location. An additional support station will be built off the Green Valley road.
20	Station 1: 12617 76th Ave S. Seattle, WA Station 2: 11619 84th Ave S. Seattle, WA	Training ground and building 12424 76th Ave S. This will be built in 1994.
25	Station 71: 12923 156th Ave SE Renton, WA Station 72: 12412 SE 69th Way Renton, WA	
26	The City of Des Moines has annexed most of Fire District 26. By next month, they will have annexed all of the fire district and they will no longer be an entity.	
27	Station: 4301 334th Pl. SE Fall City, WA 98024	New fire station in area of SR 202 and 292 Ave SE - in preliminary stage, no property acquired - will be addressed in the master plan.
28	Station 1: 1330 Wells St. Enumclaw, WA Station 2: 35431 Veazie-Cumberland Enumclaw, WA Station 3: 43407 212th Ave SE Enumclaw, WA	
31	They contract with Auburn fire district. There is almost nothing left of fire district 31 and they will eventually be completely consumed by Auburn.	
34	Station 13: 8701 208th Ave Ne Redmond, WA Station 14: 5050 264th Ave NE Redmond, WA Station 15: 4400 228th Ave NE Redmond, WA	The proposed fire station for fire district 34 would be located within the Northridge (MPD) development. This would include the communities of Blakely Ridge and Northridge. It is planned that this station would be on-line mid-year 1997 barring any delays.

**TABLE E-1: FIRE PROTECTION DISTRICTS  
EXISTING AND PLANNED CAPITAL FACILITIES**

District	Existing Facilities	Planned Facilities
36	Station 31: 19900 144th Ave SE Station 32: 14700 148th Ave NE Station 33: 19401 NE 133rd St. Station 34: 12703 NE 144th Station 35: 17825 Avondale Road NE	Station 31: Remodel Station 32 Station 36: 232 Ave NE and NE 150th, new station to be built approximately 1994.
37	Station 72: 25620 140th Ave SE Kent, WA 98042 Station 75: 15636 Se 272nd St. Kent, WA 98042 Station 77: 21006 132nd Ave SE Kent, WA 98031	They are projecting the need to add a new fire station in the next five to six years north of SE 256th and east of 148th SE. Given the eminent widening of 132nd SE we will need to relocate and expand Station 77 to be located generally east of the Benson (108th SE) and north of SE 244th. It is also possible that the need for the two above projects will necessitate the relocation and/or expansion of Station 72. It will also be necessary within the next five years to build support and storage facilities.
38	Nothing Reported.	
39	Station 1: 3203 South 360th St. Station 2: 1617 1st Ave. South Station 3: 43414 21st Ave. SW Station 4: 3700 South 320th St. Station 5: 4966 South 298th St. Station 6: 27010 15th Ave. South Station 8: 1405 SW 312th St.	Two new stations will be built in the west and south parts of Federal Way. Station 2 will be expanded to allow for office and storage space.
40	Nothing Reported.	
41	Fire District 41 contracts with the City of Kirkland for fire protection services.	
43	Station 81 Headquarters: 22225 SE 231st Maple Valley, WA 98038 Station 82: 27519 Kent-Kangley Rd. Ravensdale, WA 98051 Station 83: 27250 216th Ave. SE Kent, WA 98041 Station 84: 16855 194th Ave. SE Renton, WA 98058 Station 85: 27605 SE 208th St. Maple Valley, WA 98038	

**TABLE E-1: FIRE PROTECTION DISTRICTS  
EXISTING AND PLANNED CAPITAL FACILITIES**

District	Existing Facilities	Planned Facilities
44	Station 91: 31204 124th Ave. Station 92: 31709 Kent Black Diamond Station 93: 18610 Covington Sawyer Rd. station 95: 32316 148th Ave.SE	
45	Station 261: 15600 1st Ave Duvall, WA Station 262: 29229 NE Big Rock Duvall, WA Station 263: 31733 NE 180th Pl. Duvall, WA Station 264: 10801 313 Ave NE Carnation, WA	Work is currently underway to expand station 262 and build a training center at that location.
46	Station 46: 19317 SE 38th Auburn, WA Station 49: 39404 244th Se Enumclaw, Wa Station 47: 39915 212th Se Auburn, WA	Addition to Station 49 possible in five years.
47	Station: 34626 SE 268th St. Station: 33586 SE 309th St.	
49	Nothing Reported.	
50	Station: 105 W. Cascade HWY Skykomish, WA 98288	They are in the process of building a satellite station in the Baring area.

---

SCHOOLS - APPENDIX F

TABLE F-1 SCHOOL FACILITIES

School District Name	Date of Comprehensive Plan	Date Adopted	Ordinance Number	Date Effective
Auburn School District 408				
Bellevue School District 405				
Enumclaw School District 216				
Federal Way School District 210	1991	7/13/92	10472	8/2/92
Fife School District				
Highline School District 401	1992	2/1/93	10722	2/22/93
Issaquah School District 411	1991	11/16/92	10633	12/5/92
Kent School District 415				
Lake Washington School 414	1992	4/12/93		
Mercer Island School 400				
Northshore School District 417				
Renton School District 403				
Riverview School District 407	1992	7/13/92	10472	8/2/9
Seattle School District 1				
Shoreline School District 412				
Skykomish School District				
Snoqualmie School District 410	1992*	2/1/93	10722	2/22/93
South Central School District 406				

TABLE F-1 SCHOOL FACILITIES

School District Name	Date of Comprehensive Plan	Date Adopted	Ordinance Number	Date Effective
Tahoma School District 409	8/8/91	10/7/91	10122	10/7/91
Vashon Island School District 402				

Blanks indicate absence of a CFP.

---

WATER SUPPLY - APPENDIX G

**TABLE G-1: COMPREHENSIVE WATER SYSTEM PLANS  
SEATTLE REGIONAL SYSTEM**

<b>System</b>	<b>Plan Date</b>	<b>Adoption Date</b>	<b>Ord. #</b>	<b>Amendments or New Plan</b>	<b>Ord.</b>
<b>Serving Unincorporated King County:</b>					
Bellevue	1985	7/86	7775	1992	draft
Bothell	1980	4/82	6085	1991	draft
Duvall	1987	11/87	8387		
Northshore	1991	6/92	10415		
Redmond	1990	3/93	10765		
Renton	1983	9/84	6950	1992	draft
Rose Hill	1989	3/90	9443		
Seattle	1985	3/87	7991	1992	draft
Shoreline	1991	5/92	10375		
Skyway W&S	1991	draft			
Woodinville	1992	3/93	10766		
KC WD 20	1986	2/87	7961		
KC WD 45	1977	2/79	4173		
KC WD 83	1984	7/84	6858		
KC WD 90	1984	12/84	7034		
KC WD 107	1986	3/87	8027		
KC WD 119	1983	3/84	6776	1986	7647
Bryn Mawr-Lakeridge	1991	5/92	10374		
Cedar River	1991	6/92	10413		
Highline	1989	7/91	10013	1992	draft
Soos Creek	1988	11/88	8077	1991	9788
<b>Serving Incorporated King County:</b>					
Kirkland	1984	8/85	7307		
Mercer Island					
Tukwilla					
KC WD 49	1983	4/83	6426	1987	8028
KC WD 85	1989	7/89	9076		
KC WD 125	1986	8/86	7735		

Blanks indicate absence of information or a plan.

**TABLE G-2: COMPREHENSIVE WATER SYSTEM PLANS  
OUTSIDE SEATTLE REGIONAL SYSTEM**

<b>System</b>	<b>Plan Date</b>	<b>Adoption Date</b>	<b>Ord. #</b>	<b>Amendments or New Plan</b>	<b>Ord. #</b>
Auburn	1983	8/83	6563		
Carnation	1980	3/84	6722		
Enumclaw	1983	2/84	6680		
Federal Way	1991	draft			
Issaquah	1987	10/89	9180		
Kent	1984	7/85	7249	1991	draft
North Bend	1985	3/86	7521		
Seattle	1985	3/87	7991	1992	draft
Snoqualmie	1980	3/81	5372		
Tacoma	1987	10/89	9193	1992	10629
KC WD 19	1982	4/82	6037	1991	draft
KC WD 94	1981	8/81	5636	1992	draft
KC WD 111	1990	2/91	9829		
KC WD 123	1977	10/78	3912		
KC WD 127	1982	4/82	5947	1988	8388
Ames Lake	1983	5/84	6777	1992	draft
Beulah Park	1991	10/92	10596		
Burton	1986	8/86	7734		
Cascade View	1991	draft			
Cherokee Bay	1980	4/81	5426		
Covington	1979			1991	10226
Dockton	1982	11/82	6215		
Edgehill	1982	8/84	6897		
Gold Beach					
Heights	1992	11/92	10658		
Maplewood Estates	1982	11/82	6214		
Maury Mutual	1981	8/81	5635		
Mirrormont	1992	draft			
NE Sammamish Plateau	1992	draft			
Riverbend	1979	10/86	5162		

**TABLE G-2: COMPREHENSIVE WATER SYSTEM PLANS  
OUTSIDE SEATTLE REGIONAL SYSTEM**

<b>System</b>	<b>Plan Date</b>	<b>Adoption Date</b>	<b>Ord. #</b>	<b>Amendments or New Plan</b>	<b>Ord. #</b>
Sallal	1979	3/80	4797	1986	7597
Sammamish Plateau	1990	1/91	9783		
Snoqualmie Pass	1986	2/86	7599		
Union Hill	1975	4/87	8026		
Westside	1981	12/81	5772		
Wilderness Rim	1985	8/86	7732	1991	draft
Algona	1989				
Beaux Arts	1983	10/83	6563		
Black Diamond					
Milton	1991	draft			
Pacific	1974				
Skykomish	1978	10/78	3911	1992	draft
KC WD 1					
KC WD 17					
KC WD 54	1992	draft			

Blanks indicate absence of information or a plan.

---

**STORMWATER MANAGEMENT - APPENDIX H**

**TABLE H-1: SURFACE WATER MANAGEMENT CHARGES**

<b>Class</b>	<b>Impervious Surface %</b>	<b>Rate</b>
Residential	NA	\$85.02/parcel/year
Very Light	0 to < 10%	\$85.02/parcel/year
Light	10% to < 20%	\$198.40/acre/year
Moderate	20% to < 45%	\$410.98/acre/year
Moderately Heavy	45% to < 65%	\$793.60/acre/year
Heavy	65% to < 85%	\$1,006.16/acre/year
Very Heavy	85% to < 100%	\$1,317.94/acre/year
County Roads	NA	Set in accordance with RCW 90.03.525
State Highways	NA	Set in accordance with RCW 90.03.525

---

SEWER/SEPTIC - APPENDIX I

TABLE I-1: COMPREHENSIVE SEWER SYSTEM PLANS

System	Date of Plan	Adoption Date	Ordinance #	Amendments or New Plan	Ordinance #
Wastewater Treated by Metro Treatment:					
Algona	1986				
Auburn	1981	2/82	5876		
Bellevue	1987	4/88	8470		
Black Diamond	1989	4/90	9389		
Bothell	1980	8/82	6085	1991	Draft
Duvall	1989				
Enumclaw					
Issaquah	1984	2/85	7117	1992	Draft
Kent	1980	4/81	5427	1990	Draft
Kirkland	1983	5/84	6799		
Lake Forest Park					
Mercer Island					
North Bend	1973			1984	
Pacific	1991				
Redmond	1991	6/92	10414		
Renton	1983	7/85	7248	1992	10497
Seattle	1980	7/84	6866		
Skyway	1983	4/84	6738	1992	Draft
Snoqualmie	1980	9/80	5095	1992	Draft
Tukwila	1984	5/88	8517		
Woodinville					
Bryn Mawr-Lakeridge	1991	Draft			

TABLE I-1: COMPREHENSIVE SEWER SYSTEM PLANS

System	Date of Plan	Adoption Date	Ordinance #	Amendments or New Plan	Ordinance #
Cedar River	1992	10/92	10595		
Eastgate	1987	4/88	8469		
Highlands					
NE Sammamish	1988	7/89	9077	1991	9947
Northshore	1991	6/92	10415		
Rainier Vista	1990	10/91	10127		
Ronald	1990	10/91	10144		
Rose Hill					
Sammamish Plateau	1983	6/83	6506	1987	6779
Snoqualmie Pass					
Val Vue	1985	9/85	7333	1990	Draft
SD 107	1988	5/89	8972		
Soos Creek					
Wastewater Treated by Independent Treatment Plants:					
Midway	1992	1/93	10707		
Federal Way	1991	2/91	9825		
SW Suburban	1986	1/87	7898	1992	Draft
Vashon	1984	8/85	7305	1992	Draft

Blanks indicate an absence of information or absence of a plan.

---

**SENSITIVE AREAS AND RESOURCE LANDS - APPENDIX J**

TABLE J-1: STATUS OF CRITICAL AREAS IN KING COUNTY

CODE	JURISDICTION	DUE DATE	CRITICAL AREAS	RESOURCE LANDS	GMA STATUS
1700	King County	09/01/91	11/27/90	09/01/91	In
1701	Algona, City of	03/01/92	03/01/92	03/01/92	In
1702	Auburn, City of	03/01/92	02/26/92	02/26/92	In
1703	Beaux Arts Village, Town	03/01/92	03/01/93	03/01/92	In
1704	Bellevue, City of	09/01/91	03/01/92	03/01/92	In
1705	Black Diamond, City of	03/01/92	04/16/92	04/16/92	In
1706	Bothell, City of	03/01/92	12/16/91	12/16/92	In
1707	Carnation, City of	03/01/92	02/18/92	02/18/92	In
1708	Clyde Hill, Town of	03/01/92	02/11/92	09/01/91	In
1709	Des Moines, City of	03/01/92	04/01/90	02/01/92	In
1710	Duvall, City of	03/01/92	03/01/92	03/01/92	In
1711	Enumclaw, City of	03/01/92	01/31/92	01/31/92	In
1713	Hunts Point, Town of	03/01/92	09/14/92	03/09/92	In
1714	Issaquah, City of	03/01/92	10/21/91	10/21/91	In
1715	Kent, City of	03/01/92	06/01/93	08/06/84	In
1716	Kirkland, City of	03/01/92	07/01/92	02/28/92	In
1717	Lake Forest Park, City	03/01/92	02/26/92	03/01/92	In
1718	Medina, City of	03/01/92	07/13/92	03/01/92	In
1719	Mercer Island, City of	03/01/92	02/24/92	02/01/92	In
1721	Normandy Park, City of	03/01/92	03/24/92	03/24/92	In
1722	North Bend, City of	03/01/92	01/19/93	01/19/93	In
1723	Pacific, City of	03/01/92	05/01/92	05/01/92	In
1724	Redmond, City of	03/01/92	07/07/92	09/01/91	In
1725	Renton, City of	03/01/92	04/01/91	05/04/92	In
1726	Seattle, City of	03/01/92	07/13/92	02/01/92	In
1727	Skykomish, Town of	03/01/92	12/10/92	12/10/92	In
1728	Snoqualmie, City of	03/01/92	05/26/92	08/26/91	In
1729	Tukwila, City of	03/01/92	06/10/91	09/01/92	In

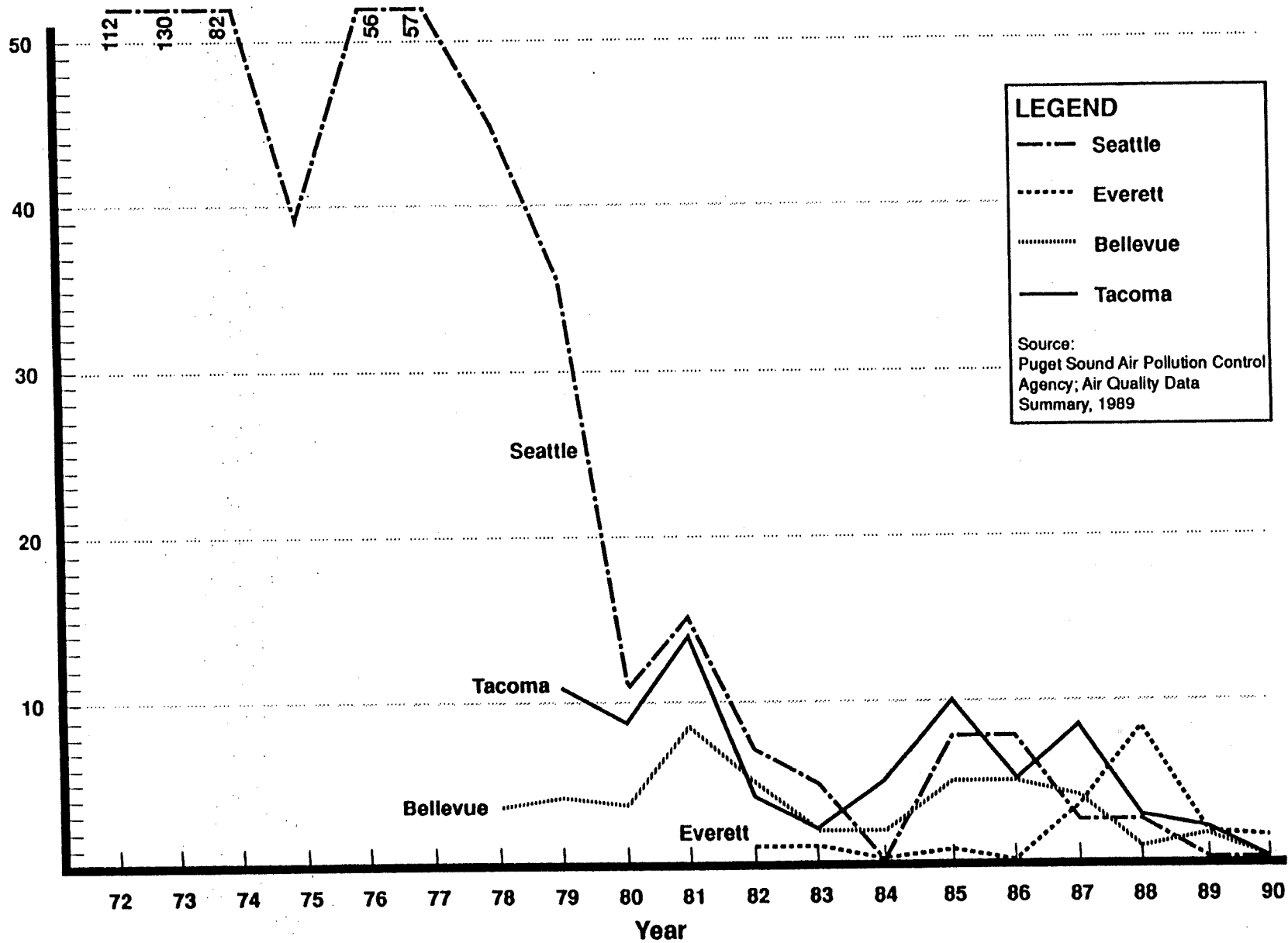
TABLE J-1: STATUS OF CRITICAL AREAS IN KING COUNTY

CODE	JURISDICTION	DUE DATE	CRITICAL AREAS	RESOURCE LANDS	GMA STATUS
1730	Yarrow Point, Town of	03/01/92	07/10/91	09/10/91	In
1732	Federal Way, City of	09/01/91	09/01/91	09/01/91	In
1733	Sea Tac, City of	03/01/92	03/01/92	09/01/91	In
1734	Woodinville, City of	03/01/92	03/01/93	03/01/93	In
1735	Burien, City of	09/01/91	09/01/91	09/01/91	In

---

AIR QUALITY - APPENDIX K

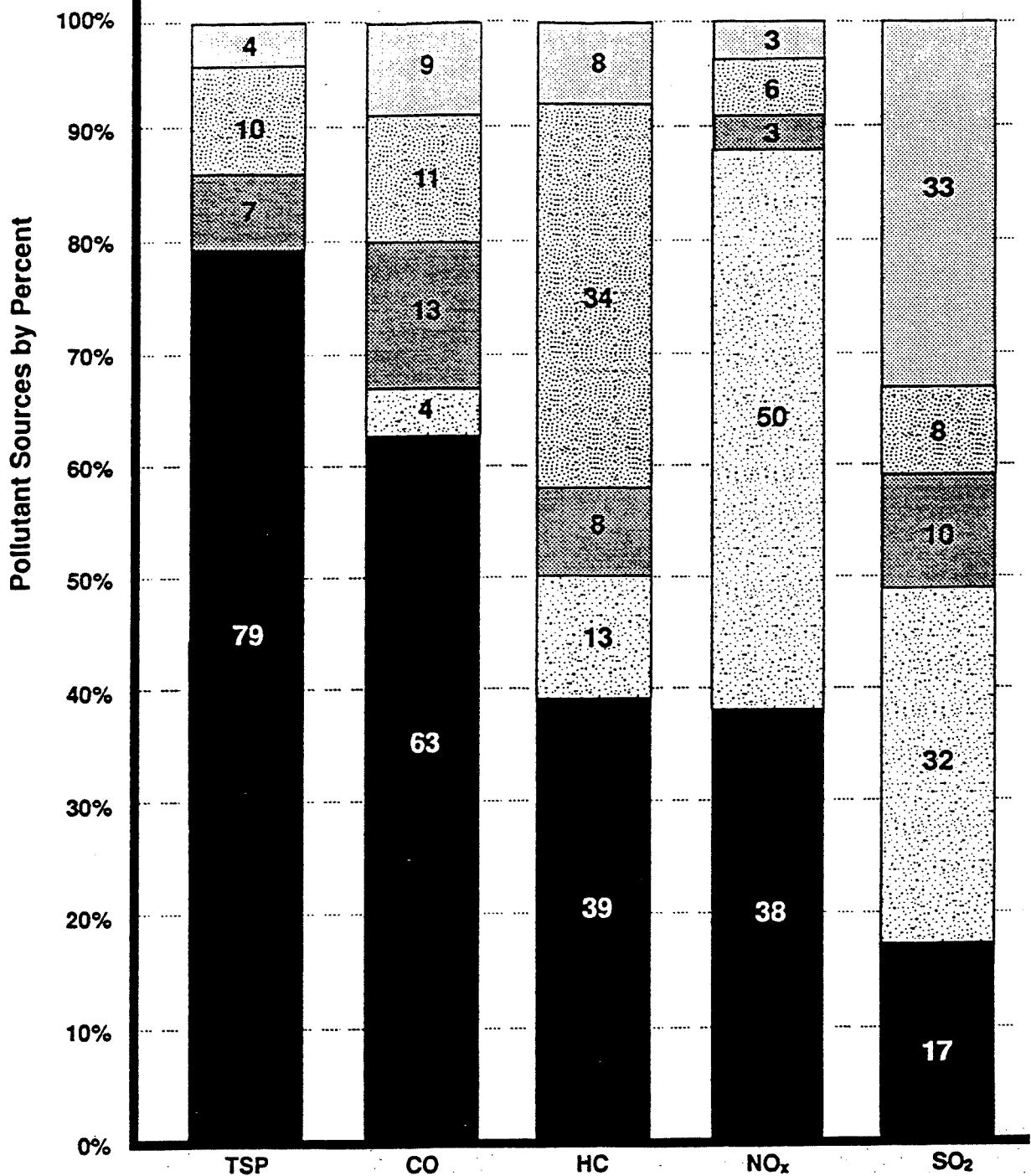
Number of Days 8 Hour Average Exceeded 9ppm



**LEGEND**  
 - - - Seattle  
 ..... Everett  
 ..... Bellevue  
 — Tacoma

Source:  
 Puget Sound Air Pollution Control Agency; Air Quality Data Summary, 1989

TABLE K-1



**LEGEND**

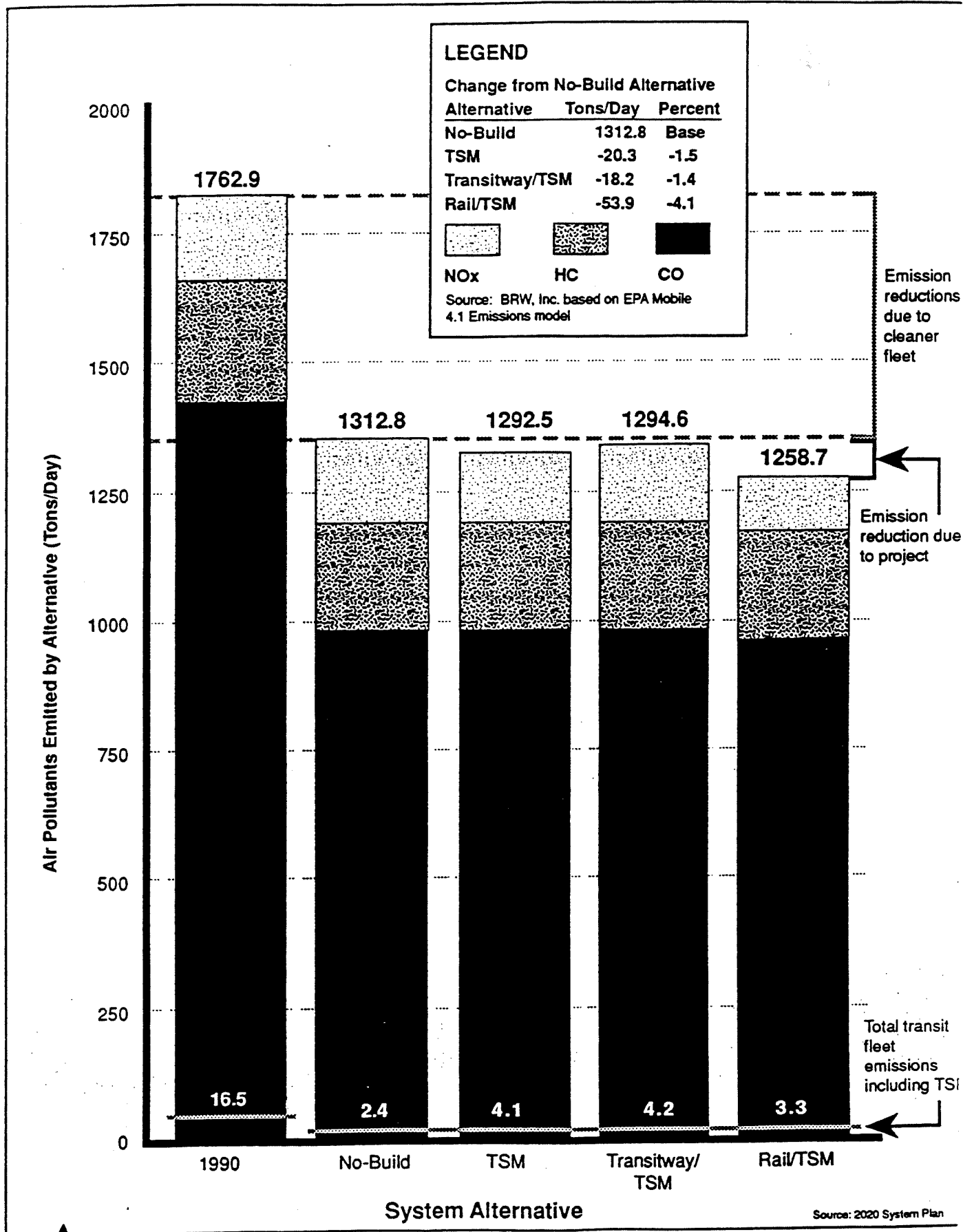
**Major Pollutant Sources**

- On-Road Transportation
- Off-Road Transportation
- Residential Heating
- Other Area Sources

**Air Pollutants**

- TSP - Total Suspended Particulate
- CO - Carbon Monoxide
- HC - Hydrocarbons
- NO<sub>x</sub> - Oxides of Nitrogen
- SO<sub>2</sub> - Sulphur Oxides

Source: Puget Sound Air Pollution Control Agency 11/30/89



**TABLE K-3**

**DRAFT SEIS ON THE**

**KING COUNTY**

**COUNTYWIDE PLANNING POLICIES**

**DISTRIBUTION LIST**

## CITIES AND TOWNS

City of Algona  
City of Auburn  
Town of Beaux Arts Village  
City of Bellevue  
City of Black Diamond  
City of Bothell  
City of Bremerton  
City of Burien  
City of Carnation  
Town of Clyde Hill  
City of Des Moines  
City of Duvall  
City of Edmonds  
City of Enumclaw  
City of Everett  
City of Federal Way  
City of Fife  
Town of Hunts Point  
City of Issaquah  
City of Kent  
City of Kirkland  
City of Lake Forest Park  
City of Lynnwood  
City of Medina  
City of Mercer Island  
City of Mill Creek  
Town of Milton  
City of Mountlake Terrace  
City of Normandy Park  
City of North Bend  
City of Pacific  
City of Redmond  
City of Renton  
City of SeaTac  
City of Seattle  
Town of Skykomish  
City of Snoqualmie  
City of Sumner  
City of Tacoma  
City of Tukwila  
City of Winslow  
City of Woodinville  
Town of Yarrow Point

## COUNTIES

King County  
Kitsap County  
Pierce County  
Snohomish County  
Kittitas County

## INDIAN TRIBES

Muckleshoot Tribe

## PORTS

Port of Seattle  
Port of Tacoma

## TRANSIT AGENCIES

Community Transit  
Everett Transit  
Kitsap Transit  
Municipality of Metropolitan  
Seattle (METRO)  
Pierce Transit  
Snohomish County Transportation  
Authority (SNO-TRAN)

## UTILITIES

Bellevue Utilities  
Bryn Mawr-Lakeridge Water and  
Sewer District  
Cedar River Sewer and Water  
District  
Des Moines Sewer District  
Eastgate Sewer District  
Federal Way Water and Sewer  
District  
Highlands Sewer District  
Mercer Island Water and Sewer  
Utilities  
Midway Sewer District  
Northeast Lake Washington Sewer  
District  
Northeast Sammamish Sewer and  
Water District  
Rainier Vista Sewer District  
Rose Hill Water and Sewer  
Ronald Sewer District  
Skyway Water and Sewer District  
Snoqualmie Pass Sewer District  
Soos Creek Water and Sewer  
District  
Southwest Suburban Sewer District  
Val Vue Sewer District  
Vashon Sewer District  
Woodinville Water and Sewer  
District  
Ames Lake Water Association  
Riverbend Homesites Association  
Sallal Water Association

## REGIONAL AGENCIES

Central Puget Sound Economic  
Development District  
METRO - Environmental Division  
Puget Sound Air Pollution Control  
Agency  
Puget Sound Water Quality  
Agency  
Thurston Regional Planning  
Council

## LIBRARIES

King County Library (16)  
Governmental Research Assistance  
Library  
Auburn Public Library  
Bellevue Public Library  
METRO Library  
Municipal Research and Services  
Center Library  
Renton Public Library  
Seattle Public Library (15)  
Seattle Pacific University,  
Weter Memorial Library  
Seattle University, Lemieux  
Library  
University of Washington,  
Suzzallo Library  
Washington State Library  
Washington State Department  
of Transportation Library  
Snoqualmie Library  
Carnation Library

## SCHOOLS

University of Washington, Depart-  
ment of Urban Design and  
Planning  
Auburn School District #408  
Bellevue School District #405  
Enumclaw School District #216  
Federal Way School District #210  
Highline School District #401  
Issaquah School District #411  
Kent School District #415  
Lake Washington School District  
#414  
Mercer Island School District  
#400  
Northshore School District #417  
Renton School District #403

Riverview School District #407  
Seattle School District #1  
Shoreline School District #412  
Skykomish School District #404  
Snoqualmie School District #410  
South Central School District  
#406  
Tahoma School District #409  
Vashon School District #402

## ENVIRONMENTAL GROUPS

Audubon Society  
Citizens for Clean Water  
Federation of Outdoor Clubs  
Friends of the Earth  
Greenpeace  
Issaquah Environmental Council  
Mountaineers  
Northwest Rivers Council  
Northwest Steelhead and Salmon  
Council  
Seattle Shorelines Coalition  
Sierra Club  
Washington Environmental Council  
Washington Forest Protection  
Association  
Washington Natural Heritage  
Program

## COMMUNITY ORGANIZATIONS

Citizens for Responsible Growth  
Central Newcastle Property  
Ownership Association  
Friends of Snoqualmie Valley  
Mt. Si Advisory Committee  
Mountaineers, Conservation  
Division  
Valley Citizens for Sensible  
Growth  
Preston Community Club  
Tolt Hill Community Club  
Seattle Master Builders  
Ames Lake Community Club  
Lake Marcel Community Club  
Lake Joy Community Club  
Carnation Ridge Community Club  
Fall City Community Club  
Sno-Valley Community Center  
Duvall Businessmens Association  
Vincent Community Club  
Snoqualmie Valley Railway

COMMUNITY ORGANIZATIONS  
(Continued)

Cherry Valley Community  
Association  
Duvall Historical Society  
Historical Association, Inc.  
Snoqualmie Valley Museum  
Wilderness Rim Maintenance  
Corporation

OTHER

All Community Councils, Chambers  
of Commerce, and Individuals  
who responded during the SEIS  
Scoping Period  
Association of Washington  
Business  
League of Women Voters of  
Washington (5)  
Municipal League (Seattle)  
Seattle-King County Economic  
Development Council  
Seattle-King County Board of  
Realtors

NEWS MEDIA

KCPQ - TV  
KCTS - TV  
KING TV/Radio  
KIRO TV/Radio  
KOMO TV/Radio  
KPLU Radio  
KSTW TV/Radio  
KUOW Radio  
Journal American, Bellevue  
Morning News Tribune, Tacoma  
Puget Sound Business Journal  
Seattle Post Intelligencer  
Seattle Times  
Seattle Daily Journal of  
Commerce  
Snoqualmie Valley Record  
Issaquah Press  
Woodinville Weekly

SEIS ADVISORY COMMITTEE

Mr. Richard Chapin  
Inslee, Best, Doezie & Ryder  
Ms. Pat Chemnick  
Economic Development Manager

South East Effective  
Development  
Mr. Denny Dochnahl  
Mr. Andrew Duffus  
Mr. Robert Gillespie  
Puget Power & Light Company  
Government Relations  
Ms. Teresa Kalet  
Ms. Doreen Marchioni  
Mr. Ronald Marson  
Mr. Richard E. McCann  
Perkins Coie  
Ms. Lucy Steers

LIAISON GROUP

Mr. Bill Guenzler, Director  
Bellevue Department of Public  
Works  
Ms. Carol Osborne, Director  
Redmond Department of Public  
Works  
Mr. Ross Earnst, Director  
Tukwila Department of Public  
Works  
Ms. Lynn Guttman, Director  
Renton Department of Public  
Works  
Mr. Philip Keightley, Director  
Federal Way Department of  
Public Works  
Mr. Frank Currie, Director  
Auburn Department of Public  
Works  
Mr. Gary Zarker, Director  
Seattle Engineering Department  
Mr. Paul Tanaka, Director  
King County Department of  
Public Works  
Mr. Louis J. Haff, King County  
Road Engineer  
King County Department of  
Public Works  
Mr. Dan Clements, Administrator  
City of Renton  
Mr. Patrick Dugan, Finance  
Director  
City of Auburn  
Ms. Joanne Sylvis, Director of  
Finance  
City of Mercer Island  
Ms. Lenda Crawford, Finance  
Director  
City of Redmond

LIAISON GROUP (Continued)

Mr. Larry Springer, Planning  
Manager  
City of Federal Way  
Mr. Eric Shields, Planning  
Director  
City of Kirkland  
Mr. Dan Drentlaw, Planning  
Director  
City of Enumclaw  
Planning Department  
Mercer Island  
Ms. Roberta Lewandowski, Planning  
Director  
City of Redmond  
Mr. Rob Odle, Principal Planner  
City of Bellevue  
Mr. Gary Lawrence, Director  
Office of Long Range Planning  
City of Seattle  
Ms. Elsie Crossman, Manager  
Physical Planning  
City of Seattle  
Ms. Lois Schwennesen, Director  
King County Parks, Planning and  
Resources Department  
Mr. Jim Reid, Manager  
King County Planning and  
Community Development Division  
Mr. Ron Posthuma, Manager  
Government Relations  
METRO  
Ms. Deborah Larson, Finance  
Director  
City of Federal Way  
Mr. Eric Shields, Planning  
Director  
City of Kirkland  
Judy Chapman  
King County Council Staff  
Rebecha Cusack, Staff Assistant  
King County Executive Office  
Nancy Laswell  
King County Department of  
Public Works

GROWTH MANAGEMENT PLANNING  
COUNCIL

Paul Barden, Councilmember  
King County Council  
Margot Blacker, Councilmember  
City of Bellevue

Pat Davis, Commissioner  
Port of Seattle  
Sue Donaldson, Councilmember  
Seattle City Council  
Bob Edwards, Councilmember  
City of Renton  
Audrey Gruger, Chair  
King County Council  
Tim Hill, King County Executive  
Rosemarie Ives, Mayor  
City of Redmond  
Fred Jarrett, Councilmember  
City of Mercer Island  
Bruce Laing, Councilmember  
King County Council  
Roger Loschen, Mayor  
City of Lake Forest Park  
Margaret Pageler, Councilmember  
Seattle City Council  
Larry Philips, Councilmember  
King County Council  
Norman B. Rice, Mayor  
City of Seattle  
Bob Stead, Mayor  
City of Federal Way  
Jim Street, Councilmember  
Seattle City Council  
Cynthia Sullivan, Councilmember  
King County Council  
Shirley Thompson, Councilmember  
City of SeaTac  
Bob Wray, Councilmember  
City of Des Moines

OTHER KING COUNTY AGENCIES

Carol Chan, King County  
Community Planning  
Derek Poon, King County  
Resource Planning  
Ann Dold, Manager  
King County Environmental  
Division  
Jim Kramer, Manager  
King County Surface Water  
Management Division  
David Lurie, Director  
King County-Seattle  
Health Department  
Juana Royster, Chair  
King County Cooperative  
Extension

UTILITIES (Continued)

Water District #1  
Water District #14  
Water District #17  
Water District #19  
Water District #20  
City of Tukwila Water District  
Water District #42  
Water District #45  
Water District #49  
Water District #54  
Water District #57  
Highline Water District  
Sammamish Plateau Water and  
Sewer District  
Water District #83  
Water District #85  
Covington Water District  
Water District #90  
Water District #94  
Water District #104  
Water District #107  
Water District #111  
Water District #117  
Water District #119  
Water District #121  
Water District #122  
Water District #123  
Water District #125  
Water District #127  
Water District #123  
Wilderness Rim Maintenance  
Corporation  
Fire District #10  
Fire District #27  
Fire District #38  
Fire District #45  
Washington Natural Gas Company  
Northwest Pipeline Company  
Pacific Northwest Bell  
General Telephone Company  
Puget Sound Power and Light  
Real Estate Division  
Seattle City Light  
Seattle Water Department  
Snohomish County Public Utility  
District  
Tacoma City Light  
Tacoma Water Department

FEDERAL AGENCIES

Bureau of Indian Affairs

Department of Housing and Urban  
Development  
Department of Agriculture  
Economic Development  
Administration  
Environmental Protection Agency  
Federal Aviation Administration  
Federal Highways Administration  
Fish and Wildlife Service  
Urban Mass Transportation  
Administration  
United States Air Force  
United States Army  
United States Army Corps of  
Engineers  
United States Coast Guard  
United States Navy

STATE OF WASHINGTON

Department of Community  
Development (2)  
Department of Ecology (2)  
Department of Trade and Economic  
Development  
Department of Fisheries  
Department of Natural Resources  
Department of Parks and  
Recreation  
Department of Social and Health  
Services  
Department of Transportation:  
Headquarters  
District 1  
Urban Mobility Office  
Aeronautics Division  
Marine Division  
Department of Utilities and  
Transportation  
Department of State Planning and  
Community Affairs Agency  
Department of Wildlife  
Energy Office  
Growth Strategies Commission  
Legislative Transportation  
Committee  
Office of Archaeology and  
Historic Preservation  
Office of the Governor  
Planning, Research and Public  
Transportation  
Transportation Improvement Board

OTHER KING COUNTY AGENCIES  
(Continued)

Leonard Garfield, Manager  
King County Cultural  
Resources Division  
George Northcroft, Director  
King County Department of  
Executive Administration  
Chuck Kleeburg, Director  
King County Development and  
Environmental Services  
James Greenfield, Administrator  
King County Office of Open  
Space  
Linda Dougherty, Manager  
King County Parks Division  
Jesus Sanchez, Director  
King County Department of  
Stadium Administration