

CARSON COMMUNITY COMPREHENSIVE SUBAREA PLAN

TABLE OF CONTENTS

I.	Vision Statement	1
II.	General Goals	1
III.	Land Use Element	1
	A. General Policies	1
	B. Land Use Designations	2
	C. Administrative Policies	6
	D. Definitions	6
IV.	Transportation Element	8
	A. Existing Road System	8
	B. Levels of Service and Traffic Forecasts	9
	C. Planned and Proposed Road Improvements	10
	D. Financing Plan	11
	E. Transportation Goals and Policies	11
V.	Utilities Element	13
	A. Electrical Service	13
	B. Telecommunications	14
	C. Cable Television	14
	D. Water Systems	14
	E. Sewer Systems	19
	F. Utilities Goals and Policies	19
VI.	Public Facilities and Services Element	20
	A. Parks and Recreation	20
	B. Schools	20
	C. Solid Waste	22
	D. Natural Gas	22
	E. Hazardous Waste	22
	F. Fire Protection and Emergency Services	22
	G. Law Enforcement and Corrections	23
	H. Library Services	24
	I. Social and Health Services	26
	J. Public Facilities and Services Goals and Policies	27
VII.	Appendix	
	T-1 Carson Road System	28
	T-1 Intersection Traffic Count Results and Forecasts	29
	T-2 Road Maintenance Costs	35
	U-1 Water System Facilities	37
	P-1 Carson Fire Protection	38

I. VISION STATEMENT

To maintain the rural residential character of the community while providing employment and recreational opportunities.

II. GENERAL GOALS

A. *To Maintain The Rural Residential Character Of The Area*

This goal is premised upon the proposition that certain qualities or values which are viewed as "rural" by members of the Carson community should be preserved and enhanced. Those values include privacy, mixed residential, agricultural and forestry land uses, peace and quiet, lack of heavy traffic, clean air, clean water, wildlife and fish habitat, open spaces, recreational opportunities, and the least amount of governmental regulation consistent with preserving those and other values protected in the community plan.

Land uses consistent with rural residential values should be encouraged; uses or conditions which would result in development inconsistent with those values should be either prohibited or minimized.

B. *To Provide Employment Opportunities In Our Community*

Although the community wishes to limit the rate of its population growth, it also recognizes that employment opportunities are essential to maintaining its quality of life and that development of facilities which provide employment opportunities does not need to be inconsistent with the rural residential character of community.

New commercial and industrial land uses, as well as cottage and light home industry and professional services, may be consistent with the rural residential character of our community if only allowed subject to conditions that will eliminate adverse impacts to environmental, aesthetic and public safety values. Aesthetic values address issues such as privacy and noise levels, as well as scenic issues.

C. *To Preserve And Enhance Community Beauty*

D. *To Preserve And Enhance Public Safety*

E. *To Retain The Existing Population And Create Opportunities In Our Community So That Our Children Can Also Remain Here*

III. LAND USE ELEMENT

A. *GENERAL POLICIES*

In addition to the specific policies governing each of the four land use areas, the following general policies shall govern future development in all land use designations within the Carson planning area:

- 1) All zoning regulations shall be consistent with this community plan;
- 2) Parcels of land which do not meet the minimum lot sizes set out in this community comprehensive plan and any ordinance implementing this plan, and which were created prior to adoption of this plan or any zoning ordinance(s) implementing this plan, may be developed subject to all

- regulations other than those governing minimum lot sizes that are in effect at the time a development application is filed;
- 3) All development shall be in compliance with existing federal, state and local requirements;
 - 4) The comprehensive planning policies set out herein and all land use designations and land use regulations undertaken pursuant hereto should provide clear and objective standards to govern future development. Said policies, designations and regulations should not be varied or amended absent proof of a substantial change in circumstances;
 - 5) Land uses which are neither allowed without review by the Planning Agency, permitted subject to conditions, nor named as conditional uses under a land use designation made in this plan or in an ordinance implementing this plan should be prohibited absent proof of a substantial change in circumstances sufficient to justify amendment of this plan;
 - 6) Land use permitting processes should be simplified and streamlined to the extent possible;
 - 7) Countywide policies and regulations governing critical areas should be incorporated in this sub-area plan by reference. Critical areas include wetlands, frequently flooded areas, geologically hazardous areas, wildlife habitat and aquifer recharge areas. Inventories of those areas in the Carson community should be developed by the Department as soon as feasible, and designations of those areas should be incorporated into the maps adopted as part of this plan;
 - 8) Land use patterns which minimize the cost of providing adequate levels of public services and infrastructure should be encouraged;
 - 9) Older or declining areas should be revitalized to capitalize on existing public and private investments in infrastructure;
 - 10) Cottage industry and home occupations should be encouraged in residential zones to the extent that the same will not require public investment in infrastructure greater than that normally required for residential use of the density allowed in the land use designation;
 - 11) Signs should be limited to on-premises advertising only;
 - 12) Billboards should be prohibited;
 - 13) New utility lines should be placed underground whenever practicable;
 - 14) Unconcealed, outdoor storage of non-functioning vehicles and parts thereof, appliances, construction materials, debris and household garbage should be discouraged;
 - 15) Nuisance ordinances should be strictly enforced;
 - 16) Sidewalks should be encouraged along all streets used by children walking to and from schools and bus stops;
 - 17) Street lights should be encouraged along all public streets and roads;
 - 18) Development should complement natural conditions and distinctive natural features should be retained and incorporated into the design of land development projects;
 - 19) Surface water run-off from developments should be reduced by:
 - a) encouraging the retention of natural vegetation or the provision of landscaped areas;
 - b) encouraging the retention, creation and utilization of wetlands; and
 - c) requiring that natural drainage ways be maintained in all new developments; and
 - 20) Local roads and streets should be designed to discourage truck and commercial traffic through residential areas. Loops and cul-de-sacs should be encouraged.

B. LAND USE DESIGNATIONS

Four land use areas are designated in this sub-area plan and are differentiated from each other by the intensity and type of use which may occur in each area.

High Density Residential

The High Density Residential designation is based upon existing high densities and includes parcels which presently are predominantly less than one acre. Other bases for this designation include proximity to public facilities and the ability of an area to support high density residential development without compromising the rural residential character of the planning area. The following policies should govern development in High Density Residential designations:

1. Parcels sizes ranging in size from one-half acre to one acre are consistent with this land use designation;
2. Local government and state and federal agencies should establish High Density Residential areas as priority areas for the provision of new and improved public services and infrastructure;
3. High Density Residential areas should be considered as potential receiving areas if and when a system of transfer of development rights is instituted in the County. Density bonuses should be allowed in such receiving areas;
4. Sidewalks and street lights should be required on roads created to access and serve new subdivisions and cluster developments greater than four lots, mobile home parks, apartment complexes and condominiums;
5. Single-family residences should be allowed;
6. Planned unit and "cluster" developments should be encouraged in areas designated for High Density Residential use to provide open space and to preserve the rural residential character of the community. Density bonuses should be allowed in conjunction with planned unit developments;
7. Multi-family dwelling units, including apartments and condominiums, and mobile home parks should be allowed, subject to standards governing number of units allowed, landscaping, setbacks, parking areas, ingress and egress and traffic patterns on adjacent public streets and roads, to protect aesthetic values, public safety, privacy, and the rural character of the community;
8. Public facilities, such as parks, libraries and schools should be allowed;
9. Light home and cottage industry should be allowed, subject to standards protecting rural residential values;
10. Professional services and commercial agriculture should be permitted as conditional uses and only if it is shown that the use may be allowed without adversely affecting the use and enjoyment of adjoining residential properties by significantly increasing objectionable noise, dust smoke, odor, glare, traffic attraction or other disturbing influences;
11. Domestic agricultural uses should be allowed;
12. Commercial uses, other than commercial agricultural uses, light home and cottage industry and professional services should be prohibited; and
13. Industrial uses should be prohibited.

Rural Residential

The Rural Residential designation is intended to provide areas of lower residential density to preserve the rural character of the community. This designation should be applied to lands which are not now subject to intense residential or commercial development and sited in a manner which will either buffer or disburse areas designated Commercial Center or High Density Residential to break up urban densities. Lands designated Rural Residential include areas where existing parcels predominantly range from one to five acres in size.

The following general policies shall govern development in Rural Residential areas:

1. Minimum parcel sizes ranging from one to five acres are consistent with this designation;
2. Single-family residences should be allowed;
3. Cottage and light home industry should be allowed, subject to standards protecting rural residential values;

4. Professional services should be conditional uses and allowed only if it is shown that:
 - a) A proven need for the professional service exists in the Carson planning area;
 - b) The facilities can be located without substantial new investment in public infrastructure;
 - c) The development is consistent with the rural residential character of the immediate neighborhood; and
 - d) No suitable lands are available in any High Density Residential or Business Center designation;
5. Planned unit and "cluster" developments should be encouraged to provide open space, to protect wildlife habitat and other sensitive natural resources, and to protect the rural character of these areas. Density bonuses should be allowed in conjunction with planned unit developments;
6. Public facilities, such as parks, public libraries, schools and recreational developments, should be allowed;
7. Multi-family dwellings and mobile home parks should be treated as conditional uses and allowed only if it is shown that:
 - a) A proven need for the that type of housing exists in the Carson planning area;
 - b) The development can occur without substantial new public investment in infrastructure;
 - c) The development is consistent with the rural residential character of the immediate neighborhood; and
 - d) No suitable lands are available in any High Density Residential designation;
8. New recreational vehicle parks should be prohibited;
9. Commercial uses, other than commercial agricultural uses, cottage and light home industry and professional services, should be prohibited. Commercial agricultural uses should be permitted as conditional uses and only if it is shown that the use may be allowed without adversely impacting the use and enjoyment of adjoining residential properties by significantly increasing objectionable noise, dust, smoke, odor, or other disturbing influences;
10. Domestic Agriculture should be allowed;
11. Industrial uses should be prohibited;
12. Rural Residential areas should be considered as potential receiving areas if and when a system of transfer of development rights is instituted in the County. Density bonuses should be allowed in such receiving areas; and
13. Sidewalks and street lights should be encouraged on roads created to access and serve new subdivisions and cluster developments of greater than four lots.

Rural Estate

Lands designated as Rural Estate should include areas which presently are subject to little or no development and include existing parcels which are predominantly five acres or larger. Such lands should serve as urban reserves and as buffer zones between more urban uses and resource lands and sensitive areas, including shorelines, designated under the Shorelines Management Master Program, the National Scenic Area Act or the Washington State Growth Management Act. Lands designated as rural estate should include areas which pose development constraints, such as steep slopes (15% or greater), frequently flooded and geologically hazardous areas, and lands which contain significant natural features, such as springs, streams, aquifer recharge areas or cliffs. The following policies shall govern development in Rural Estate designations:

1. Minimum parcel sizes ranging from five to ten acres are consistent with this land use designation;
2. Single-family residences should be allowed;
3. Recreational vehicle parks should be allowed as a conditional use if it is shown that:
 - a) A proven need for the that type of development exists in the Carson planning area;
 - b) The development can occur without substantial new investment in public infrastructure.
 - c) The development is consistent with the rural residential character of the immediate neighborhood; and

4. Low-intensity recreational uses, such as trails, picnic areas and campgrounds should be allowed;
5. Mixed residential, agricultural and forestry uses should be allowed and encouraged on lands designated Rural Estate;
6. Noise levels in adjacent areas should not be appreciably increased by new development;
7. Adverse visual impacts on adjacent property should be considered. The design and site layout should be such that the impact of development on adjacent property is minimized;
8. Development on these lands should not appreciably increase traffic through areas designated High Density or Rural Residential;
9. Planned unit and "cluster" developments should be encouraged to maximize open space and encourage forestry and agricultural uses of land. Density bonuses should be allowed;
10. Cottage and light home industry should be allowed, subject to standards protecting rural residential values;
11. Domestic agriculture and forestry uses should be allowed;
12. Commercial agriculture should be permitted, subject to standards preserving rural residential values on adjoining properties;
13. Industrial forestry uses should be permitted;
14. Commercial and industrial uses other than agriculture and forestry should be prohibited;
15. Professional services should be prohibited;
16. Public investment in infrastructure, including public roads, should be minimized; and;
17. Rural Estate lands should be considered as potential receiving areas if and when a system of transfer of development rights is instituted in the County. Density bonuses should be allowed in such receiving areas.

Business Center

The public purpose served by the Business Center designation is to provide employment opportunities within the community and to increase convenience and shopping opportunities within the planning area. Lands designated Business Center should include dispersed areas which are presently subject to commercial and/or industrial development and areas which are suitable for commercial or industrial development, given their proximity to public services, major transportation corridors and infrastructure. Lands designated under this Section may also include areas that predominantly are undeveloped or sparsely developed and, therefore, may be developed for industrial or commercial purposes with minimal, if any, destruction of existing improvements. The following general policies should apply to lands designated under this subsection:

1. Minimum lot sizes should be those required to accommodate the proposed development, including landscaping, open space and parking requirements, any additional zoning requirements implementing this plan and consistent herewith, and all rules and regulations established from time to time by the Southwest Washington Health District and other state agencies;
2. Residential development on lands designated hereunder should be discouraged unless located above a commercial building. Residential development should be permitted in conjunction with destination resort facilities. Residential development otherwise should be made a conditional use and only allowed to accommodate the residence of the owner or caretaker of a commercial establishment when the residence is a part of the commercial establishment. Residential structures in conjunction with industrial use may only be allowed to accommodate a full-time guard or caretaker;
3. In order to preserve the rural character of the community, strip-type commercial development should be discouraged;
4. Recreational vehicle parks and campgrounds should not be allowed on lands designated as Commercial Center unless in conjunction with a Destination Resort and then only as a conditional use;

5. Only industries shown to have no or only minimal adverse environmental or aesthetic impacts should be allowed;
6. Commercial and industrial development should be conditioned to ensure compatibility with the surrounding area and to ensure that developments are sited, landscaped and architecturally designed to minimize adverse impacts to natural, aesthetic and rural residential values;
7. Off-street parking should be encouraged for all new commercial, and required for new industrial, establishments. Pooled or joint-use parking areas may be allowed to achieve this policy;
8. Ingress and egress to commercial and industrial establishments should be regulated to prevent unsafe conditions; and
9. Professional services should be allowed.

C. ADMINISTRATIVE POLICIES

1. In order to expedite the granting of conditional uses and variances and to avoid the expenditure of public funds for hearings on requests which are clearly not consistent with this comprehensive plan and any zoning ordinances undertaken pursuant hereto, all conditional uses and variances should be subject to review as an administrative decision by the Director of Planning and Community Development, with appeal to the Board of Adjustment. Appeal to the Board of Adjustment should be de novo;
2. Four types of developments should be established for each land use designation under this plan and for any zone established to implement this plan:
 - a. Developments which are permitted without review by the Planning Agency, except by the Department for compliance with setbacks, buffer requirements, critical area regulations, the State Environmental Policy Act and the Shorelines Management Master Program;
 - b. Review uses, which are allowed, with administrative review by the Department for consistency with standards placed upon those uses;
 - c. Conditional uses, which should be subject to review by the Administrator, with appeal to the Board of Adjustment. For purposes of administrative review, conditional uses should include any uses which are permitted subject to conditions of approval, as well as traditional conditional uses; and
 - d. Developments, such as subdivisions, mobile home parks and recreational vehicle parks, which are subject to approval by the Planning Commission and Board of County Commissioners, with appeal to the Washington Superior Court.

D. DEFINITIONS

1. "**Billboard**" shall mean any free-standing sign exceeding 8 feet in total height and 40 feet in area.
2. "**Commercial Agriculture**" shall mean all agricultural practices, including animal husbandry, resulting in commercial sales, whether on or off the premises.
3. "**Department**" shall mean the Skamania County Department of Planning and Community Development.
4. "**Domestic Agriculture**" shall mean all agricultural practices, including animal husbandry, which are limited to personal, family use and do not result in commercial sales.
5. "**Planning Agency**" shall mean the Skamania County Department of Planning and Community Development, the Planning Commission, Board of Adjustment and Board of County Commissioners.
6. "**Substantial change in circumstances**" shall mean a significant change in conditions affecting the Carson planning area as a whole or a substantial portion thereof, sufficient to justify an amendment of this plan. Examples include, but should not be limited to, 60% in-fill in any zone, or

a change in legal circumstances sufficient to defeat the purposes of a policy established in this plan or of a regulation implementing this plan.

IV. TRANSPORTATION ELEMENT

A. EXISTING ROAD SYSTEM

Roads are generally defined by functional classification within a transportation system. Carson's road system is managed by the Skamania County Department of Public Works. A transportation system is comprised of arterial, collector and local access roads which are defined below:

Arterial: Connect centers of population and economic activity with each other and/or the state system. Provides through-traffic movement. Occurs at reasonable intervals to collect traffic from lesser roads. In the Carson Planning area, Highway 14, Wind River and Hot Springs Roads are considered arterial roadways.

Collector: Serve minor population centers and traffic generators. Channel traffic from access roads into the arterial routes. Collector roads in Carson include Smith-Beckon, High Bridge, Metzger, Bear Creek and Estabrook.

Access: Provide first level access to abutting properties.

Table T-1 lists local access roads located within Carson. Private roads are not included. Roads are subject to reclassification pursuant to a recommendation from the public works department and action taken by the Skamania County Board of County Commissioners.

Table T-1 Carson County-Road Inventory

Old Detour Road	Noble Fir Drive	Rogers Street	Glur Road	Allen Street
Rakestraw Road	Carson Frontage Rd.	Barnes Road	St. Martin Springs	Tamarack Lane
Mathany Road	Vine Maple Loop	Evergreen Street	St. Martins Hill Rd.	Redwood Street
Johnson Road	Alpine Lane	Dogwood Street	Carson Creek Road	Juniper Street
Trailer Dump Access Rd.	Bennett Street	Rosenbach Lane	Wilkinson Street	Peyrollaz Rd.
Dillingham Loop	Shipherd Falls	Valley Drive	Boyd Street	Wind River Rd. - A
Dillingham Extension	Holcomb Lane	Dalen Street	Sprague Landing Rd.	High Bridge Rd. - C
Brooks Road	Schulze Street	Short Run	Hot Springs Ave. - A	1 st Street
Eyman Cemetery Road	Evans Street	Cloverdale Avenue	Bear Creek - C	2 nd Street
Spruce Street	Carson Depot#1	Carson Depot #2	Fredrickson Ave.	3 rd Street
Monaghan Road	Log Dump Road	Cascade Terrace	Columbia Drive	4 th Street
Metzger Road - C	Smith-Beckon -	Estabrook	Oak Street	5 th Street

	C	Road - C		
--	---	----------	--	--

C = Collector A = Arterial

The Carson road system, including all arterials, collectors and local access roads is displayed in Map T-1. All roads in the Carson planning area are two-lane.

B. LEVELS OF SERVICE AND TRAFFIC FORECASTS

Uninterrupted Conditions

Levels of transportation service (LOS) are assessed using quantitative measures, which describe operational conditions within a traffic stream, and qualitative measures, such as individual motorist and/or passenger perception of those conditions. A level of service definition considers factors such as speed and travel time, traffic volume, freedom to maneuver, traffic interruptions, comfort, convenience and safety. Levels of service in the Carson planning area are rated A through F, best to worst, based on the Highway Capacity Manual.¹ The following level of service (LOS) definitions may be used to describe transportation during uninterrupted flow conditions:

LOS A: Describes free flow conditions, with low volumes and high speeds. Freedom to select desired speeds and to maneuver with the traffic systems is extremely high. The general level of comfort and convenience provided to the motorist, passenger or pedestrian is excellent.

LOS B: Is in the range of stable flow but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver with the traffic stream from LOS A.

LOS C: Still in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

LOS D: Represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

LOS E: Represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

LOS F: Describes forced or breakdown flow. These conditions usually result from queues of vehicles backing up from a restriction downstream. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. It marks the point where arrival flow exceeds discharge flow.

¹ Transportation Research Board, 1995.

The stretch of SR-14 crossing the Carson planning area is assessed as having a level of service C, by the Southwest Regional Transportation Council. Wind River Road (highway) has a level of service B.

Non-Signalized Intersections

Traffic counts were taken for Carson in the summer of 1995 during peak traffic hours. The traffic study monitored volume at several major intersections, distinguishing between passenger vehicles and heavy load transports. These counts were then used in a formula to determine expected vehicular volume on selected roads based on future build-out population projections. Vehicular traffic could potentially double by the year 2005. Intersection traffic count results and forecasts are illustrated in Appendix T-1.

Levels of service for non-signalized intersections are based on a volume to capacity ratio and the resultant periods of delay. Projections take into account land uses in the area surrounding an intersection and how that traffic may affect the level of service of the intersection in the future. Levels of service in non-signalized intersections in Carson are expressed in terms of the average total delay per vehicle in seconds as show below:

Table T-2 Level of Service Definitions for Non-Signalized Intersections

LEVEL OF SERVICE	AVERAGE TOTAL DELAY
A	< 5 Seconds
B	> 5 and < 10 Seconds
C	> 10 and < 20 Seconds
D	> 20 and < 30 Seconds
E	> 30 and < 45 Seconds
F	> 45 Seconds

Currently, non-signalized intersections in the Carson planning area are characterized by levels of service A and B, and to a lesser degree, C. However, based on population projections for 2005, levels of transportation service in some areas of Carson could decline to E and F unless substantial road improvements are realized.

C. PLANNED AND PROPOSED ROAD IMPROVEMENTS

The following (see Table T-3) Carson area transportation improvements have been identified in the Skamania County 6 Year Road Program (for the years 1996-2002). Projects are selected based on a priority matrix system which takes into account such factors as traffic volume, roadway condition, local importance and availability of funding.

Table T-3 Planned Road Improvements for Carson Area

Project Site	Improvement	Year	Other Funding	Local Funding
Wind River Road (M.P. 20.62 - 23.63)	Reconstruction	1996	0	280,000
Hot Springs Avenue (M.P. 1.23 - 1.95)	Reconstruction	1996	475,000	125,000
Wind River Road (M.P. 0.10 - 1.00)	Reconstruction	1997	70,000	30,000
Metzger Road (M.P. 0.89 - 1.21)	Widen Storm Drain	1998	0	150,000
Carson Creek (M.P. 0.10)	Culvert Reconst.	1998	0	100,000
Wind River Road (M.P. 14.38 - 16.53)	Reconstruction	1999	0	215,000

Wind River Road (M.P. 17.37 - 20.52)	Reconstruction	1999	77,000	193,000
--------------------------------------	----------------	------	--------	---------

Source: Skamania County 6 year Road Program, 1996-2002. Department of Public Works

Costs associated with general road maintenance, construction, paving, realignment, reconstruction and snowplowing are generally expressed in dollars per mile. Approximate Dollar amounts needed for performance of these activities are presented in Appendix T-2.

In addition to the scheduled improvements listed above, two other transportation-related items should be addressed in the Carson Planning area during the horizon of this plan. The first of these is installation of sidewalks within a one-mile radius of Carson Elementary and Wind River Middle Schools. School buses do not transport children living within one-mile of the school. Although sections of sidewalk already exist in this area, certain segments have yet to be completed presenting a safety concern for school children and other pedestrians.

Second, there are few storm water drains in the Carson Planning area, and no storm water plan or standards. Adequate drainage facilities reduce the effects of heavy rainfall and flooding and relieve stress on saturated soils which are needed to filter septic waste. In some cases, unmanaged storm water runoff may lead to elimination of wildlife habitat, pollution of the community's drinking water supply and negative impacts on streams and wetlands. The potential for adverse impacts from storm water runoff worsens as population and development increase. Serious consideration should be given to development of a storm water plan and standards in the Carson Planning area within the horizon of this plan.

D. FINANCING PLAN

General road construction and repair funding is generated from a number of sources. Traditionally, operating funds for the six year transportation program have come from:

- Federal Forest Funds
- State Forest Funds
- Gas Tax
- Property Taxes
- Surface Transportation Program (ISTEA)
- County Arterial Preservation Program
- Rural Arterial Program

In recent years, declining timber receipts have resulted in fewer transportation dollars for Skamania County. Alternative sources of funding will be needed to recover lost revenue and maintain current levels of service. Federal and state grant and loan funds may be available for installing sidewalks near schools, lighting certain intersections and/or developing a storm water runoff plan and system.

E. TRANSPORTATION GOALS AND POLICIES

Goal

To provide a safe, convenient and cost effective roadway network with adequate capacity to meet the demand for travel in Carson at acceptable levels of service.

Policies

Policy T-1: The County Public Works Department should continue to take periodic traffic counts and make road improvements as necessary and feasible to maintain levels of service at "C" or above throughout the horizon of this plan.

- Policy T-2: Public Works should continue to investigate and pursue alternative sources of grant funding for transportation related construction and maintenance.
- Policy T-3: The County should investigate, and when appropriate, adopt ordinances regarding impact fees charged to developers creating new roads or substantially increasing use on existing roads. The feasibility of creating a local improvement district should also be examined.
- Policy T-4: The County should pursue grant funding and encourage Public Works to provide sidewalks for all streets within a one mile radius of Wind River Middle and Carson Elementary Schools.
- Policy T-5: Public Works should ensure adequate lighting for all major intersections in the Carson planning area.
- Policy T-6: Public Works should develop a storm water drainage plan resulting in expansion of the system to areas not currently served.
- Policy T-7: The County should adopt private road standards which are consistent with minimum County road standards and the land use element of the Carson Comprehensive Plan.

V. UTILITIES ELEMENT

A. ELECTRICAL SERVICE

Provider

The Skamania County Public Utility District (PUD) is the sole provider of electrical service in the Carson Planning area. However, new laws have led to the deregulation of the utility industry and may have considerable effects on both the manner and cost of providing electricity in the future. Presently, the PUD purchases its entire power supply from the Bonneville Power Administration, though it maintains the option to purchase from other entities. PUD operation is financed through a combination of tax exempt bond issues and user fees. As of August, 1997, there was an outstanding balance of \$130,000 on a \$500,000 bond issue from 1989 and a balance of \$150,000 on a \$1,000,000 bond issue from 1978. Another \$1,000,000 bond was issued in 1996. Various system improvements are funded through Rural Development Assistance grants and internal financing.

Delivery

Carson's electrical power is delivered from a single substation located at the southern end of Monaghan Road which also serves Hemlock and Home Valley. Power is delivered from the substation to individual homes and businesses through a variety of overhead and underground transmission lines. The Carson substation was updated in 1993 and, due to Carson's relatively low-population density, a need for additional facilities is not anticipated. New delivery lines will be installed as necessary to meet demand.

Capacity, Consumption and Fees

Under the current PUD billing structure, residential customers are assessed standard facilities and hourly kilowatt consumption charges on a bi-monthly basis. On average, Carson residents utilize approximately 2,800 kilowatts of energy every two months at \$.046 / kWh. This average accounts for low summer and high winter consumption rates. Per Capita consumption of electricity in Carson is low compared to other areas of the State, and the Skamania County PUD considers itself to be a rural, low-density utility provider. Information regarding current user fee rates and other applicable charges may be obtained by requesting an Electric Rates List from the PUD.

According to the Skamania County PUD, there is ample capacity to serve Carson's demand for energy even at full build-out projections. As of March, 1996, there were 961 residential power customers in the Carson Planning area totaling 16 million kilowatts in energy sales. Although Carson's population has been steadily increasing, net sales in power have declined due to reduced consumption of power by the Wilkins, Kaiser and Olsen Lumber Company. Overall industrial power consumption is negligent and the PUD does not foresee a need for increased power production in the near future.

Hook-Ups

New electrical hook-ups are allowed up to 250 feet of free extension line from the nearest existing PUD connection. The party requesting power is responsible for purchasing additional line, if needed, and installation costs. A fixed formula is used to determine both overhead and underground line extension charges on a Dollar per foot basis. Rates vary depending on the type and/or capacity of the extension requested.

B. TELECOMMUNICATIONS

Telecommunications in Carson have been provided by United Telephone (also known as Sprint) since the mid 1930's. In 1996, there were approximately 850 customers in the Carson Planning area. Residential and business customers are assessed a flat monthly rate for network access and basic services at either residential or commercial rates. In addition to these fees, customers are required to pay 911 Emergency, TDD and Washington Telephone Assistance Program taxes each billing period. New connections are assessed an installation fee of \$25.00 (1996). Other telephone features are available and charged separately. Current rates are available from United Telephone in Hood River, Oregon.

Carson is part of a United Telephone service area which includes Home Valley and Stevenson. Part of the service area is linked to the United Telephone network via fiber optic cables leased from Summit Cable, while another portion is part of a remote concentration module relayed to The Dalles, Oregon. United Telephone buries new and replacement phone lines when existing telephone poles do not present a cost effective alternative, and shares trenches with other utility service providers whenever possible. United Telephone does not anticipate any difficulty meeting telecommunication demands in the Carson service area over the next twenty years.

Several cellular phone companies provide service to the Carson Planning area.

C. CABLE TELEVISION

Summit Cable provides cable television service to Carson as part of its Carson-Stevenson-Home Valley service area. Summit Cable estimated that it served approximately 1200 customers in this service area during 1996. Administration and accounts are handled through Summit's office in Olympia. However, Summit does maintain a local maintenance office located in Stevenson.

In 1996, new installations and reconnections cost \$49.95 and \$29.95 respectively. Basic cable service fees were \$25.95 per month. Premium channels and other services are available at additional cost, and may be requested through Summit Cable's Olympia office. Basic rates reflect the cost of ongoing maintenance and improvements, including a recent fiber optic cable installation which increased the number of channel options from 20 to 30. Summit Cable expects to meet cable television demand in Carson throughout the horizon of this plan.

D. WATER SYSTEM

Background

Carson's water system is owned and operated by the Skamania County Public Utility District (PUD). The existing system, developed in 1953, has undergone a number of changes including addition of a filtration plant, construction of a storage reservoir and improvement of the original diversion source. An assessment of current conditions was recently conducted by Wallis Engineering of Vancouver, WA. In addition to analyzing existing conditions, Wallis engineering has proposed a series of improvements and 6-year capital facilities plan which have been adopted by the PUD. Descriptions of each may be found below.

Supply

The existing supply consists of a diversion of Bear Creek located approximately 2.5 miles from the northeast limit of the water service area. The existing diversion dam was constructed in 1978 and consists

of a 10' high, 50' wide concrete dam, intake and sedimentation basin. The elevation of the dam crest (687') provides for gravity flow to the system. The dam includes a 31'' wide removable wooden gate which allows for flushing of accumulated materials from the vicinity of the intake. A permanent staff gauge is installed on the side of the intake structure and provides for measurement of flows over the entire crest of the dam.

The raw water transmission main is the original 16,000' long, 12'' wrapped steel pipe. This line includes a 6'' blow-off, crossing of Bear Creek, two air relief valves at high points, and a crossing of the Wind River Gorge over a trestle bridge. The raw water main is buried at all locations except for one small watercourse during the descent, crossing and climb out of the Wind River Gorge where it is partially or fully exposed. The crossing of Bear Creek was replaced in 1986 after stream bed erosion had exposed the pipeline. The raw water main has experienced 10-12 leaks in the past twelve years, all in areas where the pipe exterior was either uncoated or the coating had been damaged in installation. Some internal corrosion of unlined sections has also been observed.

From the south rim of the Wind River Gorge crossing, the raw water main continues south to Wind River Highway where it is intercepted by a 3,400' long 8'' PVC line to provide for a diversion to the water treatment facility.

Treatment

The existing treatment facility provides for conventional treatment including flocculation, settling and filtration. The flocculation basins have never performed well, and are currently inoperable. The sedimentation basins are small and include tube settlers to provide for improved settling capacity with manual cleaning of accumulated sludge. Filtration is provided by dual media filters with manual backwash and surface wash.

Chemical addition consists of alum and cationic polymer (for coagulation), soda ash (for pH adjustment) and sodium hypochlorite (for disinfection). The point of application for all chemicals is to the raw water as it enters the treatment facility. Mixing of the chemicals with the raw water is achieved by a recently installed static mixer. The PUD is in the process of installing new digital flow meter on the raw water and finish water lines. The treatment facility is not covered except for a small portion of the flocculation facilities.

Storage

Storage for the entire system is provided by a single, 750,000 gallon still reservoir located immediately west of the treatment plant which was constructed in 1978. The reservoir has a base elevation of 623 feet, diameter of 66 feet and operational height of 30 feet with an overflow located at 653 feet. Discharge from the reservoir is an 8'' line located at the bottom center of the tank.

Distribution

The storage transmission main consists of a 3,400' long 8'' line along the alignment of the raw water line from the site to Wind River Road. Along this route, additional capacity is provided by a single 6'' line which connects approximately 500 feet from the reservoir. This 6'' line later crosses the 8'' line, but is not connected.

The distribution system consists of a 12'' transmission main along Wind River Road to Metzger where it reduces to an 8'' main. The remainder of the distribution system is generally looped 6'' water mains. The

total length of lines is approximately 16.2 miles. The original water system and older mains are all steel pipe. Recent additions have been PVC pipe.

The condition of existing water mains is excellent with the sole exception being 1,300 feet of 8" OD steel along Smith-Beckon Road (Wind River Road to Metzger Road). This line appears to be a thinner walled pipe without an external coating. It is in poor condition and should be replaced. The other existing OD steel lines are all coated interior and exterior with no observed corrosion, even in extremely rare instances where the coating had been removed.

The distribution system is relatively level in the central service area. Elevations generally trend lower from north to south. The western limit contains steep hills and the eastern limit a steep canyon. South of Hot Springs Road, the land slopes down towards the Columbia River. The system also includes 5 booster pumps of which two serve single residences. The only PRVs are located along the extreme southerly extent of the system where a 6" main extends along Wind River Road and across SR 14. Along this route, there are two separate 6" PRVs which provide for moderation of pressures as the ground elevation drops. Each of these valves reduces the pressure to 50 psi from upstream static pressures of 125 and 140 psi respectively.

Service lines in the older area of the community (downtown and school area) are galvanized and many are in poor condition. Newer service lines are copper and are in excellent condition.

Map of Existing Service Area

Map U-1 shows existing and proposed water system facilities and transmission lines for the Carson planning area.

Service Connections and Capacity

There were approximately 416 water connections to the Carson water system in 1975. By 1991 that number had grown to 689, an annual growth rate of approximately 3.2%. In the period between 1991 and 1997, there have been an additional 88 connections, bringing the total to 777. This marks an annual increase of roughly 2.45% in the last six years.

Assuming connections will continue to increase at 2.45% per year, a low growth estimate, the Carson system can expect to supply water to 920 connections by the year 2003 (the required six year capital facilities planning period), 1,014 connections by the year 2007 (ten year horizon of this comprehensive plan) and 1,230 connections by 2017 (twenty year horizon). Further assuming that an average of three persons are served per connection, this same rate of increase would signify that the Carson water system is currently providing water for 2,331 people, and will need to have enough capacity to serve 2,760, 3,042 and 3,690 people in the years 2003, 2007 and 2017 respectively. Estimated build-out potential based on current Carson Planning area zoning is 2,300 connections, or 6,900 people. Current growth rates do not suggest that this figure will be reached within the horizon of this plan.

The existing water source and treatment facilities are sufficient to supply 1,131 connections based on peak day demands. The existing storage has capacity to serve 1,312 service connections, based on a reliable power supply. These figures suggest that the existing Carson water system will be pushed to nearly full capacity at a low annual growth rate of 2.45% within the horizon of this plan. Should growth occur at a higher rate, higher range estimates have varied between 3% and 5% annually, the system will be incapable of meeting demand. In order to continue providing adequate service, the Skamania County PUD has chosen to follow recommendations made by Wallis engineering 6-year capital facilities improvement and finance plan described below.

Future Needs

In the Carson Water System Plan, Wallis Engineering identified and prioritized a series of system improvements to be carried out over a six year period from 1996 to 2001. Specific improvements are recommended for the supply source, raw water transmission line, treatment operations and facilities and storage. Each recommendation is detailed and justified within the body of that report. The following table summarizes the schedule of capital improvement projects.

Table U-1 Capital Improvement Projects: 6-Year Schedule

CAPITAL IMPROVEMENTS PROJECT	COST
1996 - Total Cost =	\$270,000
Bear Creek Diversion Structure Improvements	\$4,000
Glur Reservoir Site Investigation/Acquisition	\$5,000
Wind River Crossing Improvements	\$3,000
Raw Water Flow Control Valve Modulation/Flow Proportional Chemical Feed	\$5,000
Wind River PRVs	\$4,000
System Booster Pumps/Prvs	\$80,000
Phase II Transmission (5,100 LF)	\$158,000
Water Right Action Plan	\$1,000
Minor Distribution Improvements (fire hydrants, gaps, blow-offs)	\$10,000
1997 - Total Cost =	\$ 81,000
Treatment Plant improvements: chlorine and turbidity alarms with phone auto-dialer (\$3,000), streaming current monitor (\$10,000), filter to waste (\$15,000), restore flocculation (\$30,000), cover filter plant (\$5,000-\$15,000)	\$63,000
Columbia Heights PRV	\$4,000
Leak Detection Survey	\$4,000
Minor Distribution Improvements	\$10,000
1998 - Total Cost =	\$ 170,000
Improve Raw Water Piping Capacity	\$5,000
Phase I Transmission (5,100 LF)	\$155,000
Minor Distribution Improvements (fire hydrants, gaps, blow-offs)	\$10,000
1999 - Total Cost =	\$10,000
Minor Distribution Improvements (fire hydrants, gaps, blow-offs)	\$10,000
2000 - Total Cost =	\$10,000
Minor Distribution Improvements (fire hydrants, gaps, blow-offs)	\$10,000
2001 - Total Cost =	\$530,000
Glur Reservoir (500,000 GAL)	\$310,000
Phase III Transmission (3,900 LF)	\$210,000
Minor Distribution Improvements (fire hydrants, gaps, blow-offs)	\$10,000
Total Improvements Cost Over 6 Year Capital Facility Plan	\$1,071,000

Source: Wallis Engineering, Skamania County PUD Carson Water System Plan, 1996.

In addition to identifying the types of improvements to be made, Wallis engineering has proposed a capital financing plan. The Wallis plan is scheduled for six years, the required period for capital facilities plans, and assumes high annual connection growth (5%). The financing plan relies on connection rates, hook-up fees and interest earned on reserves exclusively. Water rates are expected to increase at a rate slightly less than the anticipated growth in connections. Unexpected capital needs and increased construction costs due to inflation are not accounted for. The financing plan is based on recent PUD operating records, discussions with the PUD board and a public meeting held in May, 1996. Proposed

water rates and system development charges are potential sources of future funding as well. The financing plan is outlined below.

Table U-2 Capital Financing Plan

Year	Connections	Rate p/con.	Rate Total	Hook-Up Fees	Total New Funds	CFP Expense	Balance
1995	759	\$11	\$8,349	\$9,500	\$30,469		\$202,294
1996	796	\$45	\$35,820	\$74,000	\$109,820	\$270,000	\$42,114
1997	836	\$75	\$62,700	\$80,000	\$142,700	\$81,000	\$103,814
1998	878	\$75	\$65,850	\$84,000	\$149,850	\$170,000	\$83,664
1999	922	\$75	\$69,150	\$88,000	\$157,150	\$10,000	\$206,814
2000	968	\$75	\$72,600	\$92,000	\$164,600	\$10,000	\$361,414
2001	1,017	\$75	\$76,275	\$98,000	\$174,275	\$530,000	\$29,689
Total						\$1,071,000	

Source: Wallis Engineering. Skamania County PUD Carson Water System Plan, 1996.

Water Conservation Program

Water conservation has become an important element in water resource planning. The benefits of efficient water use include lower costs (pumping), reduced loading to septic systems, and greater available resources in the event of an interruption in supply. During recent years, per capita consumption has increased slightly in the Carson Planning area. In part, this is due to rising income levels, which in turn lead to the installation and operation of additional water consuming appliances such as garbage disposals and dishwashers.

In addition, present water use in Carson is somewhat higher than surrounding systems, particularly when viewed in respect to the level of annual rainfall for the area. This discrepancy may be attributable to the seasonal variation in precipitation and porous soils found in the Carson planning area, but also to the modest water rates charged by the utility which allow for higher use without significantly higher cost.

The Skamania County PUD has a "base conservation program" which follows Department of Ecology and Department of Health guidelines for small water system operators (up to 1,000 connections). The program focuses on public education to achieve a 10% reduction in per connection water consumption.

The first element of the program is accurate measurement of water consumption. The PUD policy of converting master metered residential services to individual meters provides for an increased awareness of consumption. At the same time, consumption and production values can be compared to reveal water losses. At present, losses appear to be around 20%. Losses may be reduced by replacing leaking lines and identifying all end users of Carson water.

Public education has also involved the inclusion of water conservation articles in the spring and summer issues of the PUD's quarterly customer newsletter. These articles have highlighted measures for both indoor use and efficient irrigation practices. The PUD may also consider distribution of DOE-DOH Water Conservation Guidelines or consider them as a basis for use as future newsletter articles.

In the fall of 1995, the PUD implemented residential water conservation measures through the Good Cents Energy Conservation Program. This process offered to install low-flow shower heads and flow restrictors/aerators on all water fixtures within every residence served by the Carson system.

E. Sewer System

Carson residents rely on on-site septic tanks for wastewater treatment and disposal. A recent study conducted by Wallis Engineering of Vancouver found that municipal wastewater collection and treatment facilities are not necessary in Carson at this time, but recommended that continued reliance upon on-site septic systems occur in conjunction with a community maintenance program.

Soils in Carson are well suited for use as septic tank drain fields, particularly considering the large lot zoning for the area, and existing homes are experiencing very few septic tank failures. Some fecal coliform bacterial contamination and elevated nitrate levels have been identified in groundwater, though it is unlikely these pose significant health implications since no drinking water wells exist in the area. Coliform contamination can be attributed to improperly designed on-site systems, and high nitrate levels to the nature of septic discharge.

Because the severity of water quality impacts will continue to increase as Carson grows, Wallis recommends establishing a community maintenance and education program to ensure optimal and reliable performance of septic systems. A community maintenance and education program would involve the creation of an organization to oversee installation and maintenance of septic systems, and implementation of a long-term water quality monitoring program for the purposes of determining the impacts of on-site wastewater disposal systems upon both surface and ground water. The cost of such a program has been estimated to be approximately \$3 to \$6 a month per household.

F. Utilities Goals and Policies

Goal

To ensure that reliable utility services and infrastructure are available to support existing and future residents at reasonable rates and in a manner that is aesthetically and physically compatible with surrounding land uses and the natural environment.

Policies

- | | |
|------------|---|
| Policy U-1 | Provide population figures, development plans and other data relevant to utility planning. |
| Policy U-2 | Provide timely notice to utility providers of impending county road construction and maintenance activities so as to facilitate shared resources and reduce costs. |
| Policy U-3 | Encourage co-location of utility transmission lines and facilities to minimize the quantity of land allocated for those purposes. |
| Policy U-4 | Require new and replacement distribution lines to be located underground where physically and economically feasible. |
| Policy U-5 | Require all new above-ground transmission and distribution lines to be designed, sited, screened and/or buffered so as to maintain the physical and aesthetic quality of surrounding land use(s). |
| Policy U-6 | Require utility providers to limit vegetative disturbance during the installation or repair of utility lines. |

VI. PUBLIC FACILITIES AND SERVICES ELEMENT

A. *Parks and Recreation*

The Skamania County Department of Parks and Recreation is responsible for providing said services for all of Skamania County, including Carson. At present, Carson residents must travel outside of Carson to visit parks or register for organized recreational activities. Home Valley Park, located immediately southeast of Carson, provides ball fields, river access and camping and picnic facilities. Organized recreation is scheduled through the Skamania County Parks and Recreation Department office located at Rock Creek Park in Stevenson.

Carson is adjacent to both the Gifford Pinchot National Forest and Wind River Recreation Area. However, with the exception of the Wind River Middle and Carson Elementary Schools, there is no centrally located community park, playground or athletic facilities. At the present time, no land has been identified for future park use or zoned open space within the Carson Planning area. Parks and recreation needs will become increasingly important, especially as they relate to the community's quality of life, as Carson grows toward its full build-out potential of 8,500 people. Potential park and recreation sites should be identified and designated by the Skamania County Department of Parks and Recreation and the Carson Community Council while lands are still available.

The National Recreation and Parks Association (NRPA) recommends that a park system, at a minimum, be composed of a "core" system of park lands, with a total of 6.25 to 10.5 acres of developed open space per 1,000 population.² The NRPA suggests that a park system provide a variety of parks. The following list describes the types of parks found in an average park system. Levels of service are based on acres of park per 1,000 residents.

Mini parks	(1 acre or less, serves less than 1/4 mile radius) .25 to .5 acres per 1000 population.
Neighborhood park	(15+ acres, serves 1/4 to 1/2 mile radius up to 5,000) 1 to 2 acres per 1,000 population.
Community park	(25+ acres, serves several neighborhoods 1 to 2 mile radius) 5 to 8 acres per 1000 population.
Regional park	(20+ acres, serves several communities within 1 hour driving time) 5 to 10 acres per 1000 population

B. *Schools*

Public educational services for the Carson Planning area are provided by the Stevenson-Carson School District 303. In May of 1991, the District had an overall enrollment of 1067. In May of 1997, enrollment had increased to 1,190 students. The following table displays enrollment figures for individual schools in 1991 and 1996.

Table P-1 Stevenson-Carson School District 303 Enrollment Comparisons 1991-1996

SCHOOL	MAY 1991	MAY 1996
Carson Elementary	303	323
Stevenson Elementary	283	255

² Recreation, Park and Open Space Standards and Guidelines (1983).

Wind River Middle School	179	189
Stevenson High School	302	423
Total	1067	1190

Source: Stevenson-Carson School District, 1997

Enrollment levels for Wind River Middle School and Stevenson High School have kept pace with baseline forecasts cited in an Enrollment Forecast report prepared for the District by E.D. Hovee and Company in 1994. Elementary school enrollment has not. In large part, this has been attributed to widespread housing shortage and affordability problems which discourage new families from moving to Skamania County. Carson is the area most likely to accommodate future growth due to its potential to provide new home sites with a ready water supply, although growth rates will probably be limited by lack of a sewer system.

The following table illustrates E.D. Hovee's baseline, "most likely" and high growth enrollment forecasts for individual schools in the Stevenson-Carson School District. Baseline forecasts are based on a combination of historical enrollment trends, county-wide population forecasts and allocation of population figures to individual school areas. High growth and "most likely" forecasts have been adjusted for more recent trends and variable percent growth increases.

Table P-2 Alternative Enrollment Forecast Summary (1994-2005)

GRADE LEVEL	HEAD COUNT ENROLLMENT			ANNUAL % CHANGE	
	1994	2000	2005	1994-2000	2000-2005
Baseline Scenario:					
Elementary (K-6)	598	681	675	2.2%	-0.2%
Middle (7-8)	188	196	238	0.7%	4.0%
High (9-12)	416	412	455	-0.2%	2.0%
District Total	1,202	1,289	1,368	1.2%	1.2%
Most Likely Scenario:					
Elementary (K-6)	598	734	739	3.5%	0.1%
Middle (7-8)	188	212	262	2.0%	4.3%
High (9-12)	416	448	507	1.2%	2.5%
District Total	1,202	1,394	1,508	2.5%	1.6%
High Growth Scenario:					
Elementary (K-6)	598	752	803	3.9%	1.3%
Middle (7-8)	188	216	284	2.3%	5.6%
High (9-12)	416	459	545	1.7%	3.5%
District Total	1,202	1,427	1,632	2.9%	2.7%

Source: E.D. Hovee and Co. Stevenson-Carson School District Enrollment Forecasts, 1994

Because enrollment rates are at or below baseline forecasts, school expansion and large staffing additions do not seem likely or necessary in the near future. The school district expects to have a capital facility plan developed by the end of 1997. It is anticipated that some improvements or renovations may be required for several of the older school buildings.

C. Solid Waste

Solid waste collection in Carson is performed by Skamania County Sanitary Service (subsidiary of Bingen Garbage Service), a private contractor located in Klickitat County. Skamania County Sanitary Service estimates that it serves between 80-85% of all households in Carson. Solid waste is collected on Mondays for residences and daily, with the exception of Thursdays, for commercial operations. A substantial portion of the households not served by Skamania County Sanitary Service take their solid waste to one of three Skamania County transfer stations. Solid waste from Skamania County transfer stations is transported to a landfill in Wasco County, Oregon. Bingen Garbage Supply does not anticipate any difficulty providing solid waste collection to Carson even at full build-out.

At present, there is no curbside recycling program in Carson, and residents are encouraged to transport recyclable materials to one of the Skamania County transfer sites.

D. Natural Gas

Northwest Natural Gas is the sole purveyor of natural gas in Carson, though deregulation laws may open the market to other companies during the horizon of this plan. Northwest estimates that it serves between 150-200 customers in Carson, and does not anticipate difficulty providing service to Carson at full build-out.

E. Hazardous Waste

Carson residents deliver hazardous household waste materials to one of three Skamania County transfer sites. Hazardous household wastes include items such as paint, oil, batteries and antifreeze. The transfer stations take paints and oils to environmental companies in Portland for disposal, oil is burned on site and antifreeze is filtered and recycled for use in county owned vehicles. In addition to treating and disposing these common hazardous household wastes, the Skamania County Solid Waste Department advertises and operates treatment and disposal programs for specific hazardous waste materials, such as pesticides, several times a year. Solid Waste estimates that approximately 90% of hazardous waste is accounted for in this way. Solid waste does not foresee any problem accommodating additional hazardous household waste materials in Carson at full build-out.

Hazardous spills are handled through the Skamania County Department of Emergency Services. Historically, hazardous spills and uncommon chemical waste have not been problems in Carson. However, this situation should be monitored closely as new types of business and industry enter the area.

F. Fire Protection and Emergency Services

Fire protection in Carson is provided by Skamania County Local Fire District #1 in conjunction with the Washington Department of Natural Resources and other Skamania County fire districts. The Carson water system provides fire flow through a series of 36 fire hydrants, most of which have 6" connections. There is one 8" connection at the WKO Lumber Mill and sprinkler systems at Wind River Elementary and Middle Schools.

Current fire flow is impaired by low static pressures and transmission line limitations. Most hydrants failed to achieve flows above 500 gpm during tests performed in 1996. The table below shows required and existing fire flow capacity for some of Carson's larger buildings.

Table P-3 Fire Flow Capacity (gpm)

LOCATION	REQUIRED	AVAILABLE
Primary School	3,500	370
Middle School	4,500	370
PUD	1,500	580
Fire Station	1,750	625

Source: Wallis Engineering. Carson Water System Plan, 1996.

At present, a maximum fire flow of 2,500 gpm can be provided by the system which is sufficient for buildings up to 12,000 square feet in floor space. Buildings of greater size require installation of sprinkler systems to reduce required flows, as has occurred at the two schools. WKO has constructed a private fire protection system consisting of a half million gallon, spring-filled reservoir and 3,200 feet of 12" water line to their site.

Wallis Engineering suggests that several fire protection improvements will be achieved through implementation of the six year capital improvements water plan. These include:

- Increased static pressures (pumping and/or higher reservoir location);
- Improvements in transmission and distribution pipe size; and
- Location of a new reservoir to provide flow from two points and closer to the areas of greatest fire protection demand.

Map P-1 shows the distribution of fire flow capacities for the existing Carson water system.

A new county ordinance will require all proposed residential subdivisions, mobile home parks, planned development districts and large scale commercial, industrial and recreational projects to provide a water distribution system and water supply in accordance with the existing Uniform Fire Code (UFM). In addition, new fire hydrants must meet or exceed the fire flow requirements of the UFM. Water system plans must be signed by the Fire Marshall and water company prior to preliminary plat or plan approval, and installation must be completed before submittal of the final plat or plan.

The Fire District hopes to construct a new station and hire paid fire fighters to supplement the existing volunteer crew within the horizon of this plan. District equipment is in excellent condition.

G. Law Enforcement and Corrections

The Skamania County Sheriff's Department provides law enforcement and corrections services for all of Skamania County, including Carson. The Sheriff's Department is part of an integrated emergency - 911 system which included response teams for fire, emergency medical services and hazardous spills. In a recent Sheriff's incident report log, Carson accounted for the highest number of incidents county-wide. The table below shows the distribution of calls received by the Sheriff's office by service area from January 1 to August 1, 1997.

Table P-4 Skamania County Sheriff's Department Incident Reports

LOCATION	# OF INCIDENTS	LOCATION	# OF INCIDENTS	LOCATION	# OF INCIDENTS
Dougan Falls	32	Stevenson Area	359	St. Helens Other	24

Washougal River	435	City of Stevenson	457	Wind River Rd.	34
Clark County	5	Skamania Lodge	8	Mt. Adams Rd.	30
Cowlitz County	2	Carson Area	897	Randle Rd.	5
Klickitat County	6	Hemlock - Stabler	117	Gorge Scenic Area	3
Mt. Pleasant	117	Home Valley Area	133	Out of County	47
Prindle	55	Cooks Area	52	State Forest	4
Skamania	251	Mill A/Willard	80	County Wide	28
N. Bonneville Area	64	Underwood Area	210	Columbia River	25
City of N. Bonneville	125	SR - 14	34	Sheriff's Office	4
County Fairgrounds	9	St. Helens Rd.	82	Not Defined	413

Source: Skamania County Sheriff's Department. Incident Report Log, August, 1997.

The Sheriff's Office tries to maintain a ratio of 1.5 officers per 1,000 residents. No officers are assigned specifically to Carson, though Carson's growth rate may lead to a need for additional officers over the next 5 - 10 years, at a cost of approximately \$45,000 per officer including vehicle.

The Sheriff's Department currently operates one corrections facility, constructed to house 18 inmates. The jail has been overburdened in recent years, however, housing as many as 30 inmates at once. The Skamania County Board of Commissioners is currently in the process of hiring a consultant who will examine future corrections needs and develop a capital finance plan. The Sheriff's Department is presently operating under a county budget of roughly \$1.75 million.

In addition to providing law enforcement and corrections, the Sheriff's Department operates a number of community policing programs. These include the following:

- DARE - Drug and Alcohol Resistance Education for school aged children;
- PACE - Police and Community Effort for youth;
- Problem solving principles using tools such as building codes and ordinances to solve community problems;
- Inner-departmental organizational changes to problem solving at the street level;
- Community council involvement in problem solving; and
- Volunteer participation in police functions.

The Sheriff's Department plans to begin two new programs in the immediate future. The first of these is a citizen's academy which will better acquaint the public with police functions. The second is a citizen's advisory board which will provide public input on policing.

H. Library Services

Carson residents are served by both Stevenson Community Library and a bi-weekly bookmobile. The Stevenson and North Bonneville Community Libraries, including the bookmobile service, form the Skamania County Service Area which is part of the larger Fort Vancouver Regional Library system

(FVRL). FVRL serves approximately 355,000 people living within a 4,200 square mile area covering Clark, Klickitat and Skamania Counties.

A 1996 planning study conducted for the FVRL by the BJSS Group concluded that the combined square footage of library space offered by the North Bonneville and Stevenson Community Libraries will be sufficient through the year 2015. This calculation was based on the statewide average of .5 square feet per capita. The Skamania County service area has an existing square footage ratio of more than 1.0 square foot per capita (8,430 sq. ft.). The Stevenson branch (annexed) accounts for 7,980 sq. ft., and North Bonneville (contract) for 450.

The Stevenson Community Library, built in 1967 and remodeled in the 1980's, is owned by the FVRL. It consists of two floors and a sun porch on the upper south side of the building. The upper floor houses the public service areas, a staff workroom, staff office and public restroom facilities. The basement provides a medium sized meeting room/gallery, a staging area for bookmobile operations, a staff lunchroom and storage for both Stevenson and other branches of the FVRL system. The FVRL is responsible for all operating and maintenance costs associated with the Stevenson Library, including major repairs and building renovation and expansion.

The library serves roughly 5,200 residents in Stevenson and Skamania County and is the base for bookmobile service to an additional 3,000 residents, including Carson, of rural Skamania County and remote parts of Western Klickitat County. Approximately 1,650 Carson residents had library cards in September, 1997.

The 1996 study recommends several short and long term improvements for the Stevenson Community Library. A short term recommendation is for the library to add lighted display shelving on the main library service level. Long term recommendations include expansion of the Children's and Young Adults' area, additional staff office space and a larger staff work area. It has also been recommended that the library separate the staff lunch room from the bookmobile garage. The chart below illustrates several Stevenson Community Library service statistics in relation to the FVRL and other library systems state wide.

Table P-5 Stevenson Library Levels of Service Comparison

ITEM	STEVENSON LIBRARY	FVRL	AVERAGE FOR LIBRARIES WITH POP. GREATER THAN 250,000
Sq. Ft. Per Capita	1.0	0.25	0.50
Volumes Per Capita	2.4	1.5	2.8
Annual Circulation Per Capita	7.8	7.9	10.5
Annual Hours of Opening per 1,000	303.06	71.0	95.3
Circulation Per Sq. Ft.	11.5	39.0	24.0

Source: BJSS Group. Fort Vancouver Regional Library Planning Study, 1996.

The Stevenson based bookmobile has 20 stops throughout rural Skamania County and parts of western Klickitat County, including Bingen. Bookmobiles carry a small representative sample of materials owned by the district, and handle check out through portable units that are uploaded when bookmobiles return to Stevenson Library. Bookmobile stops generally range from 15 to 30 minutes.

At this time, bookmobiles do not provide direct on-line access to the computer resources of the district. Plans for the year 2015 call for replacing bookmobile units and installing informational stations which will enhance opportunities for electronic connectivity.

I. Social and Health Services

Senior Services

Carson residents receive social and health services from a variety of state, local and private providers. Skamania County Senior Services offers a variety of programs for senior and disabled persons county-wide. The following table provides a short description of each Senior Services program as well as the number of people expected to be served in the year 1997 county-wide. Senior Services estimates that 35%-40% of the people they serve reside in Carson.

Table S-1 Senior Services Programs

PROGRAM	DESCRIPTION	NUMBER SERVED (1997)
Information and Assistance	Information of all kinds; Assistance in accessing medical and social services for people 60 and over.	700 persons
Case Management	Help in coordination of medical, social and financial services for aged and/or disabled persons 18 and over.	70 persons
In-Home Personal Care	In-home assistance with personal care and household tasks for aged and/or disabled persons 18 and over. Services authorized by DSHS and private paid services.	50 persons
Transportation	Transportation to medical and social service appointments, essential shopping and financial services, the senior meal site, and other locations for all Skamania County residents.	15,500 trips
Congregate Meals	Senior's lunch served 3 days p/week at Rock Creek Center including socialization and recreation activities.	150 persons
Home Delivered Meals	For homebound persons; Hot-meals 3 days p/week for people living in Stevenson, frozen meals for all others.	40 persons

Source: Skamania County Senior Services, 1997.

Department of Social and Health Services

The Washington Department of Social and Health Services provides both family and children's services programs. The Family Services division provides the following assistance to needy families:

- Temporary child care and other assistance for parents searching for work;
- Financial services;
- Food stamps;
- Medical assistance;
- General assistance to disabled persons without children.

The Children's Services division is responsible for administering the programs below:

- Child protective services;
- Family reconciliation;
- Adoption;

- Licensing of foster homes;
- Day care facilities.

In 1996, Children's Services handled 667 cases throughout Skamania County. DSHS estimates that more than one-third of its children's service assistance serves people living in the Carson Planning Area. The Carson Planning Area accounts for the single greatest share of public assistance of any area within Skamania County.

Funding for Division of Social and Health Services programs comes primarily from block grants issued to individual states by the federal government and locally, from county tax receipts. DSHS expects its caseload to drop in coming years in light of the new Work First program which will require families to complete an orientation session and work a yet to be determined number of hours before qualifying for public assistance.

Immediate concerns for both DSHS and local residents include a shortage of sheltered living, adult and disabled care facilities and child day care centers. These services are not provided locally at levels sufficient to meet demand, and out of town services have either proven to be too costly or impractical.

J. Public Facilities and Services Goals and Policies

Goal

To ensure that the delivery and quality of public services keeps pace with the amount, timing and location of growth within the Carson Planning Area.

Policies

- | | |
|--------------|---|
| Policy PFS-1 | The County and Carson Community Council should work together to establish level of service standards for the provision of specific public services within the Carson Planning Area. |
| Policy PFS-2 | The County and Community Council should identify and develop a parcel of land within the Carson Planning Area for use as a community park. |
| Policy PFS-3 | The County and Stevenson-Carson School District should work together on identifying and securing funding for school improvements and reducing the cost of living for families with school-aged children. |
| Policy PFS-4 | The County and Community Council should investigate the potential for establishing a curb-side recycling program throughout the Carson Planning Area. |
| Policy PFS-5 | The PUD should implement the fire protection improvements described in the six-year capital improvements water plan. The County should also work with the local fire district to evaluate the feasibility of erecting a new station and hiring paid fire fighters to keep pace with growth. |
| Policy PFS-6 | The Community Council should continue collaborating with the Skamania County Sheriff's Office in the development of new programs designed to reduce crime in the Carson Planning Area. |
| Policy PFS-7 | The County and Economic Development Council should work with the Fort Vancouver Regional Library to improve library services for Carson-area residents. |
| Policy PFS-8 | The Community Council should collaborate with Skamania County Senior Services to identify senior needs and improve program offerings within the Carson Planning Area as needed. |
| Policy PFS-9 | The County and Community Council should work with the State and private purveyors to increase child, disabled and senior care services within the Carson Planning Area. |

VII. APPENDIX

T-1 Carson Road System

T-1 Intersection traffic count results and forecasts

T-1 Intersection traffic count results and forecasts, con't.

T-2 Road maintenance costs

T-2 Road maintenance costs, con't.

U-1 Water System Facilities

P-1 Carson Fire Protection