

***Final Environmental Impact
Statement***

City of Federal Way

**Comprehensive Plan &
Development Regulations**

July 1995

Fact Sheet

Proposed Action:

The proposed action is adoption of a Comprehensive Plan & initial development regulations by the Federal Way City Council to comply with the Growth Management Act (GMA). The proposal will replace the interim Comprehensive Plan and revise the development regulations adopted when the City incorporated in 1990. The action addressed in this Final EIS consists of the following elements:

- adoption of the Comprehensive Plan organized in specific elements or chapters, including an overall vision, land use, City Center, economic development, natural environment, housing, transportation, parks & recreation, capital facilities, and utilities; the plan contains policies, implementation strategies, levels of service standards and other information;
- adoption of a land use map showing designations for all properties within the City; and
- adoption of new or revised regulations for commercial and industrial land uses to implement Comprehensive Plan designations, and a school impact fee ordinance. These regulations were the subject of an EIS Addendum published in June 1995.
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Location of Proposal:

Federal Way is located in southwestern King County. The Comprehensive Plan will cover a 32-square mile area encompassing the City and adjacent unincorporated areas located within the City's identified potential annexation area.

Action Sponsor & Lead Agency:

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Required Approvals:

Adoption of the Comprehensive Plan and ordinances by the Federal Way City Council. Review and comment by the Washington Department of Community Development and other state agencies, as required by the Growth Management Act.

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Location of Background Data:

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Date of Issuance:

July 14, 1995

Cost of Document:

No charge.

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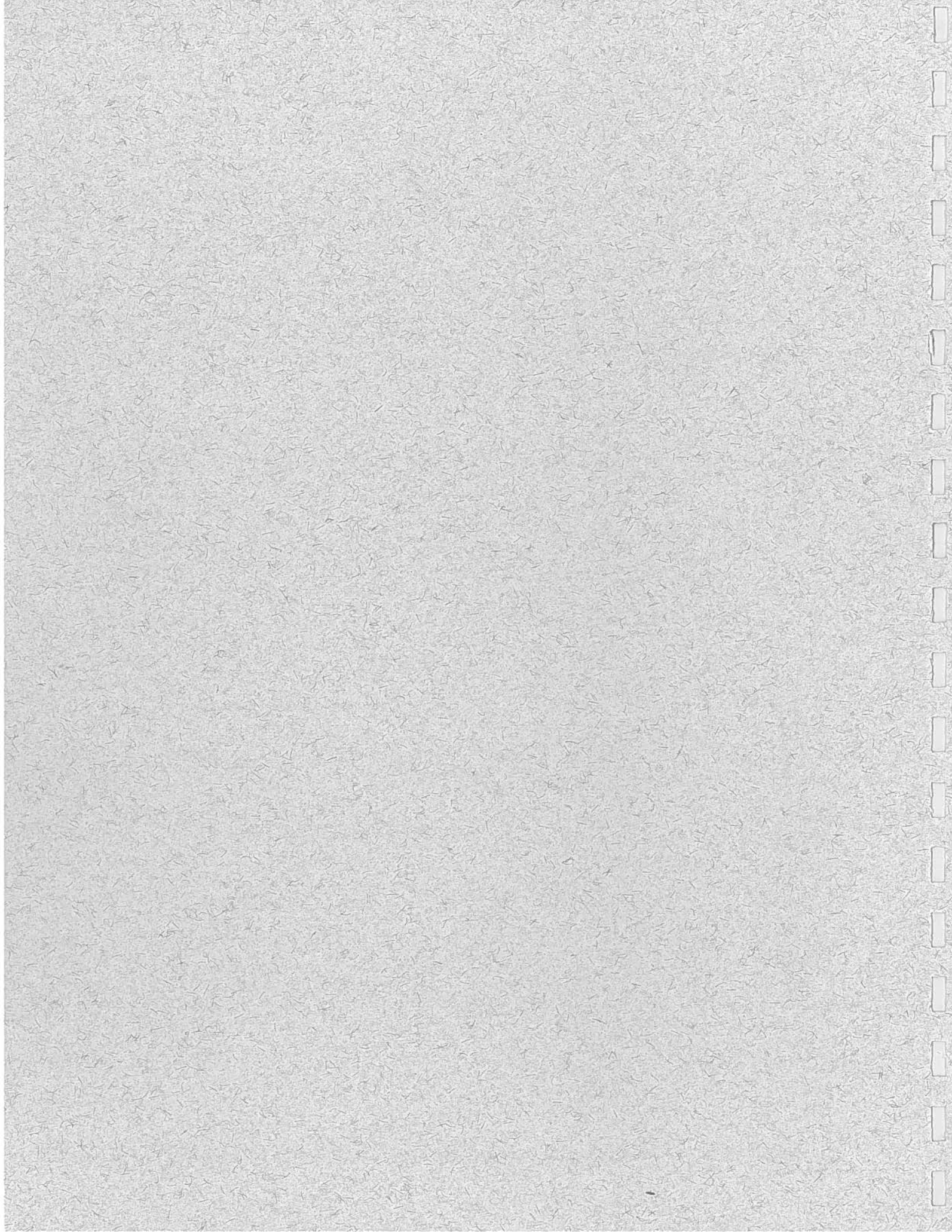
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SUMMARY



Summary

This section provides a brief summary of information contained in the EIS. It provides an overview of the proposed action and alternatives, the analysis of significant impacts and mitigation measures, and identified unavoidable adverse impacts. The summary is intended to be brief and selective; the reader should consult individual sections of the Draft EIS for detailed information concerning environmental impacts and mitigation measures.

A. Proposed Action & Project Location

Proposed Action

The proposed action is adoption of a Comprehensive Plan & initial development regulations by the Federal Way City Council to comply with the Growth Management Act (GMA). The proposal will replace the interim Comprehensive Plan and revise the development regulations adopted when the City incorporated in 1990. The action addressed in this Final EIS consists of the following elements:

- adoption of the Comprehensive Plan organized in specific elements or chapters, including an overall vision, land use, City Center, economic development, natural environment, housing, transportation, parks & recreation, capital facilities, and utilities; the plan contains policies, implementation strategies, levels of service standards and other information;
- adoption of a land use map showing designations for all properties within the City; and
- adoption of new or revised regulations for commercial and industrial land uses to implement Comprehensive Plan designations, and a school impact fee ordinance. These regulations were the subject of an EIS Addendum published in June 1995.

The Proposed Plan is intended to accommodate growth targets of 13,425 additional dwelling units and 14,800 new jobs over the next twenty years.

No area-wide rezoning or significant changes in land uses are proposed at this time. New commercial and industrial regulations will be applied to property currently zoned for commercial and industrial uses. Any additional minor rezones necessary to bring the zoning map into conformance with the Comprehensive Plan land use map would occur as a separate action and be subject to additional environmental review. An Addendum to the Final EIS will be prepared to evaluate the environmental implications of proposed changes to the City's zoning map.

Location of Planning Area

The City of Federal Way is located in south King County. It is approximately 19.9 square miles in area and is generally bounded by Puget Sound on the west; Pacific Highway South and South 272nd Street on the north; I-5 on the east; and the King/Pierce County line on the south.

The geographic area included in the proposed Comprehensive Plan includes the existing corporate limits as well as adjacent unincorporated lands within the City's sphere of influence and which may be annexed in the future. This total planning area, which contains approximately 32 square miles (20,407 acres), is the City's interim Urban Growth Area (UGA) for purposes of comprehensive planning.

B. CityShape Planning Process

The development of Federal Way's Comprehensive Plan is occurring within a framework of state laws and regional policies. Major direction guidance is provided by the Growth Management Act and the King County Countywide Planning Policies.

The City's local process for developing its the Comprehensive Plan -- called "CityShape" - began in April 1992. It combines technical analysis with citizen participation and environmental review throughout the process.

Major steps in developing the plan have included:

- Collecting, publishing and evaluating data about the community, much of it published in a *Community Profile* (City of Federal Way, 1993). The Profile also identifies challenges and opportunities and was used to help residents provide input on preferred visions for the community's future.
- Preparing 20-year and 30-year economic growth scenarios. Each of the economic scenarios made different assumptions about the role of the City, the relative amounts of future retail, office, and industrial growth, and the function and shape of the City Center. The scenarios ranged from continuation as a suburban bedroom community, to different visions of an urban city center with varying amounts and types of jobs.
- Incorporating ongoing citizen involvement into the planning process. The community's expressed preferences have been used as the basis of alternative "visions" of Federal Way's future.
- Developing and refining general land use and transportation concepts or "visions" including urban design options. The visions are based on economic development scenarios and public preferences.

- Soliciting public reaction to the concepts with respect to economic performance, transportation efficiency and community values.
- Preparing and circulating a Draft EIS evaluating the environmental effects of the visions. This information will be used to help refine the visions and develop a preferred land use concept.
- Developing a preferred concept (including policies). The preferred concept will be based on preferences expressed in the workshops and open house, and on technical analysis, including the Draft EIS.
- Refining the preferred concept into a proposed comprehensive plan and initial development regulations.

Plan Objectives and Issues. The general objectives of the Comprehensive Plan -- identified during the early stages of the planning process -- include:

- Providing adequate land to accommodate population and economic growth; and
- Defining necessary community facilities to match planned growth;
- Facilitating development of a high quality city center to meet community needs;
- Developing a land use pattern that reduces traffic congestion and supports mass transit;
- Encouraging development that provides a high quality environment; and
- Identifying neighborhood centers and the range of uses appropriate to these areas;

C. Integrating SEPA and the CityShape Planning Process

The proposed action involves phased environmental review pursuant to the provisions of the SEPA Rules (WAC 197-11-060(5)). This EIS is one of a series of environmental documents published during the comprehensive planning process. Future environmental review will include zoning maps and text and other regulatory programs necessary to implement the plan.

The EIS on Federal Way's comprehensive plan is intended to help decision makers and the public understand the environmental effects of alternative community visions, including different land use patterns, city center concepts, service standards and similar choices related to future growth. The City developed a specific strategy for coordinating SEPA with the Comprehensive Plan, intended to better integrate environmental information with the development of plan concepts and policies, and with public involvement.

The Draft EIS evaluated three general concepts or visions for the City's future growth, including three city center alternatives. It focused on broad land use patterns, standards/costs for providing capital facilities, and possible mitigation measures and implementation approaches.

The City used the information in the Draft EIS, along with citizen and agency comment on the document, and further discussion with the City Council, to define a "preferred" alternative and to develop draft policies for the various elements of the plan (e.g. land use, housing, capital facilities), and a detailed land use map. The preferred alternative combines and refines several of the broad concepts articulated in initial plan visions and analyzed in the Draft EIS.

D. Alternative Land Use and City Center Concepts

Three preliminary land use concepts and three city center concepts were evaluated in the Draft EIS. Each land use concept is combined with a city center concept for purposes of description and environmental analysis.

All of the concepts were intended to accommodate forecast population and housing growth. Recent household targets adopted in the revised Countywide Planning Policies are lower than those assumed in the Draft EIS. Under any of concepts, the mix and type/density of land uses would not change in most of the City, particularly in existing single-family residential areas. Residential neighborhoods would experience modest infill at compatible densities where vacant land is available.

Change would primarily occur along and adjacent to the Pacific Highway South corridor and within the city center. Changes would be directed at accommodating population/housing forecasts and achieving economic growth objectives. Among the concepts, land use changes would range from modest office/retail intensification and continued auto orientation, to development of an intense pedestrian-oriented urban core with high-rise mixed-use buildings and high capacity transit. New multi-family residential communities and/or office parks outside of the central core are also part of some of the concepts. Amounts of commercial/industrial uses would vary significantly among the concepts, reflecting increases ranging from 30 percent to 66 percent (in total square feet). All concepts assume protection of natural open spaces and environmentally sensitive areas, as well as provision of public parks.

Land Use Concept 1: Existing Trends -- Land Use and Policies Modified Consistent with the Growth Management Act

Concept 1 represents a continuation of existing trends. It would substantially continue existing land use patterns and reinforce the City's current character as a suburban residential community with a regional retail economic base. Existing comprehensive plan policies, land use designations and implementing regulations would be modified as

necessary to accommodate regional population, housing and employment targets and to be consistent with other GMA objectives (e.g. concurrency).

Total housing capacity under this concept would increase by approximately 17,770 dwelling units; almost 60 percent of the increase would be in multi-family units. Most new housing would be developed in a new multi-family village community around 336th Street east of Pacific Highway South, and in and adjacent to the existing city center. Little change would occur in existing neighborhoods; some infilling would occur adjacent to existing neighborhood centers.

Under *City Center Concept 1*, the existing city center would continue to develop primarily as an auto-oriented regional retail center. Low-rise office growth and higher density housing would occur as well, and would make the center more intensively developed than at present. A civic center plaza with offices is envisioned, as are location of community facilities, pedestrian amenities along a route connecting Centennial Park with Steel Lake Park, improved bus facilities and parking structures.

Non-residential uses would increase by approximately 30 percent, with more than one-half the growth occurring in office uses. Most of the growth would occur in and near the city center, in the West Campus area, and in and around the Weyerhaeuser corporate headquarters area located east of I-5.

Parks and open space uses would increase by approximately 61 percent.

Public investment in capital facilities would be focused on road improvements, including widening of some arterials (5 to 7 lanes). Other improvements would include several bus transit facilities distributed throughout core; the widening of South 320th Street and Pacific Highway South; and enlarging and completing the ring road around the city center.

Land Use Concept 2: High Intensity City Center.

Concept 2 would retain the City's predominant residential character but would result in some significant changes to the city center and to the City's economic base. The total increase in housing capacity would be comparable to Concept 1, but a somewhat smaller proportion of housing would be multi-family. New housing development would be concentrated in the city center, and in and around residential communities at Pacific Highway South at 272nd Street and 334th Street. Little change would occur in existing neighborhoods.

Total non-residential uses would be one million square feet greater than Concept 1. All of the difference would occur in office uses located in the city center or in the Weyerhaeuser area (east of I-5); manufacturing and retail uses would increase the same as in Concept 1. Overall, the City would achieve a greater balance between housing and jobs.

City Center Concept 2 would involve creation of a higher intensity, more pedestrian-oriented downtown core with a mix of residential, retail, office and civic uses, including a civic center plaza. Office buildings (and some mixed-use residential/office buildings) would be mid-rise to high-rise with structured parking.

Public investment for capital facilities would be focused in and around the city center (from 312th to 320th Streets along Pacific Highway South). Transportation system improvements would include modest upgrades of the arterial road system, and more extensive improvements in the city center, including a feeder bus system, four rail transit stations, and additional pedestrian connections. Major improvements associated with City Center Concept 2 include widening of South 320th Street and Pacific Highway South to accommodate increased traffic; creation of a pedestrian spine linking parks civic plazas, retail and residential uses, together; construction of a grade-separated pedestrian bridge across South 320th Street connecting to Sea Tac Mall; structured parking near the spine of development; connections from new housing and retail areas to Steel Lake Park; and construction of a ring road with landscaped treatment to enclose downtown.

Land Use Concept 3: Strong City Center with Business Park Development and Urban Villages.

Concept 3 would result in the largest and most diverse employment base compared to the other concepts. The City would contain an intensively developed urban core, a major new office park, and new residential communities north and south of the downtown. In general, Concept 3 would involve the greatest degree of change to the character of Federal Way, although most physical change would be limited to the Pacific Highway South corridor.

Concept 3 would contain somewhat fewer new housing units than Concepts 1 and 2; a slightly higher proportion of total housing would be multi-family. Little change would occur in existing neighborhoods. Most new housing would be located in the city center, and in 3 new residential neighborhoods (generally at medium densities) located north and south of the downtown core -- near 272nd Street and 288th Street (in the corridor between Pacific Highway South and I-5), and between 320th and 334th (along Pacific Highway South).

A high intensity, mixed-use downtown core would be located at Pacific Highway South and 312/320th Streets. Manufacturing, office and retail uses would increase by 6.4 million square feet -- almost two times more than Concept 1 and two-thirds greater than Concept 2. High-rise and mid-rise buildings would contain a mix of retail, office and residential uses. A new business park area would also be located south of the downtown core near the South 336th/348th Street areas.

City Center Concept 3 involves development of a downtown core containing a mix of high-rise and mid-rise office/retail uses, high-rise housing and an "urban village" with a mix of housing types and densities adjacent to a neighborhood retail center. A civic plaza

would be located adjacent to an intermodal transit terminal. Some additional low-rise housing would be developed next to Steel Lake Park. A landscaped ring road would encircle downtown and a pedestrian spine would link parks, civic and office and retail uses together.

Public investment for capital facilities would focus on both the city center and the new business park area; capital investments would, as a result, be greater than the other concepts. Transportation improvements would include upgrades of the arterial road system; three rail transit stations, serving the high-intensity housing and office uses in the city center and new business park; a more diffuse bus system (because of multiple employment areas); and some pedestrian facilities.

Transportation improvements associated with the new city center would include a flyover crossing at South 320th Street, to alleviate left turn movements slowing traffic along South 320th Street; an intermodal (rail and bus) transit terminal close to South 320th Street; and pedestrian-oriented improvements on South 320th Street, including street trees, medians, and at-grade pedestrian crossings, to create the feeling of a boulevard.

E. Summary of Significant Impacts, Mitigation Measures and Unavoidable Adverse Impacts.

The following tables contain brief summaries of the major findings of the Draft EIS concerning significant environmental impacts (Table S-1), mitigation measures (Table S-2), and unavoidable adverse impacts (Table S-3). They are presented in matrix format for the sake of brevity. The reader is urged to consult the complete text of the Draft EIS for detailed analysis of environmental issues.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Earth</p> <ul style="list-style-type: none"> Increased erosion potential associated with future construction and development activities. Disturbance of earth and soils during excavation and grading activities. Regulatory protection for landslide hazards - City's SAO. Potential for some soil/slope failure during strong seismic event. Potential for reduced groundwater recharge associated with increased impervious surface area and demand for domestic water. Potential for contamination of aquifer recharge area due to increased development. 	<ul style="list-style-type: none"> See general impacts. 	<ul style="list-style-type: none"> See general impacts. Potential risk of contamination of aquifer recharge area due to greater amounts of industrial development in or near recharge area 	<ul style="list-style-type: none"> See general impacts. Generally comparable to Concept 2. 	<ul style="list-style-type: none"> See general impacts. Generally comparable to Concept 2.
<p>Air Quality</p> <ul style="list-style-type: none"> Temporary dust and emission (vehicle/machine) impacts from excavation, grading, and construction activities. Potential for short-term odor impacts during paving operations. Increased sources of air pollution as population increases. 	<ul style="list-style-type: none"> Same as general impacts. Total vehicle emissions would be lower than existing conditions. 	<ul style="list-style-type: none"> See general impacts. Carbon monoxide increase about 1% higher than Concept 1; however, total vehicle emissions about 10% lower than existing conditions. 	<ul style="list-style-type: none"> See general impacts. Vehicle emissions significantly higher than Concepts 1 and 2; however 5-8% lower than existing conditions. 	<ul style="list-style-type: none"> See general impacts. Magnitude of vehicle emissions between that generated by Concepts 2 and 3.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Air Quality (continued)</p> <ul style="list-style-type: none"> • Potential for air quality impacts from residential wood burning. • Average automobile carbon monoxide emission rates would decrease in future due to improvements to engine efficiencies and continued emission control requirement. 				
<p>Water Resources</p> <ul style="list-style-type: none"> • Detention facilities required by City expected to control increased in peak runoff. Peak flows may increase slightly due to new development. • Increased pollutant loading in surface waters resulting from new roads, driveways, parking and other impervious surfaces. • Runoff from vehicular surfaces would be one of the largest nonpoint sources of pollutant loading from new residential development. Fertilizer and pesticide use in landscaped areas, pet wastes and a wide variety of other residential activities would contribute to pollutant loading. 	<ul style="list-style-type: none"> • Same as general impacts. 	<ul style="list-style-type: none"> • See general impacts. • Generally comparable to Concept 1. 	<ul style="list-style-type: none"> • See general impacts. • Generally comparable to Concept 1. 	<ul style="list-style-type: none"> • See general impacts. • Generally comparable to Concept 3.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Water Resources (continued)</p> <ul style="list-style-type: none"> • Potential impact to surface water quality during construction resulting from vegetation removal, disturbance of soil, and erosion. • Increased impervious surface coverage would result in decreased ground water recharge. • Increased demand for domestic water would likely result in increased ground water withdrawals. • Significant decreases in ground water recharge of the Redondo-Milton channel. • Increased impervious surfaces and peak flows would also increase the potential for flooding in flood problem locations. Flooding impacts would be comparable among the alternatives. 				

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Plants & Animals</p> <ul style="list-style-type: none"> Federal Way's SAO intended to regulate development near lakes, streams, wetlands, and steep slopes. Development associated with residential areas would result in the loss of some native mixed coniferous-deciduous trees and shrubs. Indirect impacts to plants and animals could result from degradation of riparian plant species and fish habitat in wetlands, lakes and streams from flooding, sedimentation, and reduced base flows. 	<ul style="list-style-type: none"> Most impacts focused on Hwy 99 corridor, which is already substantially altered, and parts of I-5. Most valuable habitat protected by City's SAO. 		<ul style="list-style-type: none"> Slightly higher impact to habitat than Concept 2. 	<ul style="list-style-type: none"> Magnitude of habitat impacts between that of Concepts 2 and 3.
<p>Energy</p> <ul style="list-style-type: none"> Energy consumption would increase significantly. All concepts would have similar residential energy demands. Concepts with more multi-family units could experience slightly higher energy efficiency. 	<ul style="list-style-type: none"> Total energy demand of 229 Megavolt Amperes (MVA); existing system capacity and proposed improvements would result in a potential deficiency of 57 MVA. 	<ul style="list-style-type: none"> Overall energy demand of 237 MVA; a potential deficiency of 131 MVA would exist. 	<ul style="list-style-type: none"> Overall energy demands would be greater than Concepts 1 and 2; total demand of 420 MVA with a potential system deficiency of 270 MVA. 	<ul style="list-style-type: none"> Overall energy demands would be greater than Concepts 1 and 2; total demand of 400 MVA with potential system deficiency of 250 MVA.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Energy (continued)</p> <ul style="list-style-type: none"> • Concepts with more commercial and industrial uses (Concepts 2 and 3) would generally consume more power. 		<ul style="list-style-type: none"> • High capacity transit, more multi-family units, and mid-rise scale commercial uses that could result in slightly more efficient use of energy. 	<ul style="list-style-type: none"> • Greater commercial uses would require more energy than Concept 1 and Concept 2. • Concept 3 would contain the most multifamily units and high-rise commercial space which could result in the greatest amount of energy efficiency. 	<ul style="list-style-type: none"> • Commercial energy use slightly less than Concept 3.
<p>Environmental Health (EMF)</p> <ul style="list-style-type: none"> • Although new growth would occur in areas located adjacent to the power lines, significant adverse health impacts are not predicted. 	<ul style="list-style-type: none"> • Same as general impacts. 	<ul style="list-style-type: none"> • Same as general impacts. 	<ul style="list-style-type: none"> • Same as general impacts. 	<ul style="list-style-type: none"> • Same as general impacts.
<p>Noise</p> <ul style="list-style-type: none"> • Construction activity associated with growth would temporarily increase sound levels. • Increases in traffic volumes would increase sound levels between 1.9 - 1.2 dBA. 	<ul style="list-style-type: none"> • See general impacts. 	<ul style="list-style-type: none"> • See general impacts. 	<ul style="list-style-type: none"> • See general impacts. 	<ul style="list-style-type: none"> • See general impacts.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Noise (continued)</p> <ul style="list-style-type: none"> Residential uses would be located within the SeaTac flight path; impacts would be greater under Concepts 2 and 3. Flight path impacts would be reduced by 1996 and significantly reduced by 2020 - due to newer technology. 				
<p>Land Use</p> <ul style="list-style-type: none"> Indirectly, the Comprehensive Plan could have significant effects on the City's mix of land uses and land use patterns. Majority of the planning area would not change significantly some infill in existing neighborhoods at compatible densities. Substantial increase in multi-family housing in all concepts. Non-residential uses (retail, office and manufacturing) would grow substantially with Concept 3 having the greatest increase and Concept 1 the smallest. Displacement of residences and businesses would occur due to redevelopment in Hwy 99 corridor. 	<ul style="list-style-type: none"> Type and nature of recent growth would continue over the next 20 years, reinforcing the City's existing land use character. Existing neighborhoods would become somewhat more densely developed and urbanized. Lowest displacement due to redevelopment. 	<ul style="list-style-type: none"> Overall land use pattern would be similar to Concept 1, but with major changes focused in the City Center and along the Pacific Highway South corridor. Displacement due to redevelopment would be higher than Concept 1. Concentrations of more intensive development around transit center could create pressure for rezoning surrounding areas to capture perceived economic opportunities. 	<ul style="list-style-type: none"> Greatest increase in non-residential development -- more than twice that of Concept 1 and approximately 50 percent greater than Concept 2. Displacement would be similar to Concept 2. The Pacific Highway South corridor would be intensively developed along much of its length; however, land uses would be better planned and more cohesive, including open spaces and 	<ul style="list-style-type: none"> Land use pattern would combine elements of Concepts 2 and 3. Displacement would be similar to Concept 2. Impacts to Pacific Highway South corridor comparable to Concept 3. Impacts around high capacity transit stations would be comparable to those identified for Concepts 2 and 3.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Land Use (continued)</p> <ul style="list-style-type: none"> Conflicts with adjacent areas and jurisdictions could occur at the boundaries between different land uses; impacts would be greatest where differences in intensity or type of use is most extreme. The supply of developable land to accommodate growth could vary over time. 	<ul style="list-style-type: none"> Continuation of the City's suburban land use pattern would include continued strip development along Pacific Highway South, which would compete with the City Center in an economic sense. More decentralized land use pattern could create pressure for development of additional neighborhood-scale retail centers, or expansion of existing centers, to provide goods and services to a larger population. 	<ul style="list-style-type: none"> City Center more concentrated and intensively developed taller and larger buildings (generally mid-rise). Higher levels of economic activity focused into a central core would also contribute to more pedestrian traffic. 	<ul style="list-style-type: none"> transitions between areas of differing use and density. Impacts around high capacity transit stations would be comparable to those identified for Concept 2. Most concentrated and most intensively developed City Center with significantly higher levels of office and retail growth. Taller and larger buildings (including high-rise structures). Greater potential for City Center land uses to spill over into or affect adjacent areas (but adjacent areas would also be more intensively developed). 	<ul style="list-style-type: none"> No direct land use impacts potential annexation area assumed; land use for PAA would be planned jointly by City & County. City Center concentrated development similar to Concept 3, with similar magnitude of impacts. Assuming no annexations, growth would be more concentrated than under the alternatives.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Land Use (continued)</p>	<ul style="list-style-type: none"> • The potential for land use conflicts at the fringes of the downtown would be significantly greater than Concepts 1 and 2. 	<ul style="list-style-type: none"> • The potential for land use conflicts at the fringes of the downtown would be significantly greater than Concepts 1 and 2. 	<ul style="list-style-type: none"> • The potential for land use conflicts at the fringes of the downtown would be significantly greater than Concepts 1 and 2. 	<ul style="list-style-type: none"> • Growth targets are lower than those assumed for the other alternatives: 13,425 dwelling units and 14,800 jobs. Some impacts could be proportionately lower. • Potential shortages of development capacity could occur using conservative assumptions.
<p>Population/Housing/Employment</p> <ul style="list-style-type: none"> • Population increases would be approximately 46,000 for all concepts and would achieve the population target being used for planning. • Rate of population growth is uncertain and will depend upon the local and regional economy, land use policy decisions and market conditions. • Housing unit increases comparable among alternatives, 17,763 - 17,700. • All three concepts could be approximately 1,500 dwelling units below the PSRC housing target; but deficiency may be due to different assumptions about household size. 	<ul style="list-style-type: none"> • Largest number of housing units; approximately 41 percent would be single family units and 59 percent multi-family. • Would maintain the current economic focus of the City and provide the fewest number of jobs. 	<ul style="list-style-type: none"> • Approximately the same number and ratio of single and multi-family units as Concept 1. • Office development approximately one-third more than Concept 1. 	<ul style="list-style-type: none"> • Smallest percentage of single family units (38.8 percent) and the largest percentage of multi-family units (61.2 percent). • Greatest increase in jobs (21 percent greater than Concept 1, and 14 percent more than Concept 2). 	<ul style="list-style-type: none"> • Growth targets are lower than those assumed for the other alternatives: 13,425 dwelling units and 14,800 jobs. Some impacts could be proportionately lower. • Potential shortages of development capacity could occur using conservative assumptions.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Population/Housing/Employment (continued)</p> <ul style="list-style-type: none"> Over time, a shortage of available land could cause pressure on land and housing costs, as well as pressure for rezoning or redevelopment to achieve higher densities. 				
<p>Aesthetics, Light & Glare</p> <ul style="list-style-type: none"> Potential impacts to visual resources primarily relate to the location, size scale, and intensity of future development. Majority of multi-family housing would be located in and adjacent to the City Center. Changes in the visual character of the area are not expected to be significant, assuming that Comprehensive Plan policies and development regulations address design and compatibility. Views from gateway locations could improve as infill development and redevelopment occurs and design improvements are implemented over time. 	<ul style="list-style-type: none"> Least dramatic visual change; land use type, building size and design would be similar to existing conditions. The area would continue to develop as an auto-oriented regional retail area and would continue to lack visual character and a distinct identity. 	<ul style="list-style-type: none"> Mid- and high-rise buildings would add dimension and scale to the City center and would create more of an identity for the area. The Comprehensive Plan would contain design elements specific to the City Center -- policies, incentives and civic improvements would be focused on achieving a defined vision for appearance and function. 	<ul style="list-style-type: none"> Changes in visual character would be similar to Concept 2. The downtown core would contain a mix of high-rise and mid-rise office/retail uses and the area would take on a more urban character. The visual character of the area between S. 336th Street and S. 348th Street would change from that of mixed commercial development to a planned office park. 	<ul style="list-style-type: none"> Changes in visual character would be generally similar to Concept 2.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Aesthetics, Light & Glare (continued)</p> <ul style="list-style-type: none"> Greatest change in light and glare would result from redevelopment of the City Center under Concepts 2 and 3. Use of reflective materials for buildings could generate light and glare impacts. 	<ul style="list-style-type: none"> Visual character in areas proposed for redevelopment (along S.W. 336th Street between West Campus and I-5) would change from a mix of vacant land and industrial and commercial uses to residential neighborhoods. 	<ul style="list-style-type: none"> Potential for the City to improve its visual image, enhance primary gateways, and create a cohesive, urban identity. Significant change in light and glare due to introduction of mid-rise buildings in City Center. 	<ul style="list-style-type: none"> Most significant change in light and glare due to introduction of high-rise buildings in City Center. 	
<p>Transportation</p> <ul style="list-style-type: none"> Between 1990 and 2010, total trips would increase by 40 percent as a result of anticipated growth. Total vehicle miles traveled (VMT) and total vehicle hours traveled (VHT) would increase. Volume to capacity ratio (v/c ratio) would decrease from 0.67 (LOS A-D) in 1990 to 0.80 (LOS E) in 2010. 	<ul style="list-style-type: none"> The increase in total trips would be similar for Concepts 1 & 2 (40% and 41% respectively). Under Concepts 1 and 2, total VMT would increase by approximately 41 percent while total VHT would increase by approximately 46 percent. 	<ul style="list-style-type: none"> Development of City Center would result in new trips focusing in the S. 320th Street corridor in the vicinity of I-5. Trip increase similar to Concept 1. 	<ul style="list-style-type: none"> Total number of trips generated under Concept 3 would increase by 51 percent compared to 1990 existing conditions. Total VMT would increase by 44 percent while total VHT would increase by 54 percent. 	<ul style="list-style-type: none"> Total number of trips generated would increase by 45 percent compared to 1990 existing conditions. Total VMT would increase by 43 percent while total VHT would increase by 51 percent.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Transportation (continued)</p> <ul style="list-style-type: none"> • Congestion on city streets in 2010 (measured in lane miles) would increase by between 8% (Concept 1) and 32% (Concept 3); average speeds would increase slightly, however. • For home base trips, the proportion of travel by transit would not increase by the year 2010 (expected to remain at 2%). • Carpool mode share is assumed to increase by 3 percent by 2010, as a result of recommended car-pool/HOV facility improvements. • Additional pedestrian and bicycle facilities would be constructed to encourage the use of non-motorized modes of transportation. 			<ul style="list-style-type: none"> • Development of City Center and redevelopment in new trips focusing in the S. 320th and S. 348th Street corridors in the vicinity of I-5. 	<ul style="list-style-type: none"> • Other impacts generally comparable to Concepts 2 and 3. • Potential revenue shortfall to fund improvements; additional revenue sources needed

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Fire/Emergency Medical Services</p> <ul style="list-style-type: none"> Service characteristics affected by future city growth include: traffic congestion reducing response times; needs for water supply and transmission lines to increase fire flows; additional time required to review plans, inspect buildings and perform related activities; and needs for timely data to forecast demands and growth increasing the number of emergency calls. Expansion of existing fire stations and public water supplies may be necessary to ensure adequate fire flows. 	<ul style="list-style-type: none"> See general impacts. Concept 1 could generate a total of 3,114 service calls (2,910 residential and 204 commercial). Additional firefighters, management personnel, and equipment could be required beyond planned improvements. Development of the area east of I-5 or near the City Center could require an additional station or station expansion. Additional traffic congestion on local streets could affect response times. 	<ul style="list-style-type: none"> See general impacts. Concept 2 would generate approximately 3,178 calls (64 more calls annually than Concept 1 due to additional 1 million square feet of office space); District needs would be the same as described under Concept 1. Potentially easier for District to respond to calls due to the concentration of development in a smaller geographic area. Depending on building heights, the city may need to upgrade water transmission and/or storage infrastructure to ensure adequate pressure and water volume. 	<ul style="list-style-type: none"> See general impacts. Concept 3 would generate a total annual increase of 3,349 calls by 2010; greater number of calls associated with office growth. Staffing needs would be slightly greater than Concepts 1 and 2. It may be necessary to locate an additional station near the City Center, given the high density residential and commercial uses. Building heights could require the purchase of an additional aerial truck. 	<ul style="list-style-type: none"> See general impacts. Proposed Plan would generate a total annual increase of 2,848 calls by 2010; greater number of calls associated with office growth. Staffing needs would be slightly less than Concept 3.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Police</p> <ul style="list-style-type: none"> Future population growth and development would result in increased demand for police protection services and other community programs supported by the local police department (e.g., D.A.R.E. and community watch programs.) 	<ul style="list-style-type: none"> By 2010, an additional 11,958 service calls could be generated annually, resulting in the need to hire 24 additional officers and purchase 24 patrol cars, equipment and facilities improvements. 	<ul style="list-style-type: none"> By 2010 an additional 12,438 service calls could be generated annually, necessitating hiring one more officer than under Concept 1. 	<ul style="list-style-type: none"> Concept 3 would create the greatest demand for police services 14,464 annual service calls, necessitating the hiring of 30 officers, purchasing 30 patrol cars, and additional equipment and facilities improvements. 	<ul style="list-style-type: none"> By 2010, an additional 11,780 service calls could be generated annually, resulting in the need to hire 24 additional officers and purchase 24 patrol cars, equipment and facilities improvements.
<p>Schools</p> <ul style="list-style-type: none"> Total number of students generated does not vary significantly among concepts -- increases of about 42-43% of 1992 FTE. Considering future planned improvements, forecast population would generate the need for 8.6 elementary schools, two junior high schools, and one senior high school. Construction costs would total \$98,642,958 (based on avg. school costs at 1992 dollars). Mitigation fees (1992 dollars) would generate between \$23,930,891 and \$24,439,667, covering approximately 25 percent of total construction costs. 	<ul style="list-style-type: none"> See general impacts. 	<ul style="list-style-type: none"> Similar to Concept 1. 	<ul style="list-style-type: none"> See general impacts. Approximately 200 fewer students than Concepts 1 and 2. 	<ul style="list-style-type: none"> See general impacts.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Parks & Recreation</p> <ul style="list-style-type: none"> All concepts would generate a need for 508-785 acres of parks, depending on level of service standards. Deficit in park acreage would range from 82-380 acres, depending on level of service standards 	<ul style="list-style-type: none"> Would add 405 acres of parks and open space. Greatest deficit of park acreage. 	<ul style="list-style-type: none"> See general impact. Would add 426 ac. parks/open space. Slightly smaller deficit in park acreage than Concept 1 (82-359 acres). 	<ul style="list-style-type: none"> See general impact. Would add 426 ac. parks/open space. Slightly smaller deficit in park acreage than Concept 1 (82-359 acres). 	<ul style="list-style-type: none"> See general impacts. Park impacts would be somewhat less than Concepts 2 and 3 due to lower growth target.
<p>Water Supply</p> <ul style="list-style-type: none"> By 2010, projected growth under any of the concepts would generate an estimated water demand of 34 mgd. Approximately 90 percent of the increased water demand would be incurred by the Federal Way Water and Sewer District. Additional sources after 2010 (or 2005 if Pipeline 5 not implemented). 	<ul style="list-style-type: none"> Same as general impacts. 	<ul style="list-style-type: none"> Same as general impacts. 	<ul style="list-style-type: none"> Same as general impacts. 	<ul style="list-style-type: none"> Same as general impacts.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Sewer</p> <ul style="list-style-type: none"> Total new flows would range from 3.66 mgd for Concept 1 to 3.81 mgd for Concept 3. Most increased flows would go to the Lakota or Redondo Wastewater Treatment Facilities; flows would increase by about 1.8 mgd at the Lakota facility & 0.6 mgd at Redondo. Second largest increase in flows would go to the Tacoma Wastewater Treatment Facility; this increase may require changes to the agreement between Federal Way Water and Sewer District and Tacoma. As growth occurs in the southern portion of the planning area, sewer service would be extended to the Hylebos and Auburn basin thereby increasing flows to Tacoma & METRO. Connection of existing unsewered development to the sanitary sewer system may be necessary to protect groundwater quality. 	<ul style="list-style-type: none"> See general impacts. 	<ul style="list-style-type: none"> See general impacts. 	<ul style="list-style-type: none"> See general impacts. 	<ul style="list-style-type: none"> See general impacts.

Table S-1. Summary of Impacts

General Impacts	Concept 1	Concept 2	Concept 3	Proposed Plan
<p>Storm Water</p> <ul style="list-style-type: none"> Stormwater runoff would increase under all concepts due to increased impervious surfaces. Impacts would not differ significantly among the concepts. Total flow volumes would increase and could cause sedimentation and erosion. The potential for flooding in some problem areas would also increase. 	<ul style="list-style-type: none"> See general impacts. 	<ul style="list-style-type: none"> See general impacts. 	<ul style="list-style-type: none"> See general impacts. 	<ul style="list-style-type: none"> See general impacts.
<p>Fiscal Impacts</p> <ul style="list-style-type: none"> Differences between net fiscal impact of land use concepts relatively small. Major fiscal differences arise from the varying degrees of commercial development between concepts; generally the more intense the commercial development, the better the city's fiscal balance. Property taxes revenues are estimated to account for over 30 percent of General Fund revenues by 2010. 	<ul style="list-style-type: none"> See general impacts. Cumulative unfunded capital facility needs \$93.5 million. Assumes bond issue of \$24.8 million (\$0.26 per \$1,000 assessed value). 	<ul style="list-style-type: none"> See general impacts. Cumulative unfunded capital facility needs \$96.2 million. Assumes bond issue of \$24.5 million (\$0.25 per \$1,000 assessed value). 	<ul style="list-style-type: none"> See general impacts. Cumulative unfunded capital facility needs \$113.5 million. Assumes bond issue of \$21.3 million (\$0.22 per \$1,000 assessed value). 	<ul style="list-style-type: none"> See general impacts.

**Table S - 2
Summary of Mitigation Measures**

Element	Mitigation Measures
Earth	<ul style="list-style-type: none"> • The City's adopted Sensitive Areas Ordinance (SAO), landscaping requirements, stormwater design/planning regulations and SEPA process would generally identify and limit risks associated with geologic hazards. Proper enforcement of building codes would reduce the potential for slope failure, erosion, and water quality impacts. • Other mitigation could include identification and protection of aquifer recharge areas and implementation of erosion and sedimentation controls during construction to protect water quality.
Air Quality	<ul style="list-style-type: none"> • Emissions from construction activities could be reduced by implementing policies and regulations requiring the use of new and/or well-maintained construction equipment; restricting hauling activities during peak commute periods; use of dust suppressants, and wheel washing. • The State's Clean Air Act requires the use of EPA certified wood stoves and regulates residential wood burning. New dwellings are required to have alternative heat sources other than wood. Covenants that ban residential wood burning in planned developments could be established. • Land use Concepts 2 and 3 would promote the use of alternative modes of transportation, helping to reduce emissions from motor vehicles. If identified transportation improvements occur, air quality benefits would occur.
Water Resources	<ul style="list-style-type: none"> • Measures to reduce adverse impacts to surface water quality include: source controls directed toward completed developments, permanent stormwater controls, and temporary erosion and sedimentation controls during construction activities. • Other measures could include efforts to educate residents and businesses about maintaining surface water quality and to establish an inspection and maintenance program to inventory and monitor private and public stormwater facilities. • Measures to reduce flooding impacts could include revised detention requirements; regional detention facilities; retain wetlands for stormwater retention; and review regulatory definitions and programs.

Table S-2 (Cont'd) Summary of Mitigation Measures

Element	Mitigation Measures
Plants & Animals	<ul style="list-style-type: none"> • The City's SAO, landscaping provisions, development regulations, and SEPA process would mitigate impacts to plant and animal communities. The SAO could be revised to provide more detailed standards of protection relative to the quality of critical areas; Department of Wildlife management guidelines for priority species should be considered. Field inventory of streams, lakes and wetlands would help to characterize the quality of sensitive areas. • Other mitigation could include incentives for enhancement of critical areas; dedication of Native Growth Protection Easements; design of regional storm water management facilities to enhance wildlife habitat where possible; consideration of habitat in open space planning; and landscaping requirements that employ native plants and/or plant species demonstrated to benefit wildlife.
Noise	<ul style="list-style-type: none"> • Develop policies requiring noise sensitive construction practices. • Land uses adjacent to high volume roads and freeways should reflect the presence of these noise sources. • The Comprehensive Plan should balance noise issues with other legal mandates. Residential land uses could, for example, be limited in the SeaTac flight path; shifting these uses elsewhere would produce other impacts to the environment.
Energy	<ul style="list-style-type: none"> • Mitigation should consider coordination of planning and construction activities with energy purveyors; extension of transit services and use of HOV to reduce dependency on single-occupancy vehicles; and energy saving features in the design and construction of buildings.
Environmental Health (EMF)	<ul style="list-style-type: none"> • The City should adopt policies and guidelines that apply to development in or adjacent to the power line corridor. • The City should continue its prudent approach to siting. Future development and/or redevelopment of homes and schools near power lines should be discouraged. • No definitive setback standard has been identified; EMF does decrease substantially 100 feet from the source however.

Table S-2 (Cont'd) Summary of Mitigation Measures

Element	Mitigation Measures
<p>Land Use</p>	<ul style="list-style-type: none"> • Land use and city center policies should reflect the issues and potential impacts identified in the Draft EIS (e.g., overall land use pattern, compatibility between adjacent land uses and districts, etc.). • The land use pattern embodied in the Comprehensive Plan should be consistent with regional land use and transportation decisions. • Appropriate transitions between land use of different type and intensity should be implemented (i.e., use of open space to define land use pattern and provide a visual and physical separation between neighboring uses). • Major development controls, including zoning, SAO, subdivision ordinance, and shoreline master program should be refined or revised to reflect stated policies, achieve consistency between the land use plan and regulations, and ensure fairness for property owners. • Site planning and development standards that address setbacks, design, building orientation, landscaping buffering or screening, and similar factors should be established to promote land use compatibility and achieve design objectives. Procedures for implementing design policies could include a design review process. • The City should continue to update and refine land supply data. "Benchmarks" for the 20-year planning period should be established for factors such as land supply, absorption and cost, density and growth rates.

Table S-2 (Cont'd) Summary of Mitigation Measures

Element	Mitigation Measures
<p>Population, Housing & Employment</p>	<ul style="list-style-type: none"> • The City should establish benchmarks, and monitor growth and land supply to determine if assumptions are valid. Corrections to constrained land supply could include increasing residential densities, rezoning, or revising the preliminary population growth forecast to realistically reflect limitations of the City's land supply. • The City's 1991 Comprehensive Housing Affordability Strategy establishes a five-year strategy to address housing needs of low-income and special needs. Significant amounts of multi-family housing contained in the Land Use Concepts, particularly 2 and 3, would help provide affordable housing. • Potential incentives to provide affordable housing could be considered, these could include density bonuses, small lot zoning, zero lot line development, and process incentives. Mandatory requirements for affordable housing units could also be considered. A program to permit accessory units should also be considered. • The level and mix of employment embodied in Concepts 2 and 3 diverge somewhat from the PSRC preliminary forecasts. The City should monitor this process and determine if its economic scenarios continue to be consistent with regional plans. • Growth targets may need to be adjusted if levels of service and capital spending cannot support the preferred land use alternative. • The City's housing strategy should incorporate the objectives of the Washington Housing Policy Act.
<p>Aesthetics, Light & Glare</p>	<ul style="list-style-type: none"> • Adoption of design policies, standards, and guidelines in the Comprehensive Plan and development regulations would help achieve design goals. Some form of design review may also be considered. • Design requirements and policies should be efficient and should consider other important city objectives (e.g. affordable housing) along with visual quality.

Table S-2 (Cont'd) Summary of Mitigation Measures

Element	Mitigation Measures
Transportation	<ul style="list-style-type: none"> • Improvements necessary to accommodate forecast growth include widening of existing roadways, construction of new roadways, corridor development, construction of frontage roads and freeway connections between major arterials in Federal Way and I-5, and new HOV facilities on congested arterials. Identified improvements would achieve acceptable levels of service under any of the land use concepts. • Enforcement of the City's Commute Trip Reduction Ordinance would require affected employers to implement programs to reduce the number of employees commuting in single occupant vehicles.
Fire and Emergency Medical Services	<ul style="list-style-type: none"> • Future development proposals would need to assess and mitigate impacts on fire services (e.g., providing adequate access for emergency vehicles in new development). • Tax revenues generated by future development would be available to finance additional staffing and equipment requirements.
Police	<ul style="list-style-type: none"> • Measures to reduce the number of police service calls could include providing on-site security for construction sites; encouraging site designs that would reduce opportunities for crimes to occur; adequate street lighting; and promotion of community crime prevention programs. • Tax revenues generated by future development would be available to fund additional police requirements.
Schools	<ul style="list-style-type: none"> • It is anticipated that future school needs will be identified in the School District's ongoing planning process and through project review. The District should use population and housing targets in the Comprehensive Plan and monitor growth (housing and students) to verify planning assumptions. • The City should adopt an ordinance enabling it to collect impact fees on behalf of the school district.
Parks & Recreation	<ul style="list-style-type: none"> • Ongoing land use and capital facilities planning should seek to identify additional needs for park and recreation land and facilities. Information in the Capital Facilities section of the Draft EIS should be used to identify a park level of service standard that City residents can support financially and politically.

Table S-2 (Cont'd) Summary of Mitigation Measures

Element	Mitigation Measures
Water	<ul style="list-style-type: none"> • Growth rates and patterns should be monitored to assure that water demand does not outstrip existing resources or new source development. Development of additional regional water supplies should be supported. • The City should reevaluate planned water system facilities to assure that they can support planned land uses. • The Comprehensive Plan should include policies that address water conservation and aquifer protection. • The City should participate in the South King County Coordinated Water System Plan with the objective of assuring adequate, reliable and healthful water supplies to residents.
Sewer	<ul style="list-style-type: none"> • Growth rates and patterns should be monitored to assure that sewage flows do not exceed capacities. • The City should reevaluate planned sewer system facilities to assure that they are optimally sized and located to support planned land uses. • The City should consider connecting unsewered development to the sanitary sewer in an effort to protect groundwater resources.
Storm Water	<ul style="list-style-type: none"> • As part of its Comprehensive Storm Water Plan, the City will model "worst case" 2010 development; this will form the basis of a future capital improvement program. • The storm water system will preserve and use elements of the natural drainage system, including wetlands. • The City will review its storm water requirements and incorporate updated standards where appropriate.
Fiscal Impacts	<p>The City will continue to refine its capital facilities model along with its land use plan. Future input will include refinements to levels of service, additional services, and varying funding sources/levels.</p>

Table S-3 Summary of Unavoidable Adverse Impacts

Element	Unavoidable Adverse Impacts
Earth	<ul style="list-style-type: none"> • Increased erosion and sedimentation will be produced by construction. • Topography would be permanently altered as a result of future development activities
Air Quality	<ul style="list-style-type: none"> • Air Quality would deteriorate incrementally.
Water Resources	<ul style="list-style-type: none"> • Increased Pollutant loading within receiving waters in the planning area will be increase. • Reduced recharge of the aquifer underlying the planning area will be reduced.
Plants & Animals	<ul style="list-style-type: none"> • Native vegetation and wildlife would be lost as a result of increased development in the planning area. • Reduced and fragmented habitat will cause decrease in local wildlife populations, and some species may become extinct.
Noise	<ul style="list-style-type: none"> • Noise levels will increase as a result of increased traffic by residents, workers, and for transportation.
Energy	<ul style="list-style-type: none"> • Increased energy will be consumed. Demands are likely to occur with or without adoption of the Comprehensive Plan.
Environmental Health (EMF)	<ul style="list-style-type: none"> • Based on available information, it is not clear if exposure to EMF effects are adverse.
Land Use	<ul style="list-style-type: none"> • Land will be consumed for urban uses.
Population, Housing & Employment	<ul style="list-style-type: none"> • Assuming continued regional growth, population, housing and employment is likely to increase in the UGA with or without adoption of the Comprehensive Plan. • More resources will be consumed and greater demands will be placed on existing infrastructure and resources as a result of increased growth.
Aesthetics, Light & Glare	<ul style="list-style-type: none"> • The visual character of Federal Way could change from a suburban residential community to a more urbanized City with distinct business/commercial core and image. Overall, changes in design and visual quality are likely to be positive.
Transportation	<ul style="list-style-type: none"> • Population and employment growth under any land use concept will result in increased vehicle and total person trips.
Fire and Emergency Medical Services	<ul style="list-style-type: none"> • Future population growth will increase the demand for fire suppression and emergency medical services with or without implementation of any of the land use concepts.
Police	<ul style="list-style-type: none"> • Future population growth will increase the need for police protection services with or without implementation of any of the land use concepts.
Schools	<ul style="list-style-type: none"> • As the number of families with school-aged children increases, the demand for school services and facilities would increase.

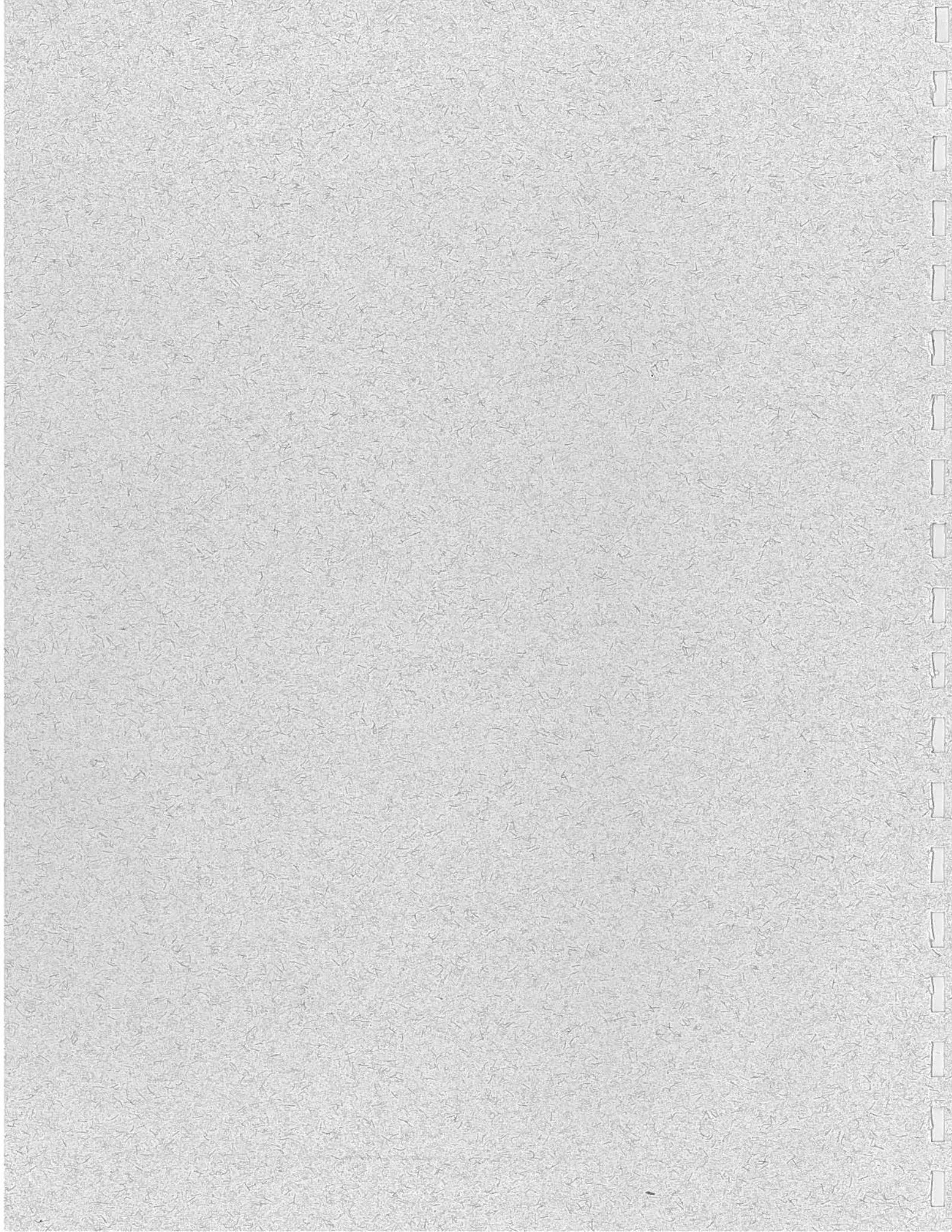
Table S-3 Summary of Unavoidable Adverse Impacts

Element	Unavoidable Adverse Impacts
Parks & Recreation	<ul style="list-style-type: none">• Over time, population growth will place increased demands on existing park and recreational facilities and programs and create a need for additional facilities and programs. If additional acquisitions are not made, existing deficiencies would be exacerbated.• Additional costs for improvements and operation and maintenance would be incurred.
Storm Water	<ul style="list-style-type: none">• Stormwater flows will increase with some effects on erosion, sedimentation and flooding.

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CHAPTER 1

Proposed Action & Alternatives



I. Proposed Action & Alternatives

A. Summary of Proposed Action

The proposed action is adoption of a Comprehensive Plan & initial development regulations by the Federal Way City Council to comply with the Growth Management Act (GMA). The proposal will replace the interim Comprehensive Plan and revise the development regulations adopted when the City incorporated in 1990. The action addressed in this Final EIS consists of the following elements:

- adoption of the Comprehensive Plan organized in specific elements or chapters, including an overall vision, land use, City Center, economic development, natural environment, housing, transportation, parks & recreation, capital facilities, and utilities; the plan contains policies, implementation strategies, levels of service standards and other information;
- adoption of a land use map showing designations for all properties within the City; and
- adoption of new or revised regulations for commercial and industrial land uses to implement Comprehensive Plan designations, and a school impact fee ordinance. These regulations were the subject of an EIS Addendum published in June 1995.

No area-wide rezoning or significant changes in land uses are proposed at this time. New commercial and industrial regulations will be applied to property currently zoned for commercial and industrial uses. Any additional minor rezones necessary to bring the zoning map into conformance with the Comprehensive Plan land use map would occur as a separate action and be subject to additional environmental review. An Addendum to the Final EIS will be prepared to evaluate the environmental implications of proposed changes to the City's zoning map.

The City of Federal Way is located in south King County. It is approximately 23 square miles (14,664 acres) in area, configured as a triangle. It is generally bounded by Puget Sound on the west; Pacific Highway South and South 272nd Street on the north; I-5 on the east, including the recently annexed Weyerhaeuser corporate campus; and the King/Pierce County line on the south. The Cities of Algona, Pacific and Auburn also abut the City on the southeast.

The geographic area included in the proposed Comprehensive Plan includes the existing corporate limits (including the Weyerhaeuser Corporate Campus area recently annexed to the City). Adjacent unincorporated lands, located within the "potential annexation area" preliminarily identified by Federal Way and King County, will be the subject of future cooperative planning and an interlocal agreement between the City and County.

B. Federal Way Planning Process

1. State & Regional Planning Framework

The proposed action has been prepared to be consistent with the Growth Management Act (GMA). The GMA's planning goals identify key concerns -- such as reducing sprawl, protecting the environment, providing cost-effective services and facilities, and involving citizens in decision making -- that must be addressed in local plans. Local plans must include specific elements or chapters, including land use, housing, transportation and capital facilities. The GMA also requires consistency between land use, levels of service and financing, and between comprehensive plan policies and development regulations adopted to implement the plan.

The GMA also encourages coordination among jurisdictions within the region. Countywide Planning Policies (CPPs), required by the Act, were adopted by the Growth Management Planning Council in July, 1992 (interim policies) and May, 1994, by the King County Council in June, 1994, and were ratified by cities in the region.

The CPPs provide more detailed policy guidance for local plans on a range of topics, including critical areas, land use, affordable housing, contiguous and orderly development, economic development and finance. Local plans must be consistent with the framework created by the CPPs. The CPPs also designate 14 Urban Centers throughout the region, including the City of Federal Way. Collectively, these centers will be the focus of growth and infrastructure investments over the next 20 years.

2. CityShape Planning Process

The City's process for developing its the Comprehensive Plan -- called "Cityshape" -- began in April 1992. It combined technical data collection and analysis with citizen participation and environmental review throughout the process. This process, which is described in the Draft EIS, included development of general land use and transportation concepts or "visions". The visions were based on economic development scenarios and public preferences.

Using an iterative process of data collection, technical analysis and public involvement, three concepts for city-wide land use, transportation and for the City Center were identified and were evaluated in the Draft EIS. The three concepts were a starting point for environmental review and for helping to refine and select a preferred alternative. The City also developed a capital facilities program model, designed to help identify the capital facilities, costs and financial strategies (i.e. mixes of taxes, bonding and impact fees) associated with each land use concept and with different levels of service.

The concepts were constructed to meet a number of basic objectives --related both to GMA requirements and local preferences -- including accommodating population and

economic growth; providing community facilities to support planned growth; facilitating development of a high-quality city center; developing a land use pattern that reduces traffic congestion and supports mass transit; and encouraging high-quality development.

3. Comprehensive Plan Vision

Continued discussions among Federal Way residents, elected officials and staff led, in April 1995, to affirmation of a set of framework policies for the City's Comprehensive Plan. This "vision" consisted of broad policies for growth, economic development, housing, land use, the City Center and capital facilities. They form the basis for the plan's overall direction and for policies in individual sections or elements of the plan.

C. Environmental Review: Integrating SEPA and the CityShape Planning Process

A Draft EIS on three land use, city center and transportation concepts was published in November, 1993. As noted above, the City used the information in that document to refine its preliminary concepts and to help identify -- with input from the public and direction from the City Council -- a preferred alternative for further analysis. Plan policies, elements and the land use map were then developed consistent with the preferred alternative. The preferred alternative (i.e. the proposed plan) combines elements of Concepts 2 and 3 from the Draft EIS.

Integrating SEPA and the Comprehensive Plan. The EIS on Federal Way's Comprehensive Plan is intended to help decision makers and the public understand the environmental effects of alternative visions for the community, including different land use patterns, city center concepts, service standards and similar choices related to future growth. Federal Way has developed a specific strategy for coordinating SEPA with the Comprehensive Plan. The intent of the strategy is to better integrate environmental information with the development of plan concepts and policies, and with public involvement. The strategy is founded on provisions in the SEPA rules relating to the purpose, timing, content and phasing of environmental review (WAC 197-11-055, 197-11-060(3)-(5), and 197-11-442); the Department of Community Development's (DCD) proposed Procedural Criteria for Implementing the Growth Management Act (WAC 365-195-760); recommendations in guidebooks published by the Department of Ecology (*The Growth Management Act and State Environmental Policy Act: A Guide to Interrelationships, 1992*) and DCD (*SEPA/GMA Workbook, 1993*); assistance from experts in SEPA compliance; and recent revisions to the SEPA Rules (WAC 197-11-225).

In the past, non-project environmental review did not usually commence until a land use plan, policies and zoning were substantially completed. Environmental input in development of the plan -- via impact analysis and citizen or agency comment -- was generally limited until a preferred plan was proposed for formal legislative action.

In contrast, Federal Way's integrated approach to SEPA compliance and planning is intended to foster on-going environmental review beginning in the early stages of plan development -- when broad concepts and community visions are being formulated and debated. The integrated SEPA/planning process has also provided links between citizen involvement, planning and SEPA. Environmental information about different courses of action and possible trade-offs can help interested citizens identify their concerns, which can then be addressed in subsequent environmental documents and in the plan itself.

Federal Way's integrated approach has been embodied in environmental documents prepared on the Comprehensive Plan. The Draft EIS evaluated three potential concepts or visions for the City's future growth, including three city center alternatives. It focused on general goals and objectives for the City's future growth (based on the GMA and Countywide Planning Policies); broad land use patterns; standards/costs for providing public services (including potential road system improvements); and similar big picture issues. The Draft EIS also identified a range of possible mitigation measures and implementation approaches.

Using the information in the Draft EIS and citizen and agency comment on the document, the City defined a plan vision and a "preferred" alternative. The preferred alternative combines and refines several of the broad concepts articulated in the initial plan visions and analyzed in the Draft EIS; in environmental review terms, it is within the range of alternatives analyzed in that environmental document. The City also developed draft policies for the various elements of the plan (e.g. land use, housing, capital facilities), a detailed land use map, and began work on development regulations. An Addendum to the Draft EIS was published in June, 1995 to reflect a change in the Proposed Action, which now includes adoption of initial development regulations concurrent with adoption of the Comprehensive Plan.

The Final EIS contains additional environmental analysis specific to the "preferred" alternative, including proposed policies and more concrete implementation strategies and mitigation measures. It also responds to comments from agencies and citizens on the Draft EIS. Future environmental review and documents will address the City's ongoing actions to implement the Comprehensive Plan. These will include minor rezones to reconcile any discrepancies between the zoning map and land use map; and new or refined regulations to implement specific Comprehensive Plan policies. Some elements of this future implementation program are outlined below.

Scope of Action, Phased Environmental Review. The proposed action involves development and legislative adoption of a Comprehensive Plan and initial development regulations for the City of Federal Way and initial development regulations to implement the Plan. No specific physical development is proposed as part of the present action. The proposed action will not involve direct physical changes or effects to the environment. The Comprehensive Plan, development regulations and subsequent implementation actions

will, however, establish a framework within which future growth and development will occur.

As defined by the State Environmental Policy Act (SEPA), the action is "non-project" in nature (WAC 197-11-774); this category includes legislative adoption of plans, policies, regulations and similar programs. As discussed in the SEPA Rules, EISs on non-project actions are intended to be flexible tools that promote understanding of environmental trade-offs among alternative courses of action (WAC 197-11-442).

The proposed action involves phased environmental review pursuant to the provisions of the SEPA Rules (WAC 197-11-060(5)). This Final EIS is part of a series of environmental documents that have been or will be published during the comprehensive planning process. Future environmental review will include subsequent actions -- such as additional regulatory programs -- to implement the plan.

D. Description of Proposed Action

1. Comprehensive Plan

The Comprehensive Plan is organized by elements or chapters that address requirements of the GMA and CPPS. Following an introduction, major elements include Land Use, Transportation, Economic Development, Housing, Capital Facilities, City Center, Potential Annexation Areas, Natural Environment and Private Utilities. Each chapter contains a discussion of existing conditions and goals and objectives, and a series of policies and implementation strategies for accomplishing the chapter's objectives. The following discussion briefly summarizes major objectives, policies, standards and implementation strategies in each chapter.

a. Land Use

Comprehensive Plan Land Use Map

The Proposed Action's land use map is shown in Figure 1; the plan's land use concept is depicted in Figure 2. Existing land uses are described in the Draft EIS (pp.10-12 and Figure 3). Compared to the existing plan map, land uses would be similar but would be arranged into more discrete categories; this is intended to permit more refined land use and design controls. Intensive development -- and major changes from existing land use -- would generally be focused in the following areas:

All necessary information will be provided to the relevant authorities.

The information provided is for your information only and is not intended to be used for any other purpose.

The information provided is for your information only and is not intended to be used for any other purpose.

3. Information of the Applicant

3.1. Applicant's Name

The information provided is for your information only and is not intended to be used for any other purpose.

3.2. Applicant's Address

3.3. Applicant's Contact Information

The information provided is for your information only and is not intended to be used for any other purpose.

CITY OF FEDERAL WAY
 COMPREHENSIVE PLAN

COMPREHENSIVE PLAN DESIGNATIONS

LAND USE ELEMENT

LEGEND

FEDERAL WAY CITY LIMITS

POTENTIAL ANNEXATION AREA

City Center Core

City Center Frame

Corporate Park

Office Park

Business Park

Neighborhood Business

Commercial/Recreation

Community Business

Parks and Open Space

Existing Multi-Family

Multi Family Potential

Urban Residential

Suburban Residential

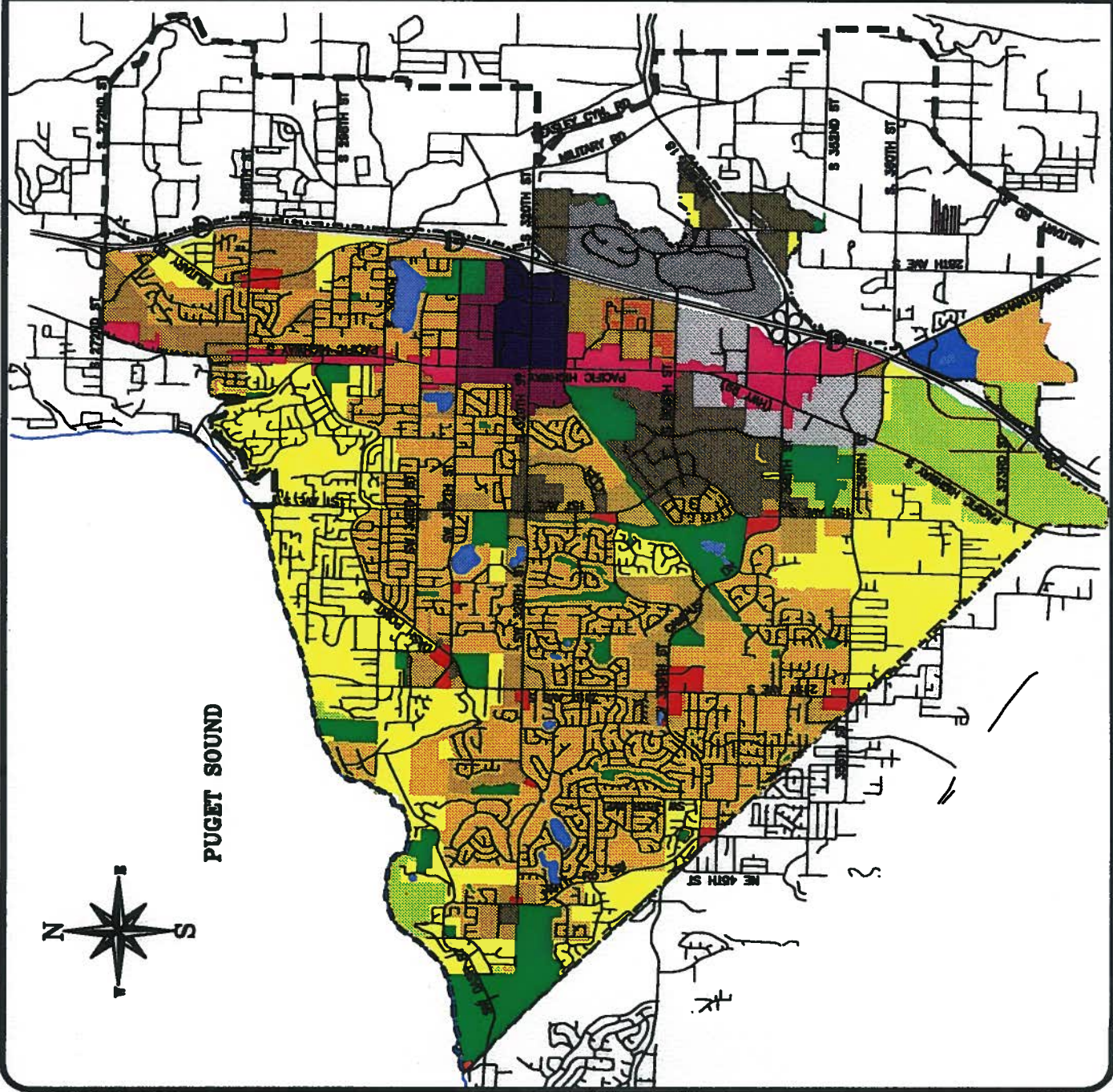
Rural Residential



Figure 1

SCALE: 1" = 5,500'

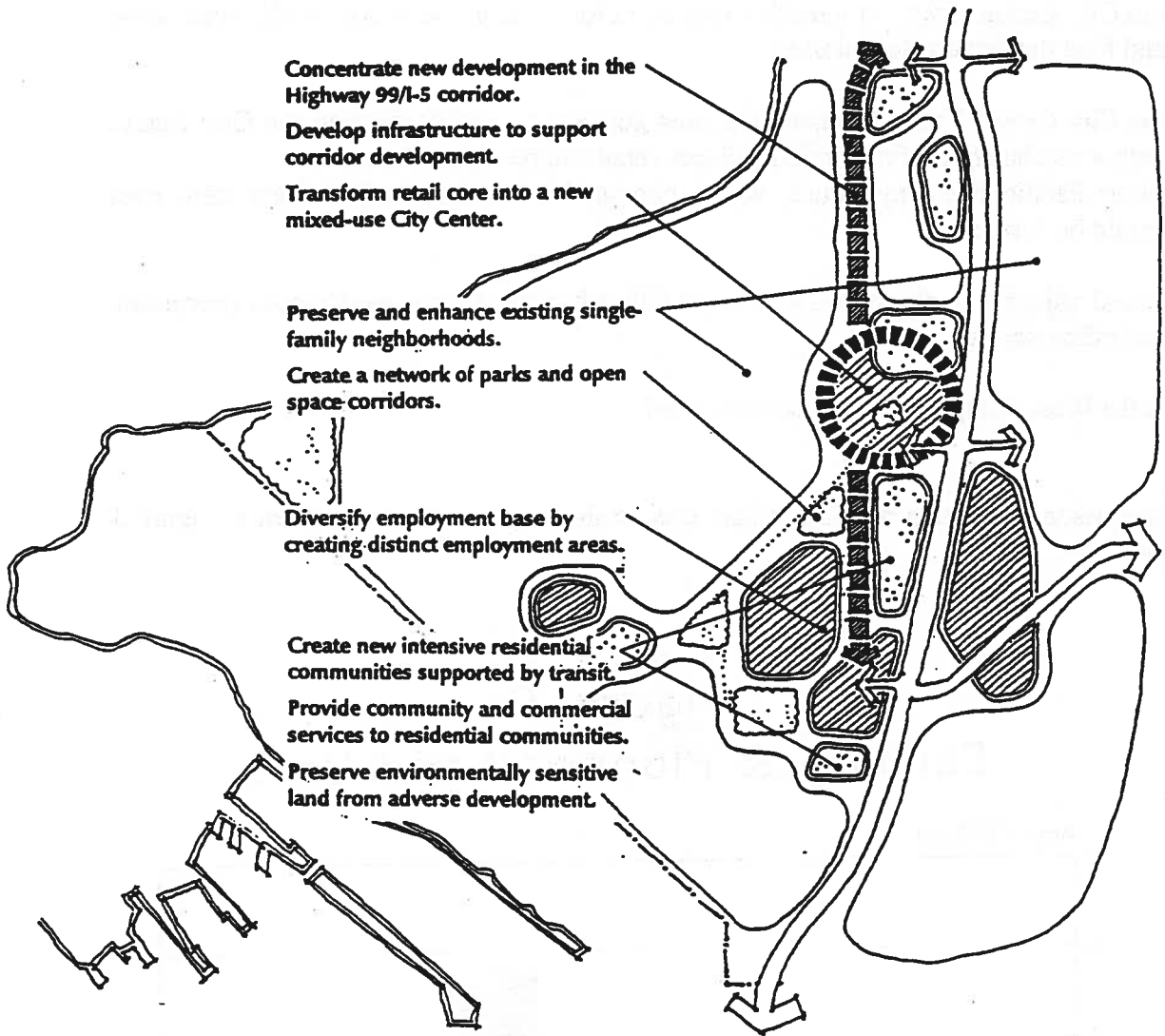
DATE: JUNE 1995



PUGET SOUND

TOACTOR





Concentrate new development in the Highway 99/I-5 corridor.

Develop infrastructure to support corridor development.

Transform retail core into a new mixed-use City Center.

Preserve and enhance existing single-family neighborhoods.

Create a network of parks and open space corridors.

Diversify employment base by creating distinct employment areas.

Create new intensive residential communities supported by transit.

Provide community and commercial services to residential communities.

Preserve environmentally sensitive land from adverse development.

CITYSHAPE

From Vision to Plan

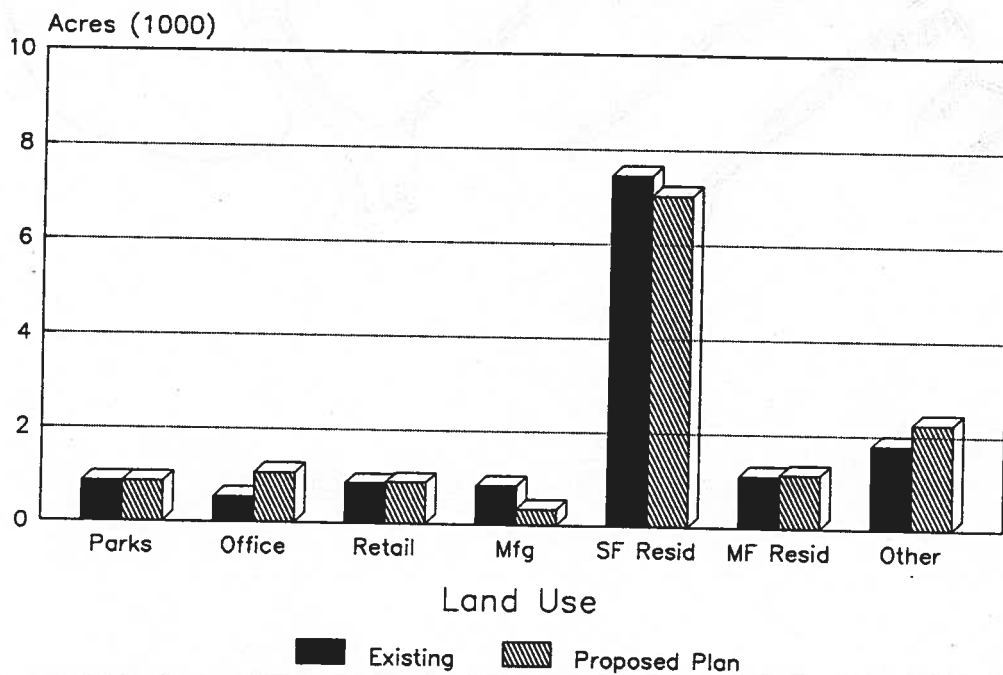
Figure 2
Plan Concept

Federal Way
Comprehensive
Plan EIS

- the City Center Core, an intensive concentration of mid-rise office, retail, hotel, civic and high density residential uses;
- the City Center Frame, a mixed-use area adjacent to and supporting the City Center with a combination of major convenience retail and residential uses;
- along Pacific Highway South, where community business and business park uses would be focused;
- in and adjacent to the recently annexed Weyerhaeuser Corporate Campus (corporate and office park uses); and
- in the West Campus area (office park uses).

A comparison of existing and future land uses in the City (in acres) is shown in Figure 3 below.

Figure 3.
Existing & Planned Land Uses



Incorporated Federal Way only

The major land use change proposed in the Plan involves an intensification of commercial and mixed (commercial/residential) uses in the City Center, in selected nodes and along a major arterial. The range of permitted uses would not change significantly from the current plan. Additional "potential" multi-family development could occur in the area between the City Center and South 336th Street and between Pacific Highway South and I-5; no land is proposed to be redesignated outright for multi-family use, however. An overall increase in the size of existing Neighborhood Business centers is also proposed; one existing center would be reduced in area, while 11 others would be increased. Some residential land would be rezoned subsequent to plan adoption to permit expansion of the Neighborhood Business centers. Mixed-use zoning would permit multi-family residential uses as part of the centers.

Land use in the balance of the City -- i.e., in its existing single family residential neighborhoods -- would generally remain the same. The City would continue to be predominantly residential in character albeit with a more intensively developed urban core and diverse economic environment. Incremental infill would occur on vacant land and through redevelopment in existing neighborhoods.

Relative to the land use concepts described in the Draft EIS -- summarized in the discussion of Alternatives (subsection E) below -- the Proposed Plan combines elements of Concepts 2 and 3, particularly those related to the City Center and business/office park areas. It is within the range of alternatives considered in the Draft EIS. Household growth targets are somewhat lower than previously analyzed however. The overall mix of uses and intensities of development would be between Concepts 2 and 3; this growth would occur within the existing City limits. No new "urban villages" are proposed, however.

Planned Growth Targets

Residential Growth. The Proposed Plan is intended to accommodate Federal Way's share of regional growth, as allocated by the GMPC. Planning targets for the next 20 years are 13,749 households and 14,800 jobs. The Proposed Plan's land use map designations are intended to accommodate approximately 18,000 dwelling units; see the additional discussion of land capacity in section II of the Final EIS. Approximately 41 percent of zoned population/housing capacity (7,380 dwelling units), would be located in commercial designations permitting mixed uses, including the City Center (5,139 units) and Community & Neighborhood Business areas (2,241 units). The balance of future housing growth would occur in existing residential areas through development of vacant land (single family) and redevelopment (multi family). Approximately 57 percent of these infill or redeveloped units could be multi-family and 43 percent single family.

Employment Growth. The Proposed Plan is intended to accommodate 14,107 jobs over the next 20 years; it would bring the City's total employment capacity (at buildout) to 89,856. The greatest number of jobs would be in the office category (66 percent), followed by retail & government (20 percent) and manufacturing (14 percent). Relative to

land use designations, most jobs would occur in the Corporate Park & Office Park, Business Park and City Center categories.

Land Use Policies

Urban Design & Form. An important goal of the Land Use Element is to improve the appearance and function of the City's built environment. Policies include establishing design and performance standards for residential development to maintain neighborhood character and ensure compatibility; to achieve a greater range of multi-family housing options; and to create attractive commercial developments.

Development Review Process. Plan policies address development of a timely and efficient development review process through actions such as removal of unnecessary time delays and expenses; offering pre-application meetings; reviewing existing regulations to streamline the development review process; coordinating construction of public infrastructure with private development wherever possible; and implementing the ideas in recent regulatory reform legislation.

Citywide Policies. Citywide land use policies include ensuring enough zoned land to accommodate the City's 20-year growth forecasts; supporting a community with diverse land uses, neighborhoods and areas; periodically evaluating household and employment forecasts to ensure that assumptions and policies are current; and distributing parks and recreational opportunities throughout the City.

Residential Policies

Single Family. Plan policies are intended to protect the character of existing and future single-family residential neighborhoods and to protect them from impacts of adjacent non-residential uses. Changes to existing land use regulations are encouraged to provide flexibility in design. Transportation facilities should serve residential neighborhoods, and special attention should be given to pedestrian circulation. Parks and open space are encouraged in and adjacent to residential neighborhoods to preserve the City's natural setting. Special development techniques -- such as accessory dwelling units, zero lot lines, lot size averaging and PUDs -- should be considered so long as development is consistent with existing quality and character. Site characteristics -- such as existing trees, vistas and watercourses -- should be preserved.

Most future growth (including residential growth) will occur in the City Center, along the Highway 99 corridor, in mixed-use commercial areas and in the potential annexation area. Development in existing single family areas will be limited and will occur through development on vacant parcels and some redevelopment. Existing density patterns would not change significantly.

Multi-Family. The Proposed Plan Land Use map does not designate any additional land outright for multi-family use. An area for potential multi-family development in the future

is identified; future development would depend on the availability of services and facilities and meeting other development criteria.

The Proposed Plan's multi-family policies encourage a variety of multi-family housing types in commercial areas. Design and performance standards (focusing on scale and appearance) should be used to achieve integration of multi-family developments within commercial development. Design should also achieve privacy and open space. Development should be supported by necessary capital improvements.

Commercial Land Uses

General policies emphasize providing business and employment opportunities in the City by allocating adequate land for commercial, office and business park development; using regulatory incentives to promote common open space, public art and plazas; allowing a mix of uses in identified commercial areas; ensuring compatible height and scale for commercial and mixed-use development adjacent to residential areas; encouraging location along the street edge and sharing access and parking; providing pedestrian access between developments and to transit stations; designating streets where on-street parking is appropriate; and providing incentives for inclusion of housing in commercial projects.

Business Parks. Plan policies are intended to allow for a mixture of office, manufacturing and distribution uses. Business parks should harmonize with their surroundings by grouping similar uses, sharing public facilities and services, and improving traffic flow and safety. Office, manufacturing and distribution uses and bulk retail facilities will be focused in the S. 348th Street area. A sub-area plan will be developed for this area to address transportation, open space, drainage, utilities and land use; retail uses should be limited to those that serve local employment.

City Center. The City Center *Core* and *Frame* designations are intended to create an identifiable downtown (generally located around S. 320th, north of Sea-Tac Mall, between Highway 99 and I-5) that is the social and economic focus of the City. This area -- which will be characterized by mid-rise buildings and a pedestrian-friendly circulation system -- will be the location for most long-term housing and employment growth. Detailed policies and standards are contained in the City Center chapter, discussed below.

Community Business. Community Business policies are intended to encourage the transformation of the Pacific Highway corridor into a quality mixed-use retail area that integrates auto, pedestrian and transit circulation and public amenities and open space. Redevelopment and infill should focus on safe vehicle access. Design guidelines are intended to result in improved design including convenient access, public spaces, pedestrian connections, and location of parking next to or behind buildings; a more flexible approach would be used for design elements such as setbacks modulation.

Neighborhood Business. Neighborhood Business areas provide a mix of small-scale convenience retail and service businesses serving adjacent retail areas. These centers will

be sized to reflect anticipated market demand and their boundaries will be firmly fixed to ensure they do not encroach on adjacent residential areas. Design guidelines, included as part of the Proposed Action, will help ensure appropriate high quality design and compatibility with the neighborhood.

The Plan's proposed land use map shows the location of Neighborhood Business Areas. There are 11 areas in the western and central portions of the City, and one in the northeastern portion of the City, proximate to existing residential neighborhoods. The size of these centers has been increased somewhat relative to existing land use designations.

General policies addressing neighborhood and community scale retail centers encourage integrating development into their surroundings through attention to design and function; encouraging pedestrian and bicycle access to shopping and services; grouping neighborhood retail and services together and locating them in appropriate locations consistent with economic demand, community acceptance and land use/design compatibility; and encouraging mixed residential and commercial development where compatible with nearby uses. To protect residential areas, new commercial development will be limited to existing commercial areas.

Commercial Recreation. This designation recognizes the unique recreational opportunity of the Enchanted Village property. Annexation of this area has been proposed; a concomitant agreement will establish comprehensive plan and zoning designations and ensure provision of adequate urban services.

Office Parks/Corporate Parks. The Office Park designations permits a mix of office and compatible manufacturing activities. The City will continue to encourage quality development in the East and West Campus areas. The Corporate Park designation applies to the Weyerhaeuser Corporate Campus, which was recently annexed to the City. Limited new development is anticipated in this area. Surrounding Office Park areas will be developed for compatible uses, subject to the standards and conditions in the pre-annexation zoning agreement.

Phasing. Phasing is intended to focus growth in areas where public investments for services and facilities are targeted to occur and to encourage efficient land use. Consistent with the GMA and Countywide Planning Policies, Federal Way is directing growth first to the City Center; then to areas with existing infrastructure capacity through infill development; and lastly to areas of undeveloped land (primarily in the southern portion of the City) and to the City's potential annexation area. Policies call for establishing priority areas for service and facility improvement consistent with the City's overall vision. If service deficiencies are identified, the City and service provider will work to develop capital improvement programs to remedy problems; timing of necessary improvements could require that growth be limited for some period. The City will work with King County to develop an interlocal agreement for the potential annexation area that will address phasing. The City will limit spending on capital facilities in areas that do not have high priority for capital projects.

Incentives. The City will develop and use incentives to encourage development in commercial areas, particularly the City Center Core and Frame. Incentives will also be considered for multi-family residential development.

Historic Resources. The Proposed Plan's goal is to use historic resources as a key element in the overall design of the City. Policies include identifying vista points, important land forms, major trees and buildings that should be preserved; developing a process to designate historic sites and structures; naming or renaming public places to reflect the City's history; using zoning to help preserve historic properties; cataloging historic sites in the GIS system; publicly commemorating historic sites; and safeguarding the City's heritage by protecting historic sites, buildings and structures.

Implementation. The Land Use Element contains a list of future actions that will be pursued to implement the plan's policies. These actions, which will be part of the City's 1996-1997 work programs, include amendments to the Shoreline Master Program; developing a plan for the potential annexation area; revising the code for single family and multi-family residences; revising the subdivision code; revising the zoning map to support plan designations; developing a phasing plan to address the contingency of inadequate facilities; preparing a sub-area EIS for the City Center to facilitate development that is consistent with the plan; developing sub-area plans for the SR-99 corridor and the S. 348th Street and Twin Lakes neighborhoods; and developing an incentive program for residential and commercial development.

b. Economic Development

Economic development is a key component of the Proposed Comprehensive Plan. The Economic Development Element is intended to help guide the City's evolution to a high quality Urban Center with a more vital and balanced economy keyed to emerging market forces. Major objectives of the City's strategy include:

- providing a better balance between housing and jobs;
- diversifying the economic base by encouraging higher paying jobs;
- concentrating employment growth in different areas of the City over time, including horizontal mixed-use employment growth in the South 348th Street area in the near term (1990-2000); Corporate Park and Office Park growth in East and West Campus, and redevelopment along Pacific Highway South from South 272nd to South 356th in the mid term (1995-2010); and mid-rise, mixed-use growth in the City Center in the long term (2005-2020);
- encouraging quality development and maintaining the quality and character of existing residential neighborhoods; and

- promoting high quality, higher density residential neighborhoods in the Highway 99 corridor.

The Plan's vision includes pursuit of regional economic development activity, and increasing the City's share of regional, national and international business firms and region-serving office development. Redevelopment and land assembly are emphasized in the I-5/SR-99 corridor, the City Center and the 348th and 336th areas. The City Center would be transformed into the focal point for commercial and community activity and a transit hub.

The City will develop a range of incentives and undertake public actions to implement economic development objectives and facilitate planned development. These will include master planning for targeted sub-areas; preparing detailed EISs to facilitate project-level environmental review; developing urban infrastructure and urban design standards; jointly (public-private) funding infrastructure improvements; zoning and financing incentives; adopting streamlined permit processes; and actively working with residents, property owners and business groups, and with human resource and social service agencies.

c. Transportation

The Transportation Element of the Proposed Comprehensive Plan consists of an inventory of the existing road and street system, a forecast of future needs, levels of service standards and a financing plan. The Element also contains goals, policies and implementation strategies for streets and roadways, non-motorized transportation, HOV facilities, public transportation, aviation, movement of freight and goods, marine transportation, transportation system management, transportation demand management and implementation. Major provisions are summarized below.

Plan Goals & Policies. The overall goals of the Transportation Element are to maintain mobility for residents and businesses through a balanced, integrated system that meets local and regional needs, reduces auto dependency, supports the land use plan, protects and enhances the environment and quality of life, and provides acceptable levels of service. Policies supporting these goals include integrating land use and transportation; implementing federal, state and county-wide policies; providing multiple, intermodal travel options for residents; giving priority to transit and transit-supportive needs; protecting neighborhoods from transportation impacts; giving priority to options that improve mobility for the least cost; establishing mobility levels of service; and providing funding necessary to meet transportation needs at adopted levels of service.

Inventory & Needs Forecasts. The Transportation Element provides an inventory of the City's existing street and roadway system; this is supplemented by information in the

Federal Way Community Profile (1993). A 40 percent increase in person trips over 15 years is forecast.

Levels of Service Standards. The Proposed Plan's general goal for level of service is to at least maintain current PM peak hour levels of service. Levels of service are established for corridor and roadway segments (using A-F and volume/capacity ratios) and for citywide congested vehicle miles of travel (VMT); the latter standard is also calculated in terms of congested lane miles and percent congested VMT.

Goals for Facility Improvements. The overall goal of proposed transportation improvements is to provide a safe, efficient, convenient and economical street system with sufficient capacity at adopted levels of service. General policies include taking actions that would help identify and implement changes to the street system to meet the Proposed Plan's goals (e.g. acquiring future right-of-way, coordinating with other agencies and jurisdictions, using the transportation model in impact analysis and ongoing planning and monitoring). Other policies are intended to ensure safety, achieve a multi-modal transportation system, and minimize aesthetic impacts.

Proposed policies include establishing a level of service standard that balances economic, ecological, accessibility and livability needs; limiting single-occupant vehicle capacity increases to those necessary to maintain the existing level of service either by providing new streets or by widening existing streets; expanding arterial capacity by constructing channelization improvements at intersections as an alternative to creating new travel lanes; minimizing curb cuts on arterials; minimizing through traffic on residential streets; employing traffic calming measures in neighborhoods with high traffic volumes; reducing street widths on residential streets to improve safety; prioritizing local-level transit, HOV and non-motorized improvements; acquiring rights-of-way for transit and rail in advance of need and accommodating future transit needs in improvements; designing arterials to fit with planned neighborhood land use character; and providing landscaped medians.

Non-Motorized Modes. The Proposed Plan's goal for non-motorized transportation is to provide a connected system of pedestrian and bicycle ways that is integrated into a coordinated regional network. Policies and action items include providing sidewalks on both sides of arterials as funding allows; incorporating bicycle routes on all arterials; extending the existing pedestrian, bicycle and equestrian system to provide access to transit, employment, goods and services, recreation, educational and community facilities; including pedestrian and bicycle features in the City Center; working with high capacity transit agencies to provide amenities in transit facilities; working with the school district to establish safe walking routes; providing adequate maintenance of non-motorized facilities; and acquiring access easements and constructing trails to improve circulation for existing and new development.

Public Transit. The Proposed Plan acknowledges the current uncertainty regarding future high capacity transit to Federal Way and the region generally. The Plan is intended to take advantage of opportunities to increase densities and intensities of land use in a way that

would support and facilitate future high capacity transit. Bus transportation and the HOV system will also be essential components of the region's transportation system. The Plan's overall goals are to prepare for an enhanced transit system and to foster phased improvements which expand transit services in proportion to demand. Objectives and strategies include supporting creation of a cost-effective regional transit system, including increased levels of local and regional bus service, and, if approved by the voters, extending a high capacity transit system to Federal Way; promoting development of a local level transit system which meets local needs and complements the regional system; establishing mode split targets for HCT, transit and HOVs for planning purposes (15% of all daily person trips, 30% of all daily work trips, and 40% of work trips between activity centers); using sub-area planning to integrate transit facilities into neighborhoods; preserving right-of-way for transit facilities as development proceeds; and using incentives to achieve transit supportive densities.

Aviation. Goals for aviation include supporting the area's economy by providing access to a full range of travel modes including intercity airport facilities; and providing guided opportunities the improvement of heliport facilities in and around the City. General strategies include representing the community in regional airport issues; promoting improved access to the regional airport; and adopting guidelines for short range, local helicopter facility installation and use including minimizing noise and safety risks.

Movement of Freight & Goods. The Proposed Plan's goal is to improve the movement of freight and goods throughout the planning area and region. Strategies include improvements that enhance movement of freight and goods to businesses in the greater Federal Way area; promoting the City as a viable area for freight activities; revising code requirements and a designated truck route system that accommodates the needs of businesses and residents; using code requirements to facilitate truck movement needs while maintaining local quality of life.

Transportation Systems Management (TSM). TSM focuses on maximizing the capacity of existing infrastructure. Options include a range of road geometry improvements, traffic controls, signalization improvements and capacity enhancements. The plan identifies a number of proposed TSM projects. Proposed Plan policies include continued traffic signal coordination as the primary component of the City's TSM program; constructing HOV improvements along key arterial corridors to improve traffic flow; using minor capital projects to extend the capacity of transportation system components; encouraging employers to institute complimentary TSM actions; and making capacity enhancements where other low cost improvements will not correct deficiencies.

Transportation Demand Management (TDM). The GMA recognizes strategies transportation demand management and transportation system management as means (along with capital improvements) to achieve concurrency. Strategies to manage transportation demand include telecommuting, compressed work weeks, parking pricing and supply and employer-based management programs (such as required by the state Commute Trip Reduction Act). The Proposed Plan's range of policies and strategies

include: prioritizing transit and HOV improvements; modifying development review processes to minimize private development costs and to analyze impacts consistent with GMA requirements; adopting flexible level of service standards that accommodate demand management; encouraging non-motorized improvements that maximize pedestrian connections and circulation; reassessing and adjusting parking requirements and, if appropriate, instituting parking pricing strategies to discourage use of single-occupant vehicles.

Financing. The Transportation Element identifies improvement needs for the next 15 years, calculated for the 6-year (1995-2001) TIP and the subsequent 14 year period (2002-2010). Existing local funding sources (street fund and arterial fund revenues, and impact fees) are not sufficient to finance all identified improvements. The Proposed Plan identifies a range of other potential sources that the City will pursue to generate the additional revenue needed to bring needs and resources in balance; these include state and federal funds, utility taxes, traffic impact fees, and general obligation bonds.

Concurrency. The Transportation Element discusses establishing a monitoring system to ensure that concurrency is achieved. Consistent with GMA, strategies identified for maintaining concurrency include increased levels of funding, reassessing and adjusting land use, reprioritizing improvements, and/or modifying level of service standards to match available resources. Policies in the *Land Use Element*, summarized above, include denying development and phasing growth if concurrency cannot be achieved.

d. Housing

The Housing Element identifies the City's overall program for encouraging affordable housing. Consistent with GMA and Countywide Planning Policies, it contains an assessment of overall housing need, identifies a range of affordable housing targets, and identifies goals, policies and strategies for meeting identified needs. The Proposed Plan concentrates most new housing -- particularly high density housing -- in the City Center area and the Highway 99 corridor; some would also occur in mixed-use community and neighborhood business centers.

The Proposed Plan is based on accommodating a target of 13,425 dwelling units. Of this total, using targets from the Countywide Planning Policies, 24 percent (3,222 units) and 17 percent (2,282 units) must be affordable to low/very low income families and moderate income families, respectively. Based on PSRC projections, multi-family housing will increase from 37 percent of the City's housing stock currently to 45 percent in 2020.

Major housing goals include achieving compatibility between new housing and existing neighborhoods; establishing a partnership with public and private sector housing providers; providing flexibility (through the Comprehensive Plan and zoning code) to produce innovative housing solutions; diversifying the range of housing types available within the City; developing a range of housing opportunities for low income groups,

people with special housing need, and for the homeless; involving the public to an appropriate degree in new housing development; producing a pattern of new housing that is integrated with the Comprehensive Plan's Land Use and Transportation elements; and identifying a comprehensive, regionally coordinated approach to housing issues.

Policies for preserving neighborhood character and compatibility include revising the zoning code and preparing design guidelines to ensure consistent scale and character, and to provide transitions between zones of different intensity. City programs will also ensure maintenance of older neighborhoods. High density housing would not be permitted in existing single family neighborhoods. Accessory housing units would continue to be allowed in single family neighborhoods provided they protect residential character, provide proper access and meet design standards.

To help implement the City's role in a public/private housing partnership, it will maximize the efficiency of its permit procedures, and assist developers with housing proposals. Policies directed at improved flexibility and innovation include zoning code revisions to permit high quality innovative design; permitting Planned Unit Developments (PUDs) in single-family areas; and allowing on-site density transfers within PUDs.

Greater housing diversity will be facilitated through zoning code amendments to permit accessory housing (already adopted), zero lot line development in PUDs, and mixed-use development in appropriate areas (proposed as part of the Proposed Action). To enhance housing opportunities, the Proposed Plan includes policies that would require a proportion of housing on large sites to be affordable to low income households, ensuring that such housing remains affordable, and providing incentives (such as density bonuses) to affected developers; using percentage limits to ensure that affordable housing is not concentrated in particular neighborhoods; exploring all available financing sources for financing affordable housing; encouraging the use of manufactured housing (meeting all applicable codes) in all residential zones, and continuing but not expanding existing mobile home parks.

Policies for providing special needs housing include revising the zoning code to permit it in all residential and mixed-use zones subject to standards that protect residential amenities, maintain proper access and design, and ensure adequate public review. Policies for emergency shelters and transitional facilities for the homeless include supporting services that emphasize prevention and stabilization and promote long-term self-sufficiency; coordinating all actions with City and other shelter providers; and permitting emergency shelters and transitional housing in appropriate areas of the City while also regulating to avoid concentrations of facilities, ensuring proper management, and mitigating impacts on adjacent uses and existing neighborhoods.

e. Capital Facilities Plan

The Capital Facilities Planning (CFP) Element addresses a number of services and facilities -- including schools, parks, recreation, water, sewer, surface water, fire protection, transportation and police -- that must be coordinated with future growth to accomplish the mandate of the GMA. For each service or facility, the element provides an inventory of existing facilities, identifies any applicable service standard, forecasts future needs and capital improvements, and identifies project costs and revenues for a multi-year period. Identified revenues are sufficient to cover costs of planned improvements.

The CFP chapter contains goals and policies -- consistent with the Countywide Planning Policies -- to guide development of a coordinated public facilities delivery system for the City. Guiding goals and policies include:

- providing needed public facilities and services to implement the Comprehensive Plan;
- annually updating the CFP so it remains current in terms of proposed capital projects, changing project priorities, and projects that have been completed or deleted from the project list;
- supporting joint development and use of community facilities with other governmental or community organizations;
- striving to correct existing facility deficiencies while meeting current needs for capital projects;
- giving priority to projects that: (1) are mandated by law; (2) already initiated; (3) renovate existing facilities, protecting the community's prior investments; and (4) address existing deficiencies and encourage full utilization of existing facilities;
- providing capital facilities to serve and direct future growth within Federal Way and the City's potential annexation area (PAA); giving priority to projects that are needed to meet GMA concurrency requirements; and identifying properties in the PAA needed to meet future capital facility needs for surface water, parks and recreation;
- monitoring the progress of the CFP on an on-going basis to ensure that it is responsive to any changes in the Community's and Council's vision; and
- coordinating with other facility/service providers to maximize cost savings and schedule and upgrade facilities efficiently.

Contingency strategies identified to meet any facility funding shortfalls include increasing revenues through bonding, utility taxes, impact fees and/or property tax rates; decreasing level of service standards; modifying capital projects to decrease costs; and or decreasing

demand on facilities through moratoria, redirecting growth to areas where adequate capacity exists, or changing project timing or phasing.

Where possible, the City will work with other service providers (such as the school district) on joint projects to maximize tax dollars. Priorities are established for park acquisition and development, upgrading existing facilities and community vs. neighborhood parks. Goals for the cultural arts include establishing an on-going link between the City's art and business communities to nurture partnerships and cooperative programs; strengthening arts course offerings in local schools, creating community-based art education programs, and a volunteer art marketing network; raising public awareness of the City's art and cultural programs and activities; improving the City's existing festivals and special events and creating a major theme festival; developing a new cultural arts center over the next decade; and implementing program goals through a variety of agencies and entities.

Capital plans for capital facilities -- including parks, sewer, water and surface water management -- identify revenues to fund projected improvement needs. The analysis of school facilities concludes that the district will have adequate capacity and financial resources to accommodate growth for the next six years. The plan indicates a shortage of space in existing and planned facilities for projected students beginning in 2001, however. The district would use portable units and/or construct new facilities to meet projected needs.

f. City Center

The City Center chapter contains goals, objectives and policies and recommended implementation measures. It is intended to provide a framework for the conversion of Federal Way's City Center into a vital, attractive and functioning downtown area characterized by more intensive mid-rise buildings, a mix of uses and urban amenities.

Goals & Objectives. Important goals and objectives include:

- creating an identifiable City Center that serves as the social and economic focus of the City; it should be defined by unique building types and special features, and provide a central gathering place for the community;
- attracting a regional market for high quality office and retail uses, increasing employment and the tax base;
- concentrating high intensity uses and connecting the City Center to other centers in the region with high capacity transit, including a transit station in the City Center surrounded by high intensity land uses;

- creating distinct sub-areas within the City Center, including a "core" area containing the most intensive development and a surrounding "frame" area for less intensive development;
- encouraging a mix of compatible uses, and encouraging residential uses in all City Center areas;
- transforming and improving the existing auto-dominated land use pattern and character through higher intensity uses and design requirements;
- developing land use patterns that encourage less dependence on single occupant vehicle travel, including enhancing pedestrian circulation through active ground floor uses, pedestrian amenities, proximate location of offices, retail and housing, and buildings that front on the street and are connected;
- creating a pedestrian-oriented environment through new streets and reduced block sizes, locating retail shops and services on the ground floor of buildings, and pedestrian amenities such as benches and street trees;
- reducing the dominance of parking lots through reduced parking ratios, bonuses and incentives for structured or underground parking, and using on-street parking to buffer pedestrians from traffic; and
- protecting and enhancing the natural features of the area by retaining wooded buffers, requiring landscaping, and providing connections to parks, lakes and other natural areas.

Concept Plan. The basic concepts for the proposed City Center are based on the goals and objectives summarized above. The concept, which is shown in Figure 2, combines elements of City Center Concepts 2 and 3 developed through the CityShape process and evaluated in the Draft EIS. Major elements include establishing a "core" area where high intensity uses will be concentrated, and where compatible uses will be mixed; and a "frame" containing dense residential areas and other supporting uses surrounding the core. Mixing uses in the Center is intended to provide new housing, reduce auto dependency, and make jobs, housing and retail services more proximate.

Auto circulation will be improved by completing the street network and diverting through traffic around the core. The impact of parking will be reduced by encouraging provision of structured parking and reducing parking requirements. Safe and attractive pedestrian connections will be created throughout the City Center, including a boulevard with pedestrian amenities through the core connecting to the transit center. Civic uses will help provide a focus and sense of identity. A major public open space and a network of parks and open spaces will be developed to enhance the City Center.

Concentration of New Development. Proposed Policies are intended to support concentrating uses within the core area to create a financial, retail and business hub. The City Center would be zoned to accommodate a significant portion of higher intensity development expected over the next 20 years. Streamlined review would be used to help encourage desired uses. Cooperative planning with service providers would help ensure adequate services and facilities. Mixed-use development will be encouraged to reduce the number of vehicle miles traveled; zoning and design guidelines, including screening and buffering, should help ensure compatibility between adjacent uses. The Frame area should be zoned to accommodate higher density residential uses and compatible retail and service uses and to provide a transition to lower density uses.

Transportation & Circulation. Traffic flow around and through the City Center would be improved by extending the street network (creating smaller blocks), completing the ring road and widening Highway 99. Increases in congestion will be reduced through implementation of the Commute Trip Reduction ordinance and by making transit, walking and bicycling feasible. Lower level of service standards will be established for the City Center and the street system designed to reinforce City Center goals and objectives.

Streets will be designed as public open spaces, with pedestrian amenities, bicycle paths and transit services. Streetscape improvements will be an integral part of improvement projects. Pedestrian connections will be developed between transit stations and adjoining uses. Pedestrian circulation will be encouraged throughout the City Center, using techniques such as requiring active ground floor uses, street landscaping and pedestrian amenities; connecting adjacent buildings to provide streetscape continuity; developing pedestrian paths through larger parcels; and siting and screening parking areas to reduce impacts on the pedestrian environment.

High Capacity Transit. Transportation investments to support transit will be focused in the core area. The City will participate in regional efforts to develop a high capacity transit (HCT) system. The City should acquire land for HCT right-of-way and a station, and will integrate the HCT system with other transportation modes. Pedestrian and bicycle facilities should be integrated with the system. A bus transfer facility should also connect the City Center with other communities.

Parking. Proposed Plan policies encourage changes in parking regulations and parking facilities. Parking requirements for the City Center should be reduced to encourage more intensive development and the planned transportation system. Structured parking will be encouraged through use of incentives such as density bonuses. Public parking structures should be developed by the City in cooperation with the private sector. Design guidelines for parking lots are provided; site planning should permit future redevelopment of surface parking areas. On-street parking will be allowed.

Civic Buildings & Open Space. Diverse recreational projects should be provided in the City Center through public-private partnerships. Civic and cultural facilities (e.g. a city hall, library or performing arts center) should be emphasized within the Core. Necessary

land should be land banked. All public buildings should set an example of high quality urban planning and design.

Streetscape Character. The Proposed Plan encourages development of a streetscape that reinforces the character of the City Center. Policies encourage right-of-way acquisition; design of streets as public spaces with pedestrian amenities, trees, sidewalks, and street furniture; integrate streetscape improvements with any road improvements; and encourage buildings to front public rights-of-way and provide clear paths to all entries.

j. Potential Annexation Areas

The Potential Annexation Area Element of the Proposed Plan provides a framework for cooperative planning for Federal Way's potential annexation area (PAA). The Plan's approach is based on policies in the GMA, Countywide Planning Policies, and the King County Comprehensive Plan (which identifies a PAA for Federal Way). Policies and identified implementation actions include using technical information and public input to define and implement a PAA; and executing interlocal agreements on mutually agreeable PAA boundaries with King County and adjacent cities as a means to establish land use control, development review and impact mitigation responsibilities. The Plan also establishes criteria for reviewing annexation requests, which include size of the area, the regularity of boundaries, preservation of natural neighborhoods, simultaneous adoption of proposed zoning regulations with annexation, concomitant agreements, assumption of a proportional share of existing city indebtedness, and analysis of service needs. The City will work with King County over the next two years to develop an interlocal agreement for the Federal Way PAA that addresses land use, levels of service, timing of improvements, and other issues.

k. Natural Environment

The Natural Environment element includes goals, policies and implementation actions for environmental stewardship, water resources (aquifer recharge areas, wellhead protection areas, streams and lakes, frequently flooded areas, wetlands, shorelines), geologic hazard areas, fish and wildlife habitat, air quality, noise and open space. The chapter's basic concepts emphasize sustainable development and preserving natural systems. Concept policies include:

- protecting and restoring environmental quality through a combination of functional planning programs (e.g. stormwater, parks), development review, incentive programs and cooperative work with citizens and land owners;
- preserving and enhancing ecological functioning by encouraging community development patterns and site planing that maintain and complement natural landforms;

- managing development on lands that may pose undue hazards to health, property, important ecological functions or environmental quality;
- ensuring that all future plans conform to the Comprehensive Plan's policies for the natural environment;
- maintaining buffer standards that protect critical areas and provide habitat value;
- protecting critical areas by prohibiting, regulating and/or mitigating the impacts of development;
- inventorying critical areas over time to help refine policies;
- encouraging private donations of conservation easements for critical areas/buffers;
- monitoring required mitigation measures based on measurable performance standards;
- adopting special regulations limiting or preventing development in the most sensitive critical areas and requiring completion of special studies prior to permitting development; and
- using buffers or open space to protect critical areas.

Water Resources. Policies for water resources -- aquifer recharge areas, wellhead protection areas, streams and lakes, frequently flooded areas, wetlands, shorelines -- recognize their importance to the City and encourages their management as an integrated system. Protection should include maintenance of stream base flows, allowance of water fluctuations in wetlands, ground water recharge, stream corridor habitat preservation, and water conservation.

Aquifer Recharge Areas. Proposed policies would identify and map (in cooperation with the Lakehaven Utility District) aquifer recharge areas within and outside the City; land use could be regulated in these areas -- through density controls for example -- to protect the viability of the aquifer to produce domestic water. Aquifer recharge areas would be considered for incorporation into the open space system. Ground water quality would be protected through water conservation programs and regulations that reduce water pollution. Land use and building controls and storm water management techniques would encourage infiltration and minimize impervious surface where feasible. Septic systems would be allowed only in areas with suitable soils.

Wellhead Protection Areas. Plan policies are directed at developing and implementing a wellhead protection program to protect drinking water sources and prevent contamination of wells. Policies include: working with water purveyors to delineate, model and map wellhead protection areas for each well and wellfield consistent with state guidelines;

identifying potential sources of contamination within each wellhead protection area; establishing an interagency committee to help coordinate and implement a wellhead protection plan; developing contingency plans in the event of contamination; and establishing buffer zones to protect wellhead areas.

Streams and Lakes. The Proposed Plan is intended to protect, restore and enhance the City's lakes and streams. Private development and public actions will be regulated to protect water quality, adequate in-stream flows, wildlife habitat and recreation resources. Density controls will be used to limit development in stream corridors. Native vegetation should be retained within riparian corridors and revegetation could be required to enhance corridor functions. Lakes will be protected and enhanced through management of watersheds and shorelines, water quality, invasive plants and restoration of habitat. The City intends to develop and implement a surface water management plan consistent with and implementing the Puget Sound Management Plan, including a technical manual and development regulations. Surface water management should not impair resource functions and values. Public access to lakes and streams will be allowed when sensitive habitats can be protected.

Land use code definitions will be developed to reflect stream function and habitats, and to distinguish between natural and man-made conveyance systems. Stream relocation, culverts and crossings will be controlled; crossings of lakes and streams for essential public facilities and utilities where no other feasible alternative exists. Erosion control measures will be required for any work in or adjacent to stream buffers. Appropriate mitigation, contingency plans and monitoring will be required for any development allowed within a stream channel or buffer.

Frequently Flooded Areas. Proposed Plan policies discourage permanent development within the floodplain of streams, lakes or wetlands; any development allowed within a floodplain or floodway should not inhibit natural flood storage or conveyance. The natural flood storage and conveyance functions of streams, lakes and wetlands should be protected and enhanced. The Plan's policies would be assessed for compliance with the Countywide Flood Hazard Reduction Plan.

Aquatic and riparian habitats should generally be protected and disturbed areas restored. The health of the Lower Puget Sound, Hylebos and Mill Creek basins within the City should be protected and restored. Surface water runoff and quality should be restricted to pre-development levels for all new development and redevelopment.

Wetlands. The Plan's overall goal is to protect and enhance the functions and values of the City's wetlands, and to achieve no net loss of wetland size, functions or values. Policies address a variety of procedures, standards and mitigation approaches to enhance existing wetland protection programs; these will be implemented through subsequent implementation actions. The City's wetlands would be inventoried (using the GIS system) and further studied to help refine policies and regulations; the 1989 Federal Manual (or its successor) would be used. Implementation approaches could include, for example, use of

a 3 or 4-tiered classification system to identify wetlands and to recognize regionally and locally significant wetlands; establishing buffer widths based on classification; and allowing buffer width averaging. Intrusions into wetland buffers would be restricted, with possible exceptions for essential public facilities and utilities where there is no other alternative. Special regulations could be developed for artificially-created wetlands incorporated in storm water detention facilities (i.e. those not defined as wetlands by GMA).

Shorelines. The Proposed Plan's shoreline policies are focused on developing a new Shoreline Master Program that is consistent with the Comprehensive Plan, and that recognizes the recreational and natural habitat of the City's shorelines. The City intends to explore funding sources for developing a new Shoreline Master Program. Development of this plan would follow the direction in ESHB 1724 (i.e., 1995 regulatory reform legislation).

Geologic Hazard Areas. Proposed Plan policies are intended to protect against losses to public and private property and to establish standards for development within Geologic Hazard Areas. Development density, intensity, site coverage and vegetation removal should generally decrease as slope increases; slopes of 40 percent or greater should be retained in their natural state. Landslide hazard areas should be free of development unless risks and potential adverse impacts can be reduced to a negligible level. In severe seismic hazard areas, special studies and special building design and construction measures should be used to reduce risks. The City should develop regulations that address the risks (less than 25% chance of failing within 50 years), potential impacts and unique habitats associated with development on or near marine bluffs of Puget Sound; the City should consider incorporating these areas into the open space system.

Fish & Wildlife Habitat. The proposed Plan is intended to preserve fish and wildlife habitat by controlling land use; minimizing alteration; preserving and enhancing vegetation; encouraging use of native vegetation; protecting wildlife corridors in plats and City-owned open space. The City will continue the studies needed to accurately identify and map critical fish and wildlife habitat conservation areas and to re-evaluate existing regulations that apply to such areas. It will also develop and implement fish habitat conservation plans for salmon runs.

Air Quality. Policies to protect air quality include integrating land use and transportation as a means to reduce the growth of the number of single-occupancy vehicles; promoting the use of alternative fuels; and providing an efficient transportation network.

Noise. The Proposed Plan includes policies that encourage development of programs or regulations to abate or mitigate noise. These include construction standards for residential development to mitigate noise generated by Sea-Tac airport, I-5 and other major arterials; adopting noise level standards for non-residential uses in residential zones and evaluating impacts during site plan review; working with the Port to mitigate noise within the 65 d_{dn} noise contour and to develop noise models that reflect impacts in Federal Way.

Open Space. The Proposed Plan emphasizes the multiple functions of open space for wildlife habitat, recreation and a visual/physical buffer between land uses. Policies would endeavor to create links with open space/habitat in adjacent jurisdictions. The City should develop a program to acquire or accept donation and preservation of identified open space areas.

I. Private Utilities

The Utilities Element of the Proposed Comprehensive Plan addresses natural gas, electricity, cable TV and telecommunications. It was prepared with input from private utility companies providing service within Federal Way. For each utility, the Plan describes existing service systems and planned improvements. It also contains goals and policies for providing efficient services and coordinating utility systems with the Comprehensive Plan. Utility Element goals include working with private utility companies to ensure services that meet residents and businesses needs; that balances cost-effectiveness with environmental protection, aesthetics, public safety and public health; and processing permits for utility facilities in an efficient and timely manner.

Policies to provide timely and economic utility services include: processing right-of-way permits for improvements in a timely manner; coordinating with other affected jurisdictions; and encouraging provision of both electricity and natural gas. Coordination will be enhanced by encouraging use of joint trenches, conduits or poles; and informing utilities of upcoming projects (of other utilities and the City) that provide opportunities for joint use or undergrounding of lines or pipes. Energy conservation policies include ensuring that City buildings meet state and federal standards for energy conservation, and working with utility companies to promote and educate the public about conservation strategies.

To facilitate technological changes in information and communication, and to gain city-wide coverage as soon as possible, the City will work with telecommunications and cable companies to develop fiber optic cable networks and increase interconnectivity between different networks. Equal access to the network for all citizens, businesses and organizations will be sought in negotiations. The City will also work with utility companies and educational institutions to develop and make available a full range of community information services.

The City will monitor research on the health effects of Electromagnetic Fields (EMF) and microwaves. It will take appropriate steps to address any proven health effects. A policy of "prudent avoidance" will be followed in the meantime, including regulating land uses within power line corridors, and requiring all future electric and telecommunication transmission lines and sub-stations be sited to mitigate potential adverse health effects.

Policies that address environmental and aesthetic impacts include requiring undergrounding of utilities in new and substantially reconstructed developments; working with utilities to develop and implement priorities to underground utilities in areas critical to improving the City's appearance; balancing the needs of landscaping and screening with the need to prevent power outages; requiring appropriate siting and screening of substations, antennae and other facilities to mitigate aesthetic impacts; and working towards the undergrounding of all utilities whenever feasible.

2. Development Regulations/Implementation Program

Concurrent with ongoing development of the plan, the City held a number of forums with developers, business interests and property owners to identify issues or problems with the City's existing zoning regulations. Identified issues generally focused on commercial and retail zones in the City Center and in business/office parks in other areas of the city relative to setbacks, building modulation, minimum lot sizes and development review requirements. These issues are also relevant to achievement of the goals and policies of the Comprehensive Plan and are the focus of the work program for initial implementation measures to implement the Comprehensive Plan.

Development regulations included in the proposed action include limited revisions to the Federal Way Zoning Code text and zoning map, primarily to address existing problems and to implement the commercial land use designations and policies of the Comprehensive Plan; adoption of administrative design guidelines for commercial development; and adoption of a school impact fee ordinance. Zoning changes are limited to commercial and industrial zoning designations; no changes to residential zoning classifications are necessary to implement the Comprehensive Plan. In general, the proposed zoning revisions (text and map) are limited in scope and are intended to achieve consistency between zoning and the goals, policies and land use designations of the Comprehensive Plan. Each element of the proposal is described further below. Future proposals will address other implementation issues.

a. Commercial & Industrial Development Zoning Designations

- **Business Park.** The Business Park zone (similar to the existing Manufacturing Park designation) is intended to permit an expanded mixture of light manufacturing, warehouse/distribution, with limited office and retail uses (to serve Business Park uses); all currently permitted uses would continue to be permitted. The new designation would establish standards for the mix, scale and density of office and retail uses. Other changes include reduced minimum lot size for less intensive business park uses from 5 to 2.5 acres or 1.25 acres; flexible setback requirements, varying with proposed landscaping, parking and drainage design; revised building modulation requirements to permit a choice of options for achieving design objectives; and new design guidelines (summarized below). Height limits would not change (generally 35-

50 feet, depending on use). Similarly, bulk requirements and parking ratios would not change significantly from those in the existing Manufacturing Park zone.

- **City Center Core.** This designation, one of two that would replace the existing City Center zone, is intended to produce an intensively developed, mid-rise area in the core of the City Center area. Permitted uses would include a mix of office, retail, hotel, civic and residential. Pedestrian activity and public transit would be encouraged, as would certain uses and public amenities (including street-oriented retail, hotel structured parking and common open space). Proposed zoning changes include minor reductions to parking ratios; development bonuses for structured parking; modified setback and modulation requirements to encourage pedestrian activity; potential height/bulk increases through a program of incentives and bonuses in exchange for public amenities; and design guidelines to ensure quality development.
- **City Center Frame.** The City Center Frame would be applied in place of the existing City Center zone in an area adjacent to the City Center Core. The designation emphasizes development of housing with accessory retail and office. Currently permitted uses would continue. Setback, modulation and site design requirements would be revised through administrative design guidelines to ensure high quality development and increased design flexibility.
- **Professional Office.** The Professional Office classification would make only minor changes to the existing zoning designation. Permitted uses, parking ratios and height and bulk requirements would not be changed. Accessory retail services would continue to be permitted to support office uses. Design options identified in the administrative design guidelines would also apply.
- **Office Park.** Proposed changes to the Office Park classification would permit a limited amount of ancillary retail services, along with the current mix of office and light manufacturing uses. Currently permitted uses, height and bulk standards and parking ratios would not change. Design options identified in the commercial design guidelines (i.e., for building modulation, setbacks and parking design) would also apply.
- **Community Business.** Revised standards for the Community Business zone are intended to respond to market demand, improve design quality for development, and help convert Pacific Highway South (over time) into a mixed-use retail and residential area that integrates auto, pedestrian and transit circulation. Permitted uses and height/bulk standards would not be changed. The size and scale of hotels, motels and institutional uses would be limited. Parking ratios would not change; the preferred location for parking areas would be moved to the side or rear of buildings, however. As described above, site design options would be established in the commercial design guidelines.

- **Neighborhood Business.** The Neighborhood Business zone is intended to allow a mixture of small businesses providing convenience goods and services to adjacent neighborhoods. Proposed zoning text revisions would not change permitted uses, height and bulk requirements or parking ratios, except that some additional small-scale, compatible uses -- such as churches, health clubs and convalescent centers -- would also be allowed. The size of office, commercial, retail and residential uses would be limited to maintain neighborhood scale and compatibility. As described above, design options (i.e., for building modulation, setbacks and parking design) would be provided in commercial design guidelines. New standards are also provided to improve integration of buildings into the surrounding neighborhood and to improve pedestrian access and circulation.

b. Administrative Design Guidelines for Commercial Development

Achieving high quality design is a key concern of the Comprehensive Plan and a major theme in proposed development regulations. Proposed design guidelines for commercial development, which would be applied during administrative review of development applications, are intended to help implement Federal Way's overall design objectives. The design guidelines would apply to development in all commercial zones (Business Park, City Center Core, City Center Frame, Professional Office, Office Park, Community Business and Neighborhood Business).

The guidelines address site planning, architectural elements and building materials, height, bulk, scale, landscaping; site improvements; services, storage and building utilities, circulation for pedestrians and automobiles, and public amenities. They are generally stated as performance standards that allow an applicant different options to accomplish expressed design goals. Illustrations and examples are provided in the text of the proposed guidelines to help the user understand their intent. Major provisions are briefly summarized below.

Site Planning. These guidelines describe how a proposal should be designed to better relate to various features of a site and surrounding area and to elements of the human and natural environment. Topics include:

- site characteristics (including sensitive natural environmental features, topography and views);
- clearly defining building entries;
- encouraging human activity on the street (e.g. through use of plazas, pedestrian furniture, awnings, etc.);
- orienting buildings to help define the street and the building(s), and to promote activity along the street; and

- locating buildings on a site to reflect the surrounding context (e.g. by grouping impact-generating activities and buffering sensitive uses, and creating pedestrian connections to adjacent areas);

Architectural Elements & Building Materials. These guidelines encourage design that reflects the characteristics of the site, the adjacent area and the larger community. Topics addressed include building form and scale, exterior finish materials, and (avoiding) blank walls.

Height, Bulk & Scale. These guidelines are intended to help projects be compatible with the scale and design of the surrounding area, and to accomplish transitions between less intensive uses.

Landscaping. Landscaping guidelines encourage creativity to screen, buffer and separate incompatible uses, enhance a site's open space and buildings, and respond to site conditions. Relating the choice, scale and placement of landscaping to site design and architecture is the key objective.

Site Improvements. Improvement guidelines address paving materials, outdoor furniture and fixtures, such as lighting and signs.

Services, Storage and Building Utilities. This group of guidelines is intended to ensure that loading and storage areas, trash enclosures, utility and mechanical equipment, and lighting are located and designed to be functional and efficient but do not negatively impact adjacent properties.

Circulation for Pedestrians and Automobiles. These guidelines are intended to help projects design convenient and safe circulation systems. Issues addressed include automobile parking areas and driveways; truck access and loading; pedestrian and bicycle access; design of parking structures; and design considerations for drive-through uses.

c. School Impact Fee Ordinance

The Growth Management Act authorizes imposition of impact fees for schools as a means to offset the needs created by new growth (RCW 82.02). Development projects may be assessed a proportionate share of the cost of new facilities needed to serve the development. The fee must be reasonable related to the impact caused by the development. The City is proposing to assess such fees on behalf of the Federal Way School District (No. 210).

Based on the proposed program, impact fees would be assessed against all residential development. The fee would be based on an annually updated capital facilities plan adopted by the School District and adopted by reference in the Capital Facilities Element

of the Federal Way Comprehensive Plan. The capital facilities plan projects student enrollment, facility needs, and costs of constructing such facilities.

The ordinance contains a formula for calculating fees and a fee schedule. Separate fees would be calculated for single-family and multi-family units to reflect their different student generation rates. Exemptions are provided for elderly housing, replacement of structures of the same size and use, and alterations of existing dwelling units where no new units are created. The formula provides credits for anticipated tax revenues that would be generated by the development; and credit for school sites or facilities contributed by a developer.

The fees would be collected one-half at the time of final plat or PUD approval, and the balance when building permits are issued. All fees would be placed in a separate interest-bearing account and must be used or encumbered within 6 years (unless extended by the City because of extraordinary circumstances); any fees not expended pursuant to the requirements of the ordinance would be returned (with interest) to the payor. Refunds will also be granted if the application is not finalized and no impact has resulted to the district.

d. Zoning Map Changes

Proposed zoning map changes are primarily limited to application of the new commercial and industrial zoning designations to properties that are currently zoned for equivalent commercial or industrial uses. For example, properties currently zoned Manufacturing Park would receive the new Business Park designation. The proposed action does not involve a city-wide rezoning; it will result in only minor changes to residentially zoned properties to reflect Comprehensive Plan land use designations and existing conditions. Adoption of an updated zoning map will be the subject future environmental review.

Future Implementing Actions

The proposed development regulations represent the City's initial steps to implement the Comprehensive Plan. They are focused on commercial and industrial development standards and design and school impact fees. Other implementing actions will be identified in City department work programs and will be proposed over the next 12-18 months. Major work items are identified below.

Concurrency Management. A management system will be developed for transportation to test whether project proposals are consistent with adopted levels of service and whether required transportation facilities will be available concurrent with the development. Consistent with GMA requirements, the system will require that development be denied if it would cause levels of service to decline below adopted standards unless necessary improvements are made.

Phasing. The City's ability to fund identified improvements to achieve adopted levels of service -- particularly for parks and transportation -- is dependent on realization of revenues from a variety of numerous sources, including two \$7.5 million bond issue that will be submitted to the voters in the future. If such funding does not materialize, services will not be adequate to accommodate planned growth until alternative funding sources are identified. Consistent with GMA direction, if funding falls short, the land use plan and/or levels of service must be reassessed. In these circumstances, growth would be phased or limited to reflect deficiencies in service.

Enhanced Environmental Protection. The City will review and fine-tune its critical areas ordinance to enhance achievement of Comprehensive Plan policies for the natural environment. An initial revision to the City's adopted wetlands regulations is being circulated for review. Other work elements will include ongoing identification of critical areas (wetlands, habitat, steep slopes, aquifer recharge areas); continued study of geohydrologic conditions and review of alternative approaches for protecting aquifer recharge areas; conformance to changes in definitions (e.g. of wetlands) in ESHB 1724; further study of management alternatives for priority habitat; and regulations addressing flood hazard areas and well-head protection.

Annexation Area Planning. Consistent with King County's Comprehensive Plan, the City and County will work cooperatively to plan for land use and services in the City's designated potential annexation area. This planning would occur over approximately two years.

Permit Processing Timelines & Regulatory Reform. The City will readopt its permit processing timelines as required by state law. It will also evaluate and implement the requirements of 1995 regulatory reform legislation (ESHB 1724) session as they may affect environmental review and development permit processing.

Impact Fees. As part of its ongoing capital facility planning, the City will evaluate the use of impact fees as a means to fund a portion of future needs for parks and transportation improvements; public funds would also be used. Impact fee programs would be organized consistent with applicable state law (i.e., GMA and RCW 82.02).

Shoreline Master Program. The City will reevaluate its Shoreline Master Program (SMP), and revise it as necessary to ensure consistency with the land use plan. The SMP will also be updated to reflect the requirements of ESHB 1724, including changes in definitions.

Residential Zoning Classifications. The Comprehensive Plan will not make significant changes to the amount, nature or location of residential land uses. Similarly, changes to residential zoning classifications, standards and mapped zones will not be significant. Minor changes may be proposed to ensure achievement of design goals, land use compatibility and consistency with Comprehensive Plan residential land use designations.

Subdivision Ordinance. The City will review its subdivision code to ensure that standards and procedures are consistent with the Comprehensive Plan and with the direction of regulatory reform legislation (ESHB 1724).

E. Alternative Land Use and City Center Concepts

Three preliminary land use concepts and three city center concepts were identified and refined during the CityShape process and evaluated in the Draft EIS. These concepts are described below and shown in Figures 4, 6 & 8. Each land use concept is combined with a City Center concept for purposes of description and environmental analysis. The concepts include: existing trends and policies, modified to achieve consistency with GMA (Concept 1, a baseline alternative); a high intensity City Center emphasis (Concept 2); and a strong City Center with business parks (Concept 3). The proposed plan combines elements of Concepts 2 and 3 and, in terms of environmental impacts, is within the range of these alternatives.

The initial land use and city center concepts provided a range of possible courses of action for the City and provided an opportunity to identify environmental and other tradeoffs that would be involved for each. Each was designed to enable the City to comply with the requirements of the GMA and to fit within the framework established by the Countywide Planning Policies. The City did not construct concepts to serve as theoretical benchmarks for environmental analysis (for example, a low density residential concept). Taking no action at all, for example, would not be consistent with state legal mandates (as discussed above) and is not, therefore, a reasonable alternative. Concept 1, which incorporates the minimum actions necessary to address GMA requirements, comes closest to representing a traditional "no action" alternative for SEPA analysis. Given the planning and analytic process being used to develop the City's comprehensive plan -- involving extensive citizen involvement and integrated environmental analysis -- the identified concepts represent a reasonable range of alternatives as required by SEPA (WAC 197-11-440(5)).

Each land use concept also contains a City Center design concept, shown in Figures 5, 7 and 9. These design concepts present a general vision of how portions of a central business district -- generally extending from South 312th Street to South 324th Street, and focused around Pacific Highway South and Sea-Tac Mall -- could be developed in the next 20-30 years. They show alternatives for functional layout of a downtown area, noting key civic features, transportation facilities, concentrations of office use and housing, and other focal points. They also provide a sense of the scale and density of future development within the downtown; incorporate different mixes and intensity of uses, varying capital improvements; show different combinations of economic functions; and create different senses of place.

It should be noted that City Center Design Concepts 2 and 3 could be interchanged -- that is, City Center Concept 2 could be paired with Land Use Concept 3, and City Center Concept 3 could be paired with Land Use Concept 2.

Common Objectives and Land Use Patterns

All of the concepts are intended to accommodate forecast population and housing growth. PSRC's preliminary forecasts for the Federal Way Urban Growth Area (October, 1992) were used for planning purposes. These show a total of approximately 57,000 households and 139,700 people residing in the planning area in 2010 (compared to 36,000 households and 98,600 people in 1990). It should be noted that the Proposed Plan includes only the present City limits, while the alternatives addressed the City and potential annexation area. Growth within the City, and resulting environmental impacts, therefore, would be somewhat less than identified in the Draft EIS. As noted above, the Proposed Plan uses a somewhat lower household target as reflected in the 1994 Countywide Planning Policies.

Under any of the concepts, the mix and type/density of land uses would not change in most of the City, particularly in existing single-family residential areas. Residential neighborhoods would experience modest infill at compatible densities where vacant land is available.

Change would primarily occur along and adjacent to the Pacific Highway South corridor and within the City Center. Changes would be directed at accommodating population/housing forecasts and achieving economic growth objectives. Among the concepts, land use changes would range from modest office/retail intensification and continued auto orientation, to development of an intense pedestrian-oriented urban core with high-rise mixed-use buildings and high capacity transit. New multi-family residential communities and/or office parks outside of the central core are also part of some of the concepts. Amounts of commercial/industrial uses would vary significantly among the concepts, reflecting increases ranging from 30 percent to 66 percent (in total square feet). All concepts assume protection of natural open spaces and environmentally sensitive areas, as well as provision of public parks.

Land Use Concept 1: Existing Trends -- Land Use and Policies Modified Consistent with the Growth Management Act

Concept 1 represents a continuation of existing trends. It would substantially continue existing land use patterns and reinforce the City's current character as a suburban residential community with a regional retail economic base. Existing comprehensive plan policies, land use designations and implementing regulations would be modified as necessary to accommodate regional population, housing and employment targets and to be consistent with other GMA objectives (e.g. concurrency). See Figure _.

Total housing capacity under this concept would increase by approximately 17,789 dwelling units; almost 60 percent of the increase would be in multi-family units. Overall, however, the majority of housing within the Urban Growth Area would still be single family. This reflects a significant increase in the amount of housing that could be

accommodated by the existing plan and zoning (11,432 dwelling units) and is necessary to accommodate regional housing targets. Most new housing would be developed in a new multi-family village community around 336th Street east of Pacific Highway South, and in and adjacent to the existing city center. Little change would occur in existing neighborhoods; some infill development would occur adjacent to existing neighborhood centers.

Under *City Center Concept 1*, the existing city center would continue to develop primarily as an auto-oriented regional retail center. See Figure __, City Center Concept 1. Low-rise office growth and higher density housing would occur as well, and would make the center more intensively developed than at present. A civic center plaza with offices is envisioned, as are location of community facilities, pedestrian amenities along a route connecting Centennial Park with Steel Lake Park, improved bus facilities and parking structures.

City-wide, retail, office and manufacturing uses would increase by approximately 30 percent, with more than one-half the growth occurring in office uses. (Commercial/industrial uses would not change relative to the existing land use and zoning designations, however.) Most of the growth would occur in and near the city center, in the West Campus area, and in and around the Weyerhaeuser corporate headquarters area located east of I-5.

Parks and open space uses would increase by approximately 61 percent beyond that provided by the existing plan, with the largest increase (in acres) occurring in the Weyerhaeuser area. In the rest of the Urban Growth Area, open space would be emphasized along roads, ravines and similar features to create a "ribbon of green."

Public Investment in capital facilities would be focused on road improvements, including widening of some arterials (5 to 7 lanes) and other improvements proposed in the City's existing capital improvement program (CIP). Other improvements would include several bus transit facilities distributed throughout core; the widening of South 320th Street and Pacific Highway South; and enlarging and completing the ring road around the city center.

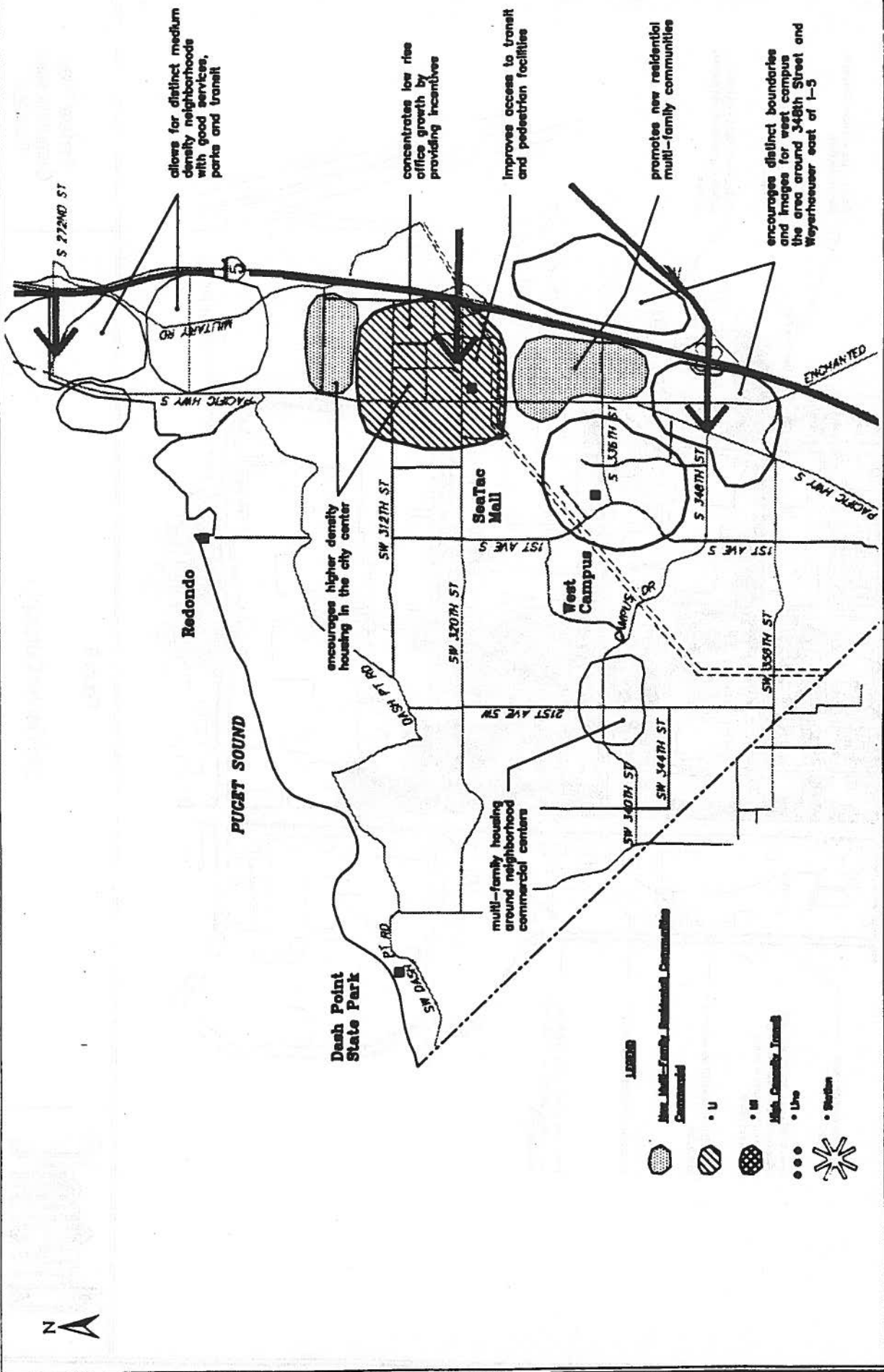
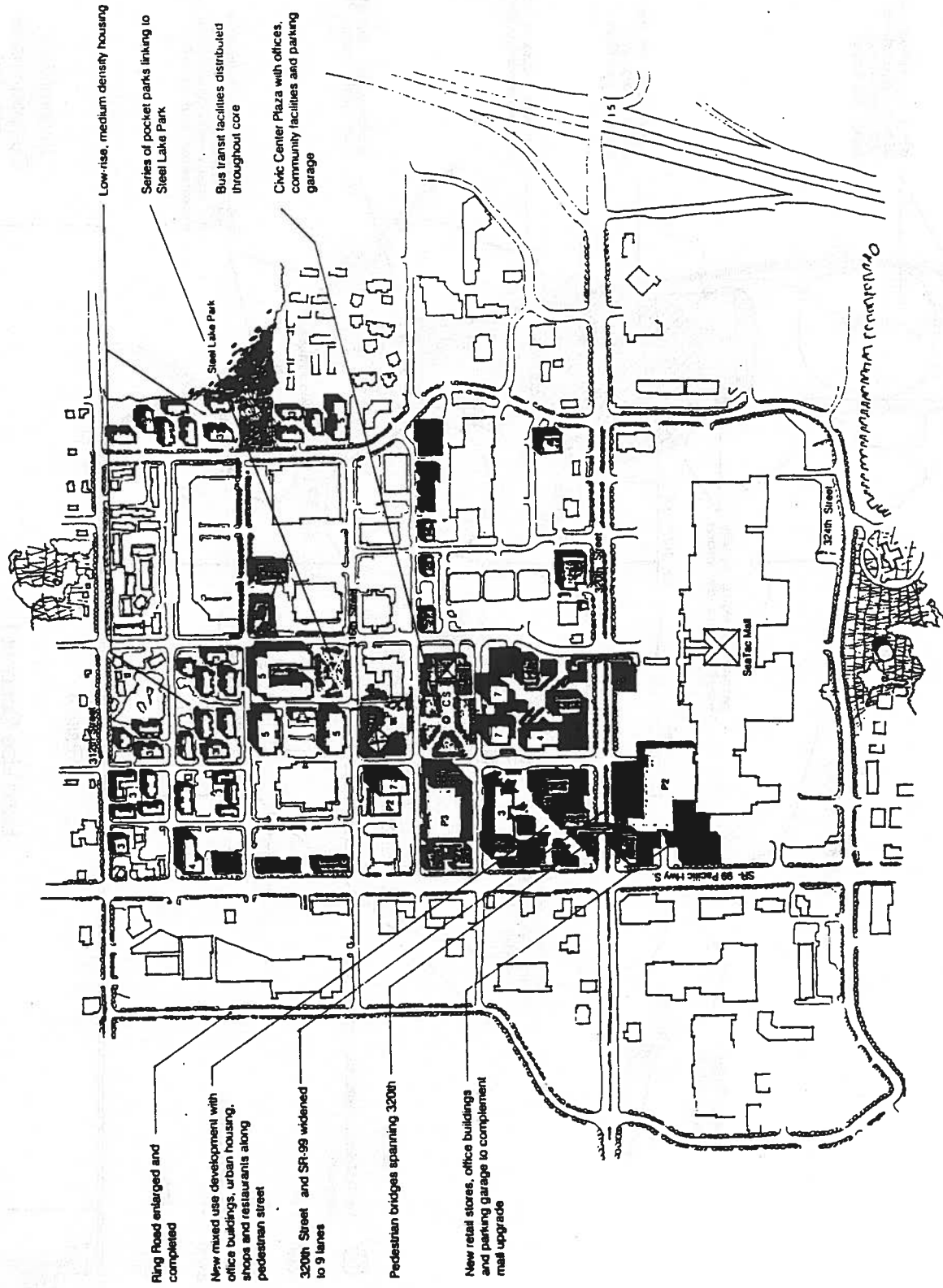


Figure 4
Land Use Concept 1



Low-rise, medium density housing

Series of pocket parks linking to Steel Lake Park

Bus transit facilities distributed throughout core

Civic Center Plaza with offices, community facilities and parking garage

Ring Road enlarged and completed

New mixed use development with office buildings, urban housing, shops and restaurants along pedestrian street

320th Street and SR-99 widened to 9 lanes

Pedestrian bridges spanning 320th

New retail stores, office buildings and parking garage to complement mall upgrade

Figure 5
City Center Concept 1

Land Use Concept 2: High intensity City Center.

Concept 2, shown in Figure __, would retain the City's predominant residential character but would also result in some significant changes to the City Center and to the City's economic base. The total increase in housing capacity would be comparable to Concept 1; a somewhat smaller proportion of housing would be multi-family relative to Concept 1 (58.3 percent for Concept 2 versus 58.6 percent for Concept 1). New housing development would be concentrated in the city center, and in and around residential communities at Pacific Highway South at 272nd Street and 334th Street. Little change would occur in existing neighborhoods.

Total non-residential uses would be significantly (one million square feet) greater than in Concept 1. All of the difference would occur in office uses located in the city center or in the Weyerhaeuser area (east of I-5); manufacturing and retail uses would increase the same as in Concept 1. Overall, the City would achieve a greater balance between housing and jobs. City-wide parks and open space would be somewhat greater (26 acres) than Concept 1.

City Center Concept 2, shown in Figure __, would involve creation of a higher intensity, more pedestrian-oriented downtown core with a mix of residential, retail, office and civic uses, including a civic center plaza. Office buildings (and some mixed-use residential/office buildings) would be mid-rise to high-rise with structured parking.

Public investment for capital facilities would be focused in and around the city center (from 312th to 320th Streets along Pacific Highway South). Transportation system improvements would include modest upgrades of the arterial road system, and more extensive improvements in the city center, including a feeder bus system, three rail transit stations, and additional pedestrian connections. Major improvements associated with City Center Concept 2 include widening of South 320th Street and Pacific Highway South to accommodate increased traffic; creation of a pedestrian spine linking parks civic plazas, retail and residential uses, together; construction of a grade-separated pedestrian bridge across South 320th Street connecting to Sea-Tac Mall; structured parking near the spine of development; connections from new housing and retail areas to Steel Lake Park; and construction of a ring road with landscaped treatment to enclose downtown.

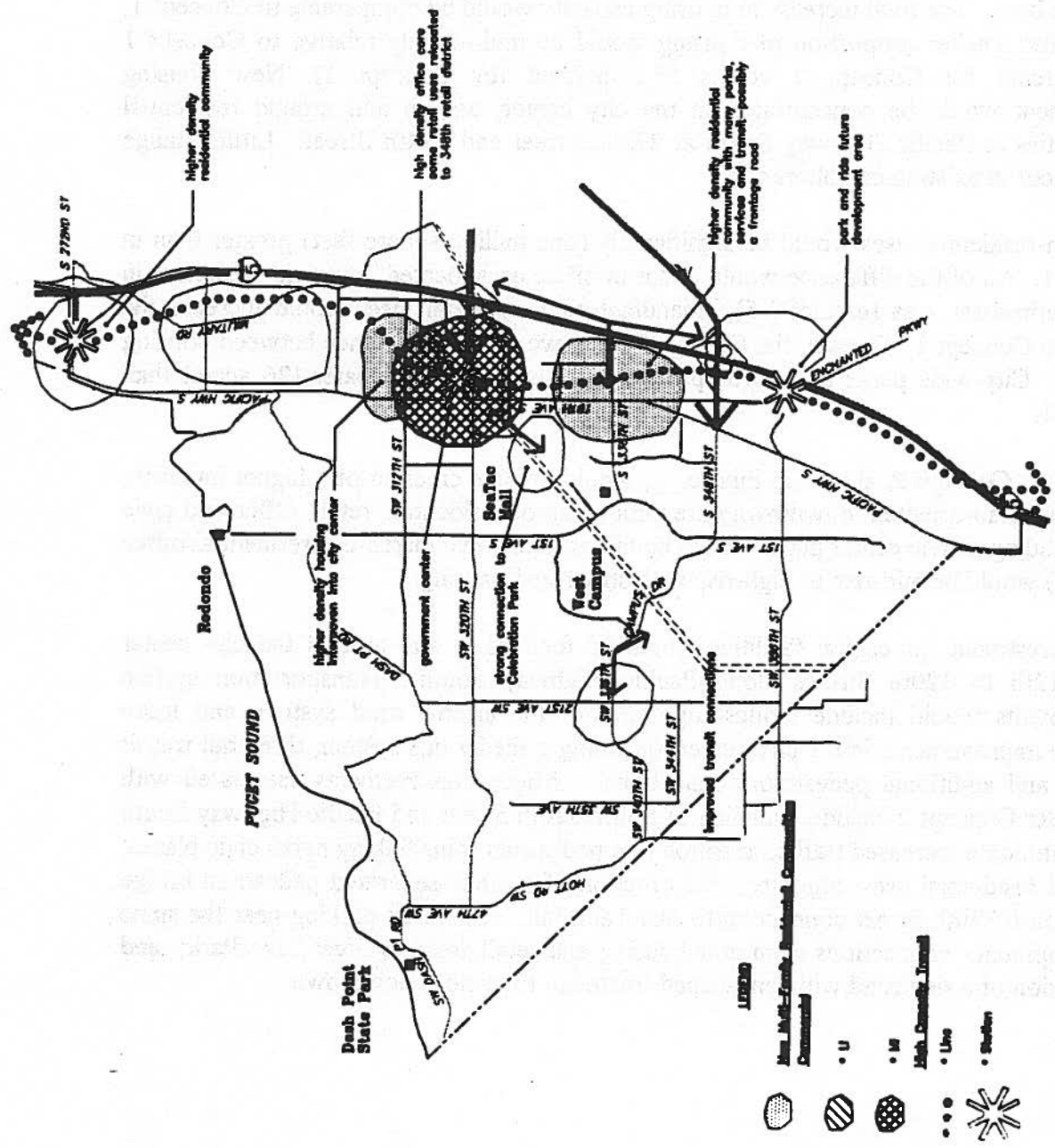


Figure 6
Land Use Concept 2



Pedestrian spine linking, parks, civic plazas, retail and residential uses, together

Mid and high rise office development located adjacent to intermodal terminal

Widened 320th and Hwy 99 corridors to accommodate increased traffic

High rise housing development along major spine of development

Mass expansion with high end retail and possible additional parking

Connections through residential and retail areas to Steel Lake Park
Ring road with landscaped treatment to enclose downtown

Civic plaza with a mix of office and retail uses, community services, and easy access to transit

Some structured parking near spine of development

Grade separated pedestrian bridge

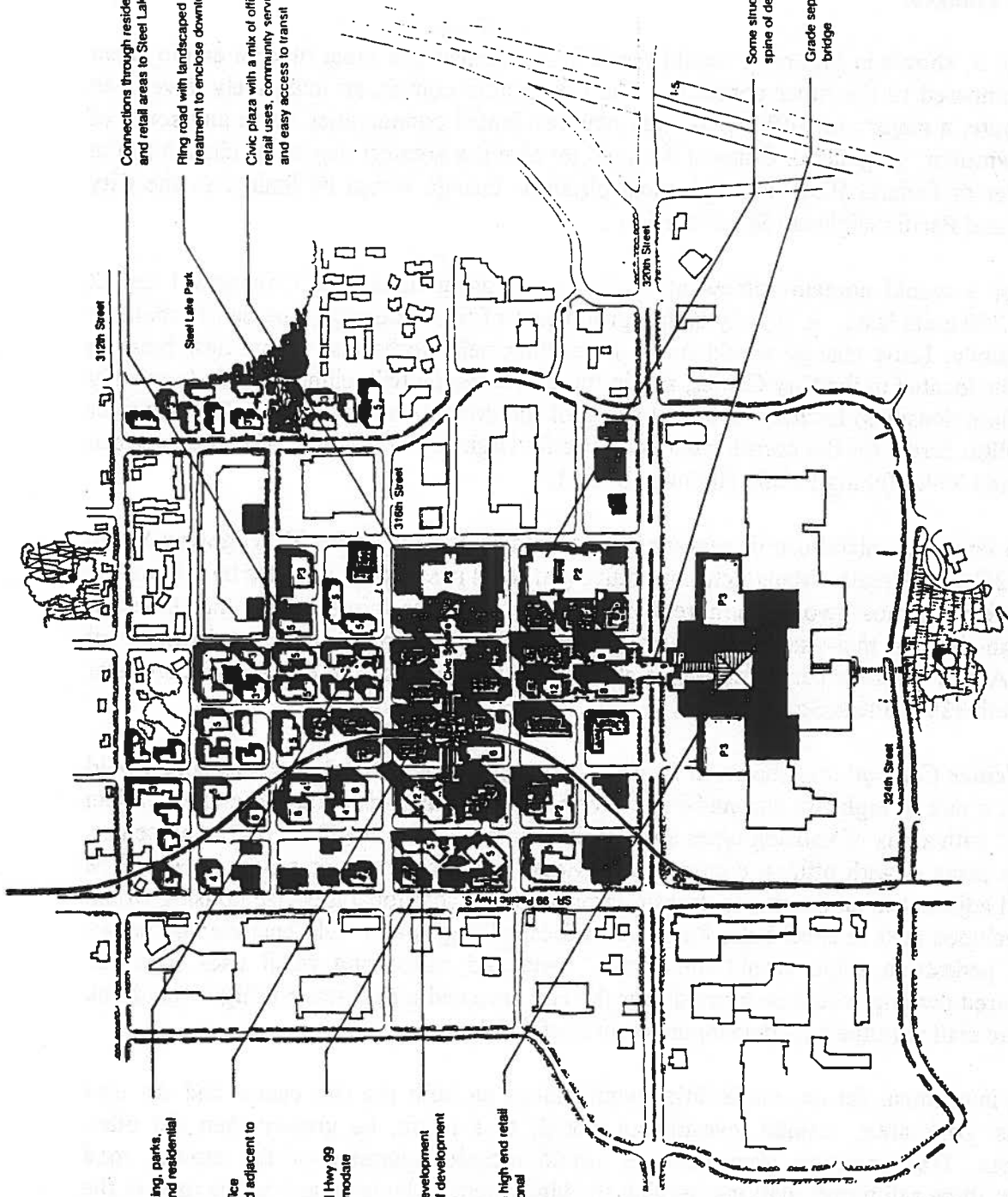


Figure 7
City Center Concept 2

Land Use Concept 3: Strong City Center with Business Park Development and Urban Villages.

Concept 3, shown in Figure __, would result in the largest and most diverse employment base compared to the other concepts. The City would contain an intensively developed urban core, a major new office park, and new residential communities north and south of the downtown. In general, Concept 3 would involve the greatest degree of change to the character of Federal Way, although most physical change would be limited to the City Center and Pacific Highway South corridor.

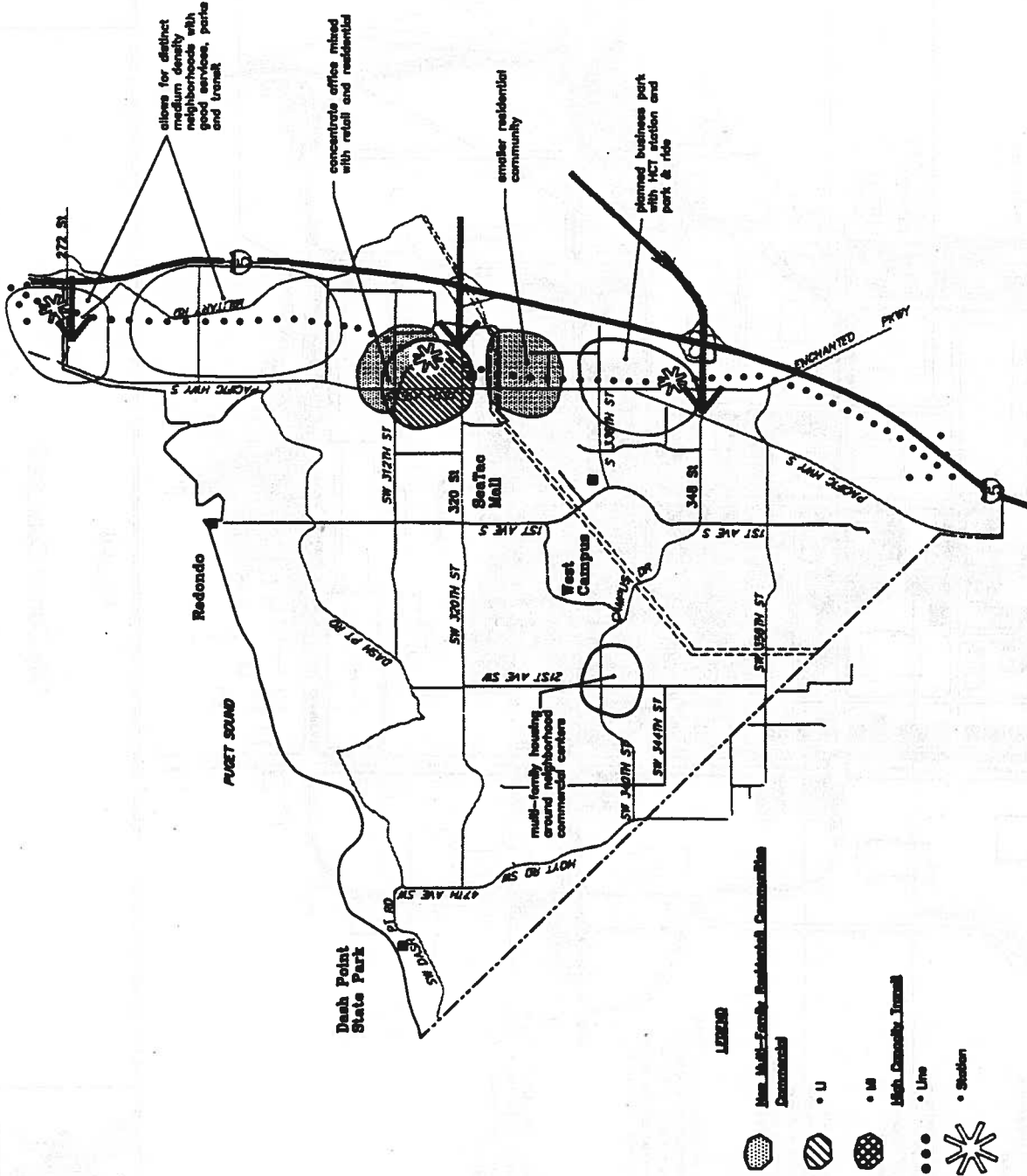
Concept 3 would contain somewhat fewer new housing units than Concepts 1 and 2 (about 200 units less). A slightly higher proportion of total housing (1 percent) would be multi-family. Little change would occur in existing neighborhoods. Most new housing would be located in the City Center, and in three new residential neighborhoods (generally at medium densities) located north and south of the downtown core -- near 272nd Street and 288th Street (in the corridor between Pacific Highway South and I-5), and between 320th and 334th (along Pacific Highway South).

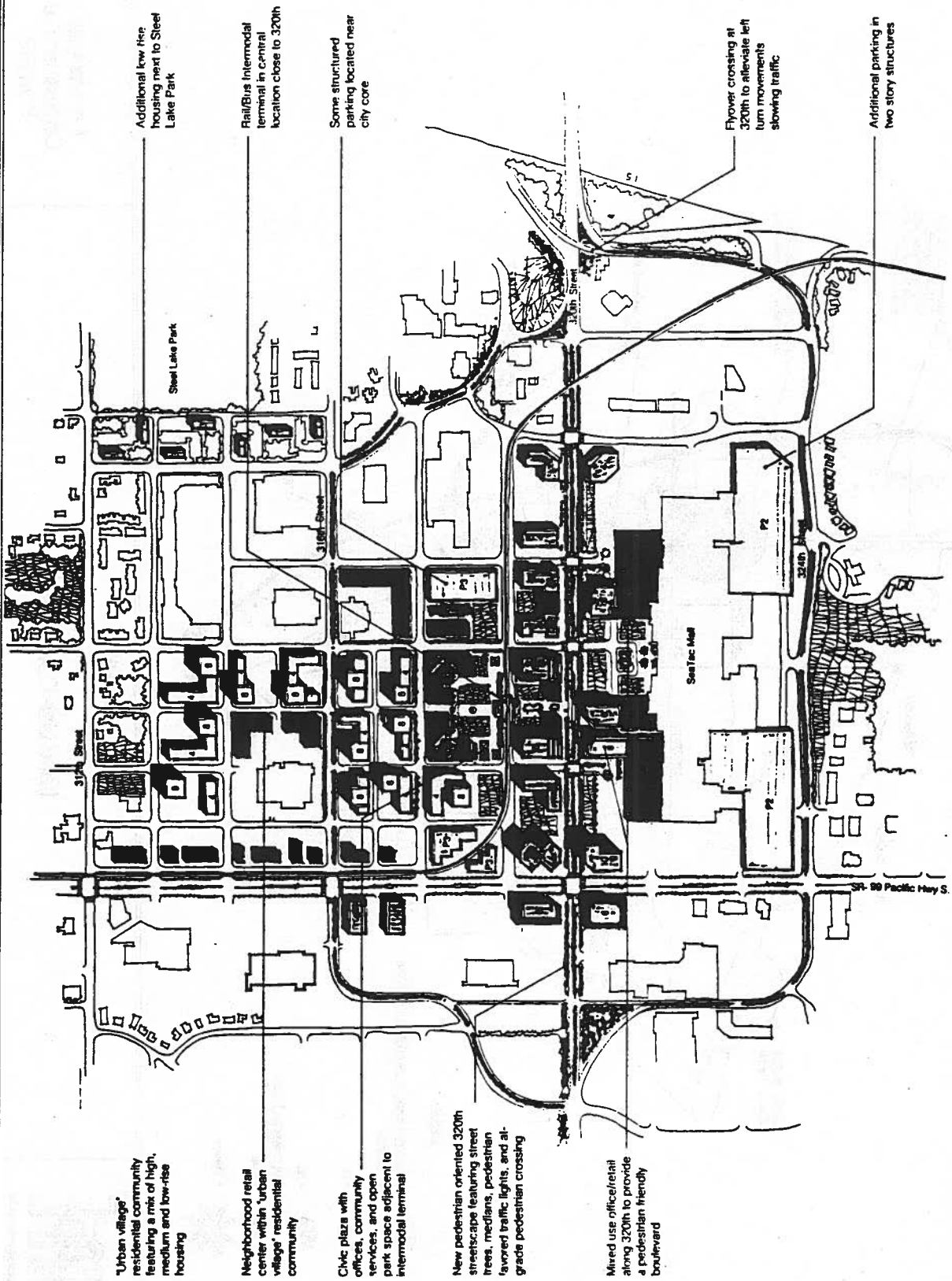
A high intensity, mixed-use downtown core would be located at Pacific Highway South and 312/320th Streets. Manufacturing, office and retail uses would increase by 6.4 million square feet -- almost two times more than Concept 1 and two-thirds greater than Concept 2. High-rise and mid-rise buildings would contain a mix of retail, office and residential uses. A new business park area would also be located south of the downtown core near the South 336th/348th Street areas.

City Center Concept 3 is shown in Figure __. Development in the downtown core would contain a mix of high-rise and mid-rise office/retail uses, high-rise housing and an "urban village" with a mix of housing types and densities adjacent to a neighborhood retail center. A civic plaza -- with offices, community services, and open space or a park -- would be located adjacent to an intermodal transit terminal. Some additional low-rise housing would be developed next to Steel Lake Park. A landscaped ring road would encircle downtown and a pedestrian spine would link parks, civic and office and retail uses together. Structured parking would be located near the city core and a pedestrian bridge would link Sea-Tac mall with the new development north of 320th.

Public investment for capital facilities would focus on both the city center and the new business park area; capital investments would, as a result, be greater than the other concepts. Transportation improvements would include upgrades of the arterial road system; three rail transit stations, serving the high-intensity housing and office uses in the city center and new business park; a more diffuse bus system (because of multiple employment areas); and some pedestrian facilities.

Figure 8
Land Use Concept 3





'Urban village' residential community featuring a mix of high, medium and low-rise housing

Neighborhood retail center within 'urban village' residential community

Civic plaza with offices, community services, and open park space adjacent to intermodal terminal

New pedestrian oriented 320th streetscape featuring street trees, medians, pedestrian 'labeled' traffic lights, and all-grade pedestrian crossing

Mixed use office/retail along 320th to provide a pedestrian friendly boulevard

Additional low rise housing next to Steel Lake Park

Rail/Bus Intermodal terminal in central location close to 320th

Some structured parking located near city core

Flyover crossing at 320th to alleviate left turn movements slowing traffic

Additional parking in two story structures

CITYSHAPE

From Vision to Plan

Figure 9
City Center Concept 3

Transportation improvements associated with the new city center would include a flyover crossing at South 320th Street, to alleviate left turn movements slowing traffic along South 320th Street; an intermodal (rail and bus) transit terminal close to South 320th Street; and pedestrian-oriented improvements on South 320th Street, including street trees, medians, and at-grade pedestrian crossings, to create the feeling of a boulevard.

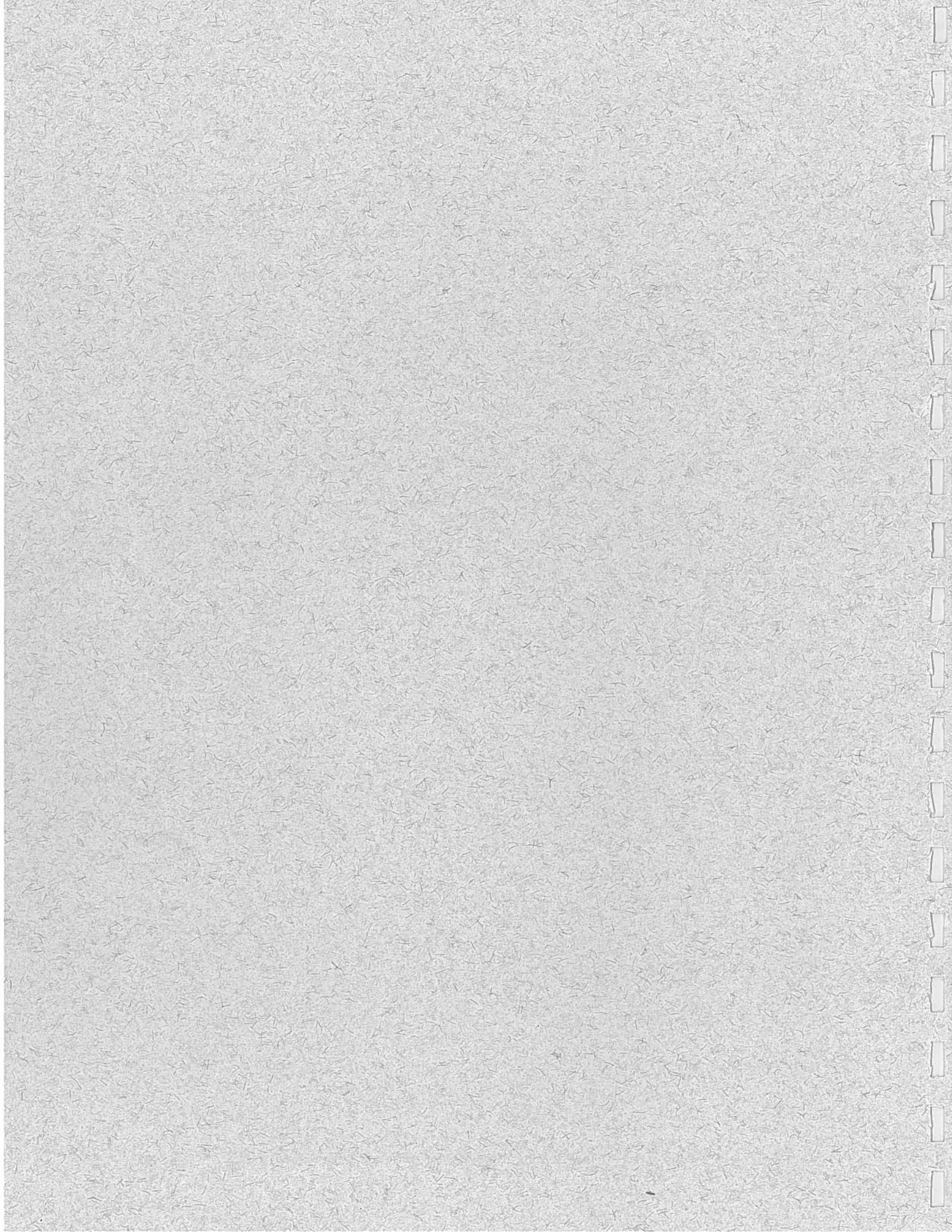
Potential impacts associated with the Proposed Action relative to the other alternatives are evaluated in the following section of this Final EIS.

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CHAPTER II

Environmental Analysis of Proposed Plan



II. Environmental Analysis of Proposed Plan

A. Scope of Analysis

This section of the Final EIS evaluates incremental differences in impacts between the Proposed Plan and the alternatives considered in the Draft EIS. The overall concept for the Proposed Federal Way Comprehensive Plan combines major elements of Land Use and City Center Concepts 2 and 3. Environmental impacts associated with these concepts were evaluated in the Draft EIS. The proposed plan is within the range of alternatives previously evaluated. Impacts would be similar to, or somewhat lower than, those identified in the Draft EIS.

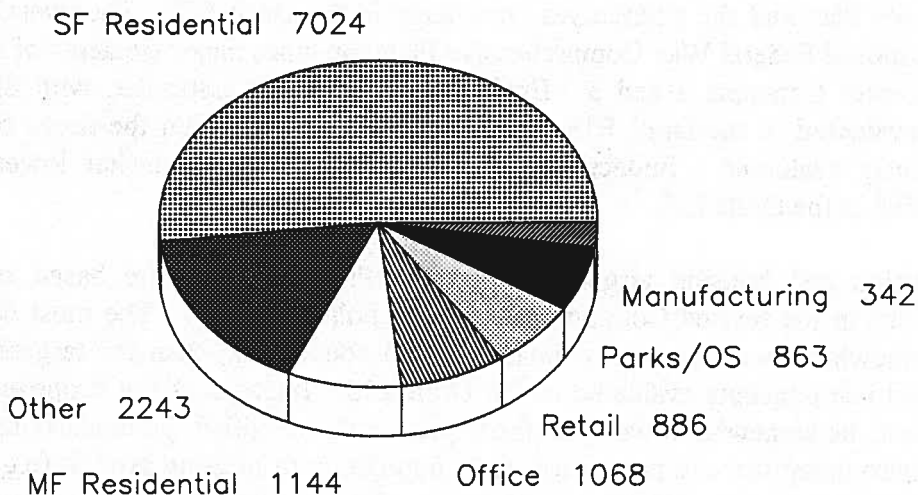
Population and housing targets used in the Proposed Plan are based on allocations contained in the revised Countywide Planning Policies (1994). The most current targets are somewhat lower (i.e. approximately 3,000 households) than the targets assumed for the land use concepts evaluated in the Draft EIS. Impacts of the Proposed Plan could, therefore, be somewhat lower than those previously identified, particularly for elements of the environment that are proportionate to population or housing growth (e.g. services and facilities). Impacts would occur within a smaller geographic area, however, because the Proposed Plan does not include the City's potential annexation area.

Development regulations that are part of the Proposed Action are intended to implement the Proposed Plan's policies. To the extent that they implement the plan's policies and map, impacts associated with the proposed development regulations would be the same as the impacts identified for the plan itself. Additional environmental analysis will be conducted for any changes to the zoning map that is necessary to achieve consistency between the Proposed Plan's land use map and the zoning map.

As noted in the Draft EIS, the Proposed Action involves adoption of goals, policies, procedures and regulations that will not, in and of themselves, generate impacts to the natural environment. The Comprehensive Plan and development regulations will provide a framework within which future impacts will occur as a result of multiple private and public actions.

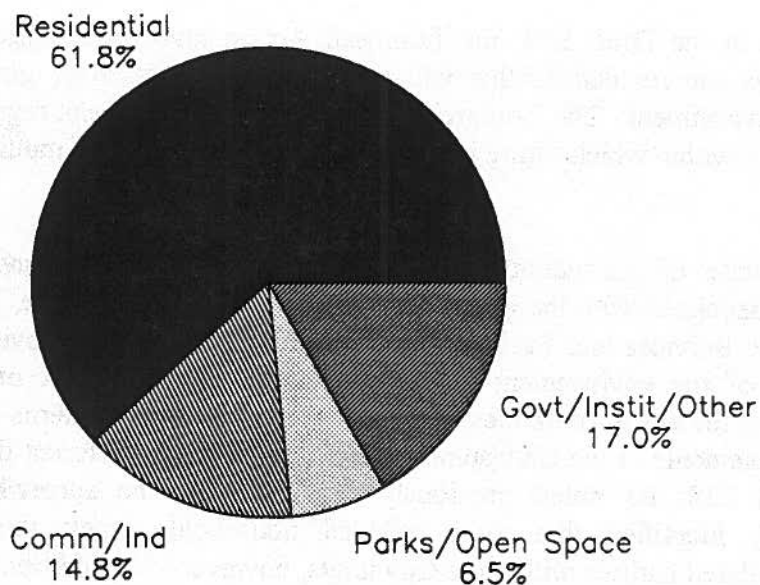
The remainder of this section of the Final EIS provides updated environmental analysis of impacts associated with the Proposed Plan. It addresses Land Use, Noise, Transportation and Public Services and Facilities. Additional information is provided. Impacts to all elements of the environment were reexamined in the context of the Proposed Plan. Because of the close similarities between resulting land use patterns and densities, impacts to most elements of the environment are not significantly different than those identified in the Draft EIS. As noted previously, impacts could be somewhat lower than those previously identified due to a reduced household target; this growth would be accommodated entirely within the City limits, however. No additional or different impacts would result to Earth, Air, Water Resources, Plants and Animals, Aesthetics, Population

Figure 10.
Proposed Land Use (Acres)



"Other" includes govt/institititional

Figure 11. Land Uses by Category



Based on Gross Acres

& Housing, and Fiscal; these sections are not repeated in this document. Technical corrections to the Utilities section were made as a result of comments on the Draft EIS; a revised Utility section is provided in Appendix B.

B. Additional Environmental Analysis

1. Land Use

a. Land Use Patterns

Relative to the land use concepts described in Section I, the Proposed Plan combines elements of Concepts 2 and 3, particularly those related to the City Center, business/office park areas, transportation systems, and development in the City's existing residential neighborhoods.

Overall land area devoted to different land uses in the City would not change significantly under the Proposed Plan or any of the other alternatives. Land uses are shown in Figures 10 and 11. Most change would result from intensification of land uses through redevelopment over time, and through mixing uses in appropriate zones. While the City would retain the residential character of its existing land use pattern and neighborhoods, there would be a closer balance between employment land uses and housing.

No new "urban villages" are included in the Proposed Plan, however. One "potential" new multi-family residential area is identified south of the City Center; a rezone process, and supplemental evaluation, would be required to realize the potential multi-family designation. Most new residential growth would occur in the City Center, in mixed-use commercial areas, and through infill and redevelopment in existing multi-family areas. The amount of growth through redevelopment and infill in existing multi-family neighborhoods would be somewhat greater than assumed in Concepts 2 and 3. Since the growth potential of the potential annexation area east of I-5 is not included in plan calculations, an intensification would occur within the City's existing boundaries. Growth in existing single family neighborhoods in the City is modest and comparable to growth in Concepts 2 and 3. It should be noted that a substantial portion of single family residential potential associated with Concepts 2 and 3, as evaluated in the Draft EIS, would occur in the potential annexation area (PAA) east of I-5; this area is not included in calculations for the Proposed Plan. The extent, density and timing of development in the City's PAA would be determined by future cooperative planning and an interlocal agreement between the City and King County.

Community and Neighborhood Business areas would be larger and more intensively developed under the Proposed Plan and would be characterized by a mix of commercial and residential uses. Some residential land would also be redesignated to enable expansion of these mixed-use business areas. Potential impacts include conflicts with

adjacent residential areas; these impacts would be mitigated by Proposed Plan policies and proposed development regulations.

General land use impacts identified in the Draft EIS (see pages 80-93) include development of vacant land in areas identified for future growth; redevelopment of land to accommodate a mixture of more intensive land uses, particularly in the City Center, adjacent to Highway 99 and in existing multi-family neighborhoods; potential displacement of existing uses as a result of redevelopment; potential conflicts between uses of different type or intensity, particularly at the edges of land use districts; and development over time of an intensive urban center characterized by mixed-use mid-rise buildings. Impacts and land use changes would be greatest in the City Center (Core and Frame); along Highway 99; and in commercial areas (Office and Corporate Park, Business Park and Community and Neighborhood Business Areas. These impacts are anticipated in the Proposed Plan and are addressed through policies, revised regulations and design guidelines.

b. Development Capacity -- Housing & Employment

The land capacity analysis in the Draft EIS was updated to reflect the Proposed Plan. The analysis is based on data in the City's GIS system. Capacity is estimated for commercial/industrial and residential land uses below.

Employment Capacity. City staff calculated commercial/industrial development capacity based on the total development area permitted for different land use designations. Average floor area ratios (FARs) and number of permitted stories were applied to calculated building site areas or "footprints" to estimate potential development area. Deductions were made for sensitive areas (5%) and right-of-way (5%). The area that could be developed for residential uses in mixed-use buildings was also deducted. Using this methodology, aggregated data for commercial and industrial designations yielded development capacity of approximately 31.6 million square feet supporting a total of 89,856 jobs and 14,125 multi-family dwelling units. The City's 20-year growth target is 14,800 jobs.

To provide a conservative estimate of capacity, the Final EIS analysis makes several additional deductions to the City's estimate. Development capacity calculations are shown in Table 1 and Figures 12 and 13 below. In capacity methodology, these deductions are intended to reflect a number of market factors and to provide a cushion for future growth to ensure that land markets are not adversely affected. A range of 10%-15% was selected for vacant land to reflect the fact that all vacant land is not likely to be available for development over the next 20 years, and to provide an additional deduction for sensitive areas that are not currently known. A discount of 15%-35% was applied to partly developed land (i.e., where the ratio of structure value to land value is less than .5 according to assessor's data) to reflect similar market uncertainties. These two factors were added to produce a reduction of between 25% and 50%. In addition, a "cushion"

was added. A cushion is recommended in the literature to help ensure that supply is not constrained and to accommodate uncertainties. The cushion ranges from .25 to 2.5.

The identified discounts were applied to "development capacity" (i.e., vacant land x floor area ratio x number of stories) rather than just to land area. Applying the 25%-50% discount reduced calculated commercial development capacity by between 7.9 million and 15.8 million square feet, to a total of 15.8 to 23.6 million square feet. Using an average of 2.85 jobs per 1,000 square feet, this would provide capacity for between 45,000 and 67,500 total jobs. Subtracting existing jobs (25,900 in 1990) would provide a capacity for between 19,100 and 41,600 new jobs. This is greater than the City job target of 14,107 and would provide an effective cushion or overage factor of between 1.3 and 2.8. The analysis indicates, therefore, that the Proposed Plan would likely provide sufficient capacity to accommodate employment targets. It should be emphasized that these calculations are intended to be rough estimates of how complex real estate may operate in the future. A large number of economic, political and other factors will influence how future development will occur in Federal Way and the King County region.

Table 1. Commercial/Industrial Development Capacity

	Market Factor/ Discount	Square Feet (Millions)	Jobs
Gross Capacity ¹		31.6	89,856
Market Factor Deductions:			
- Vacant Land	10%-15%		
- Redevelopable Land	15%-35%		
Subtotal Deductions	25%-50%	7.9-15.8	
Net Development Capacity		15.8-23.6	45,000-67,500
Existing Jobs (1990)			25,900
20-Year Job Target			14,800
New Jobs Capacity ²			19,100-41,600
Surplus Relative to Target			4,300-26,800
Effective Cushion			1.3-2.8

1. Figure already deducts identified critical areas (5%) and rights-of-way (5%)
2. Assumes an average of 2.85 jobs per 1,000 square feet

Figure 12.
Comm/Ind Development Capacity

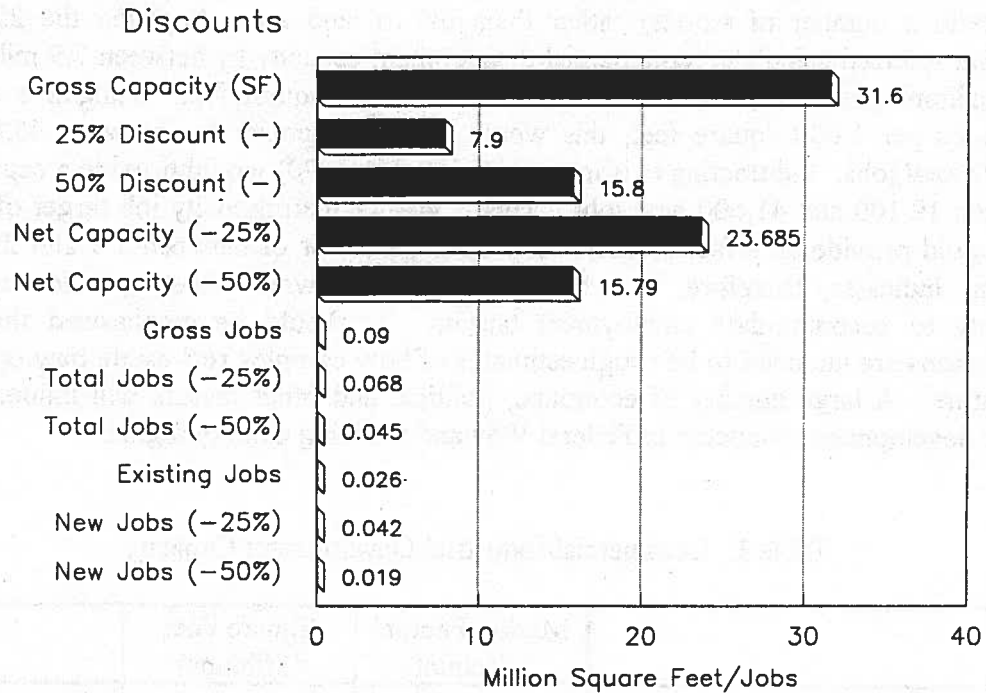
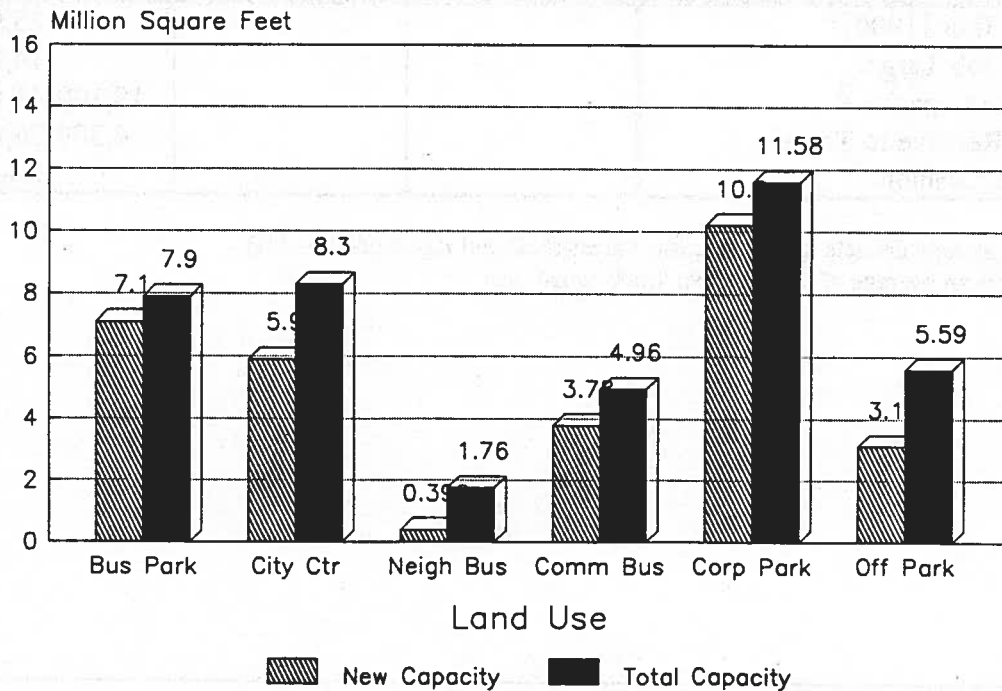


Figure 13. Proposed Plan
Total Comm/Ind Development Capacity



Residential Capacity. Residential development capacity involves calculations for both residential and commercial designated land. The City's calculations are based on estimates of square feet of vacant and redevelopable land (after deducting for critical areas and ROW as above). Residential capacity in mixed-use buildings was estimated by applying a maximum area that could be developed for dwelling units. Using this approach, the City identified a capacity for 10,664 units in residential designations (3,918 single family, 6,036 multi-family, and 710 potential multi-family) and 7,380 units in commercial designations, for a total of 18,044. The City's 20-year growth target is 13,425 dwelling units.

To provide a conservative estimate of residential capacity, the Final EIS makes several additional deductions to the City's estimate. The same market factors or deductions discussed for employment capacity, above, was applied to residential capacity. A range of 10%-15% was used for vacant land, and a discount of 15%-35% was applied to partly developed land. No redevelopment is assumed for single family units, and most future multi-family development would occur through redevelopment; capacity discounts reflect these aspects of the Proposed Plan. Because city data are in varying formats, the identified discounts were applied to acres of land to derive capacity in residential designations, and to developable square feet for non-residential zones depending on the form of available data. Single family estimates assume an average density of 4.6 dwelling units per acre. Multi-family calculations assume an average 1,000 square feet per dwelling unit. Calculations are shown in Table 2.

Table 2. Residential Development Capacity

Development Type	Area (Acres/SF)	Market Factor Discount	Net Acres/ Square Ft.	Net Capacity Unit
Single Family	160 acres	82-122 ¹	733-693	3,189-3,372
Multi- Family Residential Zones	160 acres	40-80 ²	80-120	2,800-5,280
Potential MF	710,000 sf	180,000-360,000 ²	350,000-530,000	350-530
Commercial Zones	6.2 mil sf	1-2.2 mil ³	4-5.2 mil	4,000-5,200
Total Capacity				10,339-14,382

1. Includes vacant land only; 10%-15% discount applied
2. Includes vacant and redevelopable land; 25%-50% discount applied.
3. Assumes primarily redevelopment; 15-35% discount applied

The City's 20 year target is 13,425 dwelling units. At the lower end of the range of capacity discounts, there would be adequate development capacity to accommodate the target under proposed land use designations. The cushion (i.e., the additional amount of capacity provided to allow real estate markets to function) would be quite small, however, (957 units, or .07) and less than what is usually recommended. Under the more conservative scenario (i.e., using larger market factors), the City could potentially have insufficient development capacity to accommodate household targets.

Conclusion. Any calculation of development capacity is an estimate and is dependent on a variety of factors and assumptions. To ensure that capacity assumptions are realistic, the City should monitor development over time. In cooperation with other jurisdictions and the private sector, it should identify a number of benchmarks that will be used as indicators of adequate development capacity. These might include, for example, the rate of development, land costs, housing costs, actual development yield (compared to theoretical FAR), and similar assumptions or concerns. Possible responses to constrained development capacity could include fine tuning land use or zoning designations to create additional capacity, creating additional or more effective development incentives, or adjusting the City's growth targets to reflect market conditions.

It is also noted that capacity could be further reduced by identification of additional critical areas or future regulations to protect these areas. To achieve growth targets, any such reduction should be compensated for by adjustments to the land use plan or to the development potential defined by City regulations.

c. Consistency with Plans & Policies

Table 3 summarizes the relationship of the Proposed Plan to requirements of the Growth Management Act and Countywide Planning Policies.

2. Environmental Health: Noise

The following analysis refines the information contained in the Draft EIS (Federal Way, 1993). It is based on recent noise measurements, updated traffic data and modeling of noise impacts for the Proposed Action. The focus is on traffic-related noise; construction noise impacts would generally be within the range of impacts identified in the Draft EIS. The updated analysis does not significantly change the analysis contained in the Draft EIS. In general, noise impacts of the Proposed Action would be between those identified for Concepts 2 and 3.

Extensive data on background conditions are contained in the Draft EIS and is not repeated here; selected information is included (e.g. state and City noise standards) to provide some context for the reader. The analysis is focused on documenting existing noise levels at selected locations and in describing potential impacts.

Table 3. Relationship to GMA Goals & Countywide Planning Policies

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Goal 1. Urban Growth - Encourage development in urban areas where adequate public facilities & services exist or can be provided efficiently</p>	<p>Land Use Pattern <i>Urban Growth Areas LU-14.</i> Lands should be characterized by urban development; contains all land within cities; be able to accommodate 20-year population forecast.</p>	<p>All of Federal Way is within a UGA as designated by the King County Comprehensive Plan. Lands within the City are characterized by urban development. The City can accommodate the 20-year population and employment forecast; see the discussion in Section II of this Final EIS.</p>
<p>Goal 2. Reduce Sprawl - Reduce the inappropriate conversion of undeveloped land into sprawling, low density development</p>	<p>Land Use policies and regional growth pattern generally; no specific policy.</p>	<p>Federal Way is characterized by urban types and densities of land use. Future growth in the City will be focused in designated areas and will occur at higher densities consistent with the CPP guidance. This land use pattern will facilitate reduction of low density sprawl.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Urban Growth Areas (RCW 36.70A.110)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Designate an urban growth area within which urban growth is encouraged <input type="checkbox"/> Include each city within UGA <input type="checkbox"/> Include areas & densities sufficient to accommodate 20-year growth forecasts <input type="checkbox"/> Include land outside cities if urban in character or adjacent to urban lands. <input type="checkbox"/> Permit urban densities & include greenbelts & open space 	<p>Urban Growth Area LU-26:27 Accommodate the 20-year projections for population and jobs within the UGA with a full range of urban services. The UGA shall be characterized by urban development and capable of being served cost effectively by facilities within 20 years; include all lands within cities, including rural lands and resource lands; be sufficiently free of environmental constraints to support urban development. Include low-density urban separators within the UGA.</p>	<p>The land capacity analysis contained in the Final EIS indicates that, depending on assumptions, Federal Way may have sufficient development capacity to accommodate growth forecasts (13,425 households and 14,805 jobs); deficiencies could occur under conservative market assumptions. The Proposed Plan's policies for <i>Land Use, Capital Facilities and Transportation</i> -- and the fiscal analysis supporting the proposed plan -- indicate that services and facilities can be provided cost effectively.</p>
<ul style="list-style-type: none"> <input type="checkbox"/> Locate urban growth first in urban areas with existing public facility & service capacity, next in urban areas that will be served by a combination of existing & new facilities & services 	<p>Phasing in Urban Growth Area LU-28:30 Growth is directed first to centers & urbanized areas with existing infrastructure capacity; second to areas that can be serviced easily, and last to areas needing major improvements. All jurisdictions should develop growth phasing plans consistent with adopted capital facility plans to maintain an urban area with adequate services and facilities to meet at least the 6-year household and employment targets.</p>	<p>Federal Way is designated as an Urban Center in the CPPs; existing infrastructure and planned extensions over time will accommodate the 20-year growth forecast. The Proposed Comprehensive Plan includes levels of service and 6-year capital facility plans for important services and facilities. Proposed Plan policies address potential phasing of development or other actions in response to short-term deficiencies in services.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p><i>Urban Growth Areas (cont'd)</i></p>	<p><i>Joint Planning FW-13, LU-31:37</i> Counties should provide county-wide services and cities should provide local services; over time, cities should assume local services from special districts. Designate potential annexation areas; adopt annexation criteria; phase annexations with services. Potential annexation areas shall be designated collaboratively around each city; cities may only annex lands within their potential annexation areas. Interlocal agreements shall establish development type, density and standards.</p>	<p>Federal Way provides local services to residents directly (e.g. parks, roads, storm water) or through contract with King County (e.g. police); some services are provided by special districts (e.g. sewer and water). The City has been and will continue to work with special districts to ensure efficient provision of services. A potential annexation area has been designated east of the I-5; Federal Way and King County will cooperatively plan for future uses, densities and services for this area.</p>
<p>Land Use Element Contents (RCW 36.70A.070(1)):</p> <ul style="list-style-type: none"> ■ general distribution, location, extent of uses of land; ■ population densities, building intensities, estimates of future population growth; ■ provide for protection of quality and quantity of groundwater; ■ review drainage, flooding and stormwater runoff and provide guidance for corrective actions 	<p style="background-color: #cccccc;"> </p>	<p>The Comprehensive Plan Land Use Map indicates the general distribution, location and extent of land uses; these are discussed in the EIS.</p> <p>The Land Use Map and <i>Land Use Element</i> describe population and employment densities and contain estimates of future growth. Also see the discussion in the Draft and Final EISs.</p> <p>The <i>Natural Environment Element</i> contains policies and implementation strategies that address ground water quality and quantity.</p> <p>The <i>Natural Environment Element</i> addresses policies and identifies planned implementation programs to address drainage, flooding and stormwater runoff.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Goals 1 and 2, Urban Growth Area requirements, continued</p>	<p><i>Urban Centers FW-14:15, LU-39:50</i> Zone to accommodate minimum 15,000 jobs in 1-1/2 sq. mi. and within 1/2 mile of transit station, average of 50 employees per acre, and 15 households per acre; identify/preserve transit station areas and right-of-way limit parking and single occupancy vehicles and adopt commute trip reduction plans; establish strategies that support pedestrian /bicycle/transit use, achieve target housing density/mix, provide capital improvements, emphasize superior urban design and historic preservation, meet human service needs. Fourteen Urban Centers are designated.</p> <p>Incentives should include preparing non-project EIS for center that can be incorporated in project documents, strategies for land assembly within the center, infrastructure financing strategies, expedient permit and appeals processes.</p>	<p>Three high capacity transit stations are proposed with Federal Way within 1/2 mile of concentrations of employment. The City Center (Core and Frame), which would be the location of a HCT station, would provide zoned capacity for an estimated 14,854 jobs (approximately 41 employees per acre). Mixed-use buildings would include potential for 3,943 dwelling units (an average density of 11 dwelling units per acre); densities could be increased through use of incentives and bonuses. The Transportation Element contains policies and recommends standards that would reduce parking and single-occupant vehicle demand, and would support non-motorized modes of travel. The City has an adopted CTR program. The Proposed Action includes adoption of design guidelines, regulations and incentives that are intended to achieve high quality design.</p> <p>The Land Use Element implementation program recommends preparation of a programmatic EIS for the City Center to facilitate project-level environmental review. The City will address permit process reform as part of its 1996 implementation program.</p>
	<p><i>Urban Residential Areas LU-66:67</i> Establish target numbers of new dwelling units that will be accommodated in the next 20 years; establish targets for new dwelling units, minimum densities for new construction in each residential zone; and for mix of housing types. Establish 20-year targets for employment growth within and outside urban centers; establish minimum densities; commit to fund adequate infrastructure.</p>	<p>The City has established a target of 13,425 dwelling units over the next 20 years. A minimum density requirement will be considered in the 1996 implementation program. The City has established a 20-year target of 14,805 jobs. The Proposed Plan, and capital programs for various services and facilities, are intended to fund infrastructure at adopted levels of service and to support planned growth.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p><i>Goal 2 continued</i></p>	<p><i>Infill Development LU-69</i> Develop local neighborhood planning and design processes to encourage infill.</p> <p><i>Activity Areas FW-17, LU63:65</i> Designate local Activity Areas within the UGA (outside Urban Centers). Locally define boundaries, densities, and uses within activity areas to provide local employment, commercial activities and public facilities; adopt disincentives for SOV use (e.g. parking requirements/charges); encourage bicycle and pedestrian travel; emphasize superior urban design.</p> <p><i>Business/Office Parks LU-70:74</i> Direct offices primarily to Urban Centers; office development outside Centers should occur in activity areas and promote transit and pedestrian use. Transportation and transit service should be adequate; higher densities should be considered where transit is available. Plan to convert business/office parks to mixed use centers.</p>	<p>Much of the City's future growth pursuant to the proposed land use map would occur in the City Center and along Highway 99 through redevelopment. An important goal of the plan is to preserve the integrity of existing residential neighborhoods. Some growth would occur in these areas through infill and redevelopment.</p> <p>The land use map includes mixed-use Community Business and Neighborhood Business areas throughout the City. Design policies include pedestrian orientation.</p>
		<p>The proposed land use map guides considerable office growth to the City Center; continued growth would also occur in existing office/corporate park areas.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Goal 3. Transportation - Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county & city comprehensive plans</p>	<p>Transportation <i>High Capacity Transit (HCT) T-5</i> Urban Centers and mfg/ind centers meeting size/density criteria should be served by HCT; comprehensive plans should reflect future HCT improvement needs (e.g. ROW, stations) and supportive land uses.</p> <p><i>Non-Motorized T-7</i> Comprehensive plans should address pedestrian and bicycle travel.</p> <p><i>Freeways, Highways and Arterials T-8</i> Improvements should help alleviate existing traffic congestion and provide access to new growth areas.</p> <p><i>Level of Service T-9:14</i> LOS is a tool to evaluate concurrency and should consider use of transit, HOV, demand management actions, access to transit and non-motorized travel; establish mode split goals for non-SOV travel to employment centers (varying with density, access to transit, alternative travel modes and congestion levels); identify transportation system improvements, demand management and land use strategies to achieve mode-split goals.</p>	<p>The Proposed Plan is intended to facilitate increased use of public transit future HCT. Three potential HCT stations are identified and land use is coordinated with these locations. The Plan encourages identification and acquisition or reservation of HCT right-of-way and station areas.</p> <p>The Proposed Plan's land use pattern and densities, and proposed changes to commercial zoning designations, are intended to facilitate non-pedestrian and bicycle circulation.</p> <p>The Plan's land use pattern, and improvements identified in the Transportation Element, are intended to reduce the growth in traffic congestion and to provide efficient circulation.</p> <p>Transportation Element policies address level of service, demand management, mode split, and actions to discourage SOV travel and encourage greater use of transit. Policies provide a framework for concurrency management. The land use plan concentrates future growth in higher density areas with access to the regional transportation system.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p><i>Goal 3 continued</i></p>	<p>Reassessment & Financing T-15:19 If transportation adequacy/concurrency can't be met, consider adjusting land use and LOS standards, use all authorized local option transportation revenues, and seek additional state revenues; give high priority to preserve and maintain facilities; structure impact fees to ensure fair share mitigation for new development, but not to cure existing deficiencies; execute interlocal impact fee agreements with adjoining jurisdictions to address inter-jurisdictional traffic impacts; identify (with King County, WSDOT, other cities, PSRC and Metro) regional land acquisition needs and establish a process for prioritizing and siting transportation needs.</p>	<p>The <i>Transportation Element</i> identifies sufficient revenues to fund the 6-year capital improvement program; this assumes voter approval of two bond issues. The <i>Transportation Element</i> also identifies a substantial potential shortfall of revenues for long term (2001-2010) transportation improvements; the Plan also identifies additional potential funding sources. The <i>Land Use and Transportation Elements</i> provide a framework for the City's response to funding shortfalls or other contingencies relative to adequate facility requirements. These include revising levels of service, alternative funding strategies, and reassessing land use. As described in this Final EIS and an Addendum to the Draft EIS (June 1995), the City's future implementation program will include consideration of transportation impact fees to fund a pro rata share of improvements necessitated by new growth; the City will coordinate any such fees with adjacent jurisdictions and affected agencies.</p>
<p>Transportation Element Contents (RCW 36.70A.070(6)):</p> <ul style="list-style-type: none"> ■ land use assumptions used to estimate travel; ■ inventory of facilities and service needs; ■ level of service standards (regionally coordinated); ■ actions to bring facilities up to standards; ■ 10-year travel forecasts based on the plan; ■ system expansion needs to meet demands; 	<p>[This cell is shaded gray in the original document.]</p>	<p>The Proposed Plan's Transportation Element contains the data, assumptions, inventories forecasts, standards, improvements, and other provisions required by GMA.</p> <p>Please also refer to the updated transportation analysis in this Final EIS for a discussion of these Transportation Element components.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Transportation Element Contents</p> <ul style="list-style-type: none"> ■ analysis of funding capability to meet needs & multiyear financing plan; ■ discussion of reassessment of land use or additional funding strategies to meet financing needs; ■ intergovernmental coordination efforts and identification of impacts on adjacent jurisdictions; ■ demand management strategies; and ■ prohibition of development approval if proposal would cause level of service to fall below adopted standards unless strategies or improvements are made to accommodate the development concurrent with development. 	<p>[This cell is shaded gray in the original document.]</p>	<p>[This cell is blank in the original document.]</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Goal 4. Housing - Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities & housing types, & encourage preservation of existing housing stock</p>	<p>Affordable Housing AH 1-5 Plan to meet the housing needs of all economic segments of the community; specify the number of planned units affordable to specified income groups. Demonstrate the ability to accommodate affordable housing within the UGA for all income segments; local actions may include zoning for sufficient densities, and revising regulations and permit processes. Participate in developing housing resources and programs to meet existing needs. Plan for a specified percentage (17-24%) of future housing to meet the needs of various income groups. Apply appropriate local strategies (e.g. land use incentives) to encourage low and moderate income housing. Evaluate existing housing resources that may be lost due to redevelopment, deterioration or public actions; develop strategies to preserve existing low income housing where feasible; provide relocation assistance to displaced low income residents. Monitor residential development (new units constructed, housing types, densities and remaining capacity). Remove regulatory barriers/inconsistencies and provide opportunity for a full range of housing types.</p>	<p>Proposed <i>Housing Element</i> policies are intended to achieve the goals of the GM and CPPs. Proposed affordable housing targets (17% for low and very low income and 24% for moderate income) are consistent with the CPPs. Policies encourage provision of a full range of housing types and sizes; higher densities are intended to provide greater opportunities for affordable housing. Proposed incentives in commercial zoning designations are also directed at affordable housing. Future implementation actions, identified in this Final EIS and an EIS Addendum on proposed Development Regulations (June 1995) -- will also consider changes to development standards, process incentives and regulatory reform actions that could help make housing more affordable. The Proposed Plan recognizes that Federal Way cannot solve the region-wide problem of affordable housing itself; the Plan identifies a range of strategies involving participation and action by public and private groups, agencies and institutions.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Housing Element Contents (RCW 36.70A.070(2)):</p> <ul style="list-style-type: none"> ■ inventory/analysis of existing & projected needs; ■ goals, policies, objectives for housing preservation, improvement, development; ■ sufficient land for various housing types; and ■ provides for needs of all economic segments. 		<p>The <i>Housing Element</i> contains the data, inventories and analysis required by the GMA. The Plan contains a policy framework to facilitate provision of affordable housing.</p> <p>The analysis in this Final EIS indicates the City has sufficient development capacity to accommodate housing targets. Most housing capacity is provided in existing multi-family areas and in mixed-use commercial zones, particularly in the City Center.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Goal 5. Economic Development - Encourage economic development throughout the state that is consistent with adopted comprehensive plans; promote economic opportunity for all citizens of this state, especially for unemployed and disadvantaged persons; & encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, & public facilities.</p>	<p>Economic Development & Finance ED-6:24 Local comprehensive plans should include policies that support retention and expansion of the regional economic base, including policies that: improve business climate; support export industries; local job retention and attraction where appropriate; achieve a balance between economic growth and environmental protection; and address disadvantaged groups. Identify the amount, character and uses of land needed, in 5-year increments, to achieve local job growth goals. Local infrastructure plans (including special districts) should include goals for environmental protection. Identify geographic areas that can be developed or redeveloped into manufacturing industrial areas and coordinate with utility providers to build necessary infrastructure. Modify permit processes to implement regulatory reform.</p>	<p>The Proposed Plan's <i>Economic Development Element</i> is intended to help Federal Way's transition from a suburban, retail-dominated economy to one that is more diverse and in better balance with housing. The Plan contains a 20-year forecast for employment growth; although these have not been disaggregated into 5-year increments, the City intends to monitor progress towards its goals. Achievement of targets is dependent on substantial redevelopment of the City Center as well as continued growth in existing office/corporate parks and business parks; the timing of this growth will depend on extrinsic market forces beyond the City's control. Planning for infrastructure is being coordinated with the City's goals for housing and employment.</p>
	<p>Regional Finance & Governance FW-38:39 King County and the cities shall develop a Regional Financing Plan (by July 1996) establishing priorities for infrastructure improvements (roads, sewer, water, storm water, parks and open space) and including sources for key investments. A Regional Governance Plan shall be developed identifying opportunities for government consolidation, matching service responsibility with fiscal capacity to maintain services at desired levels, and defining regional and local responsibilities. Cities shall enter interlocal agreements with King County to define service levels, land use issues and financing responsibilities for potential annexation areas. Unincorporated urban areas are encouraged to annex or incorporate within 20 years.</p>	<p>The City intends to work with King County and other cities to develop the regional financing and governance plans identified in the CPPs. The Proposed Plan's Land Use Map covers existing City boundaries only at this time. Federal Way will work with King County over the next two years to develop an interlocal agreement and land use and facilities plan for the potential annexation area located east of I-5.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Goal 6. Property Rights - Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.</p>	<p>No comparable policies contained in CPPs</p>	<p>City legal review of proposed policies, program and regulations will consider potential takings violations.</p>
<p>Goal 7. Permits - Applications for both state & local government permits should be processed in a timely & fair manner to ensure predictability.</p>	<p>No comparable policies in CPPs</p>	<p>The future implementation program identified in the Final EIS and the EIS Addendum on Proposed Development Regulations (June 1995) includes actions to implement regulatory reform requirements adopted in the 1995 legislative session and to make permit processes more efficient.</p>
<p>Goal 8. Natural Resource Industries - Maintain & enhance natural resource-based industries, including productive timber, agricultural & fisheries industries. Encourage the conservation of productive forest lands & productive agricultural lands, & discourage incompatible uses.</p>	<p>Land Use Pattern <i>Resource Lands</i> LU-1: LU-5. Protect existing resource lands with long-term commercial significance; encourage compatible land uses; adopt BMPs for mining.</p>	<p>Not applicable.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Goal 9. Open Space & Recreation - Encourage the retention of open space & development of recreational opportunities, conserve fish & wildlife habitat, increase access to natural resource lands & water, & develop parks.</p>	<p>Open Space CC-6:13 The regional open space system should provide physical & visual buffers to separate incompatible uses and define urban growth boundaries; provide active & passive recreation; and/or contain natural areas, habitat lands, natural drainage features and/or other environmental/scenic resources. Jurisdictions should cooperatively identify, protect (using a full range of regulatory and preservation tools), and manage regionally significant open space corridors which form a connected system. Develop coordinated level of service standards for parks and open space.</p>	<p>The Proposed Plan's land use map includes 863 acres of open space, an increase of 165 acres. The City has adopted a parks standard of 10 acres per 1,000 residents. Critical areas (e.g. wetlands, steep slopes, riparian corridors) will also function as part of the City's open space system. Low density residential areas (in the southern portion of the City) will also provide open space and urban separation.</p>
<p>Goal 10. Environment - Protect the environment & enhance the state's high quality of life, including air & water quality, & the availability of water.</p>	<p>Critical Areas Environmental Protection FW-3:4. Protect and enhance natural ecosystems through comprehensive plans, policies and regulations. Manage the built environment to protect, improve and sustain environmental quality while minimizing public and private costs. Manage water resources for multiple beneficial uses.</p> <p>Wetlands CA-1:4. Protect wetlands and buffers; assure no net loss; increase quantity/quality; consider flexible mitigation (systems & corridors)</p> <p>Aquifers CA-5:6. Protect aquifers; implement management plans; adopt best management practices (BMPs). The county and ground water purveyors should jointly prepare recharge area maps and determine which portions of these areas are "critical", and review and implement wellhead protection programs. Land use actions should consider potential impacts on aquifers serving as water supplies; impacts should be mitigated.</p>	<p>The <i>Natural Environment Element</i> of the Proposed Plan contains policies and implementation strategies for all "critical areas" located in Federal Way. Future implementation actions, identified in this Final EIS and the EIS Addendum on Proposed Development Regulations (June 1995) includes refinement to existing critical areas regulations (wetlands, wildlife habitat) and consideration of new controls for aquifer recharge areas.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p><i>Goal 10 continued</i></p>	<p><i>Fish & Wildlife Habitat CA-7:11. Identify/protect critical habitat & species; protect natural drainage systems & habitat networks betw. jurisdictions; maintain water quality (control runoff & apply BMPs) Frequently Flooded Areas CA-12 Protect natural flood storage & conveyance; plan and regulate to reduce flood impacts. Geologic Hazard Areas CA-13 Protect steep slopes, landslide hazards; erosion hazards, coal mine hazards & seismic hazards Air & Water Quality A-14:15 Promote air quality; implement Puget Sound Water Quality Management Plan.</i></p>	
<p>Goal 11. Citizen Participation Encourage the involvement of citizens in the planning process & ensure coordination between communities & jurisdictions to resolve conflicts.</p>	<p>No comparable policies contained in CPPs</p>	<p>Ongoing citizen involvement has been a basic element of Federal Way's CityShape Process; a summary of the comprehensive planning process is contained in the Draft EIS.</p>
<p>Goal 12. Public Facilities & Services - Ensure that those public facilities & services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy & use without decreasing current service levels below locally established minimum standards.</p>	<p><i>Contiguous & Orderly Development, & Provision of Urban Services CO-1:16</i> Identify the full range of urban services required to support growth and how they will be provided. Coordinate service provision, including surface water management and water supply. Implement conservation programs for water and electricity. Encourage water reuse and consider decentralized waste water treatment systems. Urban water and sewer systems are preferred in the Urban Area identified for the next 10 years' growth. Community drainfields and water systems are preferred for the Urban Area identified for growth beyond 2002. Sewer and water systems should not be extended in rural areas or resource lands except to address health problems. Urban water system extensions are not preferred in rural areas.</p>	<p>The Proposed Plan's <i>Capital Facilities Element</i> addresses the full range of urban services and facilities required to support planned growth, including sewer, water, schools, police, fire, parks and surface water management. All urban services are available or can be extended efficiently. Capital facility plans are included and indicate the ability to fund improvements necessary to accommodate growth. The Plan also identifies a range of actions the City would pursue in the event that facilities were not adequate to support growth. A concurrency management system if discussed in the Transportation Element. Implementation actions that are part of the Proposed Action include adoption of an impact fee for school facilities.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Capital Facilities Plan Element Contents (RCW 36.70A.070(3)):</p> <ul style="list-style-type: none"> ■ inventory of existing capital facilities showing locations and capacities; ■ forecasts of future need; ■ location/capacity of proposed new facilities; ■ 6-year plan to finance needed facilities within projected funding capacities, including sources of funds; and ■ requirement to reassess land use element if funding falls short of projections. 		<p>The <i>Capital Facilities Element</i> contains the inventories, forecasts, improvement programs and capital financing plans required by GMA. The Plan contains a requirement to revise levels of service and/or reassess the land use plan if facilities cannot be provided.</p>
<p>Utilities Element Contents (RCW 36.70A.070(3)):</p> <ul style="list-style-type: none"> ■ general location and capacity of all existing & proposed utilities 		<p>The <i>Utilities Element</i> of the Plan addresses all private utilities provided within the City. The Plan identifies locations of facilities, assesses capacity and needs, and provides policy guidance for utility actions.</p>

Table 3 (Continued)

GMA Goal/Requirement	Countywide Planning Policy	Comprehensive Plan Approach, Policies & Implementation Program
<p>Goal 13. Historic Preservation Identify & encourage the preservation of lands, sites, & structures that have historical or archaeological significance.</p>	<p>Community Character & Open Space <i>Historic Resources CC-1,2</i> Identify, evaluate and protect historic resources; protect/enhance historic resources through land use planning and regulations</p> <p><i>Urban Design C-3</i> Promote high quality design and site planning</p> <p><i>Human/Community Services CC-4,5</i> Essential community and human service needs should be identified and included in land use, transportation & capital improvement plans</p>	<p>The Land Use Element contains policies for identifying, designating and preserving the City's historic resources, views and community character.</p> <p>The <i>Land Use Element</i> of the Proposed Plan, and regulations and zoning code revisions that are included in the proposed Action, address high quality through policies, administrative guidelines and development incentives.</p> <p>Haven't seen this anywhere in Plan.</p>

Existing Sound Levels

Existing evening peak-hour sound levels were measured in Federal Way on June 7, 1995 as part of this supplemental evaluation. Measurement locations were selected to represent noise-sensitive areas near the different arterial classifications studied in the traffic analysis. Measurements were 15 minutes in duration and taken at distances representing building setbacks from the nearest roadway. Although traffic was the dominant noise source at each measurement location, numerous aircraft over flights contributed to the overall sound environment. Aircraft traffic approached Sea-Tac International Airport from the south during the measurement period. Weather for the measurement period consisted of light northwesterly winds, temperatures in the 70's, and a slight cloud cover.

Measurement 1 was taken at the Northwest Church at 34800 21st Avenue SW, 60 feet from the centerline. This location represents typical residential setbacks along 21st Avenue SW. 21st Avenue SW is a four-lane collector arterial with a posted speed limit of 35 mph.

Measurement 2 was taken along 5th Avenue South in the Campus Green residential community. Posted speed limits of 25 mph and two lane roadways characterize the neighborhood collector. A measurement distance of 60 feet from the centerline represents typical building setbacks in this area.

Measurement 3 was taken along 1st Avenue South, north of SW 312th Street, in the Parkwood Campus subdivision. Posted speed limits of 35 mph and two lane roadways characterize this minor arterial. The sound level meter was placed 82 feet from the centerline, the offset distance from 1st Avenue South to newly built homes.

Measurement 4 was taken at 30602 Pacific Highway South at the Chateau on the Lake Apartments across the highway from Federal Way High School. This apartment complex is located 120 feet from the centerline of Pacific Highway South, a five lane principal arterial with a posted speed limit of 40 mph.

A fifth measurement was taken in Belmor Park, a retirement community trailer park paralleling Interstate 5. The meter was placed in a cul-de-sac at the end of Oakland Hills Boulevard at a distance of approximately 150 feet from the nearest southbound traffic, representing the typical trailer setback from the freeway.

**Table 4
Existing Evening Commute Outdoor Sound Levels (dBA)**

LOCATION	Leq	L02	L08	L25	L90
1. 34800 21st Ave. SW	63.3	69.3	67.0	64.5	54.7
2. 526 S. 323 Place	55.9	64.2	60.0	55.8	45.5
3. 30819 1st Place S.	59.0	65.3	62.0	59.8	51.8
4. 30602 Pacific Hwy S.	66.0	71.3	68.9	67.3	58.4
5. 304 Oakland Hills Blvd.	69.3	72.3	71.2	70.0	67.0

For purposes of comparison, the City's noise standards are shown in Table 5.

**Table 5
Washington State/Federal Way Environmental Noise Standards**

Land Use at Noise Source	Land Use at Receiving Property		
	Residential (day/night)	Commercial	Industrial
Residential	55/45	57	60
Commercial	57/47	60	65
Industrial	60/50	65	70

During the sound level measurements, vehicles were counted and classified to determine percentages of light-, medium- and heavy-duty vehicles. These vehicle classifications were used in a traffic noise model (described in the impact section) to evaluate the traffic conditions observed during the peak-hour noise measurements. The sound levels calculated with this model were within 2 dBA of the measured sound levels.

Table 4 summarizes the 15-minute evening commute sound level measurements. Examination of the measurements indicates that existing sound levels at Receptors 1, 3, 4, and 5 are at or above the 59-dBA sound level the City noise ordinance approximates for commercial sources affecting residential property. Only Receptor 2 along 5th Avenue South experienced sound levels below the City's criteria. Measured sound levels at Receptors 1 - 4 would meet FHWA's 67 dBA sound level criteria for residential receiving property while Receptor 5 exceeds this criteria.

Because Federal Way is in line with the flight path to and from Seattle-Tacoma International Airport (Sea-Tac Airport), aircraft noise is a significant contributor to the local sound environment. Noise exposure maps have been prepared for Sea-Tac Airport (Port of Seattle, 1993) that display annual average Ldns for 1991 and 1996 airport operations (see Draft EIS Appendix C). The 1991 noise contours indicate that airport traffic generates an annual average Ldn of about 69 dBA at S 272nd Street and SR-99; airport noise decreases to about 65 dBA at Steel Lake. Although the noise contours are not provided for Ldns lower than 65, it is likely that airport noise remains above an Ldn 60 dBA in most of the City. The areas where the Ldn exceeds 65 dBA are considered incompatible with residential land uses based on FAA and HUD noise criteria.

Impacts of the Proposed Action

Traffic Noise

The transportation implications of the City's Comprehensive Plan were evaluated city-wide based on vehicle-miles-traveled (VMT), vehicle-hours-traveled, and average speeds. The City tabulated VMT over the entire city for four road types: neighborhood collectors, collector arterials, minor arterials, and principal arterials. Average noise increase that would occur due to increased traffic on each of these road types were calculated for each future alternative.

Because of the logarithmic scale used to describe noise, a doubling of the noise source strength (i.e., the traffic volume) produces a 3 dBA increase in average roadway noise. Average sound levels due to traffic sources decrease with distance at a rate of 3-4.5 dBA per doubling of the distance from the road. Peak sound levels from a discrete event, such as from an individual vehicle's brake screech or tire squeal, attenuate at 6 dBA per doubling of the distance. Conversely, moving half the distance closer to a road increases sound levels by 3-4.5 dBA and 6 dBA for roadway and point sources, respectively.

In addition to changes in traffic volumes and speeds, the types of vehicles on the road affects traffic noise. If an area that is currently residential is rezoned to accommodate commercial or light-industrial land uses, there may be an increase in the percentage of truck traffic. This would normally increase traffic noise even if the total traffic volume does not increase appreciably.

To determine the effect the Proposed Comprehensive Plan would have on traffic noise in Federal Way, the evaluation also used a Federal Highway Administration traffic noise prediction procedure. This model considers roadway and receptor geometry, traffic volumes and speeds, the types of vehicles on the road and topographic features to calculate hourly equivalent sound levels due to vehicle traffic. Peak hour Leqs were calculated at the four measurement locations affected by noise from City streets to provide an indication of the magnitude of anticipated noise increases.

Aircraft Noise

The Port of Seattle's calculated noise contours for 1996 operations indicate aircraft noise would decrease compared with the 1991 noise levels. This noise reduction is attributed to the gradual replacement of older technology aircraft with newer and quieter "Stage 3" aircraft. Annual average Ldns near S. 272nd Street and SR-99 are expected to be approximately 64 dBA, or 5 dBA lower than the Port's 1991 noise contours. The calculated 65-dBA contour line is approximately 2/3 mile farther north than in 1991 (near S 284th Street).

The Puget Sound Regional Council (PSRC) and the Port of Seattle released a Draft Environmental Impact Statement in January 1992 that evaluated a number of alternatives for increasing airport capacity in the Puget Sound area (PSRC, 1992). The preferred alternative included the construction and operation of a third north-south runway at Sea-Tac airport. Noise contours prepared for the EIS identify annual average Ldns for the year 2020 for the various alternatives. Even with the development of a third runway, calculated sound levels are 5-10 dBA lower than those calculated for 1991. The 65 dBA contour extends as far south as Highline Community College, well-north of the Federal Way City limits and about 2 miles farther north than today. Although the 60-dBA contour is not drawn, interpolation between the 55 and 65 dBA lines suggests that most of the City would lie between the 60 and 55 dBA contour lines in 2020. Based on FAA criteria for land use compatibility, this study indicates aircraft noise should not preclude future residential development anywhere in the City of Federal Way. Nonetheless, avoiding residential development under the dominant flight path (approximately centered on SR-99 through Federal Way) would minimize noise impacts.

Table 6 identifies the changes in VMT anticipated in 2010 with Concept 1 (which approximates No Action). In general, Table 6 indicates traffic noise would increase by 1-2 dBA on neighborhood collectors and collector arterials, and less on busier roads. This is not likely to be a noticeable change in traffic noise, but would contribute incrementally to higher ambient sound levels.

Table 6
Anticipated Changes in Traffic Volumes and Traffic Noise Levels

Comparisons with Existing Conditions	Neighborhood Collectors	Collector Arterials	Minor Arterials	Principal Arterials	Total
CONCEPT 1					
% increase in VMT	0.41	0.39	0.17	0.16	0.31
noise increase	1.5	1.4	0.7	0.6	1.2
PROPOSED PLAN					
% increase in VMT	0.48	0.47	0.20	0.09	0.31
noise increase	1.7	1.7	0.8	0.4	1.2

The evaluation also calculated sound levels at the four measurement locations affected by City streets using the Federal Highway Administration traffic noise prediction procedure. As indicated in Table 7, calculated sound levels at the four modeled receptor locations would increase by up to 4 dBA with Concept 1. Receptor 2 along 5th Avenue South would experience the largest increase of (4 dBA) because traffic volumes would more than double. Based on EPA criteria, the noise impacts at all four locations would be *slight* because the increase in noise would be less than 5 dBA.

To meet anticipated population growth, a number of transportation infrastructure improvements are scheduled (see the Transportation section of the EIS). Although widening of existing roads generally has a small impact (0-3) on traffic noise levels at adjacent locations, the construction of new roads often substantially increases environmental sound levels (5-15 dBA).

Concept 1 increases housing in the north-south corridor most affected by aircraft activity. Noise impacts could be mitigated, however, with special building codes oriented toward noise attenuation (e.g., King County Ordinance 8184).

Table 7
Calculated Peak-Hour Commute Sound Levels (dBA)

Location	1990 Existing	2010 Concept 1	2010 Proposed Plan
1. 34800 21st Ave. SW	60	62	62
2. 526 S. 323 Place	53	57	54
3. 30819 1st Place S.	61	61	61
4. 30602 Pacific Hwy S.	63	64	64

Proposed Plan

Table 6 identifies the VMT anticipated in 2010 with the adoption of the Proposed Plan. Compared with existing conditions, Table 6 indicates traffic noise would increase by 1-2 dBA on neighborhood collectors and collector arterials, and less on busier roads. As previously discussed, this is not likely to be a noticeable change in traffic noise but would contribute incrementally to higher ambient sound levels.

Calculated sound levels at the four measurement locations presented in Table 7 provides a more specific evaluation of locations within the study area. With the Proposed Plan, calculated sound levels would be equal to or less than those with Concept 1 at the four modeled receptor locations due primarily to lower traffic volumes.

Calculated traffic noise levels at all four locations would be less than FHWA's traffic noise abatement criteria for residential land uses. This implies that traffic noise mitigation would not be warranted at these locations with the proposed plan.

Mitigation Measures

No additional mitigation measures beyond those identified in the Draft EIS for Concepts 2 and 3 are required.

3. Transportation

Affected Environment

Conditions described in the Draft EIS have not changed significantly. The reader should refer to the Affected Environment subsection of the Draft EIS for information on travel patterns, the city street system, traffic volumes, problem locations, level of service standards, and similar characteristics.

Needed Transportation Improvements

City of Federal Way 1995-2010 Transportation Improvement Program (TIP)

The adopted 1995-2010 TIP for the City of Federal Way includes special studies, annual maintenance and minor capital improvement projects, major capital street improvements, and non-motorized capital improvements. In 1995, the total estimated cost of these programs is approximately \$9.07 million. Over the next 6-year period, a total estimated cost of \$71.4 million in transportation improvements have been identified. Over the 1995-2010 period, improvements under Federal Way jurisdiction would total nearly \$173.7 million.

Significant Impacts

The impact analysis from the Draft EIS has been updated to include the Proposed Plan. This included adjusting the EMME/2 travel model to compare the proposal to the three concepts evaluated in the Draft EIS.

Travel Demand Forecasting Methodology

Federal Way has developed an "EMME/2" travel demand forecasting model, which simulates existing and future travel patterns based on current and future growth trends. The model was used to estimate future traffic volumes for major arterials within the Federal Way planning area, and has been applied to the proposal and alternatives.

Trip Generation

In analyzing travel demand, trips are classified as either "productions" or "attractions." For most trips, the trip-maker's home is either the origin or destination: trips are "produced" at the home-end of the trip, and are "attracted" to the non-home end. The two classifications correspond to trips produced by residential uses (productions) and

those attracted by retail and/or commercial development (attractions). Each parcel of land generates traffic based on its type of use. Trip productions and attractions are estimated based on the type and intensity of land use activity at each end of the trip. For example, residential areas generate vehicle trips based on the number of dwelling units ("homes") on a given parcel of land.

The number of dwelling units in each traffic zone was estimated for each land use concept. The dwelling unit estimates were then converted to daily trip productions using a range of trip generation factors based on type of household, family income and other factors. Similarly, traffic to and from commercial areas was based on the number and type of employees estimated for each TAZ.

Existing and future dwelling units and employee estimates used to model traffic conditions in Federal Way are identified in the Project Description and Population, Housing, and Employment sections of the Final EIS.

Table 8 summarizes estimated and existing and future trip productions and attractions resulting from each land use alternative. Figure 14 provides a graphic comparison of trip generation between existing conditions in 1990 and the 2010 future land use concepts. In general, between 1990 and the 2010, an increase in total person trips of approximately 40 percent will result from anticipated growth. There are no significant differences in total trips between Concepts 1 and 2. The total number of trips generated will increase by 51 percent between Concepts 3 and 1990 existing conditions. Under the Proposed Land Use concept however, the total number of trips generated will increase by 45 percent.

Table 8
Trip Generation Summary in Federal Way
P.M. Peak Hour

Alternative	Total Productions	Total Attractions	Total Trips
1990 Existing Conditions	363,031	306,584	669,615
Current TIP Funded/Concept 1	526,343	410,123	936,467
Concept 1	526,343	410,123	936,467
Concept 2	515,655	430,715	946,369
Concept 3	531,272	480,305	1,011,577
Recommended Plan	517,571	454,803	972,374

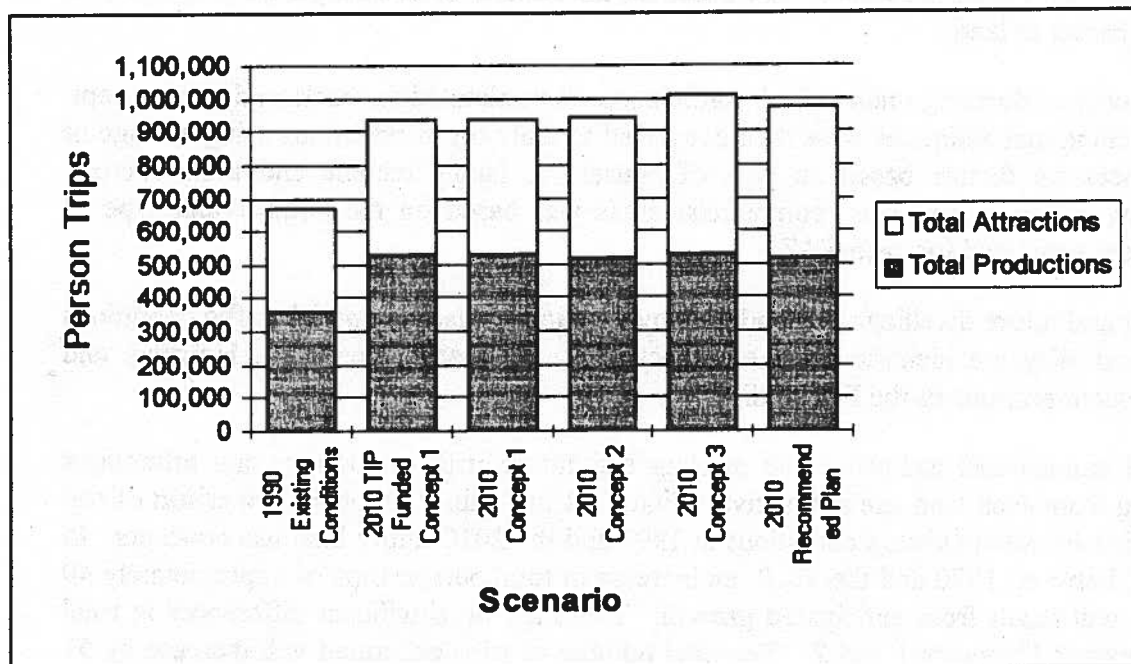
Source: City of Federal Way, EMME/2 Travel Demand Forecasting Model, 1993

Notes: The 2010 TIP Funded and Concept 1 represent the same land use scenario. However, the 2010 TIP funded alternative includes only the existing transportation system plus the following improvements:

1. S 356th Street, between S 21st Ave and S 1st Ave, widened from 2-lanes to a 5-lane cross section.
2. Enchanted Parkway, between SR 99 and S 352nd Street, widened from 2-lanes to a 5-lane cross section.
3. Improved timing and inter-connect signal systems on portions of SR 99 and S. 320th Street.

Figure 14

Trip Generation Comparison



Impacts on Travel Patterns

Table 9 summarizes travel characteristics within Federal Way under each land use concept using total vehicle miles traveled (VMT), an indicator of travel demand which accounts for both the distance and volume on a particular roadway, and vehicle hours traveled (VHT), a gross indicator of system travel time.

Table 9

**Comparison of Federal Way Travel Characteristics
P.M. Peak Hour**

Alternative	Total VMT	Percent Increase from 1990	Percent Increase from 2010 TIP	Total VHT	Percent Increase from 1990	Percent Increase from 2010 TIP
1990 Existing Conditions	107,608	n/a	n/a	3,992	n/a	n/a
TIP Funded/Concept 1	142,373	32%	n/a	6,246	56%	n/a
Concept 1	151,362	41%	6%	5,833	46%	-7%
Concept 2	150,997	40%	6%	5,847	46%	-6%
Concept 3	154,810	44%	9%	6,139	54%	-2%
Proposed Plan	153,941	43%	8%	6,034	51%	-3%

Source: City of Federal Way, EMME/2 Travel Demand Forecasting Model, 1993

Total VMT under Concepts 1 and 2 will increase by approximately 6 percent, while total VHT will decrease by approximately 7 percent. With Concept 3, total VMT will increase by 9 percent. VHT is reduced under the three land use concepts relative to the TIP Funded/Concept 1 (see note to Table 32) as a result of the "capacity-related" transportation improvements assumed under the land use concepts to reduce congestion, increase overall travel speeds, and reduce travel times. Under the Proposed Plan, VMT will increase by 8 percent and VHT will decrease by 3 percent as compared to the TIP Funded/Concept 1 alternative.

Draft EIS Appendix E (Tables 1B through 3B) provides a detailed summary and comparison of specific travel characteristics by arterial functional classification and operating levels of service. A brief summary of these results is provided in Table 10.

With the TIP Funded Concept 1, the number of lane-miles of congested arterial and collector roadways in Federal Way will increase from 31.9 to 52.3 lane miles, an increase of 64 percent from 1990. The land use concepts would result in reductions of 34 percent, 33 percent, and 19 percent (for Concepts 1, 2 and 3 respectively) as compared to the TIP Funded/Concept 1 alternative. In addition, with any of the concepts, average speeds will increase (on average over 20 percent) on congested roadways compared to the TIP Funded/Concept 1.

Under the Proposed Plan, congested VMT and VHT will decrease by 69 percent and 65 percent respectively. Thus, savings in travel time and delay, and a reduction in vehicle emissions in the Federal Way planning area, is projected with the proposed plan that includes the transportation mitigation improvements identified in this Final EIS.

Table 10
Congested Roadways in Federal Way
P.M. Peak Hour

Alternative	Lanes Miles	VMT	VHT	Average Speed
1990 Existing Conditions	31.9	25,992	1,273	21.5
2010 TIP Funded/Concept A	52.3	47,492	2,770	16.0
Concept A	34.4	29,617	1,585	19.8
Concept B	35.3	30,378	1,636	19.8
Concept C	42.3	36,408	2,002	19.0
Proposed Plan	39.2	32,871	1,795	n/a

Source: City of Federal Way, EMME/2 Travel Demand Forecasting Model, 1993

Note: Congestion is defined by the arterial v/c ratio exceeding 0.90.

Impacts on Regional Transportation Connections

A screenline is an imaginary line cutting across streets and highways serving a particular direction or corridor of travel into and out of an area. A comparison of total traffic assigned to these roads under various conditions provides a good indication of the relative impact of alternative growth assumptions on key travel corridors.

Figures 15 and 16 indicate the locations of the screenlines. Table 11 summarizes the levels of service and compares the total p.m. peak hour travel across each screenline. Regional transportation facilities in the Federal Way planning area are indicated by two screenlines: EW1 - crossing SR 99 and I-5 south of S 272nd Street; and EW5 A - crossing SR 99, SR 161, and I-5 south of S 348th Street.

At EW1, the v/c ratio increases from 0.67 (LOS A-D) in 1990 to 0.80 (LOS E) in 2010, considering the Concept 1 land use plus the TIP funded transportation improvements. Total p.m. peak hour travel across this screenline increases by 20 percent. Under the

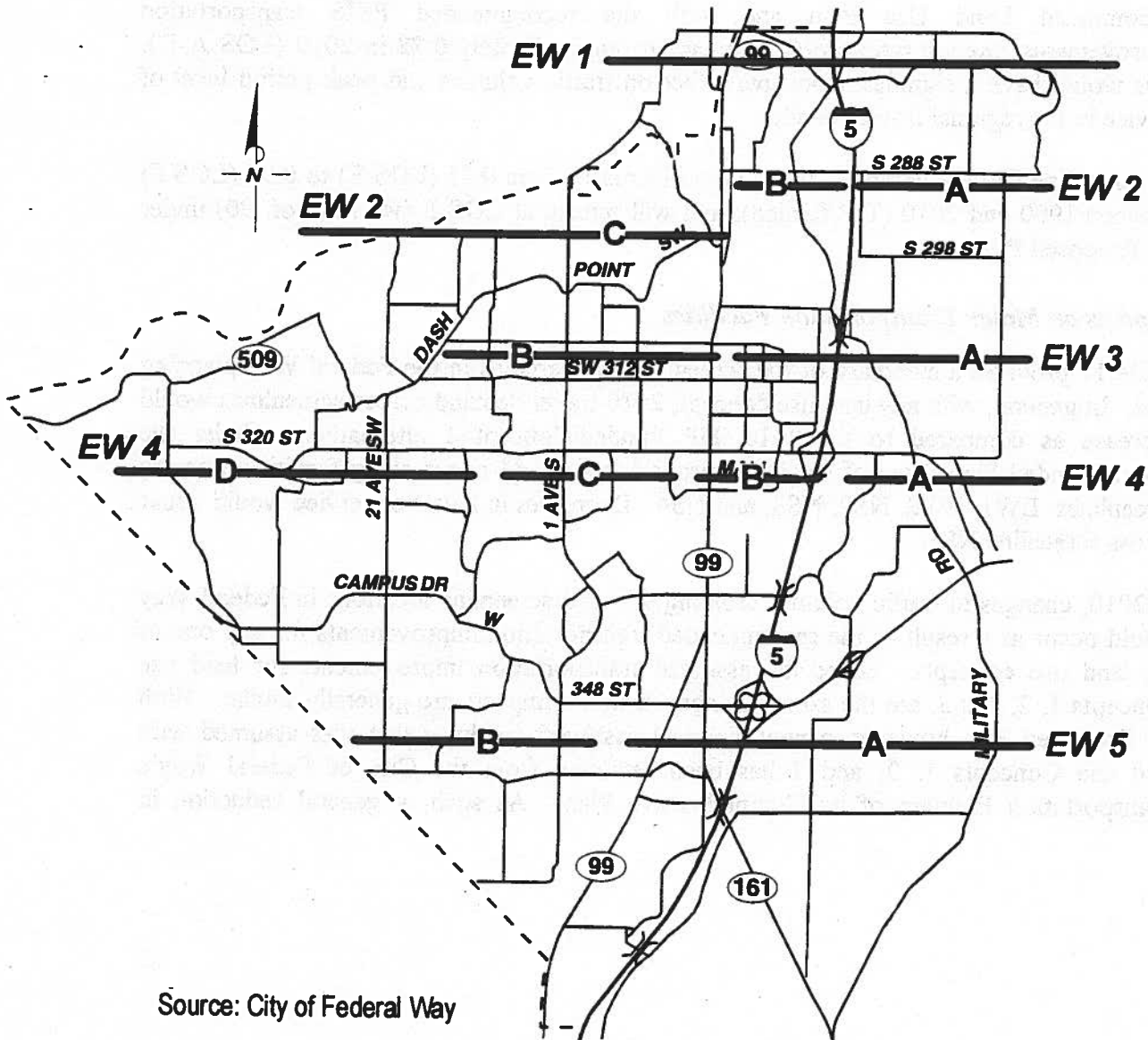
Recommend Land Use Plan and with the recommended FEIS transportation improvements, the v/c ratio would decrease to approximately 0.72 in 2010 (LOS A-D). This would have a significant positive effect on traffic volumes and peak period level of service in the regional travel corridor.

At screenline EW5 A however, the v/c ratio increases from 0.81 (LOS E) to 0.95 (LOS F) between 1990 and 2010 (TIP funded), and will remain at LOS F (v/c ratio of .90) under the Proposed Plan.

Impacts on Major Transportation Facilities

Table 11 provides a summary of the screenline comparisons in the Federal Way planning area. In general, with any land use concept, 2010 travel demand across screenlines would decrease as compared to the 2010 TIP Funded/Concept 1 alternative. Under the Recommended Plan, level of service improvements would occur along facilities crossing screenlines: EW1, EW2, NS2, NS3, and NS4. Decreases in levels of service would occur across screenline NS5.

In 2010, changes in traffic volumes crossing selected screenline locations in Federal Way would occur as a result of the recommended transportation improvements for any one of the land use concepts. Since the assumed transportation improvements for land use Concepts 1, 2, and 3, are the same, changes in traffic impacts are generally similar. With the Proposed Plan however, a new diagonal east/west roadway that was assumed with land use Concepts 1, 2, and 3 has been removed from the City of Federal Way's Transportation Element of its Comprehensive Plan. As such, a general reduction in



Source: City of Federal Way

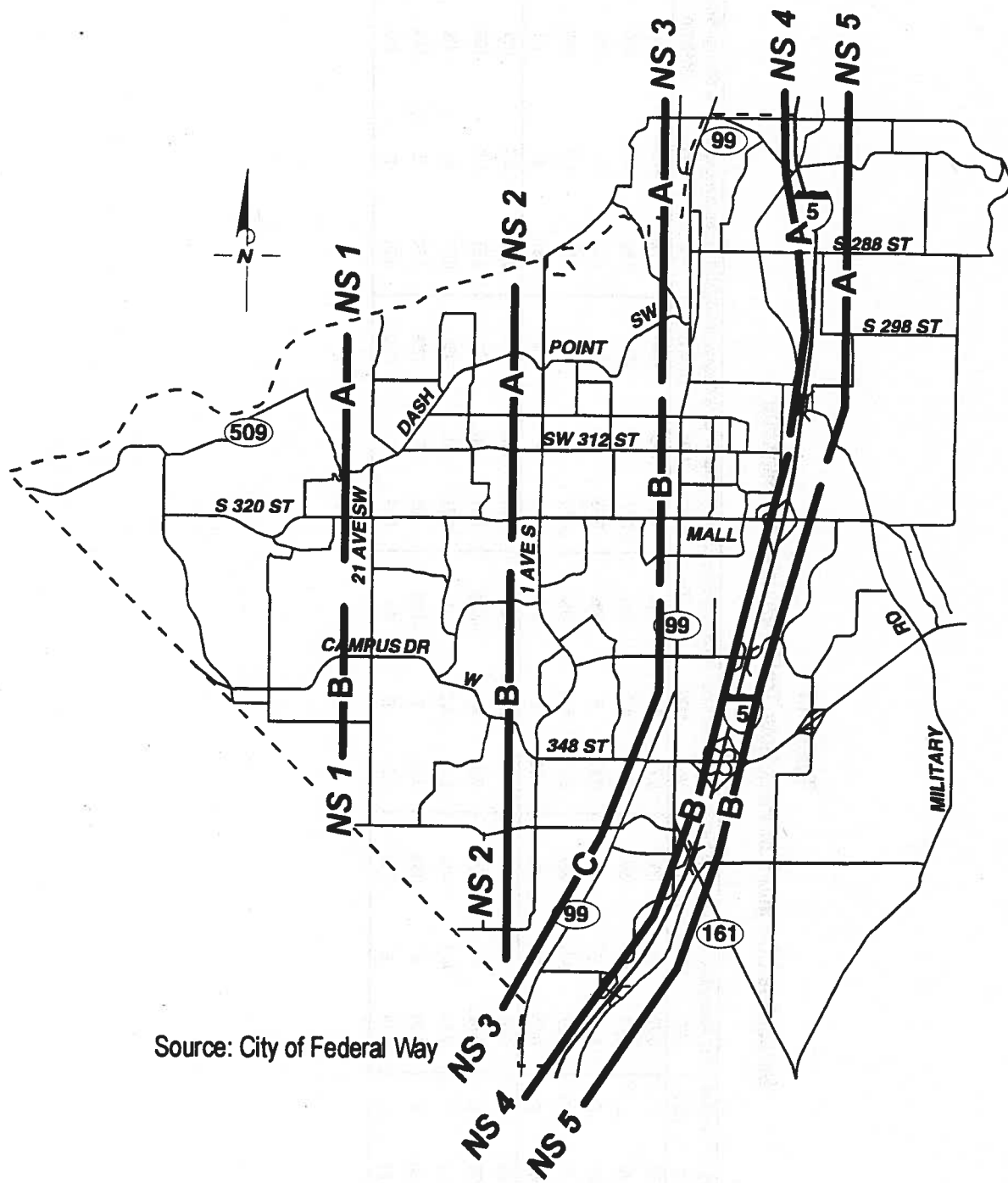


From Vision to Plan

Figure 15

East-West Screenlines

Federal Way
Comprehensive
Plan EIS



Source: City of Federal Way

Figure 16

North-South Screenlines

Federal Way
Comprehensive
Plan EIS

**Table 11
Screenline LOS and P.M. Peak Hour Traffic Volume Comparisons**

Screenlines	1990 Existing Conditions		2010 TIP Funded		2010 Alternative A		2010 Alternative B		2010 Alternative C		2010 Recommended Plan		2010 TIP	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
EW1	0.67	A-D	0.80	E	0.72	A-D	0.71	A-D	0.71	A-D	0.72	A-D	0.72	A-D
EW2	0.62	A-D	0.76	E	0.67	A-D	0.67	A-D	0.67	A-D	0.67	A-D	0.67	A-D
EW3	0.75	A-D	0.87	E	0.82	E	0.82	E	0.83	E	0.81	E	0.81	E
EW4	0.60	A-D	0.75	A-D	0.67	A-D	0.67	A-D	0.69	A-D	0.65	A-D	0.65	A-D
EW5	0.70	A-D	0.84	E	0.78	E	0.79	E	0.80	E	0.81	E	0.81	E
NS1	0.55	A-D	0.60	A-D	0.52	A-D	0.51	A-D	0.51	A-D	0.52	A-D	0.52	A-D
NS2	0.70	A-D	0.76	E	0.62	A-D	0.60	A-D	0.61	A-D	0.63	A-D	0.63	A-D
NS3	0.64	A-D	0.97	F	0.71	A-D	0.69	A-D	0.71	A-D	0.71	A-D	0.71	A-D
NS4	0.92	F	1.00	F	1.00	F	1.02	F	1.05	F	0.90	E	0.90	E
NS5	0.61	A-D	0.67	A-D	0.76	E	0.76	E	0.78	E	0.76	E	0.76	E

Source: City of Federal Way

capacity in the east/west arterial roadway system will result with the removal of this significant roadway improvement. Diversion of traffic onto S 320th Street, Campus Drive SW, SR 99, and 1st Avenue S will occur as a result of eliminating this new east/west connector roadway.

Although the removal of the east/west connector from the Federal Way's Comprehensive Plan may affect individual roadway facilities in the immediate vicinity, the demand for east/west travel in this general corridor will not change as a result of this new roadway network, and therefore, travel across screenlines will not be affected significantly. The following paragraphs outline shifts in screenline locations comparing the Recommended Plan with the 2010 TIP Funded/Concept 1 alternative.

Significant increases in p.m. peak hour traffic as a result of the Recommended Plan would occur on the following screenlines (affecting major arterials crossing screenlines):

- Screenline NS3 B which includes S. 320th Street west of SR 99 (a 17 percent increase in p.m. peak hour volumes; resulting in a decrease in LOS from LOS A-D to LOS E), and
- Screenline NS5 which includes Military Road, S. 277th Street, S. 288th Street, S. 320th Street, S. 348th Street and SR 161 east of I-5 (a 7 percent increase in p.m. peak hour volumes; resulting in a decrease in LOS from LOS A-D to LOS E).

Significant decreases in p.m. peak hour traffic would occur on the following screenlines as a result of the Recommended Plan (assuming recommended mitigation):

- Screenline EW2 B which includes Military Road, 34th Avenue S. and 68th Avenue S. (a 8 percent decrease in p.m. peak hour volumes; however, no impact in screenline LOS),
- Screenline EW4 C which includes 1st Avenue S. and 11 Avenue S (a 10 percent decrease in p.m. peak hour volumes; no impact in level of service),
- Screenline EW4 D which includes 47th Avenue SW and 21st Avenue SW south of S. 320th Street (a 10 percent decrease in p.m. peak hour volumes; no impact in level of service),
- Screenline NS2 A which includes S. 320th Street and Dash Point Road west of 1st Avenue S. (a 12 percent decrease in p.m. peak hour volumes; improvement in level of service from LOS E to LOS A-D),
- Screenline NS2 B which includes Campus Drive and S. 356th Street west of 1st Avenue S. (a 22 percent decrease in p.m. peak hour volumes; no impact in level of service),
- Screenline NS4 A which includes S. 272nd Street and S. 288th Street west of I-5 (a 24 percent decrease in p.m. peak hour volumes; no impact in level of service), and
- Screenline NS4 B which includes S. 320th Street west of I-5 (a 25 percent decrease in p.m. peak hour volumes; improvement in level of service from LOS F to LOS D).

Impacts on Transit/Ridesharing/TDM/Mode Share and HOV Facilities

Table 12 summarizes the 2010 mode split for various trip types in the Federal Way planning area. Although travel demand will increase, the proportion of travel by transit will not increase by the year 2010; it is expected to remain at approximately 2 percent for home-based work trips. High capacity transit would not affect this significantly by 2010; changes in subsequent years could be more substantial. The mode share for travel by transit in Federal Way is significantly less than areas outside Federal Way for all types of trips.

The carpool mode share, however, is assumed to increase by 3 percent between 1990 and 2010 with any of the proposed land use alternatives as a result of recommended carpool/HOV facility improvements in Federal Way. Carpool mode share estimates are comparable to areas outside Federal Way.

Table 12

2010 Mode Split Summary

Trip Type	Federal Way			Outside Federal Way		
	Auto	Carpool (2 or more persons)	Transit	Auto	Carpool (2 or more persons)	Transit
Home Based Work	78%	20%	2%	68%	22%	10%
Home Based Other	52%	48%	0%	45%	51%	4%
Non Home Based	73%	27%	0%	71%	28%	1%

Source: City of Federal Way, EMME/2 Travel Demand Forecasting Model

Impacts on Nonmotorized Transportation

With any of the alternatives, additional pedestrian and bicycle facilities would be constructed to encourage the use of nonmotorized modes of transportation. Denser mixed use areas would be built in conjunction with pedestrian "friendly" boulevards and corridors in each land use concept. The City should pursue efforts in the context of economic realities, to continue to plan, build, and reconstruct nonmotorized facilities throughout the City. Limiting such facilities only to new mixed use areas would also limit the potential for increased use of nonmotorized travel.

Impacts on Water/Rail/Air Transportation

No significant impacts would result to water, rail, or air transportation systems in the Federal Way planning area.

Summary of Transportation Impacts

The impacts of the Proposed Plan will generally be similar to land use Concepts 2 and 3 evaluated in the Draft EIS. By 2010, the Recommended Plan would generate approximately 972,400 p.m. peak hour trips, approximately midpoint between peak hour trips generated by land use Concepts 2 and 3. Compared to Concept 1, the Recommended Plan would generate nearly 4 percent more p.m. peak hour trips.

A major conclusion of this FEIS is that the implementation of the Proposal or Concepts 2 or 3 with the proposed transportation mitigation measures will result in less congestion and better levels of service, as compared with the "No-Action" alternative that only considers TIP funded transportation improvements. Table 10 indicates an estimated 52 lanes miles of arterials under the 2010 TIP Funded alternative are defined as congested facilities, compared with only 39 lane miles under the Recommended Plan. In addition, the Proposed Plan will exhibit 30 percent less congested vehicle-miles of travel and 35 percent less vehicle-hours of travel as compared with Concept 1.

Mitigation Measures

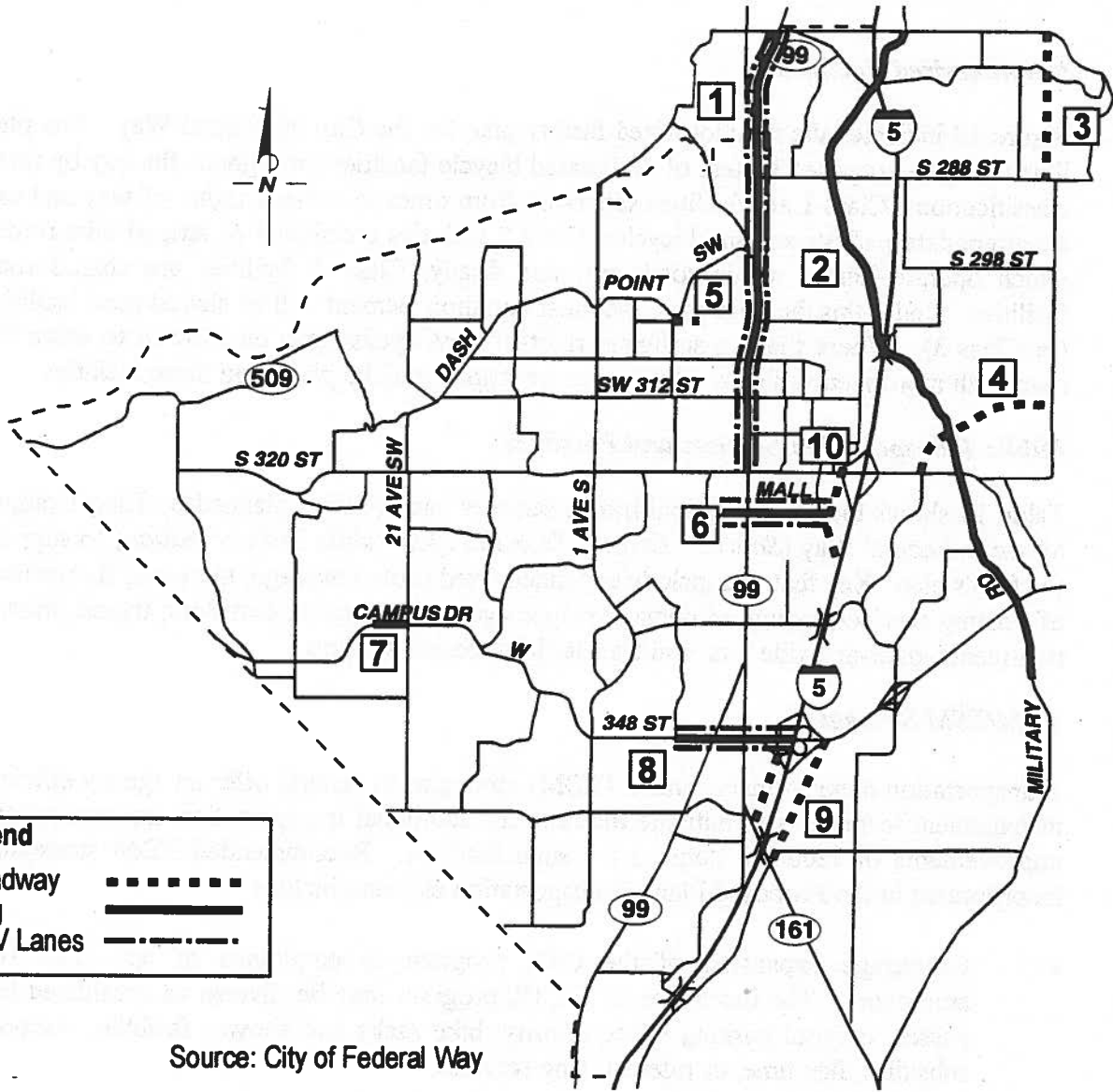
The following paragraphs outline mitigating measures and implementation strategies to ensure that the transportation systems in Federal Way maintain acceptable levels of congestion and increase mobility options for its residents and businesses. Summarized are improvements to roadway and nonmotorized facilities, public transportation services and facilities, transportation demand management and transportation system management strategies, and commute trip reduction requirements.

Roadway/HOV Facility Improvements

The following list identifies the planned *major* roadway improvements within Federal Way to accommodate forecast growth under any of the land use concepts. Improvements include widening of existing roadways, the construction of new roadways, the construction of frontage roads and freeway connections between major arterials in Federal Way and I-5, and new HOV facilities on congested arterials. Figure 17 shows the locations of these major facility improvements.

1. Pacific Highway S. (SR 99): From S. 272nd Street to S. 320th Street (estimated length of 2.7 miles). Widen to 5 lanes with 2 HOV lanes. Total facility width of 7 lanes.
2. Military Road: From S. 272nd Street to S. 342nd Street (total estimated length of 4.7 miles). Widen to 5 lanes between S. 272nd and the I-5 underpass. Widen to 3 lanes from the I-5 underpass to S. 342nd Street.

3. **New Road: From S. 272nd Street to S. 288th Street (estimated length of 1.0 miles). Construct a 2-lane north/south road in the vicinity of 50th Avenue S.**
4. **New Road: From 51st Avenue S. to S. 320th Street at Weyerhaeuser Way S. (estimated length of 1.1 miles). Construct a 2-lane roadway in a northeasterly direction from S. 320th Street.**
5. **New Road: Extend S. 304th Street from 10th Avenue S. to 8th Avenue S. (estimated length of 0.1 miles). Extend roadway westerly in a 2-lane configuration.**
6. **S. 324th Street: From 25th Avenue S. to 11th Place S. (estimated length of 0.9 miles). Widen to 4 lanes with 2 HOV lanes. Total facility width of 6 lanes. Provide directional connections in to the eastern terminus of S. 324th Street; southbound from S. 320th Street in the vicinity of 25th Avenue S., and southbound to I-5 (direct ramp connection).**
7. **336th Street SW: From 21st Avenue S. to 26th Place SW (estimated length of 0.2 miles). Widen roadway to 5-lanes.**
8. **348th Street SW: From I-5 to Pacific Highway South (SR 99) (estimated length of 0.4 miles). Widen to 5-lanes with 2 HOV lanes. Total 7-lane configuration. Provide directional frontage connections in the vicinity of I-5; southbound from 348th Street SW/I-5 to SR 161/I-5 west of I-5, and northbound from SR 161 to SR18/I-5 east of I-5.**
9. **Add collector distributor roads on both sides of I-5 between SR-18 and SR-161 to provide access at SR-161 to and from the north on I-5.**
10. **Add a collector distributor on the west side of I-5 between S. 320th and S. 326th.**



Legend	
New Roadway
Widening	————
New HOV Lanes	- · - · - ·

Source: City of Federal Way

Nonmotorized Facilities

Figure 18 indicates the nonmotorized facility plan for the City of Federal Way. The plan illustrates the proposed system of designated bicycle facilities throughout the city by three classifications; Class 1 are facilities separated from other motorized rights-of-way and can accommodate pedestrians and bicycles, Class 2 facilities are signed or striped bike routes which operate jointly within roadways, and finally, Class 3 facilities are shared road facilities. Under this facilities plan, the most common element will be shared road facilities (or Class 3). Where there is sufficient right-of-way, cyclists can be allowed to share the road with motorized vehicles. No signage or striping will be placed on these facilities.

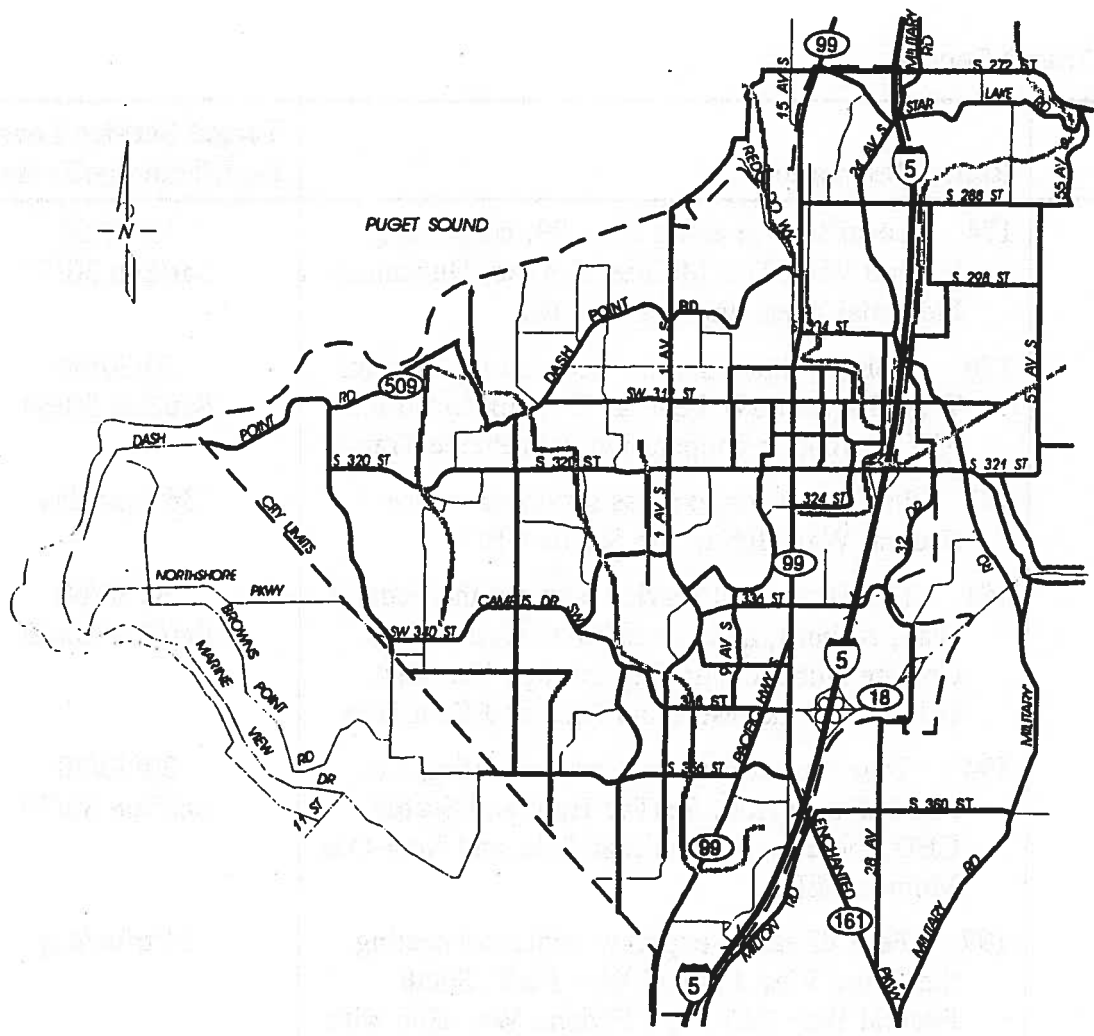
Public Transportation Services and Facilities

Table 13 shows local and regional transit services and facilities planned by King County-Metro in Federal Way (*Source: Draft 6-Year Plan for Public Transportation*) to support the City's plan. Key features include expanded fixed route coverage, increased frequencies of existing services, expanded demand responsive service, transit corridors, transit priority treatments, park-and-ride lots, and traveler information systems.

TDM/TSM Strategies

Transportation demand management (TDM) strategies in general offer an agency efficient management techniques to mitigate the need for additional transportation capacity-related improvements by reducing demand for such facilities. Recommended TDM strategies, incorporated in the Proposed Plan's Transportation element, include:

- Encourage expansion of the CTR program to employers of less than 100 employees. The incentives of a CTR program may be diverse as subsidized bus passes, carpool parking space priority, bike racks and shower facilities, vanpool subsidies, flex time, or ridematching services.
- The areawide ridesharing programs through King County-Metro should be encourage to continue and expand.
- Require employers to share in the cost of bus passes, ridesharing program, as a requirement of development.



LEGEND

Class 1
(Separate Trail) - - - - -

Class 2
(Joint Use
With Roadway) ————

Note: All other streets in
Federal Way, including
those not shown, are Class 3.

Figure 18

**Non-Motorized
Facilities Plan**

**Federal Way
Comprehensive
Plan EIS**



Table 13 Transit Service

Category	Route/Description	Target Service Level Peak/Midday/Evening
Transit Service	174 Local service along Hwy 99, connecting Federal Way, Des Moines, SeaTac, Duwamish Industrial Area, and Seattle CBD	15/15/30 Sat/Sun 30/30
	176 Neighborhood service between the Federal Way Hub and SW Federal Way, extended into NW Tacoma in cooperation with Pierce Transit	30/30/60 Sat/Sun 30/60
	177 Peak direction express service from the Federal Way Hub to the Seattle CBD	36 trips/day
	181 East-west local service between the Federal Way, Auburn, and Green River Community College Hubs; continuing through Ken East Hill to the Lake Meridian P&R and Kent Hub	30/30/60 Sat/Sun 30/60
	194 Two way express service connecting the Federal Way Hub, SeaTac Hub, and Seattle CBD, includes stops at Star Lake and Kent-Des Moines P&Rs	30/30/30 Sat/Sun 30/30
	197 Peak direction express service connecting the future West Federal Way P&R, South Federal Way P&R, and Federal Way Hub with the University of Washington; stops at Star Lake and Ken-Des Moines P&Rs 905 Flexible Federal Way local service	14 trips/day
Transit Hub	Federal Way transit hub with passenger and bus layover facilities	
Park & Ride	Metro is contributing to a third Federal Way P&R, a 600-stall lot currently in final design by WSDOT Expand Star Lake P&R by approximately 500 stalls, either on the surface to the north of the existing lot, or by the construction of a parking structure on the existing site	
Speed & Reliability	Current speed and reliability study underway on SR 99 from Boeing Access Road to S. Federal Way P&R	
Non-motorized access	Collaborate with local jurisdictions in the planning and design of bicycle and pedestrian access improvements (e.g., bike lanes curb cuts, gutters, sidewalks, and rail crossing improvements)	

- Revise zoning ordinances to encourage high density mixed land uses in the vicinity of transit routes and facilities, revise parking supply requirements for new development, and consider parking supply management techniques and pricing in dense business districts.

The focus of transportation system management (TSM) strategies is to identify ways to manage the transportation infrastructure system in order to maximize the carrying capacity through the modification of an existing system. TSM options are included in the following main categories; geometric improvements, controls and restrictions, signalization improvements, and capacity enhancements. The following projects have been identified under the City's TSM program (see also Figure 19):

- TSM1: Signal coordination on SR 99 between S 288th Street and S 356th Street.
- TSM2: Signal coordination on S 348th Street between I-5 and SR 99.
- TSM3: At S 312th Street and 8th Avenue S, install a traffic signal to manage changing traffic conditions.
- TSM4: At 21st Avenue SW and SW 325th Street, install a traffic signal to manage changing traffic conditions.
- TSM5: A general category; continue to install minor traffic improvements throughout the City's roadway network that include placement of signals, signal revisions to manage the dynamics of short-term changes in traffic conditions.
- TSM6: At SW Campus Drive and 6th Avenue SW, redesign intersection to accommodate changing traffic patterns.
- TSM7: At SW 320th Street and SR 99, redesign intersection to accommodate changing traffic patterns.
- TSM8: At SW 340th Street and Hoyt Road SW, modify left-turn lanes and signalize.
- TSM9: At S 336th Street and 20th Avenue S, add left-turn lanes to accommodate changing traffic demand.
- TSM10: At S 288th Street and 20th Street, add left-turn lanes to accommodate changing traffic demand.

Commute Trip Reduction Requirements

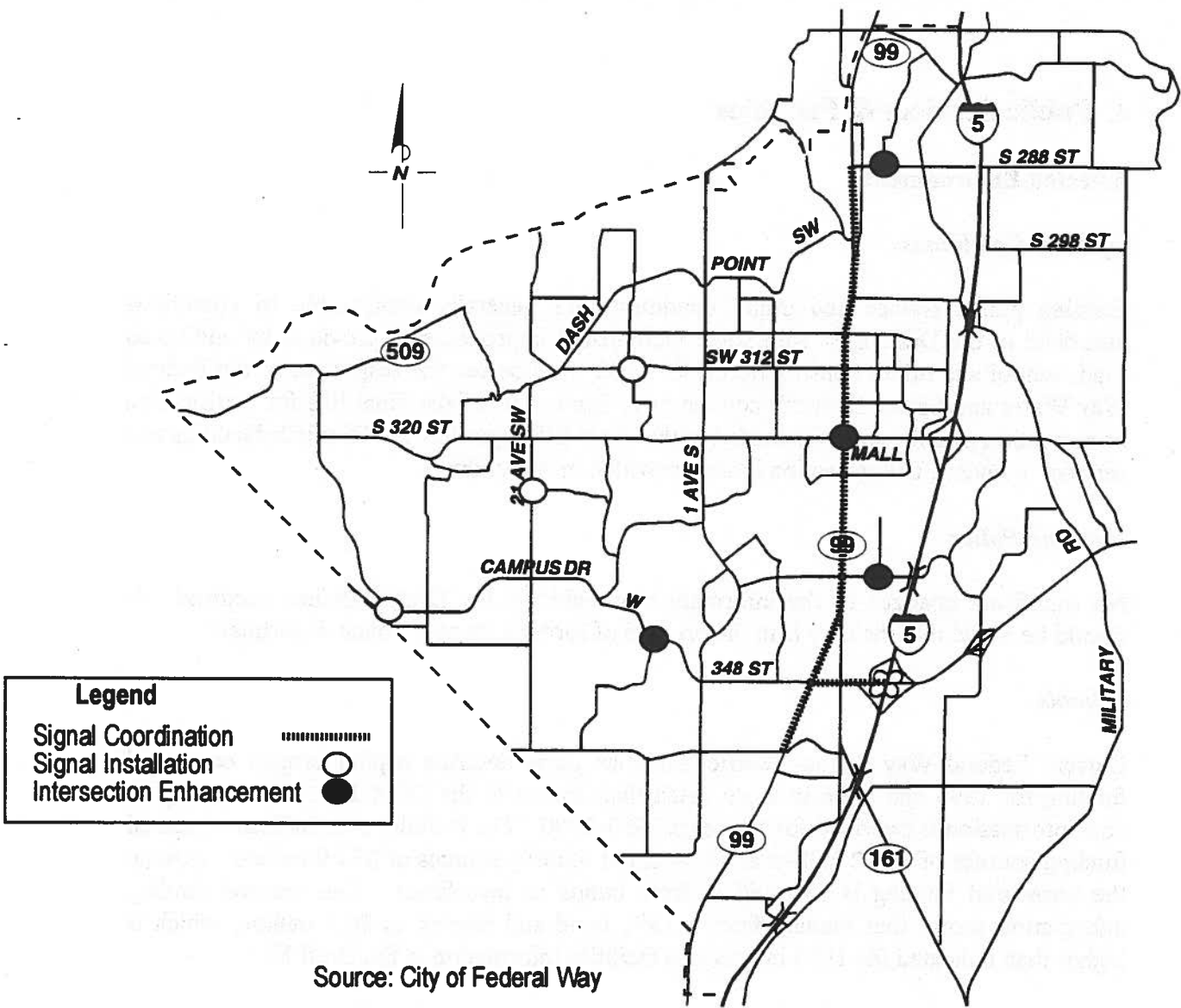
The City of Federal Way recently developed a Commute Trip Reduction (CTR) Plan that complies with RCW 70.94.521. Federal Way's CTR Ordinance requires that employers with more than 100 full time employees arriving at work between 6:00 a.m. and 9:00 a.m. at a single worksite in the City to implement programs to reduce the proportions of employees commuting in single occupant vehicles. The CTR Plan establishes the following goals for major employers:

- Reduce vehicle miles traveled per employee from the base year value established for the CTR Zone by at least 15 percent by 1/1/95, 25 percent by 1/1/97; and 35 percent by 1/1/99.
- Reduce the proportion of single-occupant vehicle trips from the base value established for the CTR Zone by at least 15 percent by 1/1/95, 25 percent by 1/1/97; and 35 percent by 1/1/99.

Implementation of CTR requirements and attainment of the SOV/VMT goals by affected employers will mitigate congestion; along with the proposed roadway improvements, this will further reduce congestion. The City of Federal Way will also be reviewing its parking requirements and associated policies in relation to CTR efforts.

Unavoidable Adverse Impacts

Population and employment growth in the Federal Way planning area under any alternative will result in increased vehicle and total person trips.



Source: City of Federal Way

4. Public Services & Facilities

Affected Environment

Updated Conditions

Existing public service and utility conditions are generally comparable to conditions described in the Draft EIS, with some incremental improvements provided by additional road, school and utility construction since 1993. Please see the responses to the Federal Way Water and Sewer District's comments in Section III of the Final EIS for clarification or correction of information provided in the Draft EIS regarding the District's facilities and service; a revised Utility section is also provided in Appendix B.

Fire and Police

No significant changes to the information provided in the Draft EIS has occurred. It should be noted that the City is in the process of forming its own police department.

Schools

Current Federal Way School District facilities plans describe capital project costs and funding for 1995 and 1996 in more detail than shown in the Draft EIS. No funding or cost information is provided for the years 1997-2000. The facilities plan indicates secured funding sources of \$26.2 million and unsecured funding sources of \$34.9 million. Among the unsecured funding is \$31 million from bonds or levy funds. The secured funding information shows that funding from a 1991 bond and interest is \$6.5 million, which is higher than indicated for 1995 in previous facilities information in the Draft EIS.

The capital cost information shows \$5.2 million in 1995 for construction of Meredith Hill Elementary, and lesser amounts for other new schools, including Enterprise and Green Gables Elementaries, and Saghalie Junior High. Other cost information indicates more spending for sports fields than indicated in the Draft EIS, and a greater amount allocated to reserve funds for facility improvements. Total planned capital costs for 1995 and 1996 are \$26.2 million dollars.

As compared to information in the Draft EIS, the future planned improvements shown in the capital facilities plan include three elementary schools, one junior high school and modernization at two schools. This is comparable to the plans discussed in the Draft EIS for the years 1993-1995. The new facilities will provide increased capacity to accommodate expected short-term enrollment growth in the District.

Parks and Recreation

Both funding and costs for planned capital park/recreational facilities are less in current plans than indicated in the Draft EIS. Funding is only identified for 1995 in current plans. Prior plans indicated the majority of funding would occur via councilmanic general obligation bonds, which are not shown in current plans. Several of the identified park projects are similar to previous plans. However, the current park plan identifies costs spread over several years for school field upgrades, sportsfield acquisition and neighborhood park development, which differs from the previous plan's identification of more specific costs for individual park facilities. Estimated costs for Lakota Park have increased, while costs for Celebration Park (the most expensive facility cost at \$7.5 million) have decreased, as compared to information in the Draft EIS.

Since 1993, proposed park level of service standards have been revised. The previous standards were deemed to be too costly to achieve given the City's available funding. This choice between standards and associated impacts was discussed in the Draft EIS.

Water and Sewer

The Federal Way Water and Sewer District comments on the Draft EIS included several corrections regarding existing facilities. Please see the response to the District's letter in Chapter III for further discussion; the impacts of the Proposed Plan are also discussed relative to the other alternatives. An updated version of the Utilities section that incorporates several technical revisions is included in Appendix B. The updated analysis does not significantly change the analysis in the Draft EIS. In general, the Proposed Action would generate impacts similar to those identified for Concepts 2 and 3; impacts could be somewhat lower, reflecting the revised household target used for the Proposed Plan.

Storm Water

The capital project list of stormwater improvements identifies \$24.9 million in improvement costs through the year 2010, whereas the Draft EIS identified \$9 million in improvements through the year 2002. The overall level of service provided by the storm water control system would increase with these facility improvements.

Roads

Proposed Transportation Improvement Program expenditures for roads between 1995 and 2010 are estimated as approximately 10 percent greater than previously estimated in the Draft EIS for the 1994-2013 period. Most of the identified projects are similar to those listed in the Draft EIS. The Proposed Plan's Transportation Element identifies estimated costs for the 1995-2010 period. Funding for the 6 year capital improvement program relies heavily on bond issues to be submitted to the voters. The long range transportation financing program identifies a substantial potential shortfall of revenues; the plan identifies

a range of potential additional revenue sources to fund these improvements. Funding priorities for road improvements are comparable to those discussed in the Draft EIS, with some variation in the City's ranking of individual improvement projects. Other aspects of the City's transportation plans are similar to those discussed in the Draft EIS.

An updated Transportation analysis is provided above to reflect the Proposed Plan.

Significant Impacts

Growth targets for the Proposed Plan are similar but somewhat lower than those evaluated for the Draft EIS alternatives. In general, impacts on services and facilities that are provided in relation to population growth would be somewhat less for the Proposed Plan than for the other alternatives. Where possible, the public service and facility impacts of the Proposed Plan were calculated using the same formulas as discussed in the Draft EIS. Where impacts are more qualitative in nature, the impacts of the Proposed Plan are generally compared to the other alternatives in Table S-1.

Impacts to some service providers and services that are related to distance (e.g. response time or extensions of linear facilities) could be reduced because growth targets for the next 20 years is now assumed to occur within the existing City limits. A relatively more concentrated land use pattern could shorten response times and reduce the need for some facilities.

No additional mitigation measures would be required beyond those identified in the Draft EIS.

Fire and Police, Schools, & Parks and Recreation

The Proposed Plan's impacts on fire and police services would be similar or somewhat lower than those described for land use Concepts 1, 2 and 3 in the Draft EIS. Land use and development patterns would be similar to those described for Concepts 2 and 3, but the City's population target -- and therefore demand -- would be somewhat lower.

According to calculations, the Proposed Plan would generate a total annual increase of 2,848 fire/emergency aid calls by 2010, approximately 250 calls lower than the next lowest alternative, Concept 1. This somewhat lower demand would translate to slightly less demand for additional staff to handle this workload.

According to calculations, the Proposed Plan would generate a total annual increase of 11,780 police service calls by 2010, approximately 180 calls lower than the next lowest alternative, Concept 1. This somewhat lower demand could translate to slightly less demand for additional staff and equipment to handle this workload.

Water Supply, Sewer, and Storm Water

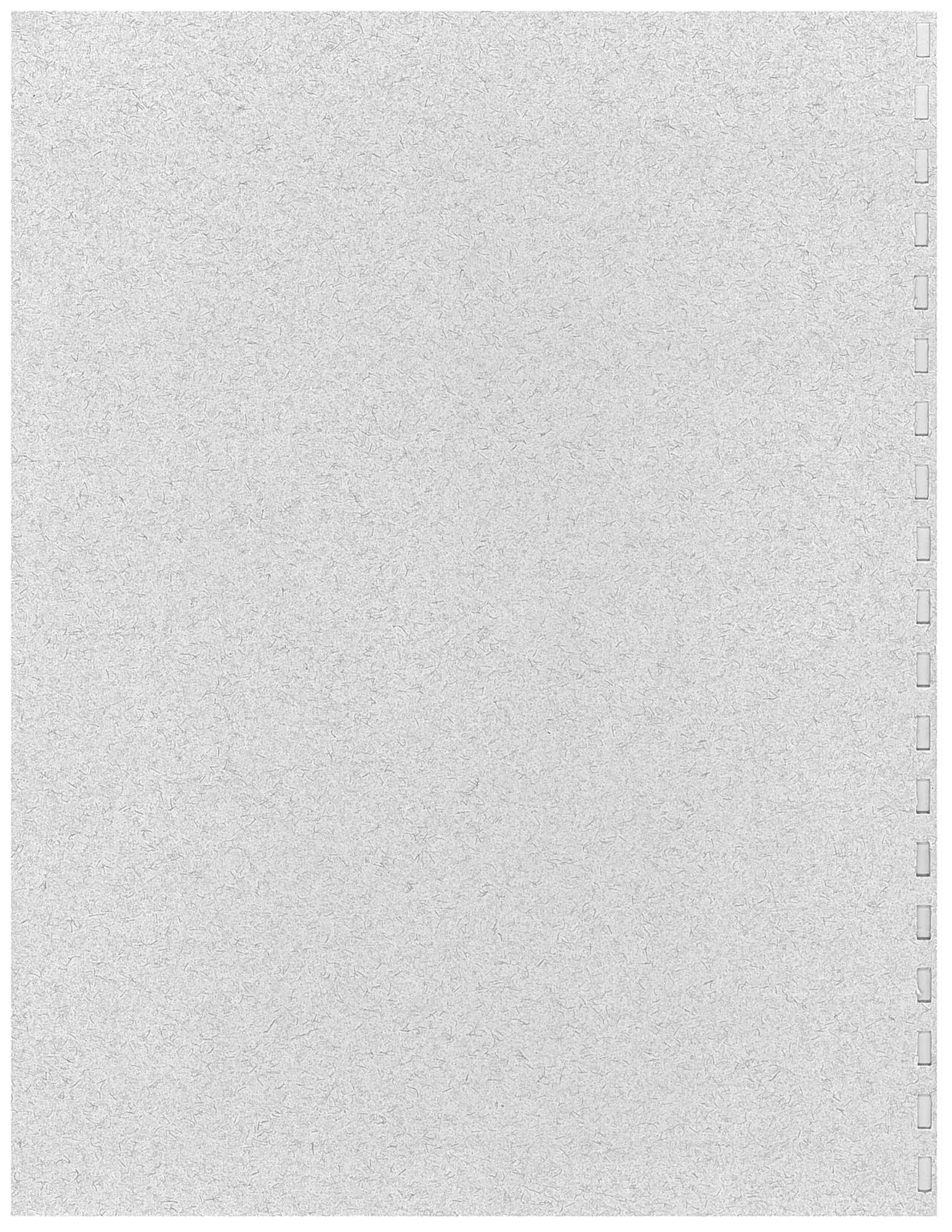
See the revised Utilities section for technical corrections to the previous analysis. In general, impacts would be similar to or lower than those previously identified for Concepts 2 and 3.

10. The following information is taken from the records of the
company for the year ended 31st December 1988.

	£	000
Share capital	100	
Reserves	200	
Fixed assets	300	
Current assets	100	
Current liabilities	50	
Long-term liabilities	100	
Profit before tax	100	
Income tax	20	
Profit after tax	80	
Dividends	40	
Retained profit	40	
Depreciation	20	
Interest on long-term liabilities	10	
Interest on current liabilities	5	
Other expenses	10	
Other income	5	

CHAPTER III

Comments & Responses to Comments on the Draft EIS



III. Comments & Response to Comments on the Draft EIS

This section of the Final EIS contains comments received on the Draft EIS from agencies, organizations and individuals, and responses to those comments. A total of 17 written comment letters were received during the public comment period.

Each letter is included in its entirety at the end of this section of the Final EIS. Comment numbers appear in the margins of letters, cross-referenced to the corresponding response. Responses are provided for substantive comments on the Draft EIS, to factual errors and to omissions. Expressions of opinions, subjective statements and positions for or against the Proposed Action are acknowledged without further comment. Written comments were received from the following agencies, organizations and individuals.

<u>Letter No.</u>	<u>Agency/Organization/Individual</u>
1.	United States Department of the Interior, Fish and Wildlife Service
2.	Washington St. Dept. of Community Development, Archaeology & Historic Preservation
3.	Washington State Department of Ecology
4.	Washington State Department of Wildlife
5.	Federal Way Water and Sewer District
6.	Port of Seattle
7.	Puget Power
8.	Tacoma Public Utilities
9.	City of Des Moines
10.	King County Solid Waste Division
11.	King County Fire Protection District No. 39
12.	King County Roads and Engineering Division
13.	Hillis Clark Martin Peterson on behalf of The Weyerhaeuser Company
14.	Gateway Center -- Daniel Casey
15.	Seattle-King County Association of Realtors
16.	Richard Burris
17.	Carol Whitney, Beth Killian, Scott Sparling et al

Letter No. 1 --United States Department of the Interior, Fish and Wildlife Service

1. Comment acknowledged. These impacts were generally identified in the Draft EIS. The Natural Environment element of the Proposed Plan recommends a number of actions promoting protection of water quality, streams, and wetlands. Also, the City's 1996 Work Program for the Comprehensive Plan includes a review and revision of policies, as necessary, to further address water quality, flooding, wildlife habitat and wetland protection.
2. Thank you for your comments.
3. Your comment is acknowledged. The Proposed Plan combines elements of Draft EIS Land Use Concepts 2 and 3; it would have approximately the same or somewhat lower impacts than Concept 3. The amount of growth considered in the Proposed Plan is intended to accommodate the population growth targets for Federal Way allocated by the King County Countywide Planning Policies. Please refer to Sections 2 and 3 of the Final EIS for further information on the Proposed Plan and environmental impacts.
4. The recommendation for future stormwater detention planning is acknowledged. This is a possible mitigation measure shown on page 49 of the Draft EIS, intended to assure appropriate detention and prevention of flooding.
5. Comment acknowledged.
6. Construction limitations such as those mentioned in your comment were identified in the Draft EIS and are included in existing Federal Way regulations.
7. Your comment is acknowledged. As part of its implementation program for the Comprehensive Plan, the City intends to review its regulations for wetlands, streams, wildlife habitat and other critical areas.

Letter No. 2 -- Washington St. Dept. of Community Development, Archaeology & Historic Preservation

1. Thank you for your comments. The Land Use Element of the Proposed Comprehensive Plan includes policies to identify, designate and preserve historic resources.

Letter No. 3 -- Washington State Department of Ecology

1. Your comment is acknowledged. The Proposed Plan's shorelines policies are focused on developing a new Shoreline Master Program that is consistent with the Comprehensive Plan, and that recognizes the recreational and natural habitat of the City's shorelines. The

City intends to explore funding sources for developing a new Shoreline Master Program. The City will contact the State Shorelands Program staff for assistance when it undertakes shoreline planning efforts.

2. The City recognizes its responsibilities pursuant to RCW 90.58.340. Please see the response to comment 1 of this letter.

3. The Washington Department of Ecology's "Recommendations for Wetlands Language in Local Comprehensive Plans" are acknowledged. The Natural Environment Element of the Proposed Plan contains policies that create a framework for protecting wetlands. The City intends to refine its wetland and other critical area regulations as part of its program to implement the Comprehensive Plan; it will consider the Department of Ecology's recommendations at that time.

Letter No. 4 – Washington State Department of Wildlife

1. Comment acknowledged. The Planning Analysis Zone (PAZ) boundaries were included on one of the natural environment maps, but not the sensitive areas map. For other EIS map graphics, the PAZ boundaries were not included to preserve the legibility of the maps. Please refer to Figures 2 and 11 in the Draft EIS.

2. The City is developing a Geographic Information System (GIS) that will, over time, include up-to-date information about sensitive areas, vacant land and natural corridors. Some of this data is included on the land use plan map. The City will continue to refine its mapping capabilities to incorporate more information about natural resources.

3. Some of the wetlands listed in Table 7 of the Draft EIS are shown on Figure 10. However, the map scale does not allow all of the listed wetlands to be legible. See the response to comment 2 of this letter regarding GIS capabilities.

4. Your comment regarding protection of streams upstream and downstream of possible regional detention facilities from stormwater impacts is acknowledged. Planning for future regional detention facilities will incorporate this goal. The 1992 Washington Department of Ecology guidelines for stormwater management in the Puget Sound Basin and the City's stormwater management regulations require that proponents assess impacts from new development to downstream reaches whether or not these reaches are actually upstream from regional detention facilities.

5. Thank you for providing draft riparian management guidelines. The guidelines will be reviewed as part of the City's implementation program to help refine its regulations for streams and wildlife habitat.

6. It is acknowledged that riparian and wetland vegetation are important for nesting/breeding habitat and water access, in addition to the functions and values noted on page 54 of the Draft EIS.

7. Comment acknowledged. Cutthroat trout, rainbow steelhead trout and cavity-nesting ducks are also Washington Department of Wildlife priority species.

8. The clarification regarding prior habitation of Lakota Creek by trout and coho salmon is acknowledged.

9. The goal of preventing development impacts to Steel Lake, Hylebos Creek and associated wetlands is acknowledged. It should be noted that the areas described on page 57, paragraph 3 of the Draft EIS do not consist entirely of sensitive areas.

10. Comment acknowledged. The City will consider the wildlife corridor planning principles in your attachment when it reviews and refines its critical areas regulations.

11. Comment acknowledged. The City will continue to examine opportunities to enhance protection of wetlands and other environmentally sensitive areas, and to retain natural corridors where possible.

12. Comment acknowledged. Identification of open space to help separate neighborhoods will occur as a part of development review and the City's ongoing land use planning. This would also provide an opportunity to maintain wildlife movement corridors.

Letter No. 5 -- Federal Way Water and Sewer District

Note: Several of the edits discussed in the responses to this letter's comments are incorporated into an edited version of the Utilities section, contained in Appendix B to this Final EIS.

1. It is acknowledged that the data listed in the paragraph pertain to the planning area, not just the City of Federal Way. The color map shown in Figure 3 of the Draft EIS is legible and reproduced clearly. A larger scale reproduction would provide more detail, such a map is available for review at the City.

2. Comment acknowledged. Water is available from adjacent purveyors via interties, as discussed in the Utilities section of the Draft EIS. Also, it is acknowledged that varying levels of aquifer recharge occur throughout the Federal Way Water and Sewer District. The identified recharge areas, however, are considered significant areas for recharge, due to soil types and other factors.

The first sentence in the Ground Water portion of the Earth section (Affected Environment, page 26 of the Draft EIS) should be replaced with the following: *"Federal Way depends on ground water for a significant portion of its domestic water supply. The primary water purveyor, the Federal Way Water and Sewer District, obtains its water from subsurface sources under normal operations, although interties with adjoining purveyors are available for emergency backup supply."*

3. Comment acknowledged. The list of potential impacts to ground water should include the loss of recharge resulting from discontinued use of septic systems. The magnitude of this impact is not expected to be as significant as the three impacts mentioned in the Draft EIS: reduced recharge from greater impervious surface area, potential contamination, and increased demand. The loss of recharge from discontinued use of septic systems is expected to be, at most, a few percent of the existing recharge from precipitation (Herrera, 1995). In addition, the loss of recharge should be balanced with reduced potential for water quality degradation.

The discussion of infiltration as a potential mitigation measure on page 50 of the Draft EIS provides the qualification suggested by the District. Any proposed or required infiltration of stormwater should only be undertaken in a manner consistent with the 1992 Washington Department of Ecology guidelines regarding management of stormwater in the Puget Sound basin. Among these guidelines is the requirement that infiltration be used only where soils with appropriate permeability characteristics occur. The Unavoidable Adverse Impacts portion of the Water Resources section should be amended to reflect the District's comment, as follows: *"The probable reduction in quality and quantity of ground water would likely lead to higher costs associated with treatment and/or importing of supply for the major water purveyor in the planning area, the Federal Way Water and Sewer District."*

4. It is acknowledged that airborne pollutants, such as particulates, generated by vehicle traffic, residential and/or commercial sources, would contribute to surface water quality pollution, to the extent that the pollutants are washed off of impervious surfaces or deposited directly onto surface waters. Surface water quality impacts analyzed in the Water Resources section of the Draft EIS implicitly include such pollutants. No discussion in the Air Quality section is necessary.

5. Comment acknowledged. The last sentence, first paragraph in the Ground Water portion of the Water Resources section (Affected Environment, page 43 of the Draft EIS) should be amended to read: *"The Milton-Redondo channel aquifer provides domestic water to the Federal Way Water and Sewer District, the primary water purveyor in the planning area, as well as a few private wells for single-family residences."*

6. The information on the amount of groundwater extraction and the estimated volume of average recharge was taken from the 1990 draft report - *"Hylebos Creek and Lower Puget Sound basins: Current and Future Conditions"* prepared by Federal Way and King County. The information regarding groundwater in that report was in turn derived from a

1989 initial report prepared by the South King County Ground Water Advisory Committee. The 1989 report was based on water well drilling records, historical water use and water quality data, U.S. Geological Survey monitoring, and other sources.

The estimate of 15 to 17 inches of recharge per year does not assume that total rainfall is equal to recharge. Total rainfall in the Federal Way area is approximately 35 inches per year. A portion of that annual rainfall runs off as surface water or is lost to evapotranspiration. The remainder infiltrates the ground and recharges ground water.

7. Comment acknowledged. The following sentence should be added to the Ground Water Impacts portion of the Water Resources Significant Impacts (page 48 of the Draft EIS): *"The elimination of septic systems that would occur as the public sewer infrastructure extends into unsewered portions of the planning area would result in a reduction of recharge estimated to up to a few percent of the existing total recharge in the planning area."* Please see the response to comment 2 in this letter.

8. Comment acknowledged.

9. Clarifications regarding fish stocking of Lakota Creek are acknowledged.

10. Comment acknowledged. The numerous suggested mitigation measures on page 58 of the Draft EIS, plus the additional recommendations in this Final EIS, contain actions or processes by which the City of Federal Way can strengthen its environmental protection regulations. Implementation of these measures would help mitigate plant and animal impacts. As identified in this Final EIS and the June 1995 EIS Addendum on Proposed Development Regulations, the City intends to refine its critical area regulations as part of its program to implement the Comprehensive Plan. However, the Unavoidable Adverse Impacts section on page 59 of the Draft EIS agrees that all plant and animal impacts will not be completely mitigated.

11. Comment acknowledged. The State's Priority Species list includes all threatened and endangered species.

12. It is acknowledged that PAZ 6 contains low-density single-family uses in addition to the Weyerhaeuser headquarters area.

13. The impact discussion on page 84 of the Draft EIS appropriately distinguished that the Proposed Action itself (adoption of the Comprehensive Plan) would not have direct effects on land use or the environment. The second paragraph indicated that future development activities would be the source of impacts, including the land use impact of conversion of vacant land to different uses.

14. It is acknowledged that sewer service is not available to the possible high capacity transit station area identified in the vicinity of South 356th Street/Pacific Highway South. The reference to South 364th Street on page 90 of the Draft EIS may have been in error.

If transit station planning for Federal Way becomes necessary in the future, appropriate locations in the designated vicinity (or elsewhere) would be evaluated in more detail for development feasibility, including availability of utilities.

15. It is acknowledged that aquifer recharge areas should have been listed among the critical areas on page 97 of the Draft EIS. The associated groundwater protection requirements in GMA and RCW 90.44 are acknowledged. Aquifer Recharge is addressed in the Proposed Plan's Natural Environment Element.

16. The City's approach to concurrency is addressed in the Land Use, Capital Facilities and Transportation elements of the Proposed Plan. In general, land use will be reassessed and growth limited as necessary if services and facilities cannot be provided at adopted levels of service. Please refer to the discussion of the CityShape planning process in the Draft EIS. The Proposed Plan land use map addresses only the present City limits. Land use and capital facilities in the potential annexation area will be addressed through cooperative planning and an interlocal agreement with King County; residents will be involved in this process

17. Page 50 of the Draft EIS discusses potential impacts to aquifer systems. The implementation section of that document identifies a range of actions relative to aquifer protection. Please see the Natural Environment Element of the Proposed Plan.

18. Comment acknowledged. The reduction in recharge from discontinuation of septic systems is a tradeoff of expanding sanitary sewer service. However, the expected benefits of increased water quality protection resulting from sanitary sewer service should also be considered.

19. Comment acknowledged. The cited jurisdictions were discussed, but were not included in the list at the beginning of the subsection, on page 112 of the Draft EIS.

20. Comment acknowledged. Please see the Annexation Element of the proposed plan. The City would pursue annexation east of Interstate 5 according to an interlocal agreement and coordinated plan that will be prepared with King County. The agreement will address land use, densities, capital facilities and service provision. The City invites public participation by residents of this area.

21. The jurisdictions of Pierce County, Tacoma and Pacific are discussed on pages 116 to 118 of the Draft EIS.

22. The GMA includes all cities within Urban Growth Areas (UGA). The county-wide UGA was established by the 1985 King County Comprehensive Plan. The revised Countywide Planning Policies, adopted in 1994, designated Federal Way as an Urban Center. The type and level of development contemplated in the Draft EIS alternative land use concepts within Federal Way is consistent with the amount and kind of growth encouraged by the GMA, the Countywide Planning Policies and King County's

Comprehensive Plan. The City is planning to accommodate growth targets allocated by the Growth Management -Planning Council. The constraints of land availability and water/utility availability will influence the actual amount of growth that will occur in Federal Way in the future; please see the discussion of development capacity in Section I of this Final EIS.

23. Comment acknowledged.

24. The comments regarding South 320th Street and existing landscaping are acknowledged. The water tower reference was corrected prior to the publishing of the Draft EIS (see page 130).

25. Comment acknowledged.

26. The clarifications in your comment regarding school fire safety are acknowledged.

27. Land set aside or developed for schools would be unavailable to accommodate future residential populations. The reduction in availability of land could theoretically affect the ability of the City to accommodate its targeted number of future residents. However, this would not necessarily be a significant unavoidable adverse impact, and the Draft EIS is hereby revised accordingly.

28. The deficit of 757.6 acres of park land cited on page 183 of the Draft EIS is consistent with the existing deficit as discussed on page 181 of the Draft EIS. The other deficit discussion uses different assumptions and relates to future conditions with implementation of the land use concepts.

29. It is acknowledged that future choices regarding public facilities, such as parks and schools, will affect demand for and consumption of water, electricity and other resources. These impacts were analyzed and discussed in the Utilities section, which begins on page 185 of the Draft EIS.

30. The corrections of text on page 185 of the Draft EIS are acknowledged and incorporated in the EIS (see Appendix B for an edited version of the Utilities section). The corrections indicate less active pumping capacity and sustainable capacity than described in the Draft EIS.

31. Corrections noted. The text has been revised to reflect your comments (see Appendix B).

32. The reference to "overappropriated" refers to the fact that water rights in excess of the aquifers' capacities have been issued by the State Department of Ecology. GMA policies are consistent with and supportive of long-term reliance on groundwater as supply. Please see the King County Countywide Planning Policies for regional goals and

policies which the City of Federal Way must comply with. The additional challenges noted in the comment are acknowledged.

33. Your comment is acknowledged. Figure 27 included peak day measured water demands to compare the maximum future demands to the predicted future supply. Peak day demand is used to illustrate the fact that current peak day demand stresses current supply capabilities. As with most systems, meeting average day demand is not the issue.

34. Comment acknowledged. Wetland and animal habitat issues are discussed in the Plants and Animals section of the Draft EIS. The question of "takings" under the Endangered Species Act (ESA) is beyond the scope of this EIS. Compliance with the ESA is required regardless of other city policies. Please refer to applicable policies in the proposed Plan's Natural Environment element.

35. Your corrections are noted and incorporated in the EIS. Please see the response to Tacoma Public Utilities comment 1.

36. Your comment is acknowledged. The comment indicates that potential fire flow impacts of a high intensity downtown area on water facilities may be less significant than characterized in the Draft EIS.

37. Your corrections are noted and incorporated in the EIS (see Appendix B).

38. Corrections noted and incorporated in the EIS.

39. Comment acknowledged.

40. Corrections noted and incorporated in the EIS.

41. Comment acknowledged.

42. Comment acknowledged. The Hylebos basin has been included in the King County Urban Growth Area as adopted by the Growth Management Planning Council. Sanitary sewers are the preferred method of sewer service in the UGA, therefore, plans to provide such service should be developed by the District.

43. The effects of different wastewater flow characteristics and infiltration/inflow on the sewer system and its capacity must be evaluated as part of the LUD's sewer plan and are beyond the scope of this EIS.

44. Please see the responses to comments 42 and 43 in this letter.

45. Your comment is acknowledged; please refer to the revised Utility section in Appendix B of the EIS. Please see the response to comment 46 in this letter.

46. According to the Countywide Planning Policies and the King County Comprehensive Plan, the Hylebos Basin is eligible for sewer service since it is within the UGA. Construction of utilities, including sewers to provide the infrastructure to serve this designated Urban Growth Area will be one environmental consequence.

47. Comment acknowledged. While the quantity of recharge is important, the water quality characteristics of that recharge must be considered. While microbial contaminants are filtered out with 150 feet of recharge, many other important water quality parameters (such as nitrates) would not be filtered out by the time they reach the aquifer (Herrera, 1995).

48. A Storm Water section was provided on pages 197-199 of the Draft EIS.

49. Comment acknowledged. The sources for the growth rates used in this analysis included the Water and Sewer District, and regional (PSRC) population forecasts.

50. The SEPA Rules provide that specific cost estimates for future actions such as utility relocations are not required to be included within EISs on non-project proposals (WAC 197-11-42).

51. The contents of future annexation agreements cannot be identified at this time. Please see the Annexation Element of the Proposed Comprehensive Plan.

52. Comment acknowledged. Impacts of a regional HCT system were evaluated in environmental documents for the regional transportation plan. Impacts to Federal Way are generally evaluated in the Land Use and Transportation sections of the Draft EIS. Construction-level impacts associated with station construction would be evaluated in future environmental review.

53. The cited incomplete sentence was completed prior to publishing of the Draft EIS (see page 216).

54. The table assumed the average city-wide impervious surface coverage and development capacity within each basin.

55. Your comment is acknowledged. Recommended mitigation measures suggest a number of conservation actions. The City will consider these further as part of its Comprehensive Plan implementation program.

Letter No. 6 -- Port of Seattle

1. Your comment is acknowledged. As part of its program to implement the Comprehensive Plan, the City will consider changes to its building code and development suggestions to address potential noise impacts.

2. The City looks forward to continuing to work cooperatively with the Port.

Letter No. 7 – Puget Power

1. It is agreed that the reference in the summary to new growth should address adjacency to power lines, not the powerlines' EMF.

2. Your comment notes correctly that the cited mitigation measure should not refer to a 100-foot distance since this was not discussed in the main body of the EIS, and has no appropriate frame of reference.

3. Your corrections are noted and incorporated in the EIS.

4. Thank you for your clarifications.

5. The phrase "will be available when demanded" is inaccurate because it addresses future conditions which are subject to uncertainty.

6. Your corrections are noted and incorporated in the EIS.

7. The clarification regarding electromagnetic field studies is acknowledged and incorporated in the EIS.

8. Your clarification is noted and incorporated in the EIS.

9. Thank you for the additional information on electromagnetic fields and "prudent avoidance", which is acknowledged and incorporated in the EIS.

10. The first three sentences of the EMF impact discussion on page 69 of the Draft EIS are intended to distinguish the relative differences in development that would be encouraged by Land Use Concepts 1, 2 and 3. The balance of the paragraph was intended to note the possibility of more people being exposed to EMF from the powerlines, due to greater adjacent densities. It is acknowledged that this conclusion is not supported by available research or data, which is inconclusive. The second paragraph indicates that there is insufficient evidence of EMF-related human health effects, and no accepted thresholds of EMF exposure. None of the information provided in the Draft EIS, therefore, clearly indicates a finding of significant impacts; the discussion could have more distinctly characterized the likelihood of risks. Please see the response to comments 11, 12 and 13 in this letter.

11. It is acknowledged that EMF levels generated by powerlines, as experienced by local residents, may be less than EMF generated by various appliances and equipment in residences and businesses. The research does not support the conclusion that future

residential areas nearest powerline corridors would be subject to any more EMF exposure than areas further from powerline corridors. Likewise, no determination of differing human health effects can be derived for residents nearer or further away from existing powerline corridors.

12. Please refer to the Utilities Element of the Proposed Comprehensive Plan, which includes policies regarding the City's intended course of action. The City can continue to follow a policy of prudence or caution in this matter, even if the concept of "prudent avoidance" is not supported by available studies of EMF health effects.

13. Your comment is acknowledged and incorporated in the EIS. The Unavoidable Adverse Impacts paragraph should be amended to reflect that, based on current EMF research and available local information, there is no basis to conclude that significant unavoidable adverse impacts would result.

Letter No. 8 -- Tacoma Public Utilities

1. The corrections regarding Pipeline 5's capacity and scheduled completion are acknowledged and incorporated in the EIS; a corrected version of the Utilities section is included in Appendix B of the Final EIS.

Letter No. 9 -- City of Des Moines

1. Comment acknowledged. In addition to electric power impacts, the estimated worst-case natural gas usage impacts are discussed on pages 62-64 of the Draft EIS. This section also qualitatively discusses differences in gasoline usage among the land use concepts, based on relative commuting efficiency.

2. Funding of actions described in the mitigation measures of this EIS would occur at the discretion of the City of Federal Way, subject to available funds. Regarding noise impact mitigation, the limiting of residential land uses within the Sea-Tac flight path is a possible measure, and is not incorporated in the Proposed Plan. The tradeoffs involved in this planning issue are discussed on page 78 of the Draft EIS. Given that airport noise forecasts predict noise levels below 65 dBA from Sea-Tac operations in the future, no residential limitations may be necessary within Federal Way.

3. Funding of transportation projects described in the mitigation measures of this EIS would occur at the discretion of the City of Federal Way, subject to available funds. Please refer to the Transportation Element of the Proposed Plan regarding transit-related improvement funding.

4. Funding strategies for parks and recreation are discussed on page 183 of the Draft EIS.

5. Comment acknowledged. The Proposed Comprehensive Plan land use map indicates land uses as far north as South 272nd Street. The City will continue to work with the City of Des Moines to address planning issues of joint interest.

6. A discussion of areawide short-term reserve electrical capacity is beyond the scope of this EIS. Mitigation measures shown on page 65 of the Draft EIS do not discuss use of specific substations.

7. Please see the Transportation Element of the Proposed Comprehensive Plan for additional information regarding transit-related improvement funding.

8. Please refer to the updated analysis of transportation impacts in the Final EIS.

9. The EIS transportation section (Draft and Final) notes that traffic modeling of future conditions accounts for future growth outside the planning area that will contribute to increased traffic in Federal Way. The predicted traffic growth rates of various traffic corridors, as measured by the "screenlines" (see Figures 22 and 23 of the Draft EIS), for example, include the traffic volumes to and from areas outside of Federal Way.

10. Both statements are correct; they address different time periods. In the near term, no additional facilities will be required to support forecast growth. Additional fire stations could be necessary, however, to support growth at buildout depending on traffic growth and actual demand.

11. The discussion of police impacts and mitigation measures on pages 171 to 173 of the Draft EIS included references to expansion of facilities, equipment, and other "police requirements." This would include the additional needs cited in the comment. Generally, estimation of administrative staffing needs is not as predictable as officer/vehicle needs.

12. Comment acknowledged. This discussion is included in the Earth and Water Resources sections of the Draft EIS.

13. Thank you for your comment.

Letter No. 10 – King County Solid Waste Division

1. Comment acknowledged. The City has adopted the King County Solid Waste Management Plan to address solid waste disposal, transfer, waste reduction and recycling issues. A comparison of the land use concepts, including the Proposed Plan, is possible using projected resident and employee populations, and per-capita solid waste generation factors. For the Proposed Plan, the assumed resident and employee populations were 39,000 and 14,800 respectively, based on the mid-points of projections in the Countywide Planning Policies (1994).

According to calculations, the Proposed Plan would generate approximately 194 tons per day by 2010, and Concepts 1, 2 and 3 would generate approximately 209, 223 and 248 tons per day, respectively. The Proposed Plan would generate the least amount of solid waste because the population and employment growth projections assumed for this plan include approximately 7,000 fewer residents and 3,000 fewer employees than the other land use concepts.

2. Thank you for your comments. In addition to the two listed facilities, there are two other CDL facilities now available: the Eastmont Transfer and Material Recovery Facility at 7201 W. Marginal Way, and the Argo Yard Intermodal Facility at 5000 Denver Avenue South, both in Seattle. Federal Way will continue to encourage recycling and proper disposal of CDL waste generated within the City.

Letter No. 11 – King County Fire Protection District No. 39

1. Your correction is noted and incorporated in the Final EIS.
2. Your comment is acknowledged. Maintaining and improving emergency vehicle response times and reducing traffic congestion are important considerations of future planning in the City.
3. Your correction is noted and incorporated in the Final EIS.

Letter No. 12 –King County Roads and Engineering Division

1. Thank you for your comment.

Letter No. 13 –Hillis Clark Martin Peterson, for The Weyerhaeuser Company

1. Thank you for your comment. The Weyerhaeuser property east of Interstate 5 was annexed to the City in 1995 and is included in the City's comprehensive planning efforts.
2. Your comment is acknowledged. Please see the response to comment 1 above.
3. Your comment is acknowledged.
4. Your comment is acknowledged. Please refer to the Proposed Plan's land use map, which designates the Weyerhaeuser property as Corporate Park. Adjacent areas to the north and southeast are designated Business Park

Letter No. 14 – Gateway Center (Daniel Casey)

1. Since publication of the Draft EIS, the area that is the subject of this comment has been included in the City Center Core area; see Final EIS Figure 1. This area is appropriate for mid-rise mixed-use development.
2. The City Center Frame, which is adjacent to the Core, is indicated on the Proposed Plan's land use map. The existing condition of the core area is acknowledged. Your comments regarding future development and economic development within Federal Way are acknowledged.
3. Your comment is acknowledged. Although the Proposed Plan is intended to be compatible with and facilitate high capacity, the City's vision is not dependent on rapid rail transit. The Plan is intended to accommodate future possible rail transit routes and stations. Given the uncertainties and long-term nature of rail transit planning, the City will carefully evaluate investments pertaining to rail transit.

Letter No. 15 –Seattle-King County Association of Realtors

1. Please refer to the updated development capacity analysis in the Final EIS. It indicates that the Proposed Plan may, depending on assumptions, contain sufficient capacity to accommodate growth targets. Using conservative assumptions, however, there could be a deficiency of development capacity and the market "cushion" could be small. There are acknowledged uncertainties regarding the amount of capacity cushion that should be provided, and the rate of development and redevelopment in Urban Centers generally, and within Federal Way. The Draft EIS acknowledged that actual land shortages could occur if growth were greater or more rapid than expected, or if services and facilities could not be financed and provided in tandem with growth. Possible responses to this contingency are identified in the Draft and Final EISs.
2. Your comment is acknowledged. Higher density housing does not necessarily equate to affordable housing. Please refer to the Housing Element of the Proposed Comprehensive Plan for the range of actions the City intends to pursue to ensure a broad range of housing types affordable to all economic segments of the community.
3. While the drawing of urban growth boundaries within a region can potentially result in higher land and housing costs, this is not categorically true. It is not clear how this may affect Federal Way, if at all. Policies in the plan, and the range of housing-related actions the City intends to pursue, could effectively mitigate any theoretical effects on housing affordability.
4. Your comment is acknowledged. Please refer to the updated capacity analysis for the Proposed Plan, included in this Final EIS, which includes a different range of market factors.

Letter No. 16 -- Richard Burris

1. The three land use concepts do represent a range of development scenarios, with distinguishable differences in land use patterns. Pages 12 to 24 in Chapter II of the Draft EIS and section I of the Final EIS illustrate the concepts and the rationale used in developing the concepts. The identified concepts are believed to represent a reasonable range of alternatives as required by the State Environmental Policy Act (WAC 197-11-440(5)). The range of potential alternatives is narrowed by the requirements of the GMA and Countywide Planning Policies; the City has not considered hypothetical alternatives that would be inconsistent with the GMA and Countywide Planning Policies. The selected alternatives were also the result of extensive citizen input, as summarized in the Draft EIS. Please see the response to comments 2 through 7 for further discussion.
2. The proposed land use concepts contain some elements of the "urban village" concept proposed in Seattle, such as encouragement of mixed-use, and transit-supported centers of increased density. The Proposed Plan does provide capacity for growth outside the downtown, including mixed-use Community and Neighborhood Business areas located throughout the City. Please refer to the Proposed Plan's land use map and development concept.
3. Comment acknowledged. The proposed Comprehensive Plan accommodates future regional rail transit, but the Plan's success does not depend on successful implementation of regional rail transit. Regional bus service provided by METRO will continue to be provided and expanded as possible in the Federal Way area. Reduction of traffic congestion is an important aspect of the City's planning, including exploring ways in which transit can more effectively serve the City.
4. The Proposed Plan is intended to provide a better balance between jobs and housing in Federal Way. However, neither the Comprehensive Plan nor the Draft EIS assumes that the housing provided in the downtown core area is intended to be predominantly occupied by employees working within the downtown core area. Lifestyle choice, cost and other factors, are acknowledged to influence housing location decisions. Locating housing proximate to jobs would provide greater opportunities for people to live closer to jobs, however.
5. The GMA and Countywide Planning Policies require that the City's plans accommodate a target number of households and jobs over the next 20 years. These targets could possibly be reduced if the City cannot -- because of infrastructure, funding or resource limitations -- accommodate this amount of growth.
6. Your comment is acknowledged. The cited concerns in the comment are identified in the Draft EIS.

7. Please see the responses to comments 1 through 5 of this letter.

Letter No. 17-- Carol Whitney, Beth Killian, Scott Sparling et al

1. The property in question is currently designated by the Proposed Comprehensive Plan Map for "Office Park" not Multi-Family uses.

2. Your comment is acknowledged.

3. Thank you for your comment. The Proposed Plan would locate most multi-family growth in the City Center and in existing multi-family areas. Some growth could also occur through redevelopment in mixed-use Community and Neighborhood Business Centers.

4. Your comment is acknowledged. Please see the response to comment 1 of this letter.

1. The first part of the document is a general introduction to the project. It describes the purpose of the study and the objectives that will be pursued. The introduction also provides a brief overview of the methodology that will be used to collect and analyze data.

2. The second part of the document is a detailed description of the methodology. This section explains the specific procedures that will be used to collect data, including the selection of participants, the design of the study, and the methods of data collection and analysis.

3. The third part of the document is a discussion of the expected results and their implications. This section provides a theoretical framework for the study and discusses the potential contributions that the research may make to the field.

4. The final part of the document is a conclusion that summarizes the main findings of the study and discusses the limitations of the research. It also provides recommendations for future research and offers some thoughts on the broader implications of the work.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3704 Griffin Lane SE, Suite 102
Olympia, Washington, 98501-2192
(206) 753-9440 FAX: (206) 753-9008

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT

JAN 5 1994

January 3, 1994

Greg Fewins, Senior Environmental Planner
Department of Community Development
33530 1st Way South
Federal Way, WA 98003

RE: City of Federal Way Comprehensive Plan Draft Environmental Impact Statement

Dear Mr. Fewins:

The U.S. Fish and Wildlife Service (Service) has reviewed the City of Federal Way Comprehensive Plan Draft Environmental Impact Statement (DEIS), dated November 19, 1993. The Service provides the following comments for your consideration.

FISH AND WILDLIFE RESOURCES

Commencement Bay, its waterways, and surrounding areas provide habitat for the Department of the Interior's trust resources including anadromous fish, migratory birds, and federally listed threatened and endangered species. Specifically, Hylebos Creek functions as an important acclimatization zone for anadromous fish including outmigrating chum and coho salmon. In addition, Hylebos Creek and its riparian corridor provide forage, breeding, resting, and travel areas for migratory birds including passerine birds, waterfowl and shorebirds.

Under the authority of the National Contingency Plan (NCP), the Service and other natural resource trustees are currently assessing and seeking damages for injured natural resources in the Commencement Bay Superfund Site as provided for under the Comprehensive Environmental Response, Compensation, and Liabilities Act of 1980 (CERCLA) and the Clean Water Act (CWA). One of the results of this process will be habitat restoration in the Commencement Bay basin. Recognizing that these efforts can be negated by further degradation of habitat in the basin, we recommend that the City of Federal Way take measures to avoid further compromising the biological integrity of the Hylebos Creek system.

RESOURCE CONCERNS

PROJECT IMPACTS

Under all three concepts there will be a significant increase in impervious surface area within the Hylebos Creek basin. This increase would result in increased pollutant loading, runoff volumes and runoff rates.

Water Quality

Increased development would result in significant increases in pollutant loading to surface waters due to increased runoff from new roadways, parking areas and other impervious surfaces. As stated in the DEIS, the frequency of exceedances of state and federal water quality standards and criteria would increase, resulting in further degradation of stream habitat within the Hylebos drainage basin.

Flooding

Extended runoff peaks and volumes would result in increased flooding and downstream erosion. As stated in the DEIS, despite the City's stormwater detention requirements, peak rates of runoff would increase with consequent increased rates and severity of flooding under any of the three concepts. As further stated in the DEIS, there are currently existing flooding problems in both the west and east Hylebos subbasins that appear to be indicative of more widespread systemic problems within the basin.

Sedimentation

Construction impacts can potentially lead to sedimentation of receiving waters. City regulations would require sedimentation controls, but as stated in the DEIS, these controls cannot eliminate potential construction-related impacts. Findings from the 1990 Federal Way and King County study indicated significant erosion in the upper tributary reaches of the Hylebos basin with consequent sedimentation in the west Hylebos wetland, as well as flooding problems on the tributary draining Panther Lake and in the east branch tributary that runs along Interstate 5.

Furthermore, Concept 3 would result in significantly greater impervious surface area and thus greater potential flooding, pollutant loading and sedimentation impacts in the Hylebos basin.

EXISTING HABITAT

The natural resource trustees have been reviewing potential restoration options for the Commencement Bay ecosystem. The Hylebos Creek watershed has been reviewed to assess both existing habitat and potential restoration opportunities. Hylebos Creek was historically among the most productive streams in Puget Sound. Currently, the majority of salmonid usage occurs in

2 the west branch, although some salmon still spawn in the east branch. The west branch supports chum salmon and small numbers of coho and steelhead. The east branch supports a very small number of coho salmon. The areas of the Hylebos Creek system that provide both spawning and rearing habitat include tributary 0013 (between SR 99 and I-5) downstream from South 359th Street to the confluence of the West branch. The most productive wildlife habitat along Hylebos Creek is within the forested ravines along the east branch and within the wetlands of the west Hylebos south of 348th Street and between I-5 and SR 99 on the west branch (Corps, 1993).

POTENTIAL RESTORATION SITES

Numerous potential restoration, enhancement and preservation sites have been identified along both the east and west branches of the Hylebos system. The potential CERCLA settlement funds alone will not be adequate to restore the natural resources of the Commencement Bay ecosystem. It will be necessary for other development activities, conservation organizations and municipalities to be cognizant of existing habitats to ensure they are not further degraded and to assist with restoration opportunities to allow impacted fish and wildlife populations to recover.

SUMMARY AND RECOMMENDATIONS

3 The Hylebos drainage is currently under further review, by the Service and other natural resource trustees, to assess its potential for restoring lost resources in the Commencement Bay ecosystem. The Service is aware that past landuse practices have severely impacted the ability of this system to provide suitable habitat for species of concern. We recommend that future landuse practices not further impact this system, and further are seeking a net gain in the habitat functions of the Hylebos system. The Service provides the following recommendations to reduce future potential adverse impacts to this priority drainage.

1. Eliminate Concept 3 from the list of alternatives due to its significantly greater impervious surface area and increased potential for flooding, sedimentation and pollutant impacts.
2. Due to current flooding and erosion problems, coupled with the potential for significant increases with development pressures, we strongly recommend that the City base its stormwater detention requirements for redeveloping areas on the pre-existing undeveloped condition rather than the current developed condition. This would help to alleviate both current and future adverse impacts which have and would result from inadequate past and current requirements.
3. Provide regional detention facilities to reduce current flooding and resulting sedimentation and erosion impacts in the Hylebos basin.

6 4. Expand construction regulations to limit land clearing activities to the drier seasons of the year, thereby reducing the potential for sedimentation impacts.

7 5. Every effort should be made to protect and restore wetlands within the Hylebos drainage, to reduce future adverse impacts to the system. In addition, to protect fragile salmon runs within this drainage, efforts should be taken to improve the riparian corridor and to provide adequate buffers adjacent to all proposed developments.

We appreciate the opportunity to provide our resource concerns and recommendations and will continue to recommend reducing and eliminating environmental degradation, as well as pursuing opportunities to restore and enhance habitat features wherever possible in the Commencement Bay watersheds. If you have any questions regarding our recommendations, please contact Judy Lantor of my staff at the letterhead telephone number.

Sincerely,

for Nancy J. Goman

David C. Frederick
State Supervisor

JK1/pjs

c: COE-Environmental Resources, Seattle (Pat Cagney)
DOI, Portland (Barry Stein)
EPA-Superfund, Seattle (Karen Keeley and Allison Hiltner)
NOAA, Seattle (Robert Taylor and Robert Clark)
Muckleshoot Tribe, Auburn (Rod Malcom)
Puyallup Tribe, Tacoma (Bill Sullivan)
WDE, Olympia (Fred Gardner)
WDF, Olympia (Tom Hooper and Randy Carman)



STATE OF WASHINGTON

DEPARTMENT OF COMMUNITY DEVELOPMENT

OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION
111 21st Avenue S.W. • P.O. Box 48343 • Olympia, Washington 98504-8343 • (206) 753-4011 • SCAN 234-4011

RECEIVED BY
JANUARY 3, 1994 COMMUNITY DEVELOPMENT DEPARTMENT

JAN 5 1994

Mr. Greg Fewins
City of Federal Way
33530 First Way South
Federal Way, WA 98003

Log: 061793-26-KI
Re: Federal Way Comprehensive Plan
DEIS

Dear Mr. Fewins:

The Washington State Office of Archaeology and Historic Preservation (OAH) is in receipt of the above referenced document. We understand that adoption of the comprehensive plan by the City Council will guide growth in Federal Way for the next 20 years.

In response, OAH recommends that the Comprehensive Plan take into consideration the impact of the city's growth on the area's cultural resources including historic and archaeological properties. This effort should include the formulation of goals and policies which address protection of such resources within the city and its urban growth area. We also recommend that a comprehensive survey be conducted of cultural resources within the community and that a historic preservation element be incorporated as part of the comprehensive plan. Please feel free to contact OAH for information on conducting surveys, historic preservation planning, and other cultural resource protection mechanisms.

Thank you for the opportunity to comment on the DEIS. Should you have any questions, please feel free to contact me at (206) 753-9116.

Sincerely,

Greg Duff
Gregory A. Griffith
Comprehensive Planning Specialist

GAG:aa

REFERENCES

U.S. Army Corps of Engineers. 1993. Commencement Bay Cumulative Impact Study. Volume II: Restoration Options. Chapter 5, Commencement Bay Additional Inventory: Identification of Potential Restoration Sites. (Prepared by David Evans and Associates, Inc. 1992). 115pp. (Available from the U.S. Fish & Wildlife Service).

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JAN 3 1994



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. BOX 47600 • Olympia, Washington 98504-7600 • (206) 459-6000

December 28, 1993

Mr. Greg Fewins
City of Federal Way
33530 First Way South
Federal Way WA 98003

Dear Mr. Fewins:

Thank you for the opportunity to comment on the draft environmental impact statement for the adoption of a comprehensive plan for the City of Federal Way. We reviewed the DEIS and have the following comments.

The plan, as an umbrella document, should contain at least general policy guidance concerning shoreline management. At a minimum, the community's goals for the protection and preservation of shoreline resources, shoreline uses and public access to the shoreline should be articulated in the plan. The comprehensive plan and EIS should also: (1) indicate the role of the shoreline master program in implementing the plan; and (2) describe how the shoreline relates to the rest of the community and to its overall development strategy. However, there is virtually no mention of Federal Way's several shoreline areas in the Land and Shoreline Use section of the DEIS.

Pursuant to RCW 90.58.340, the City must achieve a use policy for lands adjacent to shorelines that is consistent with the Shoreline Management Act and the local shoreline master program. The DEIS should evaluate proposed uses on lands adjacent to shorelines to assure that they are consistent with the respective shoreline environment designations in the shoreline master program, and will protect and preserve shoreline resources.

Without reference to the plan itself, it is not possible to discern if it includes clear policy directives related to wetlands, to provide a framework for regulating wetlands through the sensitive areas ordinance and the City's development regulations. Enclosed is some wetland language recommended for inclusion in comprehensive plans. In addition, we strongly encourage implementation of the strategies for habitat and wetlands (pages 30-31) and mitigation measures described on pages 58-59. The Shorelands Program staff are available to help the City of Federal Way: (1) develop policy language for protecting all critical areas; and (2) assure that the sensitive areas ordinance is enhanced as necessary to provide adequate protection from impacts associated with the selected land use alternative.

Mr. Greg Fewins
December 28, 1993
Page 2

If you have any questions, please call Ms. Alice Lee of the Shorelands Program at (206) 407-6524.

Sincerely,

Rebecca J. Inman
Rebecca Inman
Environmental Review

93-8435

Enclosed

cc: Alice Lee, Shorelands

Ecology's Recommendations for Wetlands Language in Local Comprehensive Plans

Ecology recommends that all local governments include the following components in their comprehensive plans to address wetlands:

1. Goals, objectives, and/or policies under appropriate plan elements (such as the Land Use Element, a Conservation Element, or an Environmental Protection Element) that will be consistent with the "Environment" and "Recreation and Open Space" goals and wetland protection requirements of the GMA and will provide a firm policy basis for final development regulations that will protect wetlands and their buffer areas. These should include:
 - a. An overall wetlands protection goal such as: "To adopt and implement a comprehensive watershed-based wetlands protection program that incorporates both regulatory and non-regulatory elements to protect and, where possible, increase the quantity and quality of wetlands in [name of city or county]."
 - b. Objectives that identify the proposed elements of the comprehensive watershed-based wetlands protection program such as:
 - "To complete a wetlands inventory that identifies, classifies, characterizes, and designates all wetlands at a level of detail that facilitates implementation of the wetlands protection program."
 - "To adopt and implement a wetlands protection ordinance that is based on the ecological functions and socio-economic values of wetlands in a watershed context and requires that all wetland impacts be avoided or otherwise mitigated."
 - "To adopt and implement a wetlands education program on the importance of wetlands and their functions and values within the watershed, on the local wetlands protection program, and on the role of land owners and the public in the protection of wetlands through active stewardship."
 - "To adopt and implement a wetlands restoration program that recovers wetland acreage and functions and values that are important within a local and watershed context."
 - "To adopt and implement a wetland preservation program that preserves in perpetuity all irreplaceable, regionally rare and locally valued wetland systems."

Wetlands Recommendations
Page 2

- "To adopt and implement a stormwater management program that protects wetlands from impacts caused by developments higher in the watershed by using best management practices for source control, on-site detention and treatment of stormwater."
- c. Policies which indicate how the wetlands protection goal and objectives of the comprehensive plan will be addressed in situations where they appear to conflict with other goals and objectives of the plan;
2. A clear factual basis for all policies relating to the protection of wetlands, including wetlands inventory data and maps where possible. Wetlands inventory data and maps, if available, should be referenced as support for policies;
3. A land use map with a critical areas overlay that shows all inventoried wetlands where any wetlands protection provisions will apply. The basic land use map should also show planned open space areas which should include all high quality wetlands and any areas where wetlands may be restored, created or enhanced to compensate for any unavoidable wetland impacts that may be permitted elsewhere;
4. A strategy that outlines the actions that will be taken to implement the wetlands policies. This strategy should use innovative land use management techniques as called for in WAC 365-195-040(2)(h) and it should include the development of inventories and maps, the adoption of new or revised regulations and the development of non-regulatory wetlands protection measures, such as education, restoration and preservation. The strategy should also stress coordination with adjacent jurisdictions; and
5. Urban growth boundaries that avoid urban expansion into large wetland areas and include enough area, or better yet, provide for high enough urban densities to ensure that the functions and values of wetlands within the urban growth area will be maintained while accommodating the projected growth.

Assistance Offered

Ecology is prepared to assist local governments in developing comprehensive plan provisions for a comprehensive wetlands protection program/strategy that meets local needs and requirements of the Growth Management Act. Assistance is available in the form of written materials, education, training and development or review of draft comprehensive plan provisions for wetland protection. For further information, call Peggy Clifford of Ecology's Wetlands Section at (206) 407-7262.



STATE OF WASHINGTON
DEPARTMENT OF WILDLIFE

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT

JAN 4 1994

Greg Fewins
January 3, 1994
Page 2

16018 Mill Creek Blvd., Mill Creek, WA 98012-1296 Tel. (206) 775-1311 / Fax # 338-1066
January 3, 1994

Mr. Greg Fewins
City of Federal Way
33530 First Way South
Federal Way, Washington 98003

RE: CITY OF FEDERAL WAY COMPREHENSIVE PLAN DRAFT
ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Fewins:

Thank you for sending the Department of Wildlife a copy of this document. We hope that our comments will be helpful for incorporating the protection of wildlife resources in this plan. We view these comments as a first step in an ongoing process to help develop a comprehensive plan that reflects the importance of fish and wildlife management in land use decisions.

Instead of concentrating our comments directly on the three conceptual plans, we will comment on general impacts that seem to be the same for all three plans. The following are our comments:

1. It would be helpful if the Planning Analysis Zones (PAZ) were outlined on all maps to use as a reference area when discussing other elements; i.e., water, open space, land use, etc.
2. A map showing sensitive areas, vacant land and corridors would be helpful to assess opportunities for delineating potential wildlife corridors within the city unincorporated areas, and adjacent cities.
3. Page 53 - A map showing location of the wetlands listed on Table 7 should be provided.
4. Page 49, paragraph 6 - Regional detention facilities could be used to mitigate flood flows; however, streams upstream from the detention ponds need protection from stormwater impacts. These streams should not be written off as stormwater conveyances.

5. Flooding, page 49, larger streamside buffers and building setbacks will also help prevent problems associated with flooding. Department of Wildlife has identified riparian habitat as a priority habitat. We have riparian management guidelines that are in draft form and I have attached a copy for your information.
6. Page 54, paragraph 4 - Include nesting/breeding habitat and access to water.
7. Page 55, paragraph 2 - Cutthroat trout, rainbow steelhead trout and cavity nesting ducks are also Washington Department of Wildlife (WDW) priority species.
8. Page 55, paragraph 4 - Trout and coho salmon were in Lakota Creek prior to the construction of the plant and stocking by the Federal Way Sewer and Water District.
9. Page 57, paragraph 3 - The areas identified in this paragraph are sensitive areas identified for development. The type of development chosen for this area should be designed to have the least impact to these high priority fish and wildlife habitats; i.e., Steel Lake, wetlands/Hylebos Creek.
10. Page 58 - Identify wildlife corridors in upland areas (non-critical areas) that can be used to connect with riparian corridors and wetlands. Minimize habitat disturbance in these areas; i.e., cluster housing with open space tracts, purchasing areas for public open space, encouraging plantings for wildlife.
11. Page 65, paragraph 5 - Planning Analysis Zone (PAZ) 15 as indicated in this paragraph will experience an increase in residential densities in the next 20 years. PAZ 15 contains significant wetland habitat and it would be an ideal area to provide an open space corridor to connect the various wetlands.
12. Page 95, #2 Land Use Pattern - Open space between neighborhoods should be incorporated into other open space corridors whenever possible.



Federal Way Water & Sewer

P.O. Box 4249 - 31627 - 1st Avenue South - Federal Way, Washington 98063
Seattle: 941-1516 - Tacoma: 927-2922 - Engineering: 941-2288 - Fax: 839-9310

Greg Fewins
January 3, 1994
Page 3

We would like to thank you for the opportunity to comment on this document. If you have any questions, please call me at 206-775-1311, extension 107.

Sincerely,

Philip Schneider
Habitat Biologist

PS:ks

Enclosure

cc: Connie Iten
Steve Penland

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT

November 12, 1993

Greg Fewins, Senior Environmental Planner
City of Federal Way
Department of Community Development
33530 First Way South
Federal Way, WA 98003

NOV 16 1993

RE: COMPREHENSIVE PLAN - PRELIMINARY DRAFT EIS

Dear Mr. Fewins:

The District has reviewed the above document and identified numerous areas in which corrections are necessary. In order to keep with the City's timeframe for publication, we will only address the most serious corrections in this letter.

1. Page 10. Second paragraph first sentence should use "Planning Area" as opposed to Federal Way. Existing land use map on facing page is not legible. Use a reproducible medium for color-coded maps.
2. Page 26. First sentence of first paragraph under "Ground Water" states that Federal Way is dependent of ground water for all its domestic water supply. This is not a true statement. Water for domestic purposes is available to District customers through existing interties with adjacent purveyors. The second paragraph under the Ground Water heading is incorrect in regard to recharge of the Redondo-Milton Channel aquifer. Recharge occurs throughout the District. Specifying certain areas for certain aquifers is completely misleading and without basis.
3. Page 28, Ground Water Impacts. Impacts should include the loss of recharge resulting from discontinued use of septic systems. The statement regarding drainage systems providing infiltration as a means of reducing recharge impacts should be qualified since the efficiency of this concept has yet to be shown. Under unavoidable adverse impacts, the loss of water quality and quantity should be included as well as the higher costs associated with water treatment and importing supply.
4. Page 29, Air Quality. No discussion of potential impacts to surface water quality (and subsequently ground water quality) resulting from air pollution (See South King County Ground Water Management Plan for technical data).

Donald L.P. Miller
Commissioner

Dale A. Cap
Commissioner

Beverly J. Tweddle
Commissioner

5. Page 40, Ground Water. The last sentence of the first paragraph should be re-worded.
- The first part of the sentence states that the Redondo-Milton Channel aquifer provides domestic water to a number of users including the Federal Way Water & Sewer District. It should be clear that although some private wells may penetrate the Redondo-Milton Channel, it is unlikely that of the private wells that do exist in the area, many go that deep. As written, the sentence sounds as if there are many competing interests in the Redondo-Milton aquifer of which the District is only one. It should also be clear the District is the sole purveyor of water within our water service boundary, except for a few private wells for single-family residences.
- The second paragraph regarding recharge is in error. See previous comment under item 2.
6. Page 41, Ground Water. Two false assumptions are made here. The first is that our pumping is equal to our total withdrawals and the second is that total rainfall is equal to recharge. Who, how and when was this information obtained?
7. Page 44, Ground Water Impacts. Need to include reduced recharge from elimination of septic systems. It is noted again in this section that important recharge areas have been identified. At this point, the only effort to identify important recharge areas is the generalized mapping of areas that are perceived to have a high infiltration rating based on soil types. Recharge occurs throughout the District.
8. Page 46, Mitigation Measures, Ground Water. Chapter 3 of the Draft South King County Ground Water Management Program cites the lack of empirical evidence supporting the efficiency of any known means of enhancing recharge while safeguarding quality. It concludes that low density development is the best way to go for now. None of the proposed land use alternatives consider this. Our previous comments regarding the scope of this EIS requested review of alternative Urban Growth Boundaries for this specific reason.
9. Page 51, Animals. The last paragraph states that Lakota Creek supports limited salmonid spawning and rearing due to stocking by the Federal Way Water & Sewer District. The District does not stock Lakota Creek on an annual basis. The District rehabilitated the creek during the upgrades to the Lakota Wastewater Treatment Plant. The Creek has been stocked on several occasions as a joint effort between the Department of Fisheries, Muckleshoot Indian Tribe, and the District.

City of Federal Way
 Greg Fewins
 November 12, 1993

10. Page 53, Mitigation Measures. The City's existing ordinances and regulations will not completely mitigate impacts to plant and animal communities.
11. Page 54, Mitigation Measures (cont.). Listing (last bullet) does not include threatened or endangered species.
12. Page 68, Land & Shoreline Use. Second bullet from the top states that land use in the Weyerhaeuser headquarters area is characterized by office and industrial park uses. This is not true, at least not yet. The area is characterized by low density single family housing (other than Weyerhaeuser).
13. Page 70, Land Uses. The first two paragraphs under this heading make statements that are inconsistent. The loss of vacant land is a change in land use.
14. Page 74, Land Use Concept 2. The second paragraph notes that a high capacity transit station would be located in the vicinity of 364th. This area had formerly (prior to incorporation) been designated a non local service area by King County. This may be because of the sensitive nature of the area. At any rate, sewer service is not available in this area at this time. Impacts to the surrounding area should be evaluated. The area is presently low density single family with numerous sensitive features (Hylebos Creek, Wetlands, etc.).
15. Page 80, GMA summary. The summary leaves out Aquifer Recharge Areas from the listing of critical areas. Areas with critical recharging effect on aquifers used for potable water are listed in the Growth Management Act along with those cited in the EIS. The GMA also states that the land use element shall provide for protection of the quality and quantity of ground water used for public water supplies. In addition, according to RCW 90.44, ground water protection must be provided for.
16. Page 81. First paragraph regarding GMA planning goals discusses concurrency. Where is concurrency in relation to finite resources such as our water supply? In regard to public participation, has the City included unincorporated area citizens (within the planning area) throughout this process, along with citizens within the City?
17. Pages 87 & 88, Table 17. The planning policy regarding Aquifers is listed along with the City action that states that mitigation of impacts to the aquifer system are addressed in the Draft EIS.

It is not clear where the draft EIS discusses impacts and mitigation for the aquifer system. We did not notice such a discussion. On page 88, the table discusses analysis of services and utilities to determine whether and where phasing may be appropriate. It would be prudent to discuss these issues with the appropriate purveyors prior to making commitments to a particular course of action.

Page 93, Urban Services. The table notes that the adequacy of existing and planned facilities is evaluated in the draft EIS. We did not notice a discussion of existing on-site septic systems as they relate to the aquifer system and how elimination of them will further reduce recharge.

The EIS needs to discuss projected impacts to wastewater treatment facilities.

Page 96, Adjacent Jurisdictions. Need to include Pacific, Pierce County and Tacoma.

Page 98, Federal Way Community Plan. Discussion states that density east of I-5 will be greater than anticipated in the Federal Way Community Plan. Have residents of this area been included in the plan development? Utility plans are based on the Land Use Plan with jurisdiction for that area which is currently King County.

The City should make sure that the proposed land use density for this area is acceptable to the residents and service providers.

Page 100. Add missing jurisdictions.

Page 108, Mitigation Measures, Population. Why has the City of Federal Way nominated itself to be an "Urban Center" when there seems to be a lack of meaningful evaluation of the potential impacts to the Greater Federal Way area? For instance, the Draft EIS notes that there may not be enough land and water to support the projected population. It seems as though before trying to accommodate more development, we need to make sure we don't degrade the quality of life for the existing community residents. This is why coordination with surrounding jurisdictions is important. There may be other areas capable of accommodating growth that this area cannot.

23. Page 110, Visual Character. Second sentence refers to the City's residential neighborhoods while it should say the Planning Area's... Areas east of I-5 are not within the City.

24. Page 111, second paragraph mistakenly refers to southwest 320th when it should just be south 320th. In addition, it does not call out the exceptional landscaping at Taco Time and McDonalds which are both located along 320th.

24. Major Visual Features. First paragraph mistakenly refers to the City's water tower. Should say the Federal Way Water & Sewer District's water tower (also in third paragraph under this heading). Need to correct reference to southwest 320th throughout this section.

25. Page 130, Bicycles. The bike lane is located on So. 312th, not S. 213th as stated in the DEIS.

26. Page 148. The paragraph at the bottom of the page notes that most of the local schools experience fire flow deficiencies. The statement should be amended to read SOME of the local schools.

It is important to note that in many cases, it is an on-site issue as opposed to a public water system issue that is the limiting factor in these cases (amend comments on page 149 as well).

27. Page 160, Unavoidable adverse impacts. Notes that land developed or set aside for schools would not be available for other uses. In what way is this an unavoidable adverse impact?

28. Page 165, second to last paragraph states that City has a current deficit of 757.6 acres of park land. This number is not consistent with others provided in that section.

29. Page 166, Unavoidable Adverse Impacts. Need to discuss (as with schools) that additional resources would be consumed (i.e. water). Mitigation measures should include appropriate conservation planning (i.e. drip irrigation, native vegetation, etc.).

30. Page 167, Utilities. First sentence of second paragraph should read "eighteen active wells... The second sentence should include well 10E (along with 16, 22 and 22A).

30 The third sentence should read total active pumping of the district's wells is about 32 million ... or nearly 22,000 gallons per minute. The fourth sentence should read The eighteen active wells...

The fifth sentence should read "The estimated sustainable capacity of those aquifers is about 9.7 (5040 GPM) MGD on an average basis during a 10-year drought condition. (Federal Way Water & Sewer District, 1993).

31 Page 168. Second paragraph from the top of page. Second sentence should read the District (not City) has 14 (not 13) hydraulically... The third sentence should read "throughout the District (not City).

31 Third paragraph, second sentence should read Thirty-three pressure reducing valves...

The fifth paragraph states that the aquifers serving the Greater Federal Way area appear to be over appropriated. This statement insinuates that water availabilities are being given out inappropriately. If this is the case, a moratorium may be necessary. This paragraph needs to include two other "challenges" 3) development reduces ground water supply; 4) GWA policies threaten ground water supply.

32 Page 169. Partial paragraph at top of page. Average day demand should be used instead of peak day.

This section should consider the impact of alternatives considered on wetlands and the endangered species issue - loss of habitat could result in a "taking" under the Endangered Species Act. If this is the case, need to develop a Habitat Conservation Plan.

33 Third paragraph, first sentence should read "to purchase 30.77 percent of the South King County RWA's share (15/65ths) of the proposed Pipeline 5 capacity. The third sentence should read "would divert about 55 MGD (not 15 mgd) from the Green River... The fifth sentence should be corrected to read "If the water from the Tacoma Second Diversion (Pipeline 5) is available in 1997,... (not 1995). Delete reference to RWWS 1991 Water Comp. Plan.

33 Page 172. Second paragraph talks about additional fire flow demands on the water system to support a high intensity downtown core. A strong grid is already in place.

36 The next 538 pressure zone water storage increment is planned for 1998/1999.

34. Page 173, Sewer Service System. The first paragraph states that all sanitary sewer service within the proposed Federal Way Urban Growth Boundary is provided by the Federal Way Water & Sewer District. This is not true. Metro, Midway, Pierce County and on-site septic systems also provide service within the UGA. The second sentence states that Federal Way Water & Sewer District is the successor agency to Lakehaven Sewer District. This is not true either. Federal Way Water & Sewer District is Lakehaven Sewer District (last sentence in paragraph is correct).

38 Third paragraph, third sentence should read "Federal Way Water & Sewer District sanitary sewer system..." The fourth sentence should read "from the District is highly..." This paragraph should be clarified regarding the 5 treatment plants. The District owns and operates 2 treatment plants. The others are within other jurisdictions.

39 The fourth paragraph does not appear to be necessary.

40 Page 174. First paragraph, first sentence should read "Wastewater generated within the District..."

Second paragraph, second sentence should be "are directed to the Midway Sewer District for treatment. The references to "the east" and "on the south" should be the Northeast and southeast.

41 The third paragraph does not contain any discussion of Siphons.

42 The fifth paragraph talks about six wastewater collection basins. The District is divided into 39 wastewater collection basins and 6 basins tributary to 6 different treatment facilities. It also states that significant new flows are expected in the Hylebos basin. Portions of this area were designated a non-local service area when under King County jurisdiction and as such are not currently or planned to be sewered.

In addition, those portions that are sewered (east of I-5) are currently the topic of the District's South-end Study.

42

A portion of the flow currently going to Tacoma via Pierce County is going to be diverted to the Lakota Wastewater Treatment Plant. If areas currently unsewered are proposed to be sewerred, a discussion regarding land use, sensitive area and utility impacts (District and others) needs to occur.

Since a significant portion of the east side in this area is designated a non-1sa, the District did not include flow projections in our previous planning efforts. This area, for the most part, is low density single family residential and contains numerous sensitive features (such as Hylebos Creek, Spring Valley, Wetlands, etc.)

43

Under Significant Impacts, the document needs to provide calculations used to determine the projected flow increase and how each concept will impact District (and other) operations. For example, if flow is being generated within a small portion of the District (Downtown) yet is responsible for a large percentage of the flow to the plants, the system and operational impacts need to be evaluated. The discussion of impacts regarding available plant capacity is misleading. There is no discussion of the types of wastewater that may be generated under different land use concepts (for instance, commercial and industrial development will have different impacts to the treatment plant, possibly requiring different/additional treatment, than residential development).

44

The document does not discuss inflow and infiltration (I&I) impacts to the sewer system (how I/I affects flows) or how this might impact our NPDES permits.

45

36. Page 175. The first paragraph below the figure talks about a hydraulic analysis of the sewer system that will be available next year. The District does not know what is meant by this comment. We may model the system in a year or two.

46

Second paragraph below figure. Changes to capacity agreement with Pierce County may also be necessary (flow from the District flows through Pierce County system in order to get to the Tacoma Treatment Plant).

The third paragraph, last sentence talks about increasing flows to Tacoma and Metro. The reference to METRO is not applicable. Again, this document needs to discuss how the proposed land use concepts will impact existing studies (South-end) and operations. A significant portion of the area east of I-5 is currently under the jurisdiction of King County and is designated Non-Local Service Area.

46

This means that sewers are not allowed. Because of this designation, Sewer Plans do not include flow projections for these areas (they are not allowed to per King County). In addition, these non-1sa areas generally contain sensitive features such as wetlands, steep slopes, lakes, etc.

Land use, environmental and utility impacts need to be discussed (impacts to the environment should include those caused by development and those resulting from placement of utilities). If development occurs along the eastern "ridge" where no sewers exist, it will be necessary to either drop a sewer line down to the valley (a significant effort/impact) and tie into Metro's system or provide additional pump stations to transmit flow to another area. These are the types of issues that need to be addressed through the EIS at this time.

37.

Page 176. First paragraph, first sentence, delete the word "probably". The second sentence is not true.

Improperly working (failing) septic systems may present a risk to ground water quality, however, this is not the case within the Federal Way Water & Sewer District. In fact, there is more of a threat to the aquifers by eliminating septic systems due to the significant amount of recharge they provide.

47

Because our aquifers are more than 150 feet below the surface, potential contaminants are generally filtered out by the time the water reaches the aquifer system.

38.

Page 177. The mitigation measure proposed on this page exhibits a lack of knowledge regarding Federal Way Water & Sewer District Operations. As mentioned in the previous comment, the net effect would be damage to ground water quantity due to loss of recharge.

48

Page 178. Awaiting Storm Water section.

49

Pages 188 & 189. Growth rates appear to have no basis in reality.

50

An important impact is utility relocation. These costs must be specifically estimated for street-type improvements. There is no authority to collect impact fees for these costs (to our knowledge) and ratepayers would have to pick up the tab.



City of Federal Way
Greg Fewins
November 12, 1993

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT

January 3, 1994

JAN 5 1994

Department of Community Development
City of Federal Way
33530 - 1st Way South
Federal Way, WA 98003

Attn: Mr. Greg Fewins, Sr. Environmental Planner

51 41. Page 193, fifth box. Would the City require people in unincorporated areas to sign agreements waiving their right to contest annexation in return for water and/or sewer services?

52 42. Page 194, Capital Facilities/Transportation, third box. Potential land use and transportation effects of high capacity rail transit in Federal Way and location of transit stations should be discussed in the Draft EIS (not just Final EIS) so that readers can comment.

53 43. Page 195, second box. Following the last sentence is what appears to be the beginning of a new sentence that is incomplete.

54 44. Appendix B, Water Resources. Tables W-5 & W-6 should also show area of existing development and totals. A note should be added that provides the basis for amounts shown. For instance, what percent of lot coverage is assumed?

55 45. A general comment regarding the EIS. It would be helpful for review purposes to include a table of contents of the proposed Comprehensive Plan. It appears as though the EIS covers the proposed Land Use and Transportation sections only (mostly land use). Will other elements be included in the Plan?

We suggest that the Plan include a conservation element. This is provided for as an optional element under the GMA. This element would provide "for the conservation, development, and utilization of natural resources, including water and its hydraulic force, forests, watersheds, soils, rivers, and other waters, harbors, fisheries, wildlife, minerals, and other natural resources."

Additional comments will be provided once the Draft EIS is made available. If you have any questions, please call me at 946-5408.

Sincerely,

Mary G. Dwyer
Senior Engineering Planner

c: Steve Wieneke, Director, Engineering and Technical Services
Roger Brown, Director, Administration and Finance
Don Young, Director, Operations
Steve Pritchett, Legal Counsel

10

Dear Mr. Fewins:

Thank you for the opportunity to review and comment on the Draft EIS for the City of Federal Way Comprehensive Plan. Overall, the document appears to address a reasonable range of alternatives for growth planning purposes.

The DEIS recognizes that noise generated by aircraft overflights is a part of the Federal Way environment, along with noise from surface traffic and other sources. The document also appropriately references the decrease in future aircraft noise levels projected by Port and PSRC studies. The Port concurs with the recognition that limiting residential land use intensity in areas of higher noise exposure is a potential mitigation measure which merits consideration. The use of specific sound insulation measures in the design and construction of residential structures is important and can mitigate noise impacts from vehicles and other sources as well as aircraft. The Port strongly urges that such measures be incorporated in the relevant codes adopted by the City at the earliest opportunity.

Over the past several years, we have worked with the City on a variety of programs, including SR509/South Access, SCARAD, flight track evaluation, and noise remedy programs. We look forward to continuing to work with you in addressing these and other issues of mutual concern such as land use, transportation, and regional growth.

Thank you again for the opportunity to comment.

Sincerely,

R. Burr Stewart
Director, Aviation Planning

cc: Feldman, Poor, Summerchays
1431L/RW

Seattle-Tacoma
International Airport
P.O. Box 68727
Seattle, WA 98168 U.S.A.
TELEEX 703433
FAX (206) 437-5972

PUGET POWER

January 4, 1994

Mr. Greg Fewins, Senior Environmental Planner
Department of Planning and Community Development
City of Federal Way
33530 First Way South
Federal Way, Washington 98003

RE: City of Federal Way - Comprehensive Plan DEIS

Dear Mr. Fewins:

Puget Sound Power and Light Company (Puget Power) appreciates the opportunity to review the city of Federal Way Comprehensive Plan Draft Environmental Impact Statement (DEIS) dated November 19, 1993. At this time, we would like to offer the following comments on the DEIS for the City's consideration.

I. SUMMARY TABLES

Table S-1. Summary of Impacts of the Land Use Concepts, Page 14

We would recommend that "EMF" be deleted from the General Impacts column. The sentence's effect is the same and its structure and clarity is improved.

Table S-2. Summary of Mitigation Measures, Page 26

In the Environmental Health (EMF) section, the last bullet should delete reference to "100 feet." EMF decreases substantially as you move away from the source and the reference to "100 feet" has no frame of reference.

II. ENERGY

AFFECTED ENVIRONMENT, Electricity, Pages 60-61

This section should be rewritten to reflect the following revisions (in bold):

"The City of Federal Way receives electrical service from Puget Sound Power and Light Company (Puget Power). Puget Power owns and operates its own generation facilities, and also receives power from the Bonneville Power Administration's (BPA's) power transmission system. Four BPA transmission lines bisect the Federal Way area: three Tacoma-Covington lines (230 kV) and the Tacoma-Raver line (500 kV). These lines..."

Power obtained from BPA is transferred into Puget Power's system via one transmission substation in the south King County area...In Federal Way, electricity is distributed throughout the city via six substations or eight substations. These station transformers are all rated at 25 MVA...Each substation transformer is estimated... Therefore, the existing eight substation transformers have..."

Under the third bullet (page 61), the sentence should be revised to note that Automated Distribution Systems are a new technology being studied for application in situations where it might be cost-effective.

Under the fourth bullet (Page 61), the sentence should clarify that upgrading radial distribution systems to looped distribution systems may occur as cost-effective opportunities present themselves.

SIGNIFICANT IMPACTS, Land Use/City Center Concept 1

Page 63, Paragraph 2, last line: We would recommend deleting the phrase "...and will be available when demanded".

III. ENVIRONMENTAL HEALTH

A. ELECTROMAGNETIC FIELDS (EMF), Affected Environment

Page 66, Paragraph one, line two: Consistent with the changes made in the Energy section, this section should be revised as follows,

"One 500 kV and three 230 kV transmission lines are located in this corridor -- Tacoma Raver 500 kV and three Tacoma-Covington 230 kV".

Page 68, Paragraph two, line nine: This sentence should be revised to read: The Wertheimer-Leeper study, which showed a positive association between estimated magnetic fields from nearby power lines and childhood leukemia in Denver, Colorado, was released in 1979 and was the first such study to receive significant public attention. This study was repeated by Savitz in 1986, and although similar results were found when using estimated fields, no correlation could be demonstrated when actual field measurements were taken.

Page 68, Paragraph two, line 23: The sentence should be revised to add, after "...9, 1992".; however, studies conducted simultaneously in Denmark found conflicting results.

Page 69. Paragraph three: The paragraph which begins "In a 1989 report..." should be replaced with the following, more comprehensive discussion of public policy pertaining to EMF. The following includes excerpts from Puget Power's "Planners' Briefing Book on Electric Utility Issues in Growth Management" which has been provided to the city previously.

In a study published in March of 1992, the Public Utility Commission of the State of Texas was advised:

The Committee concludes that at present there is insufficient evidence regarding human health effects of EMF to provide the basis for a health-based standard. The Committee can find no reason to create arbitrary numbers to use as a desired level of exposure, because the use of such numbers cannot be argued or defended on the basis of scientific evidence. The primary objective of the Committee is the protection of public health, and the Committee can find no scientific argument to support standards, either through guidance or regulatory criteria.

In yet another state study published in April of 1992, the State of Connecticut Department of Health Services requested an independent assessment of the issue from the Connecticut Academy of Science and Engineering. The Academy's report states:

The question has been raised in both the scientific community and publicly as to whether it is advisable to urge the public to practice "prudent avoidance" of ELF electromagnetic field exposure. The Academy concludes that it would be inappropriate - given the above conclusions - for public authorities to recommend "prudent avoidance."

And on December 6, 1993, following many months of review, the City of Bellevue, in the adoption of its new comprehensive plan, rejected the concept of "prudent avoidance" and stipulated that new electric facilities must be sited by striking "a reasonable balance between potential health effects and the cost and impacts of mitigating those effects by taking reasonable, cost-effective steps."

The consensus in the scientific community is that there is no basis from which to conclude that exposures to ELF EMF cause adverse health effects. When the consensus of the scientific community is considered as a basis for regulation, jurisdictions that have recently considered this issue have concluded that there is no basis for regulation of ELF EMF.

Page 69. Significant Impacts: We recommend that the entire first paragraph be eliminated. The second paragraph essentially states that there is no significant impact, which makes the first paragraph a contradiction and places it out of context in a section titled "Significant Impacts."

Additionally, the statement that "Intensification of land use in areas located adjacent to the power lines could result in a higher number of people being exposed to EMF" is without foundation and insupportable as EMF levels from power lines may be lower than those generated by the utilization of equipment within the residences and businesses served from the power lines. Also, the last sentence in the first paragraph, while accurate, only serves to further contradict the preceding material and suggests that the logic for inclusion in this section is flawed.

Page 69. Mitigation Measures: This entire section is contradicted by the preceding section which finds no basis or support for regulation. We would question the rationale behind basing mitigation and regulation in the DEIS on "public perception" and "increasing concern" when the majority of the science and, in fact, the remainder of the DEIS document, does not support such a position.

Page 69. Unavoidable Adverse Impacts: The first sentence in this paragraph takes the proposition set forth in the Significant Impacts section (Intensification of land use in areas located adjacent to the power lines could result in a higher number of people being exposed to EMF) and attempts to reinforce and amplify it (Intensification of land use in areas located adjacent to the power lines would result in a higher number of people being exposed to EMF). As in the preceding comments, this assumption is insupportable and arguably inaccurate.

Further, the second sentence of this section, in order to support and be consistent with the preceding sentence, must assume that the reader is predisposed to assume that EMF (from power lines) is harmful.

It seems, however, illogical to suggest that if "such effects" are not adverse, then intensification of land use in areas adjacent to the power line corridor would result in an "unavoidable adverse impact." Therefore, based on preceding information and documentation included within the draft EIS, it is inappropriate to include "[I]ntensification of land use in areas adjacent to the power line corridor..." in the "Unavoidable Adverse Impacts" Section.

Again, Puget Power appreciates the opportunity to comment and looks forward to additional opportunities to participate in Federal Way's comprehensive plan process. Please feel free to contact me at 839-1403 in Puget Power's Federal Way Business Office should you have questions.



Mark Crisson
Director
3628 South 15th Street
P.O. Box 11417
Tacoma, WA 98411-0017

Divisions
Light
Water
Bell Line

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT
JAN 10 1994

January 7, 1994

Sincerely,

Kevin L. Beck

Kevin L. Beck, Manager
Federal Way Business Office

Mr. Greg Fewins
Department of Community Development
City of Federal Way
33530 - 1st Way South
Federal Way, Washington 98003

Dear Mr. Fewins:

Re: City of Federal Way Comprehensive Plan Draft Environmental Impact Statement

The Water Division has reviewed the Draft Environmental Impact Statement (DEIS) on the City of Federal Way's Comprehensive Plan and would like to offer the following comment:

Utilities, A. Water System, Significant Impacts: The fourth paragraph on page 188 reads "Federal Way Water and Sewer District has entered into a contract with the City of Tacoma to purchase 30.77 percent of the city's second water supply pipeline's (Pipeline 5's) proposed capacity. This would translate to about 4.62 MGD of additional supply. Pipeline 5, which is currently in the final design stage, is a water supply project that would divert about 15 MGD from the Green River across south King County, through Federal Way and into Tacoma. Tacoma hopes to begin construction in 1994. If water from Pipeline 5 is available in 1995 (as discussed in the 1991 *Water System Plan*), Federal Way Water and Sewer District could provide water supply adequate to accommodate projected growth under the land use concepts until about the year 2010."

This should be revised to read: "Federal Way Water and Sewer District has entered into a contract with the City of Tacoma to purchase 7.1 percent of the city's second water supply pipeline's (Pipeline 5's) proposed capacity. This would translate to about 4.62 MGD of additional supply. Pipeline 5, which is currently in the final design stage, is a water supply project that would divert about 65 MGD from the Green River across south King County, through Federal Way and into



Mr. Greg Fewins
January 7, 1994
Page 2

Tacoma hopes to begin construction in 1995. If water from Pipeline 5 is available in 1996, Federal Way Water and Sewer District could provide water supply adequate to accommodate projected growth under the land use concepts until about the year 2010."

Please call me at 502-8738 if you have further questions regarding this correction.

Sincerely,

Jane C. Evancho
Resource Planning Manager

smc

January 3, 1994

Mr. Greg Fewins, Sr. Envir. Planner
Planning and Community Development
33530 First Way South
Federal Way, WA 98003

Re: City of Federal Way Comprehensive Plan Draft EIS

Dear Mr. Fewins:

Thank you for the opportunity to comment on the city of Federal Way's Comprehensive Plan EIS. Overall, you and your staff should be complemented on this document. Our specific comments on the draft EIS are detailed below.

Under the Summary of Impacts of the Land Use Concepts (page 13), the document discusses energy only in terms of electric power. The document should also evaluate and disclose potential impacts to other energy resources, such as petroleum and natural gas.

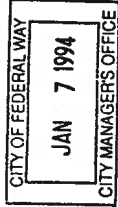
In Table S-2, Summary of Mitigation Measures (page 25), many of the mitigation proposals are noteworthy, but expensive. How will these mitigation measures be funded? Likewise, under the mitigation measures relating to noise impacts, the document proposes limiting residential land uses within the flight path and shifting these uses elsewhere. How will this action be evaluated? What role, if any, would the Port of Seattle play in implementing this action? On page 27 of this table, mention is made of possible transportation-related mitigation measures. However, no mention is made of possible/potential transit related improvements, or how any of the mitigation measures will be funded.

Continuing review of this table, the mitigation measures proposed under the Parks and Recreation Element could more aptly be considered goals rather than mitigation. Simply identifying potential recreation needs and level of service standards will not mitigate an adverse impact. It is important to identify possible funding options for mitigation measures proposed throughout the document.

One of the most important issues to Des Moines presented in this DEIS is the northern boundary of the Planning Analysis Zones. As you are aware, Des Moines, through council resolution, identified South 272nd as the southern boundary of our potential annexation area. I recommend we schedule a meeting to address the implications of this area on our comprehensive plans within the month. Also, please note, there is some inconsistency between your maps throughout this section of the document, especially the northern boundary on Figure 3, Existing Land Use.

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT

JAN 12 1994



King County
Solid Waste Division
Department of Public Works
Yester Building
400 Yester Way, Room 500
Seattle, WA 98104-2637
(206) 296-6542

January 4, 1994

Mr. Kenneth E. Nyberg
Assistant City Manager/Director of Community Development
City of Federal Way
33530 First Way South
Federal Way, WA 98003-6210

RE: City of Federal Way Comprehensive Plan Draft Environmental Impact Statement

Dear Mr. Nyberg:

Thank you for your November 19, 1993 letter and the opportunity to review and comment on the City of Federal Way Comprehensive Plan Draft Environmental Impact Statement (Draft EIS). The purpose of this letter is to recommend that a discussion of solid waste management strategies be included in the Utilities section of the Draft EIS.

The 1992 Comprehensive Solid Waste Management Plan (Plan), which is now in the process of being adopted by the suburban cities, guides the development and implementation of facilities and programs that execute King County's solid waste policies. The 1992 Plan is required by Washington State RCW 70.95 and will be adopted in accordance with the statute and the Solid Waste Interlocal Agreement that was signed by the suburban cities. Federal Way concluded their active participation in development and review of the 1992 Plan by adopting it on December 7, 1993 as the City's solid waste management plan.

The 1992 Plan is a functional plan that addresses location, design, and operation of solid waste management facilities and services, and also includes action plans for implementing waste reduction and recycling programs. We recommend that discussion of the 1992 Plan and solid waste management be included in the Draft EIS to assure adequate capacities when planning future disposal, transfer, and waste reduction and recycling facilities, and to assure coordination of waste reduction and recycling strategies.

An analysis of the solid waste needs for each of the three City Center Concepts outlined in the Draft EIS should be undertaken. Consideration should be given to the impacts each Concept would have on solid waste facilities and services based on its projected population increase. The significance of solid waste handling policies to each of the three alternatives in the Draft EIS will vary according to projected populations and construction activities. Estimates of solid waste tonnage and proposed mitigation measures for each Concept should be included in the Draft EIS.

6 In the Energy element, some discussion of area wide electrical temporary or short-term reserve capacity would be helpful since one of the mitigation measures proposed is to use these substations to supply energy to Federal Way.

7 In the Transportation Element, more discussion is needed on the possible mitigation measures which will be taken if the RTSP is not approved by the voters. Significantly more discussion and mitigation is needed on the proposed transportation impacts to Des Moines under each of the impacts along Marine View Drive and 16th Avenue. We are also concerned that the Trip Generation Summary in Federal Way (Table 32) does not take into account the anticipated growth that will occur outside the planning area, but which will impact the entire regional system.

8 Under your Public Services Element the statement on page 163 which states that Fire District 39 is adequate to accommodate growth for the foreseeable future is in contradiction with the statement on page 164 which states that based upon potential growth and traffic congestion the Fire District has identified two potential sites for additional stations. Moreover, under the police services portion of this element, the only mitigation measures addressed are additional officers and patrol cars. What about administrative staff, dispatch staff and facilities, detention facilities, etc. needs?

9 Under the water system portion of the Utilities element discussion of the recharge area would be helpful.

10 Finally, under your Fiscal Impacts Element, we would encourage you to review the population estimates included in your growth module. Currently, your average household size for both single family(2.99) and multifamily(2.06) appear to be a little high based on our research.

11 In conclusion, I would once again commend you and your staff on an excellent document. If you would like to discuss any of the comments made in this letter in more detail, please contact me. I look forward to our meeting to discuss our potential annexation boundaries and to reviewing your final document.

Sincerely,

Judith S. Kilgore

Judith S. Kilgore
Director of Community Development

jsk
cc:

jsk/fwdeis.doc

Mr. Kenneth E. Nyberg
January 4, 1993
Page Two

KING COUNTY FIRE PROTECTION DISTRICT NO. 39
FEDERAL WAY FIRE DEPARTMENT
31617 • 1ST AVENUE SO
FEDERAL WAY WASHINGTON 98003

References are needed in the Draft EIS to 1992 Plan policies addressing facilities and services for disposal and/or recycling of construction, demolition, and landclearing waste (CDL). Contracts have been signed with the Regional Disposal Company and Waste Management to handle all CDL generated within King County. The Regional Disposal Company has opened two facilities, one at Third and Lander in Seattle and one at 501 Monster Road in Renton. Waste Management is presently engaged in the site permitting process for facilities which are scheduled to open by June 1994 in Seattle and Algona.

King County encourages source separation of recyclable CDL materials by generators whenever possible. To assist CDL waste generators in recycling, the Solid Waste Division compiles and regularly updates a CDL Resource Guide that lists private recyclers and processors for CDL recyclable materials. Minimum recycling services will be provided at the CDL disposal facility for unseparated loads

Thank you again for the opportunity to review and comment on the Draft EIS. If you have any questions, please call Helen Matekel at 296-4409.

Sincerely,



Rodney G. Hansen, Ph.D., P.E.
Manager

RGH:HM:j1
1rg11.6.12/hml4.1et

cc: Helen Matekel, Program Analyst, Program Planning Section

TO: GREG FEWINS, SR. ENVIRONMENTAL PLANNER
CITY OF FEDERAL WAY
FROM: JIM HAMILTON
SUBJECT: CITYSHAPE DRAFT EIS
DATE: 11/22/93

Per our conversation, I thought it would be helpful if I identified some errors in the EIS regarding the Fire Suppression and Emergency Medical Services section.

1 On page 164, third paragraph, the phrase "traffic congestion reducing response times" should read "traffic congestion increasing response times".

2 On page 165, sixth paragraph, the sentence "This could hamper achieving low response times and could lead to the need for additional stations near more urbanized portions of the city such as the city center" should be stricken. While additional fire stations certainly could help reduce response times, this could mislead readers into believing this as a realistic solution, which it is not. One station could not handle a major event and immediate response from other stations will be necessary. The transport of victims out of the city center will also be of critical importance. Regardless of which concept is utilized, the rapid deployment of emergency vehicles throughout the city is crucial and must be included in the plan.

3 On page 165, seventh paragraph, the phrase "at a number of locations, including most of the local schools" should be changed to "at several locations including and most of those problems are on school property. My thoughts are that it is important to eliminate overstatements from this type of document in order to maintain its credibility and value as a planning tool."

I hope this is helpful. Please let me know if I can be of any further assistance.

Thanks!

King County
Roads and Engineering Division
Department of
Public Works
Yester Building Room 400
400 Yester Way
Seattle, WA 98104-3637

December 16, 1993

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT
DEC 20 1993

Mr. Greg Fewins
Senior Environmental Planner
Planning and Community Development
City of Federal Way
33530 First Avenue South
Federal Way, WA 98003

RE: Federal Way Comprehensive Plan - Draft Environmental Impact Statement

Dear Mr. Fewins:

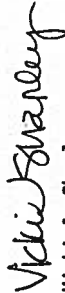
We appreciate receiving a copy of the draft environmental impact statement for the Federal Way Comprehensive Plan.

Staff has reviewed the King County Six-Year Capital Improvement Program (CIP) and Transportation Needs Report (TNR). The review indicates that there are no future CIP projects which will likely be impacted by this plan.

The Comprehensive Plan includes transportation planning elements for unincorporated areas of King County located east of the City of Federal Way. These planning elements may be commented upon separately by the Transportation Planning Section of the Roads and Engineering Services Division.

If you have any questions regarding this review, please contact Senior Environmental Engineer Ron Meinikoff at 296-3735. Thank you.

Sincerely,



Vicki J. Shapley
Supervising Environmental Engineer

VJS:RRM:jb

cc: William S. Vicek, Manager, Engineering Services Section
Ron Meinikoff, Senior Environmental Engineer

Law Offices

HILLIS CLARK MARTIN & PETERSON

A Professional Service Corporation
500 Galland Building, 1221 Second Avenue
Seattle, Washington 98101-2925
(206) 623-1745 Facsimile (206) 623-7780

January 4, 1994

VIA HAND DELIVERY

Mr. Greg Fewins
Senior Environmental Planner
Department of Community Development
33530 - 1st Way South
Federal Way, WA 98003

Re: Comments to the City of Federal Way Comprehensive Plan
Draft Environmental Impact Statement

Dear Mr. Fewins:

We are writing to comment on the City of Federal Way's Comprehensive Plan Draft Environmental Impact Statement, issued November 19, 1993. These comments are submitted on behalf of The Weyerhaeuser Company. As you are aware, The Weyerhaeuser Company owns several hundred acres located east of Interstate Highway 5 within Sections 10, 15, 16, 21, and 22, Township 21 North, Range 4 East. This property is located within the City's Planning Analysis Zones 6, 7, and 18. DEIS, Figure 2.

This property is presently within the jurisdiction of King County. However, we support inclusion of the property in the City's Comprehensive Plan studies. The DEIS for the Comprehensive Plan does include the property within Concept 1 of the Draft EIS. DEIS at 17, Figure 4. The draft maps for Concepts 2 and 3, however, do not presently include the Weyerhaeuser Property. DEIS, Figures 6, 8. We assume this is an oversight because the DEIS text does mention the Weyerhaeuser Corporate Campus as the location for possible future commercial and manufacturing uses under Concepts 2 and 3. DEIS at 115. We suggest correction of these maps to include the property within Concepts 2 and 3.

We support inclusion of the Weyerhaeuser Property in the City Comprehensive Plan because the area is within the Interim Urban Growth Area mentioned as the area suitable for future annexations. DEIS at 114. The Weyerhaeuser Property is located within the City's "Sphere of Influence", also described as the City Planning Area in the DEIS. DEIS at 1, Figure 1.



APR 18 1994

GATEWAY CENTER

Mr. Greg Fewins
January 4, 1994
Page 2

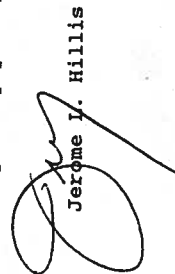
April 13, 1994

2 Land use maps to be developed for the Comprehensive Plan could more clearly identify the Weyerhaeuser Property as a potential annexation area, whether or not these maps designate specific uses for the Weyerhaeuser Property. In any event, the text for the Comprehensive Plan should indicate that existing and planned utilities are appropriately sized to support future development on the Weyerhaeuser Property, consistent with the existing development pattern of manufacturing and business centers along the Interstate-5 and Highway 18 corridors. We concur that these types of uses should include appropriate buffers and setbacks for adjoining areas. DEIS, page 115.

3 We do not envision major changes on the Weyerhaeuser Property. Corporate Park uses and Business Park uses may occur, consistent with the existing development of the property; although there are no current development plans. Whether the property remains in King County or is annexed to the City, The Weyerhaeuser Company will continue to work with the City of Federal Way to cooperate in its planning process.

4 We look forward to providing further comments as the City proceeds with development of a Preferred Alternative for the Final EIS. It is our understanding that additional opportunities for comment will precede selection of the Preferred Alternative. We appreciate this opportunity to comment on the City of Federal Way's Comprehensive Plan review. I request copies of any future documents and notification of any hearings in connection with the City's Plan review.

Very truly yours,


Jerome I. Hillis

320444

Greg Fewins, Senior Environmental Planner
Department of Community Development
33530 1st Way South
Federal Way, Washington 98003

Re: CityShape DEIS comments

Dear Greg,

I understand from my staff the City is continuing to accept comments regarding the Comprehensive Plan DEIS titled CityShape and dated November 19, 1993. These comments are not intended to be reflective of prior comments already provided to the city.

First, regarding the City Center, the intent of the initial planning process was to focus solely on the city center and the unique aspects of its operation and related parameters, which on several fronts, would be different from those needs and guidelines applicable to the balance of Federal Way. Instead the planning process has been expanded to encompass the entire community's geographic reach and beyond to incorporate the natural planning areas which are adjacent to, but not incorporated to date. This has allowed the planning department to meet broader goals associated with the implementation of the Washington State Growth Management Act. At the same time, however, there are evolving generic restrictions being imposed on the city center that could, in turn, stifle the very type of development envisioned for the long term. It is important to look at those mechanisms once again to facilitate the type of growth desired and not to stifle those development efforts already underway nor impinge upon existing property rights verses providing positive incentives which would encourage the plan.

An example is the proposed restrictions on office and mid-rise developments outside the city center core, but still within the city center. This, in effect, down zones what is currently acceptable. In the case of Gateway Center, we plan some mid-rise office buildings in the range of 6 to 7 stories plus a mid-rise hotel development. This has been something the original county

Gateway Center, Inc.

Location: Gateway Center Boulevard South and South 320th, Federal Way, Washington
Mailing: 800 East Diamond Boulevard, Suite 3-505, Anchorage, Alaska 99515
Anchorage: (907) 349-6478, Fax (907) 349-8087 • Seattle: (206) 292-2211, Fax (206) 382-9648

Greg Fewins, Senior Environmental Planner
Department of Community Development
April 13, 1994
page 2

1 permitting provided, city incorporation allowed and the founding city mission statement encouraged and by all measures continues to encourage. Yet, because of a concern for encouraging dense development in the core of the city center, these plans propose to restrict or prohibit such mid-rise development in the city center perimeter. In fact, any new office development within the city center boundary should be encouraged, at this juncture, to build toward a positive critical mass in general. The core itself also will need to be modified in terms of existing property ownership and use in terms of facilities available to accommodate such envisioned mid and high rise office development. For example, much of the city center core property has single story income producing buildings and it will be very difficult for those buildings to be torn down and income foregone in exchange for developing the first, or one of the first, city center office buildings. Federal Way will need to develop systems and facilities which provide encouragement for same, such as a common parking structure, rapid transit, land parcel accumulation, utilities and adjacency to other compatible amenities, such as a park, fountains, a city hall, or a regional court building. Also some private sector service supports, such as reprographic centers, restaurants, etc. will require a critical mass of several office buildings before the total business volume is attractive. Any such mid-rise development which may occur in the parameter prior to the implementation of these support facilities and actual development in the city center will complement the critical mass additions to the city center. There are parcels, such as at Gateway Center, which have the infra-structure in place and the undeveloped land available for such office building development. We need to be encouraged to proceed and to get the ball rolling wherever within the total city center area additional office building users desire so as to develop a vision and understanding for the city core as well.

2 Within the city center concept and additional segments of Federal Way, the plan is driven by the assumption that a rapid rail like system will be in place. We should not impinge upon the cities future to the extent the plan leads to changes, or prevents development in anticipation of a rapid transit system which may not occur in the foreseeable future. It may be more prudent to delay those developments and/or investments that are required in conjunction with rapid transit, or which substantially rely upon same until such time as funding and permitting for rapid transit construction is in place. At that point we will still have ample lead time to implement many, if not all, the proposed changes in

Greg Fewins, Senior Environmental Planner
Department of Community Development
April 13, 1994
page 3

3 the Comprehensive Plan that compliment or are required to be in sync with such rapid transit system. My guess is that construction will take at least ten years once started. There are plenty of other city experiences on lead times with which to compare.

Very truly yours,

Daniel A. Casey

Daniel A. Casey
President

cc: City Council Members
Ken Nyberg
Larry Springer

city/sm



SEATTLE-KING COUNTY ASSOCIATION OF REALTORS®

12015 115th Ave. N.E., Suite 295, Kirkland, Washington 98034
(206) 820-3277 (office) • 1-800-540-3277 (Washington State) • (206) 820-3348 (Fax)

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT

DEC 30 1993

December 27, 1993

Greg Fewins
City of Federal Way
33530 1st Way S.
Federal Way, WA 98003

Dear Mr. Fewins:

The Seattle-King County Association of REALTORS is in receipt of the Draft Environmental Impact Statement (DEIS) on the proposed City of Federal Way Comprehensive Plan. The touchstone against which we review documents of this nature is the effect of the policies contained therein on housing affordability for the present and future residents of Federal Way. With this in mind, we offer the following comments:

Plan Objectives and Issues (p. 3):

1 One of the proposed objectives is to provide "adequate land to accommodate population and economic growth". Farther on in the document (p. 123), it is noted that 30 rather than 20 years may be necessary to accomplish the region's land use vision, and elsewhere (p. 125), it is noted that there could be a "shortage of available land to accommodate the levels of growth included in the concepts" and that it may be necessary to "modify the population and housing forecast to better reflect the realities of the local land market". The above implies that there may not be enough capacity to accomplish one of the most important objectives. It is essential that this inconsistency be resolved.

Mitigation Measures (p. 27):

2 One of the mitigation measures suggested under "Population, housing and Employment" contains the statement that "Significant amounts of multi-family housing ... would help provide affordable housing". This notion is echoed on page 127 in the Housing element. Although this is usually true, it is not categorically true. Beyond a certain threshold (usually 4 stories), multifamily housing is as expensive as single family due to steel and concrete construction. Also, multifamily housing designed with expensive amenities and the like may not necessarily be affordable. With this in mind, we suggest that a qualifier be inserted.

Summary of Unavoidable Impacts (p. 29):

3 One of the unavoidable impacts of the "Urban Centers" concept is that the cost of housing will increase. This is due to many factors, especially those related to the idea of "drawing a line". We suggest that this be added under the "Population, Housing & Employment" section of this Table.

*REALTOR - is a registered mark of the NATIONAL ASSOCIATION OF REALTORS

Land Capacity (p. 94):

4 Our Association has been extensively involved in the King County Data Resources Technical Forum, a consortium of City Planners and other Staff members who have been measuring land capacity in King County. Through our efforts with this group, we have identified several factors which limit land capacity beyond simply discounting for critical areas and market factors. With this in mind, we suggest that Scenario 3 is the preferred option, as it has less of an effect on land supply. Also, it is easier to adjust "up" from Scenario 3 than "down" from Scenarios 1 and 2.

Also, we compliment you on your use of more realistic assumptions about land/improvement ratios.

The previous represents our initial comments on the DEIS. They are intended to be constructive in nature, and any semblance otherwise is unintentional. Please call Mike Spence, our Association's Governmental Affairs Director, at the above number(s) with questions or comments.

Yours sincerely,

Evangelina Anderson
Evangelina Anderson
1993 President

MS:ms
fwcomp

RICHARD K. BURRIS

30435 23rd Ave. SW Federal Way, Washington 98023 (206) 838-4028

Draft EIS, CityShape
Page 2

January 3, 1994

Greg Fewins
City of Federal Way
33530 First Way South
Federal Way, WA 98003

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT

JAN 03 1994

Re: Comments to Draft Environmental Impact Statement,
CityShape

1 The range of alternatives presented may be too narrow to truly present an adequate range of choices regarding the future development trend for the City of Federal Way. All three of the alternatives are simply a variation of each other, and do not represent a range of differing development scenarios to enable analysis of any meaningful alternatives to a dense downtown with preservation of existing neighborhoods.

2 A more appropriate range of alternatives may have included a modified "urban village" approach as is being discussed in the City of Seattle. In Federal Way, this could mean a concentration of services in existing neighborhood business zones outside of the downtown, as a means of reducing the need for traffic to enter the downtown area for the majority of shopping, employment, and business trips. The transportation analysis indicates that traffic congestion will not be reduced significantly regardless of which scenario is chosen, so therefore, a meaningful comparison of impacts cannot be accomplished within the narrow range of the presented opportunities. Further, no comparison can be made of alternatives to the single occupant vehicle because none are presented.

3 All of the alternatives cite connection to a regional transit system as a means of providing transportation service. However, this may not come to pass, and leaves any discussion of how to reduce traffic congestion inside of Federal Way to must be presumed to be a future document that will be in turn led by a land-use scenario adopted that does not realistically examine movement of people and goods within a range of transportation options.

4 There is also what appears to be a strong reliance on what may be a mistaken assumption that there is a connection to providing housing in the downtown core to serve those that are expected to work in the existing businesses and also for the future residents to live closer to the new jobs that are expected to be generated in this dense downtown. This assumption ignores the element of personal choice of location, and the fact that most households now have two incomes, and therefore two often different commute directions. It also ignores a very real market constraint - the cost of housing located within this downtown will be economically out of reach of most of those that work in the downtown area, or of those that may be employed in the jobs expected to be generated in either of the scenarios of a dense downtown.

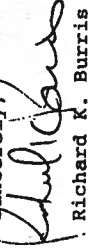
5 Finally, and this may be the most determinate factor that does in my opinion have the most pronounced impact on the future of the City of Federal Way - the provision of services to not just the existing population of Federal Way, but the provision of services to an "accommodated" population increase of 41,100 people by 2010.

6 There is no discussion of scenarios that may choose to "accommodate" fewer people, and the land use scenario that would be required as a range of alternatives. I also could not find any explanation of how the financial burden of this accommodation will be met by existing residents and future residents. Further, even if financial constraints were not a factor, there are elements of the physical environment that appear to be ignored, such as an adequate water supply, sewer treatment capacity, air pollution, and the loss of flora in all categories that would result from land clearing not just inside the City of Federal Way but east of I-5 as well.

7 I suggest that the range of alternatives for the City of Federal Way be considerably broadened to provide a range of alternatives that is more reflective of these comments. I do not recall any provision of the rules governing the production of an EIS that allows the lead agency to reject a scenario based on the sentiments of an unrepresentative sample of opinion, or political considerations. When it was decided early in the process to not discuss anything except a dense downtown in preference to any other scenario, the EIS was in effect pre-judged, and a conclusion became foregone.

Thank you for the opportunity to respond.

Sincerely,



Richard K. Burris

Jan 3, 1994

RECEIVED BY
COMMUNITY DEVELOPMENT DEPARTMENT

JAN 03 1994

Greg Fawins, Senior Planner

At a recent planning Commission meeting regarding the Comprehensive Plan for the City of Federal Way we were dismayed to learn that the Key Bank Property (end of 320th and 47th ave.) was being considered for rezoning under the guise of "growth management". As part of a citizen group we fought the plan the county had grandfathered a permit in for that property and when Key Bank withdrew their plan because of citizen protest we thought the zoning was safely pink to the city zoning of Professional Office.

Now it is our understanding that the long range planner Larry Springer is pushing to have the land rezoned multifamily. When asked why he said because the land is worth more that way. When we as citizens voted for growth management I think most of us understood the concept to be density in the city cores so the outlying areas could stay green. I don't think anyone understood it to mean rezone all the cities to make them as dense as possible so all the owners of vacant property could make a lot more money.

This was a bad place to put a shopping center, and it is a bad place to put apartments. It is next to Dush Point State Park and the front of the property is a wetlands. The apartments the county allowed to be built on the back of the property have already impacted the State Park adversely and more could do even more damage. We have a drainage problem in this area already and building next to more wetlands will only make

2 it worse.

Don't use "growth management" as an excuse to undo all the good that was done when we became a city. The rampant overbuilding of apartments in Federal Way was why we voted to become a city in the first place. If we put more apartments in the far reaches of our city we will only add to the already bad problem of traffic congestion on our streets. Use growth management as it was intended to add density to the city cores where transportation and services already exist and can be improved upon.

The city rezoned the Key Bank Property PD when we became a city because of its proximity to the State Park and because of the wetlands on it. This has not changed. Larry Springer said that if this property was not rezoned multifamily, it would probably be rezoned single family. We would prefer that to multifamily. Mostly we do not want to add to our already existing problems of traffic density and drainage. We would also like a little green left to look at when we have to deal with the already considerable problems of our city.

We think there would have been more input from citizens on the Comprehensive Plan if it had not been for the holidays. This seemed like a bad timing on the City's part unless there had not been more input.

Sincerely,

(Signature next page)

1

2

Civul Whitney
31612 45th Pl. S.W.
F.W. 98023

Edna Killian
31606 45th Pl. SW
Federal Way, WA 98023

Scott M. Spaulding
31519 45th Ct SW
Federal Way WA 98023

Russell Spaulding
31519 45th Ct SW
Federal Way, WA 98023

Colleen M. Spaulding
31519 45th Ct SW
Federal Way WA 98023

Hilary Brewer
31607 45th Pl SW
Federal Way, WA 98023

Mary B. Weikel
31615 45th Pl. S.W.
Federal Way, WA 98023

Ann Marie C. Herblich
31917 45th Ave SW
Federal Way, WA 98023



Appendix A

Distribution List

1. 目的

2. 概要



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1200 - 6TH AVENUE
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OLYMPIA WA 98504-8343

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OLYMPIA WA 98501-1091

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400
SEATTLE WA 98104

METRO - MS 120
ENVIR COMPLIANCE DIV
821 SECOND AVENUE
SEATTLE WA 98104

PORT OF TACOMA
ENVIRONMENTAL DEPT.
P.O. BOX 1837
TACOMA WA 98401-1837

PORT OF SEATTLE
PO BOX 1209
SEATTLE WA 98111

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KENT WA 98032

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SEATTLE WA 98104

KING CO ROADS DIVISION
COUNTY ROADS ENGINEER
500 FOURTH AVE., ROOM 900
SEATTLE WA 98104

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31405 18TH AVENUE SOUTH
FEDERAL WAY WA 98003

FED WAY WATER & SEWER
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FEDERAL WAY WA 98003

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TACOMA, WA 98404

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RESOURCE MANAGEMENT
2401 SOUTH 35TH STREET
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SVCS
DEVELOPMENT ENGINEER
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PACIFIC CITY HALL
100 THIRD AVENUE SE
PACIFIC WA 98047

PUBLIC WORKS DIRECTOR
ALGONA CITY HALL
402 WARDE
ALGONA WA 98001

CITY OF AUBURN
25 WEST MAIN
AUBURN WA 98001

KENT CITY HALL
PLANNING DEPARTMENT
220 FOURTH AVENUE SOUTH
KENT WA 98032

CITY OF TACOMA
B.L.U.S.
LAND USE ADMINISTRATOR
747 MARKET ST., ROOM 345
TACOMA WA 98402-3769

TOWN OF MILTON
1000 LAUREL
MILTON WA 98354

CITY OF DES MOINES
21650 11TH SOUTH
DES MOINES WA 98188

OFFICE MANAGER
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GAS
1210 AUBURN WAY NORTH
AUBURN WA 98002

US WEST
15900 SE EASTGATE WAY
BELLEVUE WA 98008

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FEDERAL WAY WA 98003

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32050 23RD SOUTH
FEDERAL WAY WA 98003

SEATTLE PI
101 ELLIOTT AVENUE WEST
SEATTLE WA 98121

SEATTLE TIMES
P.O. BOX 70
SEATTLE WA 98111

FEDERAL WAY NEWS
ATTN: SEAN ROBINSON
1634 SOUTH 312TH STREET
FEDERAL WAY WA 98003

KOREA POST
ATTN: KYU C. YANG
1804 SOUTH 324TH PLACE
FEDERAL WAY WA 98003

WA ENVIRONMENTAL
COUNCIL
5200 UNIVERSITY WAY NE,
#201
SEATTLE WA 98105

FED WAY CHAMBER OF
COMM
34400 PACIFIC HIGHWAY S
FEDERAL WAY WA 98003

MR PAUL BARDEN MEMBER
KING COUNTY COUNCIL
KING COUNTY COURTHOUSE
SEATTLE WA 98104

WETLANDS OF W. HYLEBOS
C/O BRUCE HARPHAM
31433 49TH PLACE SW
FEDERAL WAY WA 98023

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DIR - LOCAL GOV'T AFFAIRS
2155 - 112TH AVENUE NE #100
BELLEVUE WA 98004

WATER DISTRICT #54
922 SOUTH 219TH STREET
DES MOINES WA 98198-6392

HIGHLINE WATER DISTRICT
P.O. BOX 3867
KENT WA 98032-0367

MIDWAY SEWER DISTRICT
P.O. BOX 3487
KENT WA 98032

WATER DISTRICT #111
27224 - 144TH AVENUE SE
KENT WA 98042-9058

COVINGTON WATER
DISTRICT
18631 SE 300TH PLACE
KENT WA 98042-9208

SO KING COUNTY
REG WATER AUTHORITY
13335 SE 248TH PLACE
KENT WA 98042

TERRY LUKENS
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CITY COUNCIL OFFICE
P.O. BOX 90012
BELLEVUE WA 98009-9012

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SEA/KING CO ASSOC. OF
REALTORS
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KIRKLAND WA 98034

LEAGUE OF WOMEN VOTERS
OF SOUTH KING COUNTY
800 SW 152ND
SEATTLE WA 98166

**FED WAY WOMEN'S
NETWORK
P.O. BOX 3064
FEDERAL WAY WA 98003**

**FED WAY COMMUNITY
COUNCIL
HOPE ELDER
30105 - 2ND PLACE SW
FEDERAL WAY WA 98023**

**KING CO PARKS &
RECREATION
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Appendix B

**Revised Utility Section
Federal Way Comprehensive Plan Draft EIS**

Faint, illegible text covering the page, possibly bleed-through from the reverse side.



UTILITIES

A. WATER SYSTEM

Affected Environment

The City of Federal Way Urban Growth Area is served by three independent water purveyors (see Figure 26). The largest of these is Lakehaven Utility District ~~Federal Way Water and Sewer District~~ which provides water service to more than more than 89,000 persons (Federal Way Water and Sewer District, 1991). A small area in the southwest corner of the City is served by the City of Tacoma Water Division. On the north, a small portion of the City of Federal Way Planning area is served by Highline Water District. This section of the EIS provides an overview of the three water systems serving the Urban Growth Area; it focuses primarily on Lakehaven Utility District ~~Federal Way Water and Sewer District~~ which is the primary purveyor. Additional description of the LUD water system can be found in the Capital Facilities Element of the Comprehensive Plan.

Federal Water and Sewer District water supply sources include eighteen active wells that are used for normal supply, and interties with the Tacoma Water system (two) and the Highline Water District System (three) that can be used for emergency back-up supply. Except for four ~~three~~ small wells (10c. 16, 22 and 22A), the district's wells are located within a polygon formed by Interstate 5 on the east, South 356th Street on the South, 21st Avenue Southwest/Dash Point Road on the west and South 298th Street on the north. The total active pumping capacity of the district's wells is about 32 ~~37~~ million gallons per day (MGD) or nearly 22,000 ~~26,000~~ gallons per minute (GPM). (Federal Way Water and Sewer District, 1992) The eighteen active wells of the district penetrate four different aquifer formations. The estimated sustainable capacity of those aquifers is about 8.7 ~~10.9~~ MGD (6040 ~~7560~~ GPM) on an average annual basis during a 10-year drought condition. (Federal Way Water and Sewer District, 1993 ~~1991~~) This means that while the district has the capacity to pump high volumes of water from its wells to meet peak summer demands, sustained long term pumping at those rates would "mine" the aquifers and destroy the water resource.

The City of Tacoma Water Division relies on a complex system of surface water and wells to supply water to its customers. The water supply foundation for Tacoma is a diversion on the Green River located just downstream from Howard Hanson Dam. Water from this diversion flows southwesterly in a major transmission pipeline through Enumclaw and Buckley and then westerly to Tacoma. This surface source is augmented with major wellfields located in the City of Tacoma. By operating their surface and ground water sources in a complementary conjunctive fashion, Tacoma maximizes both the yield and

reliability of their supply. For example, the Green River surface source allows Tacoma to turn off or "rest" wells during periods of low demand; during periods of high turbidity in the river, wells can be used instead.

Highline Water District relies primarily on the City of Seattle for its water supply. In recent years, Highline Water District has developed wells to supplement its supply from Seattle. The district is currently adding treatment facilities to its wells in order to allow better "blending" of the ground water with surface water the district purchases from Seattle. The surface water Seattle sells to Highline Water District comes almost entirely from the Landsburg diversion on the Cedar River near Maple Valley. Seattle is a major water purveyor of water in the region, directly or indirectly supplying about two-thirds of the people in King County. Demand on the Seattle Water Supply system is currently equal to supply. Since Seattle is not currently constructing or developing additional supply sources, it is relying on conservation to free up enough water from its current sources to meet projected demand for at least the next 10 years. (City of Seattle, 1992)

The LUD Federal Way water distribution system serves the plateau and parts of hillsides descending to Puget Sound, the Green River Valley and Hylebos Creek. As a result of Federal Way's topography, LUD the City has 14 13 hydraulically interrelated pressure zones ranging from a 578 foot hydraulic gradient to a 162 foot gradient. Pumping is accomplished by wells and three booster pump stations that are located throughout LUD the City.

Currently there are twelve reservoirs in the Lakehaven Utility District Federal Way Water and Sewer District system, located to provide equalizing and fireflow reserves. Thirty-three two pressure reducing valves are used to supply lower pressure zones from higher pressure zones that contain most of the water storage reservoirs.

All of the pressure zones are hydraulically interrelated with the 538 pressure zone which contains most of the storage and wells. In the Federal Way system, water moves up through the well pumps and pump stations and down through the pressure reducing valves. It is desirable to have two or more connections (or supply points) that allow water to move upward to a higher pressure zone or downward to a lower pressure zone. This maximizes system reliability by providing multiple paths or routes that the water can take when moving between pressure zones.

Federal Way has two main challenges related to water supply: 1) Federal Way is wholly dependent on supply from an aquifer system that is vulnerable to contamination, and 2) the aquifers serving Federal Way appear to be over appropriated. LUD's wells have pumping capacity in excess of the capacity of

the aquifer, if they are pumped for extended periods. As a result, the total capacity of these wells cannot be considered for annual production capability.

Within this context, the following section evaluates the impacts of the three land use concepts Alternatives on the water systems serving the City of Federal Way's planning area.

Significant Impacts

This section examines two kinds of impacts to the water system: impacts of the land use concepts on total water demands within the planning area, and the distribution of those demands by pressure zone/service area. The analysis focuses on the broader water supply issues rather than the details of specific pipeline, pumping or other water system issues; a detailed hydraulic analysis of the water systems is beyond the scope of this study. The water purveyors that serve the study area are constantly monitoring and upgrading their

Figure 26
Water and Sewer District Service Boundaries



systems to assure adequate, healthful, reliable water service; the analysis does not attempt to predict the details of any particular engineering solution or approach to serving the land use concepts.

Figure 27 illustrates how development under the three land use concepts would impact overall water system demands within Lakehaven Utility District's ~~Federal Way Water and Sewer District's~~ service area compared to water demand forecasts contained in the district's 1991 Water System Plan. It portrays five demand projections; two from the district's 1991 plan and the three land use concepts. The two district demand projections are labeled "1988 PSCOG" and the "Moderate Growth" (Federal Way Water and Sewer District, 1991). These are based on data in the District's current water plan. Actual peak day measured water demands for Lakehaven Utility District ~~Federal Way Water and Sewer District~~ for the years 1976 through 1990 area also shown. As can be seen in figure Figure 27, there is virtually no difference between the three land use concepts in terms of water demand increases.

Assumptions regarding per capita demand are based on the type and amount of land use in the three concepts. The concepts generate year 2010 estimated demand that are about 3.5 MGD more than the 1988 PSCOG projections and about 2.8 MGD less than the Moderate Growth projections. This magnitude of difference is within the range of error for 20 year projections.

Figure 27 also illustrates current water supply available based on well pump capacity and Washington Department of Health (WDOH) standards. The amount of supply shown is the total capacity of all the district's wells minus the capacity of the largest well; this methodology is consistent with WDOH requirements for water system planning and design. The data shows that from 1989 through 1992, Lakehaven Utility District ~~Federal Way Water and Sewer District~~ brought about 4.5 MGD of additional supply on line. However, as was discussed above, this supply is not a sustainable continuous supply because of limitations of the capacities of the aquifer systems that the district draws water from. (For more details on the aquifer capacity limitation, please refer to the 1991 Federal Way Water and Sewer District *Water System Plan*.) In general, Figure 27 shows that projected peak demands for the population growth accommodated in the land use concepts would equal current peak supplies by the year 2005.

Lakehaven Utility District ~~Federal Way Water and Sewer District~~ has entered into a contract with the City of Tacoma to purchase 7.1 ~~30.77~~ percent of the city's second water supply pipeline's (Pipeline 5's) proposed capacity. This would translate to about 4.62 MGD of additional supply. Pipeline 5, which is currently in the final design stage, is a water supply project that would divert about 65 ~~15~~ MGD from the Green River across south King County, through Federal Way and

into Tacoma. Tacoma hopes to begin construction in 1996 ~~1994~~. If water from Pipeline 5 is available in 1997 ~~1995~~ (as discussed in the ~~1991 Water System Plan~~); Lakehaven Utility District ~~Federal Way Water and Sewer District~~ could provide water supply adequate to accommodate projected growth under the land use concepts until about the year 2010.

Figure 28 illustrates the effect of the land use concepts by pressure zone/service area. While total year 2010 water demands under each concept is about the same, the distribution of that demand between pressure zones is

Figure 27

**Comparison of Water Demand Projections to Existing Water Supply for
Federal Way Water & Sewer District**

Figure 28

**Project Increase in Water Demand by Pressure Zone to the Year 2010 in the
Federal Way Planning Area**



highly concentrated. As shown in Figure 28, the effect of each of the land use concepts is to direct about 90% of the increase in water demand to the Lakehaven Utility District ~~Federal Way Water and Sewer District~~ water service area. A majority of projected increase in water demand (about 54%) would occur in the 538 pressure zone. The district's 578 zone would absorb about 25% of the projected increase. Smaller amounts of increase would occur in the 450 pressure zone (about 9% of total increase), Highline Water District's service area (about 7%) and Tacoma's service area (about 3%).

The amounts of projected increase for Tacoma and Highline (less than 1 MGD each) are very minor increases relative to the current size of these systems and will probably be relatively easily absorbed by conservation mandated by the Tacoma and Seattle Water Divisions.

The capital facilities necessary to accommodate the projected demands for the Lakehaven Utility District ~~Federal Way Water and Sewer District~~ were identified in the 1991 *Water System Plan* (please refer to chapter 9 of the plan for additional details). The focusing of demand within the 538 pressure zone of the water system may require revisions to the location and sizing of some planned facilities. These could include storage, pumping and transmission facilities. For example, a high intensity urban downtown area could place additional fire flow demands on the water system beyond what was planned in the Water System Plan. In another instance, the plan calls for significant additional storage in the 578 pressure. However, if over 50% of the projected increase in demand will occur in the 538 zone, it may be better to add storage in that zone to avoid unnecessary pumping costs.

Political and environmental constraints, (such as current Puget Sound basin water resource planning efforts) rather than financial constraints, may limit the development of additional supply sources. If water supply development is limited, meeting the mandates of the Growth Management Act to demonstrate adequate water to accommodate projected growth may not be possible.

In summary, each of the land use concepts would increase total water demand by similar amounts. Each of the concepts would also focus increased demands towards Lakehaven Utility District ~~Federal Way Water and Sewer District~~ in general and to their 538 pressure zone in particular. The aquifers serving Federal Way may presently be over-appropriated and additional alternative sources are needed to assure reliability. Uncertainty regarding water supply could affect the amount or timing of future growth within the Urban Growth Area.

Mitigation

- Monitor growth rates and patterns to assure that water demand does not outstrip existing resources or new source development.
- Once a land use alternative has been selected, reevaluate planned water system facilities to assure that they are optimally sized and located to support planned land uses.
- Support development of additional regional water supplies that could provide insurance against the loss of existing Federal Way supplies or provide the resources necessary to support higher intensity development if such a land use alternative is selected.
- The preferred land use alternative should incorporate provisions to protect the integrity of the aquifers serving Federal Way by preserving and enhancing recharge volumes and protecting against potential contamination.
- Support Tacoma's second water supply pipeline.
- The City should participate in the update of the South King County Coordinated Water System Plan with the objective of assuring adequate, reliable healthful water supplies to residents.
- Policies in the comprehensive plan should address water conservation and aquifer protection. Individual chapters of the plan and implementing regulations should be reviewed to remove any conflicts between development requirements (e.g. landscaping and irrigation) and water conservation objectives.

B. SEWER SERVICE SYSTEM

Affected Environment

Nearly All sanitary sewer service within the Federal Way Urban Growth Area is provided by Lakehaven Utility District (LUD) ~~Federal Way Water and Sewer District (FWW&SD)~~. Figure 26 shows sewer district boundaries. Additional description of the LUD sewer system can be found in the Capital Facilities Element of the Comprehensive Plan. ~~LUD FWW&SD~~ is the successor agency to ~~Federal Way Water and Sewer District and~~ Lakehaven Sewer District, the agency that began sewer service in Federal Way. Lakehaven Sewer District was formed in 1956 and began initial construction of sewers in 1962 within the Federal Way business area and around Steel Lake. (Lakehaven Sewer District, 1983) Sanitary sewer service in Federal Way has expanded dramatically over the intervening 30 years primarily through extensions of sewers to new developments and creation of Utility Local Improvement Districts (ULIDs). In 1985, Lakehaven Sewer District and Water District 124 merged to form the ~~current~~ Federal Way Water and Sewer District. (Federal Way Water and Sewer District, 1991)

The purpose of a sanitary sewer is to convey wastewater from its source to a point of treatment. Since the generation of wastewater can vary considerably, there is seldom any control over the volume of wastewater that must be conveyed at any particular time. For this reason the sanitary sewer system is designed to accommodate a wide range of wastewater flow rates.

The best method for conveying wastewater is a gravity sewer system, which is made up of collector sewers that collect the wastewater from the various sources. These collector sewers then convey the wastewater to interceptor sewers, which convey it to the point of treatment. The LUD ~~Federal Way~~ sanitary sewer system discharges wastewater to numerous sewer interceptors for conveyance to treatment at 5 different treatment plants, two of which are owned and operated by LUD. The wastewater flow rates to each of these plants ~~from Federal Way~~ is highly variable, depending on the area served by the collection system.

The sanitary sewer system must be capable of transporting all of the constituents of the wastewater stream, which include the suspended solids, floatable solids and liquid constituents. In general, most of the floating materials are carried along with the flow stream; however, suspended solids have a tendency to settle out of the waste stream, unless minimum carrying velocities are achieved. This requires that the sanitary sewers be constructed with a minimum slope to create a gravity flow which will result in a velocity that will continuously carry the suspended solids portion of the waste stream.

Wastewater generated in Federal Way is conveyed to and treated by five different wastewater treatment plants. Most of the wastewater flows to the Lakota and Redondo treatment plants owned and operated by LUD FWW&SD. The Lakota Treatment Plant is a secondary treatment facility discharging to Puget Sound with an average dry weather flow design capacity of about 10 MGD. (Federal Way Water and Sewer District, 1993a) Current flows to Lakota are about 5 MGD. (Federal Way Water and Sewer District, 1993b) Also discharging to Puget Sound, the Redondo Treatment Plant is a secondary treatment facility with an average dry weather flow design capacity of about 5 MGD. (Federal Way Water and Sewer District, 1993a) Current flows to Redondo are about 2.5 MGD. (Federal Way Water and Sewer District, 1993b)

The remaining wastewater from the Federal Way planning area flows to facilities owned and operated by other agencies. On the north, a portion of the flows from Federal Way are directed to MidwayDes Moines Sewer District for treatment. On the northeast some wastewater flows to METRO facilities for treatment at the Renton Wastewater Treatment Plant. On the southeast, two areas flow into Pierce County and ultimately to the Tacoma Wastewater Treatment Plant on the Puyallup River. (Lakehaven Sewer District, 1983)

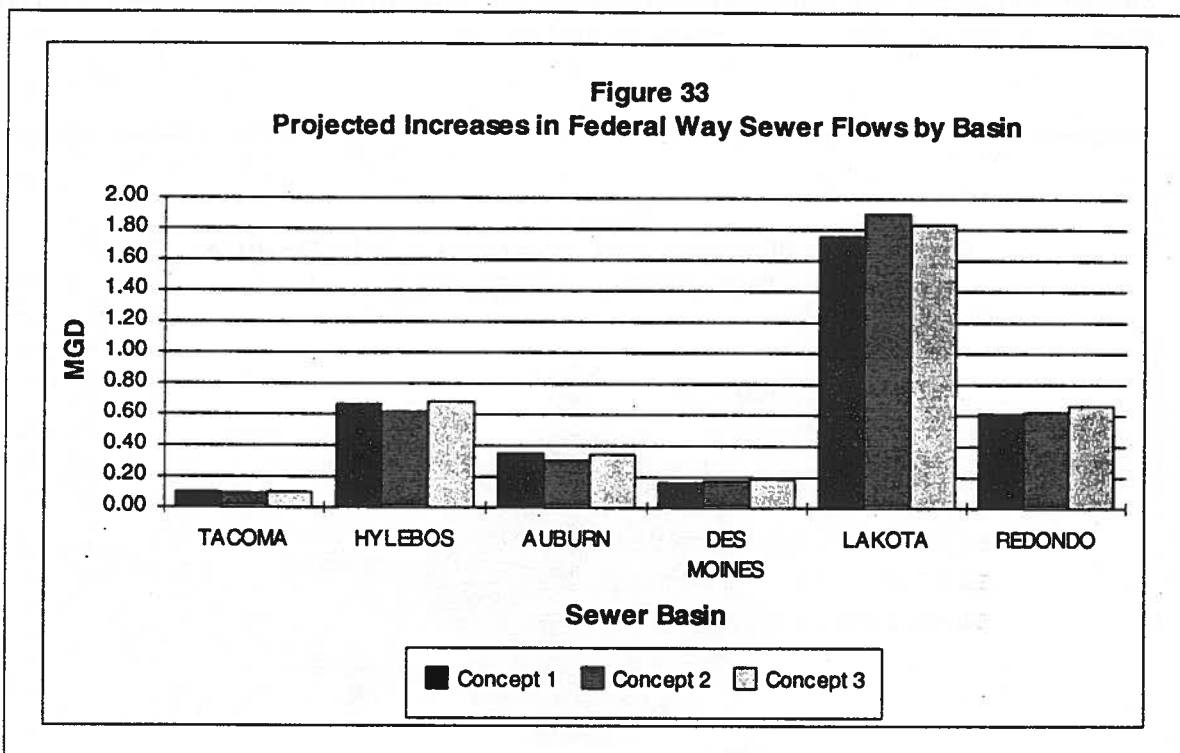
Interceptors are sewers that receive flow from collector sewers and convey wastewater to a point for treatment or disposal. They are typically located in low lying or centralized areas in order to facilitate the gravity flow of the wastewater and serve all or most of a wastewater collection basin. The interceptors and all other sewers make up the collection system. LUD FWW&SD has an estimated 300 miles of gravity sewer within its service area. The sanitary sewer collection system is primarily comprised of 8-inch diameter sanitary sewers.

A lift station is needed when the sanitary sewer system must overcome topographic restrictions that make it impossible or financially unfeasible to construct a gravity sewer. LUD FWW&SD owns and maintains 26 sewage lift stations; numerous other sewage lift stations are privately owned and maintained.

The City of Federal Way is divided into six major wastewater collection basins which consist of one or more subbasins. For example, LUD has divided the basins they serve into 39 subbasins. These collection basins and subbasins predominantly follow the natural drainage patterns of the LUD FWW&SD service area. The six major basins are: 1) Des Moines, 2) Redondo, 3) Lakota, 4) Tacoma, 5) Hylebos, and 6) Auburn (a portion of which is referred to as the "Meredith" basin by LUD FWW&SD). While the Lakota and Redondo basins are by far the largest, significant new flows are also expected in the Hylebos basin.

Significant Impacts

Figure 29 illustrates the distribution of projected increases in sewage flows under each of the three land use concepts. Each of the concepts would generate about the same amounts of total new flows, ranging from a low of 3.66 MGD for Concept 1 to about 3.81 MGD for Concept 3. Figure 29 also shows that most of the increased flows under each concept would flow to the Lakota or Redondo Wastewater Treatment Plants operated by LUD FWW&SD. Flows would increase by about 1.8 MGD at the Lakota Treatment Plant and by about .6 MGD at the Redondo Treatment Plant. As described above, these treatment plants have the capacity to accommodate about 5 and 2.5 MGD respectively of additional flows. Therefore, from a treatment perspective, the wastewater flow increases expected from each of the concepts could be handled by existing treatment facilities.

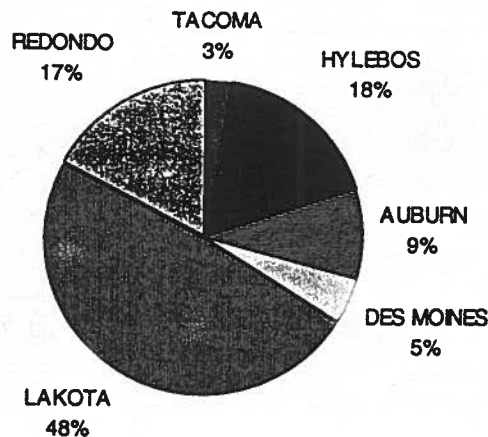


The other capital facilities necessary to accommodate these flows – such as interceptors, trunks and lift stations – cannot be evaluated since a hydraulic analysis of the sewer system is not available ~~will not be available until next year~~. It may be necessary to enhance these elements of the wastewater conveyance system to accommodate the projected increased flows.

The second largest increase in flows would occur in the two basins (Hylebos and Tacoma) that flow to the Tacoma Wastewater Treatment Plant. Figure 30 shows that about 21% (about .76 MGD) of the increased flows would go to Tacoma. This amount of increase may require changes to the agreement between LUD FWW&SD and the City of Tacoma regarding wastewater treatment. Revisions to the district's agreement with Pierce County for wastewater conveyance through the county's system may also be required to handle these increased flows.

Much of the southeastern portion of the Federal Way Urban Growth Area (in PAZs 18 and 19) is not currently served with sewers and is platted into thousands of relatively small lots. As growth at higher densities occurs, sewer service would be extended to the Hylebos and Auburn basin portions of the planning area; significant development within this area could promote connection of the existing development in this area to the sewer system, thereby further increasing flows to Tacoma and METRO.

Figure 34
Distribution of Wastewater Flow Increases by Basin for
Federal Way Planning Area



As discussed in the Water Service subsection above, Federal Way is totally dependent on groundwater for its drinking water; this ground water is probably highly dependent on local recharge. It may, therefore, also be necessary to

aggressively pursue connection of existing unsewered development to the sanitary sewer system in order to protect groundwater quality. If this were to occur, wastewater flows would be higher than those projected above.

Mitigation Measures

The following mitigation measures are recommended to address sewer service impacts:

- Monitor growth rates and patterns to assure that sewage flows do not exceed capacities.
- When a preferred land use alternative has been selected, reevaluate planned sewer system facilities to assure that they are optimally sized and located to support planned land uses.
- Evaluate the hydrogeology of the Federal Way Planning area to determine the need to connect currently unsewered development to sanitary sewers in order to protect groundwater.

C. STORM WATER

Affected Environment

Upon its incorporation in 1990, the City of Federal Way inherited and assumed control of the storm water management system existing within its boundaries. This system had evolved over many years under the management of King County. While a comprehensive inventory of storm water facilities in the City of Federal Way does not currently exist, the system generally consists of an amalgamation of open ditches and channels, pipes, vaults and open retention/detention facilities. Depending on when individual properties developed, King County's changing storm water requirements affected the level of storm water management. Areas that were developed more than 20 years ago, for example, commonly had minimal or no storm water facilities; where they exist, they were typically designed to move water off-site as quickly as possible. In contrast, newer developments contain both water quantity and water quality controls mandated by current regulations. Given this historical development, and lack of a facility inventory, a detailed description of the storm water collection and conveyance system is not possible.

The man-made storm water system consists of retention and detention ponds, drainage swales, water quality facilities, and pipes for conveyance. Storm water is discharged at numerous locations to surface water bodies.

As described in the *Water Resource* section of this DEIS, the planning area contains four major drainage basins: Hylebos Creek Basin; Lower Puget Sound Basin; Green River Basin; and White River Basin. The *Water Resource* section describes the water quality and quantity characteristics of each of those basins. The storm water management system in Federal Way will discharge to each of these basins and affect the water quality and flows of each basin's stream.

The City is currently using provisions of King County's Hylebos Creek and Lower Puget Sound Basin Plans (King County, 1991) as interim policy and to identify some needed surface water improvements. It also uses King County's 1992 Surface Water Design Manual to determine appropriate storm water facility design. In addition, it implements programs dealing with water quality education and maintenance.

The City is currently working on an inventory of existing storm water facilities, using King County records, construction drawings and field surveys. When completed, this data will be incorporated into the City's Geographic Information System (GIS).

City staff is also working on a Comprehensive Storm Water Management Plan which will be completed in 1994. As part of this work effort, staff will identify the capacity of the City's natural and man-made drainage systems. This data will be used to develop a computer model for storm water planning. The model will enable the City to determine facility needs based on planned future land uses and potential effects on resources. The model will incorporate 2010 "worst case" development and impervious surface coverage as the basis for future improvements. Analysis using the model will be included in the Final EIS.

The City Facilities element of the Comprehensive Plan, adopted in 1992, includes an interim list of drainage facilities; this capital program totals more than \$9 million and extends through 2002. This list of capital facility needs will be revised as part of the Comprehensive Storm Water Management Plan. The overall system will maintain the natural drainage system and the drainage and water quality functions of wetlands. Incorporation of natural drainage features as well as construction of man-made facilities is seen as being cost effective and environmentally sensitive.

Significant Impacts

Each of the alternative land use concepts would increase storm water runoff quantities and could degrade surface water quality unless controlled. The magnitude of these effects is described in the *Water Resource* section of this DEIS and summarized in Appendix B. Based on amount of clearing that would occur and impervious surface that would be constructed, impacts would not be significantly different among the concepts.

Even though peak flows from new development would be regulated to predevelopment levels, total volumes of flow would increase under each of the land use alternatives; see the *Water Resource* section (and Appendix B) for quantification of these increases. Development that contributes flows to storm water facilities with inadequate capacity could exacerbate capacity problems even though they may comply with all storm water rate control requirements. In addition, the total volumes of runoff would increase in future development areas, resulting in increased erosion and sedimentation and reduced surface water quality.

The combination of these factors (increased total flows and pollutant loading) would require on-site management and additional regional improvements to the storm water system. These improvements could take several forms. In certain areas, such as within the Puget Sound Basin, tightlines to divert peak flows from natural drainages could be effective. In other basins, large scale regional retention/detention ponds may be required to maintain water quality and

mitigate increases in total stream flows. Finally, where the geology is favorable, infiltration of storm water may be desirable to achieve both surface water and groundwater objectives; see both the *Water Resources* and *Water Service* sections of the DEIS for discussion of groundwater recharge and withdrawals for water supply.

These types of programs and improvements identified above would be required under each of the three land use scenarios. Implementation of such improvements would require substantial investments by the City in comprehensive stormwater management planning and capital improvements.

Mitigation Measures

As part of its Growth Management Act planning effort, the City will also review its existing drainage requirements. Where appropriate, guidelines from DOE's Stormwater Management Manual for the Puget Sound Basin (1991) or their equivalent should be incorporated.

Other mitigation measures include preparing a Comprehensive Storm Water Plan, identifying needed capital improvements and implementing site-specific drainage and water quality controls.