

# WILLAMETTE VALLEY CHOICES FOR THE FUTURE

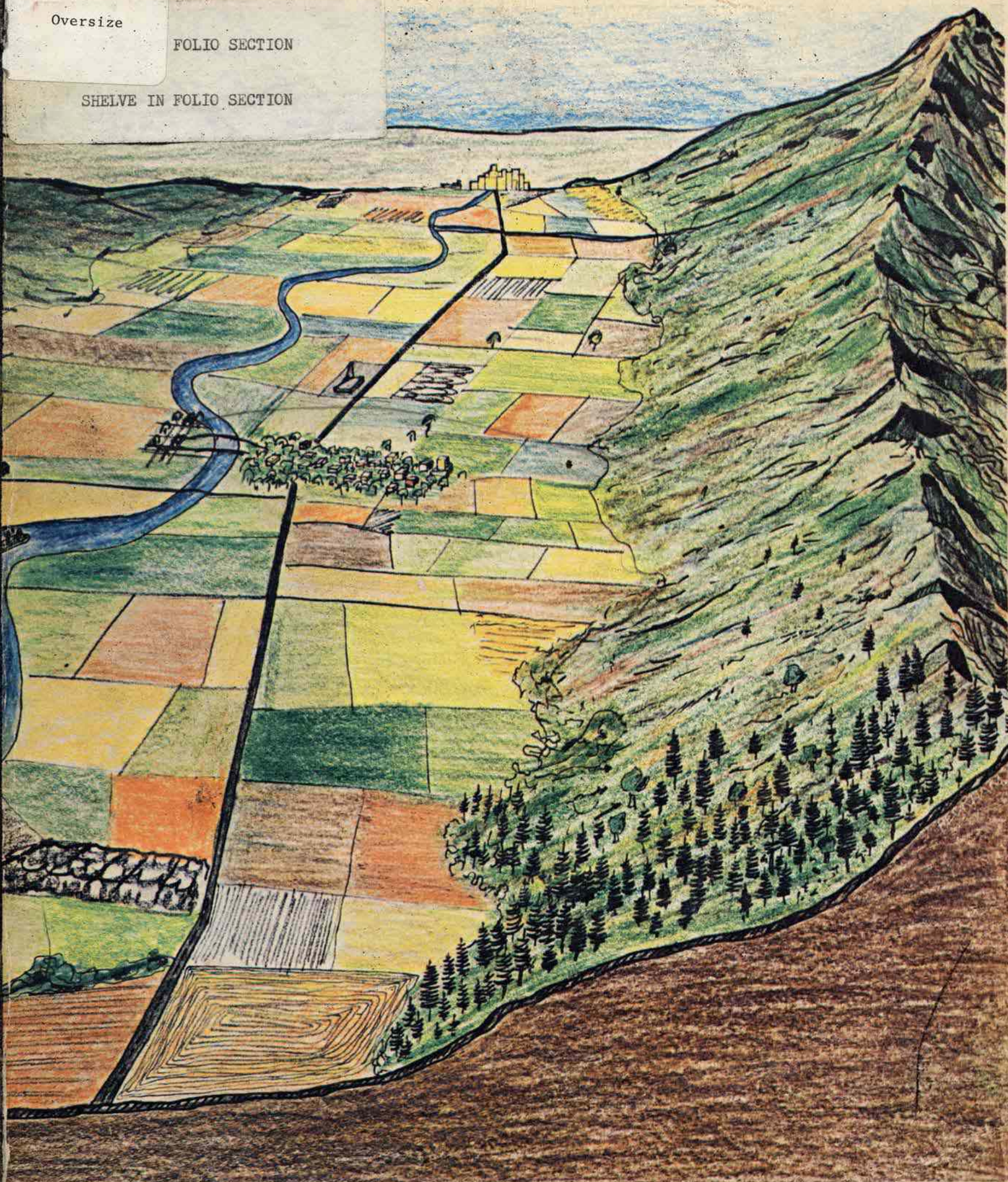
ILLUSTRATED SCENARIOS SHOWING CONSEQUENCES OF ALTERNATIVE APPROACHES TO DEVELOPMENT IN THE VALLEY FOR THE NEXT THIRTY YEARS

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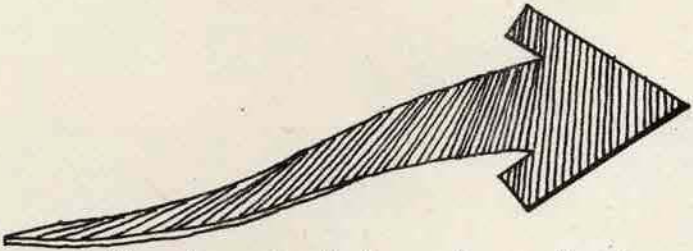
LAWRENCE HALPRIN & ASSOCIATES



GUIDE TO THE FUTURE	SCENARIO ↓	LAND USE	TRANSPORTATION	OPEN SPACE AND RECREATION	EMPLOYMENT AND INCOME	POLLUTION	ENERGY AND POWER	GOVERNMENTAL INTERRELATIONSHIPS
LAND USE	1	.Suburban spread from existing urban centers on Valley floor. .Clutter of other uses. .Declining small towns. .Decreasing number of farms.	.Dependence on auto encourages sprawl/clutter/leapfrogging on farmland and open space. .Large areas of land consumed by roads, parking.	.Sprawl and uncoordinated use of land limit open space opportunities and compromise access to and use of existing facilities.	.Physical environment suffers from indiscriminate growth, increased consumption.  .More jobs available in suburbs.	.Visual clutter. .Noise levels increasing. .Wasteful use of space. .Solid waste consumes land.	.Increased demands on all power sources to serve extensive land use pattern. .Use of cars consumes more power and promotes above land use pattern.	.Pattern is to deal with particular problem areas of uncoordinated land use. .Modifications follow economic/social shifts.
	2	.Comprehensively planned growth; inner cities rejuvenated; new and expanded communities with high amenity, access and mobility.	.Mass transit as form-giver to new communities, accessibility to old. .More efficient use of space in all sectors.	.Conservation of open space including farmland at least as visual amenity. .Concept of greenway park system expanded.	.Tax dollars invested in conservation of environment. .Work/live/recreation relationship coordinated.	.Clustering and coordinated planning control clutter, sprawl, visual pollution, space waste. .Recycling liberates land from solid waste disposal.	.Conservation and lower consumption of energy from comprehensively planned development. .Recycling of resources for energy production.	.Organized to plan for as well as respond to planned land use and development.
TRANSPORTATION	1	.Dependence on auto encourages sprawl/clutter/leapfrogging on farmland and open space. .Large areas of land consumed by roads, parking.	.Overwhelming dependence on auto for private transportation; on trucks for goods within Valley. .Port and air travel expand significantly.	.Access to open space by private car erodes it. .Continued development of roads compromises visual amenity of Valley.	.Commute generally by private auto. .Certain income groups, particularly in inner city, lack mobility. This limits their job opportunities.	.More cars = more air, noise and visual pollution. .Stricter controls required on aircraft and trucking (noise and air pollution).	.Increase use of declining and finite fossil fuel reserves. .Cost of fuels rises with depletion by transportation modes, and importation.	.Authorities accede to continue present growth of suburbia and roads.  .Promotion of expanded port and airport facilities.
	2	.Mass transit as form-giver to new communities, accessibility to old. .More efficient use of space in all sectors.	.Mass transit gets rationale from, gives form to, planned land use. .Increased access between work, home and recreation facilities.	.Transit provides access to recreation opportunities. .Limitation on private car access	.Transit universally available. .Transit system and stations as major determinant in industrial/commercial location	.Electric powered transit reduces air and noise pollution. .Strict visual controls on transit system. .More efficient use of energy equals less pollution.	.Electricity powers mass transit. .Smaller cars/engines, more efficient land use, releases energy for other purposes.	.Comprehensive public transit system promoted at state level. .Long range evaluation of transit needs in the Valley.
OPEN SPACE AND RECREATION	1	.Sprawl and uncoordinated use of land limit open space opportunities and compromise access to and use of existing facilities.	.Access to open space by private car erodes it. .Continued development of roads compromises visual amenity of Valley.	.Unrelated planning for open space to meet local urban and suburban needs. .Declining accessibility to all classes of open space.	.Tourism increases in ways that compromise the landscape and recreational opportunities. .More leisure time but less available recreational opportunities.	.Unrestricted intrusion of cars into recreational and open space areas  .Unplanned development restricts available open space.	.Power distribution lines intrude on Valley landscape. .Pollution from energy sources and uses (particularly autos)	.Reactive legislation attempts to meet open space needs but in face of other land use demands are not sufficiently comprehensive.
	2	.Conservation of open space including farmland at least as visual amenity. .Concept of greenway park system expanded.	.Transit provides access to recreation opportunities. .Limitation on private car access	.Conservation and development of all classes of open space. .Comprehensive planning in land use and transit improve accessibility. .Multiple use renders open space compatible with other users	.Planned land use and development and conservation of open space .Open space opportunities meet demands	.Controls stem wasteful land use, remove clutter from landscape. .Mass transit system conserves open space and improves access to it.	.All utility lines undergrounded. .Major shift to non-pollution sources of energy and conservation of power	.State-wide long-range comprehensive planning, transit, and open space meets recreational demands of growing Valley community.
EMPLOYMENT AND INCOME	1	.Physical environment suffers from indiscriminate growth, increased consumption.  .More jobs available in suburbs.	.Commute generally by private auto. .Certain income groups, particularly in inner city, lack mobility. This limits their job opportunities.	.Tourism increases in ways that compromise the landscape and recreational opportunities. .More leisure time but less available recreational opportunities.	.Major economic and job opportunity growth in Portland, particularly, and other urban centers. .Decline in rural and forest economies. .Limited mobility	.Increased affluence equals more consumption and greater per capita production of solid waste despite initial attempts at recycling.	.Capital intensive, automated industries are high energy consumers. .General wasteful attitudes to energy in consumption oriented society.	.Problem by problem control and management on location and growth of industry and jobs. .No long range policy on unemployment and job training.
	2	.Tax dollars invested in conservation of environment. .Work/live/recreation relationship coordinated.	.Transit universally available. .Transit system and stations as major determinant in industrial/commercial location.	.Planned land use and development and conservation of open space .Open space opportunities meet demands	.Footloose industries locate in and support new and rejuvenated communities. .Improved home-work relationships. .Job training reduces unemployment.	.Long range economies of waste and power recycling realized	.Reduction in allowed per capita energy consumption causes shift to labor intensive industry. .Energy consumptive industries pay more for power.	.Industry wishing to locate or continue production closely screened and controlled. .Strict controls on all pollution from industry. .Job training practices initiated.
POLLUTION	1	.Visual clutter. .Noise levels increasing. .Wasteful use of space. .Solid waste consumes land.	.More cars = more air, noise and visual pollution. .Stricter controls required on aircraft and trucking (noise and air pollution).	.Unrestricted intrusion of cars into recreational and open space areas  .Unplanned development restricts available open space.	.Increased affluence equals more consumption and greater per capita production of solid waste despite initial attempts at recycling.	.Pollution on rise due to more people, cars, industry and energy use. .More noise and visual pollution and wasteful use of land. .Conflicts between water uses.	.Increased energy demands and supply increase air and thermal pollution. .Unrestricted energy use contribute to use of cars and visual pollution (clutter).	.Controls in individual areas meet or surpass Federal standards.
	2	.Clustering and coordinated planning control clutter, sprawl, visual pollution, space waste. .Recycling liberates land from solid waste disposal.	.Electric powered transit reduces air and noise pollution. .Strict visual controls on transit system. .More efficient use of energy equals less pollution.	.Controls stem wasteful land use, remove clutter from landscape. .Mass transit system conserves open space and improves access to it.	.Long range economies of waste and power recycling realized	.Cleaner energy sources. .Restriction on energy consumption. .Visual and noise pollution controlled by comprehensive land use and Valley wide transit system.	.Policy limits use of power, reducing pollution. .New energy sources pollute less. .Conservation of energy from land use controls and transit systems reduces sprawl.	.Comprehensive planning reduces pollution in all sectors more effectively.
ENERGY AND POWER	1	.Increased demands on all power sources to serve extensive land use pattern. .Use of cars consumes more power and promotes above land use pattern.	.Increase use of declining and finite fossil fuel reserves. .Cost of fuels rises with depletion by transportation modes, and importation.	.Power distribution lines intrude on Valley landscape. .Pollution from energy sources and uses (particularly autos)	.Capital intensive, automated industries are high energy consumers. .General wasteful attitudes to energy in consumption oriented society.	.Increased energy demands and supply increase air and thermal pollution. .Unrestricted energy use contribute to use of cars and visual pollution (clutter).	.Per capita energy demand 490 Billion BTU each year. .Hydroelectric sources at capacity in 1980; 50% of supply from nuclear fission reactors.	.Issue by issue solutions to deal with growing demands for energy. .Demand and supply largely directed by external, pragmatic trends and policies.
	2	.Conservation and lower consumption of energy from comprehensively planned development. .Recycling of resources for energy production.	.Electricity powers mass transit. .Smaller cars/engines, more efficient land use releases energy for other purposes.	.All utility lines undergrounded. .Major shift to non-pollution sources of energy and conservation of power	.Reduction in allowed per capita energy consumption causes shift to labor intensive industry. .Energy consumptive industries pay more for power.	.Policy limits use of power, reducing pollution. .New energy sources pollute less. .Conservation of energy from land use controls and transit systems reduces sprawl.	.Energy consumption lowered through taxation policies to 230 Billion BTU each year. .Tax revenues support comprehensive land use and transit system planning.	.Policy initiated to conserve use of all types of energy, especially electrical power.
GOVERNMENTAL INTERRELATIONSHIPS	1	.Pattern is to deal with particular problem areas of uncoordinated land use. .Modifications follow economic/social shifts.	.Authorities accede to continue present growth of suburbia and roads  .Promotion of expanded port and airport facilities.	.Reactive legislation attempts to meet open space needs but in face of other land use demands are not sufficiently comprehensive.	.Problem by problem control and management on location and growth of industry and jobs. .No long range policy on unemployment and job training.	.Controls in individual areas meet or surpass Federal standards.	.Issue by issue solutions to deal with growing demands for energy. .Demand and supply largely directed by external, pragmatic trends and policies.	.Agencies operate relatively independently of each other and solve problems on 5-year basis.
	2	.Organized to plan for as well as respond to planned land use and development.	.Comprehensive public transit system promoted at state level. .Long range evaluation of transit needs in the Valley.	.State-wide long-range comprehensive planning, transit, and open space meets recreational demands of growing Valley community.	.Industry wishing to locate or continue production closely screened and controlled. .Strict controls on all pollution from industry. .Job training practices initiated.	.Comprehensive planning reduces pollution in all sectors more effectively.	.Policy initiated to conserve use of all types of energy, especially electrical power.	.State and regional agencies work together to solve future issues in comprehensive, long-term manner.



# GUIDE CHART TO THE FUTURE



In this foldout you will find many of the elements that we show and describe more fully in this book.

This chart is set up so that you can observe the interaction of one environmental factor on another. It is based on the understanding that each and every environmental action affects every other one, which is the basic premise of ECOLOGY.

Use it the same way you use a road map mileage chart that tells by cross reference how far it is from one place to another.

The environmental impact subjects are listed horizontally and vertically. If you wish to see the connections between any two of the impact subjects, you simply find where they intersect and there you will find the information.





TOM MCCALL  
GOVERNOR

OFFICE OF THE GOVERNOR  
STATE CAPITOL  
SALEM 97310

October 31, 1972

Dear Reader:

This book gives you a long look into the future. With drawings, maps, and photographs, it pictures the year 2002 as it might be in the Willamette Valley. It presents two choices for the future -- but these are only two of many different possibilities.

You need to think out your desired future for the Valley. You need to take your views and constructive ideas to the people who are elected or appointed to act for you -- state legislators, county commissioners, mayors, city councilmen. They need to know your concerns.

I would like to be able to give you the answers to the questions of growth development and livability, but frankly we don't have a consensus about necessary actions. Something, however, has to be done or the questions become more complex, and livability is lost.

To begin with, there is a need for legislative commitment to find answers, land use legislation that provides for clearly defined state and local responsibilities, legislative development and adoption of goals and objectives to guide Oregon's growth and development, new methods of citizen involvement and finally, a system must be initiated to insure that local and state government actions are closely coordinated with citizen desires.

The truth is you can do something. Your action and others' actions can become a potent force in shaping our future in the Willamette Valley. Talk with your neighbors -- share the book.

Before you put this book away, think of what you can do -- talk to your legislators and with the local government officials or with your community organizations.

If you simply decide now how you want our beautiful Valley to look in 30 years, you will already have started to make it come true.

Sincerely,

*Tom McCall*  
Governor



# **THE WILLAMETTE VALLEY CHOICES FOR THE FUTURE**

**Prepared for :**

**WILLAMETTE VALLEY ENVIRONMENTAL PROTECTION  
& DEVELOPMENT PLANNING COUNCIL**

**State of Oregon Tom McCall, Governor  
Columbia Region Association of Governments  
Mid Willamette Valley Council of Governments  
District Four Council of Governments  
Lane Council of Governments**

**Prepared by :**

**LAWRENCE HALPRIN & ASSOCIATES**



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WILLAMETTE VALLEY ENVIRONMENTAL PROTECTION

AND

DEVELOPMENT PLANNING COUNCIL

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TOM MCCALL  
GOVERNOR

OFFICE OF THE GOVERNOR  
STATE CAPITOL  
SALEM 97310

September 29, 1972

Fellow Oregonians and Friends:

The Willamette Valley of Oregon is one of the most beautiful valleys in the world.

Stretching from Eugene in the south to the Columbia River in the north, from the snowy summits of the Cascades to the blue heights of the Coastal Range, it is a verdant, fertile land, still largely untrampled by humanity.

Today the future of the valley is in question. Will the valley fall prey to a now-familiar pattern of uncoordinated growth and urban sprawl? Or can its people, working in community, build a different future? Can they articulate their own ideas for the valley through a more responsive network of government? Can so vast a geographical area coordinate its growth under the common will of the people?

Project "Foresight" meets these questions head-on. In doing so, it has proven to be one of America's most ambitious undertakings.

For two years, the work has been long and tedious, taxing the patience and reserves of technicians, planners, citizens, and public officials. Today, Project "Foresight" has come of age. Scenarios--descriptions of alternate futures--have been prepared for the Willamette Valley to focus attention on various courses Oregonians can take in valley development.

The scenario is a new concept and communication method. It is not a plan, but rather sets the stage for improved citizen involvement and problem identification.

A cynic once grumbled, "All man has learned from the past is that he has learned nothing from the past." Will the next generation say the same? Will bitter hindsight be their lot? Or can they rise up to enjoy the fruits of our foresight?

It is still within our hands to set an example for all to follow. Project "Foresight" is our response to this most challenging responsibility.



Sincerely,

*Tom McCall*  
Tom McCall  
Governor of Oregon



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The preparation of this report was financed in part through a comprehensive planning grant from the Department of Housing and Urban Development.



# HOW TO USE THIS BOOK

This book is an environmental primer for the people of the Willamette Valley. It sets forth basic principles showing how men's actions cause future consequences in the environment.

The book has eight elements:

1. You have already seen the "Guide Chart to the Future" inside the front cover. It tells in digest form how environmental changes affect each other.
2. "How to Use This Book" explains how to get the most out of what you read.
3. "How This Book Came About" tells the story behind the book.
4. "How the Valley Developed Until 1972" describes the Valley today and how it grew over the years.
5. "Scenario I": shows how the Valley will be in 30 years if people continue making decisions based on current trends.
6. "Scenario II": shows how the Valley might be by the year 2002 based on changed assumptions in regard to more density of urban development and that development decisions will be made largely in favor of environmental concerns.
7. "How to Make Your Own Scenarios" tells how to develop your own alternatives for the future of the Valley. It suggests the many choices people have.
8. "Background Information" presents the hard facts and statistics that were used in making the projections and planning assumptions for Scenarios I and II.

We have developed this book in the form of "scenarios." Scenarios are a way of foretelling the future. Film and TV makers use scenarios to develop story lines so that everyone concerned knows in advance what will go before the cameras.

We are using scenarios to tell you, in our best judgement, what is likely to happen to the Willamette Valley environment as people make different choices in how they live, work and move around the Valley. In this way we help you grasp the impact of change. Scenarios simplify professional jargon and make planning understandable to everyone. They help you see what the future will bring so you can decide whether you would like to have it that way.

The Willamette Valley started its development in the modern sense some 100 years ago.

But the big changes are still to come.

We can still affect them if we act now,  
in the 1970's.

We cannot change the past but we CAN INFLUENCE  
THE FUTURE.

Scenarios are our best judgements about what will happen. But since the future IS the future, and is not a fact, other people may have slightly different impressions of what will happen.

Here is how we went about developing our scenarios:

First: Data was assembled over several years by technicians.  
These form the factual base for our analysis.



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## HOW TO USE THIS BOOK

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Second: We then spent some months absorbing all this data, analyzing it, adding to it, thinking about it. In this task we had the very able assistance of members of our own group, consultants, the Steering Committee and Advisory Committees of Project "Foresight" assembled by Governor Tom McCall.

Third: We then organized this data into seven subjects which seemed to us to be the most significant impact areas in the environment. These are:

Land Use

Transportation

Open Space and Recreation

Employment and Income

Pollution

Energy and Power

Governmental Interrelationships

Fourth: The next step was the crucial one. This was to use the factual data as a basis for forecasting what would happen during the next 30 years.

We wrote this forecast in two Scenarios:

Scenario I: We assume that all factors continue to operate as they do now. No new ways of controlling change are introduced. As an example, we assume under this scenario that people use individual cars as they do now, with the number of cars increasing with population - an increase from X to Y.

Scenario II: This scenario forecasts the future according to new attitudes on how people can live together in the Valley, and a desire to maintain the quality of the environment. It too is based on facts. But inevitably the choices here are greater and we have somewhat less assurance of our forecasting than in Scenario I.

For example, in Scenario II, we have predicted more development of mass transit and less use of the automobile. Of course we have to predict how much less use. This is obviously harder to do than counting only on the automobile and forecasting what will happen with an increase in numbers.

In this kind of predicting, based on known data, we used not only our own and the Task Force's judgments along with those of other experts. We also applied experience and testing from similar situations in other parts of the world. In other words, we did not fantasize; we projected from known facts.

At the same time, it should be pointed out that Scenario I, which is based on the past, is no more accurate than Scenario II (or any other scenario for that matter). The future is predictable to a degree. But no matter how accurate you are, the future remains a probability, not a fact.

Both scenarios can be viewed as equally valid because they are both based on hard facts and have been tested against experience by experts.

Both give us as accurate a look as is possible into alternative futures for the Valley.



# HOW THIS BOOK CAME ABOUT

The people of Oregon seem more aware of their environment than people in most states.

The superb physical environment is basically what brought them or their forebears here in the first place.

Prime agricultural land, clean air and water, vast forests, abundant power . . . all combined to produce a highly desirable way of life in majestic surroundings. The land supported the people, and they derived pleasure living on it.

Central to the state in every way is the great Willamette Valley. Most of the people live and work here, and it is the focus of most of their environmental concern.

It is one of the richest agricultural valleys of this country, perhaps of the world. The Valley has given its people a fine way of life through its fruitfulness -- people have been close to spectacular natural scenery, close to the soil, close to outdoor recreation and to unique panoramas of open space and magnificent river and mountain vistas. The natural environment has made the Willamette Valley a very special place to Oregonians, and indeed to many people who have visited from other parts of the United States.

In recent years the splendid environment in the Valley was compromised in some places, and people did not like it. They grew concerned.

Increasing industry polluted the Willamette River to the point where fish were dying. Clouds of smog from busy Portland drifted down the Valley and combined with other sources to pollute the air and conceal the mountains. Roads multiplied and clogged up with traffic. Older town centers began dying and the spread of suburban developments and mobile homes marched steadily across the landscape. Population mounted steadily. \*

Fortunately, Oregonians are active in stewardship of their environment, and some of these happenings were controlled before irreparable harm was done.

In 1966, with help from federal agencies, a start was made in cleaning up the Willamette River. Ninety percent of the wastes that used to enter it are now controlled.

Along the river, a Greenway parks system has been started. Many hope it is the beginning of a larger system for the future.

Today, the people of Oregon and the Willamette Valley, with their government officials are saying: "We must deal together with the future of our environment!"

Through the Willamette Valley Environmental Protection and Development Planning Council and its action-oriented Project "Foresight", Oregonians are already challenging the malign effects of environmental decline. A determined effort is being made on a regional basis to analyze the effects of growth and change -- and to plan for the future instead of allowing unplanned chaos in the Valley. Project "Foresight" aims to involve people in analyzing these consequences.

This book is a guide to that involvement. It shows how the environment of the Valley can respond to what people do. The scenarios that are presented here are important steps in planning for the future.

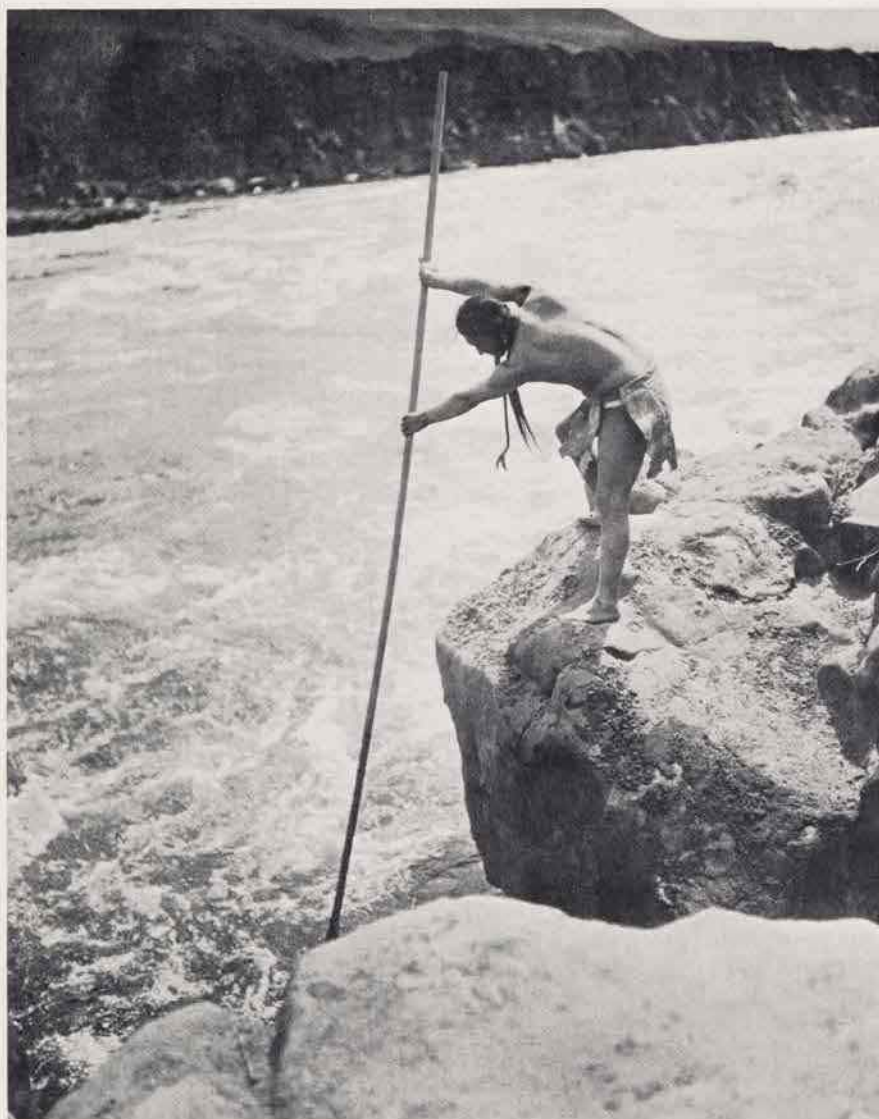
We call this book The Willamette Valley: Choices for the Future.

One choice has already been made. People want their valley to be as splendid in the future as in the past. This book can help you plan for that day.



# HOW THE WILLAMETTE VALLEY DEVELOPED UNTIL 1972

Before we look at the future of the Willamette Valley, let's examine her past. Let's see how the Valley developed and changed, especially in the busy period of growth since World War II.



The Indians were the original inhabitants of the Valley. They lived "lightly" upon the land and responded to its natural ecological rhythms. They were part of their natural surroundings, seldom exerting pressures on them for change.

Then the white man came. He had different needs and desires, and in satisfying them, he brought a profound change to the Valley.







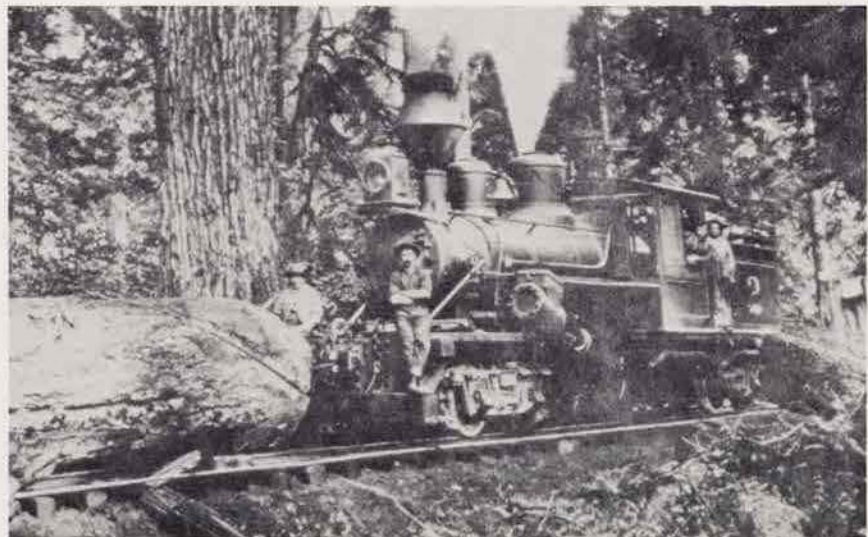
First, he built permanent settlements along the rivers. Small clusters of farm buildings and communities began to dot the Valley. Trails became roads; roads became streets; highways spanned the miles between farm and town and trading center.

The railroad arrived, and finally, air transportation. Great airports grew and ground connections reached out from the cities.

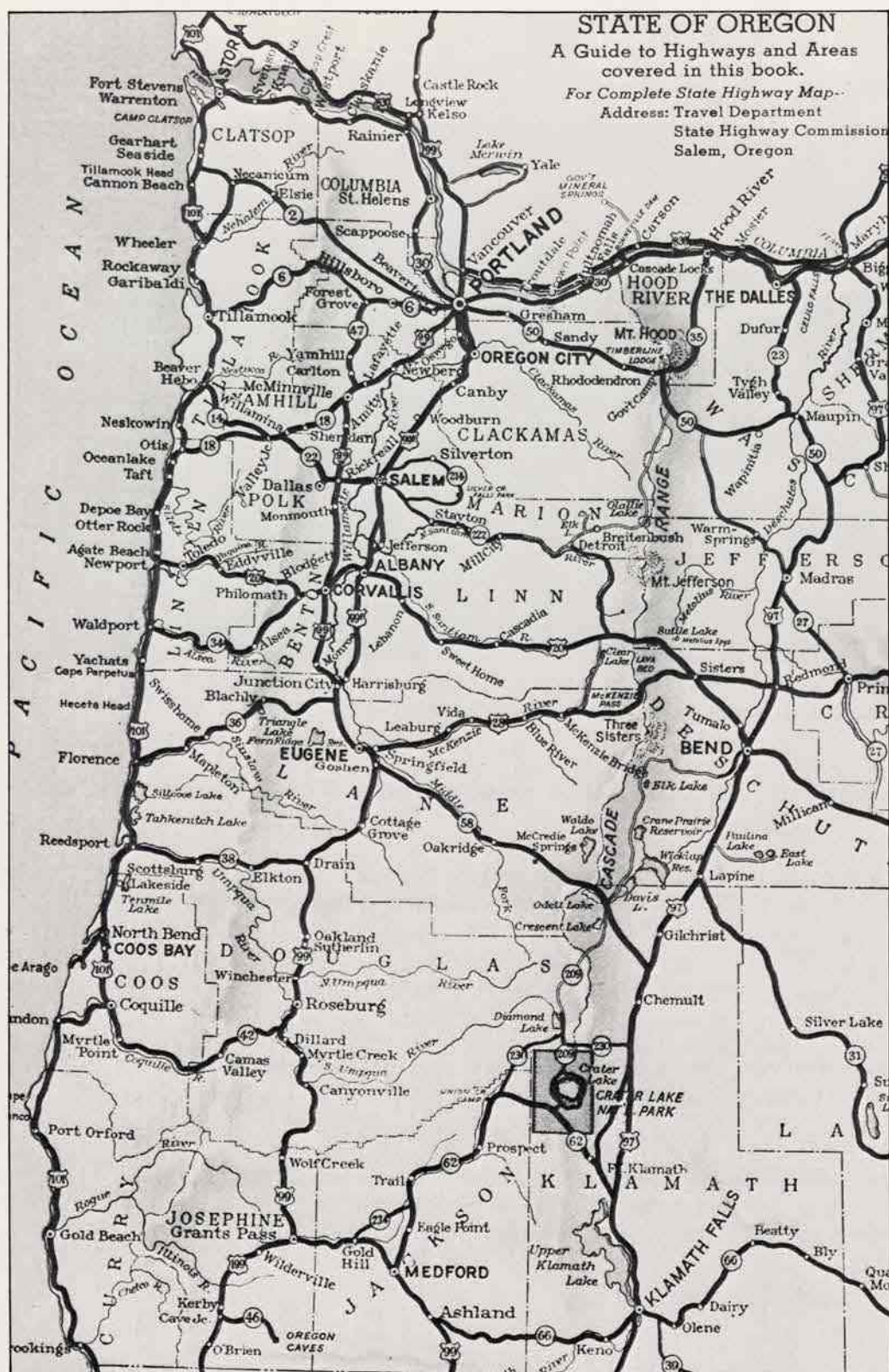
More and more people flocked to the Valley to make their living from the rich resources of agricultural land, timber, metals, water and power. Soon there were cities devoted to commerce, industry and education.

Two world wars and a major depression shook the country. People in military and government service travelled around America and saw new places. Stricken by economic hardship, families moved to other parts of the United States.

People travelled more and more by car. As road systems grew, Americans became aware of fertile green areas like the Willamette Valley. With people on the move the Valley received its share of immigrants and soon its population was soaring. There was a 109.3% increase between 1940 and 1970 alone.







The Valley experienced growing pains in housing and commercial services, and its increasing population also needed new highways, roads and streets for cars and trucks. In 1950, there were some 15,000 miles of roads serving 410,000 private cars and 60,000 trucks.

By 1969, the number of cars alone had doubled to 835,000.

Roads were also needed to meet the seasonal surge of tourist traffic. In 1948, tourism was the state's third largest source of economic gain, with tourists spending \$92,000,000 per year. By the 1960's, tourists were spending more than \$326,000,000 per year throughout Oregon.

The main route of travel in the 1950's was the Pacific Highway, running north-south on each side of the Willamette Valley. We know this road today as 99-East and 99-West.



## AFTER WORLD WAR II

Oregon's population grew more in terms of percentage than any other state's in the period between 1945 and 1950. People seeking jobs and a better place to live pushed the Valley's population over 1,000,000 in the early 1950's. It became harder and harder to find adequate housing and schools.

More than a third of the people lived in and around Portland. Eugene and Salem had populations of more than 30,000 people. Farming communities grew on the Valley floor and logging communities in the foothills.

With the pressure for new homes, housing developments began to spread out onto open land around cities and towns, land that had previously been used for farming. This aerial view of Salem, taken in the 1950's, shows this spreading pattern of land-use.

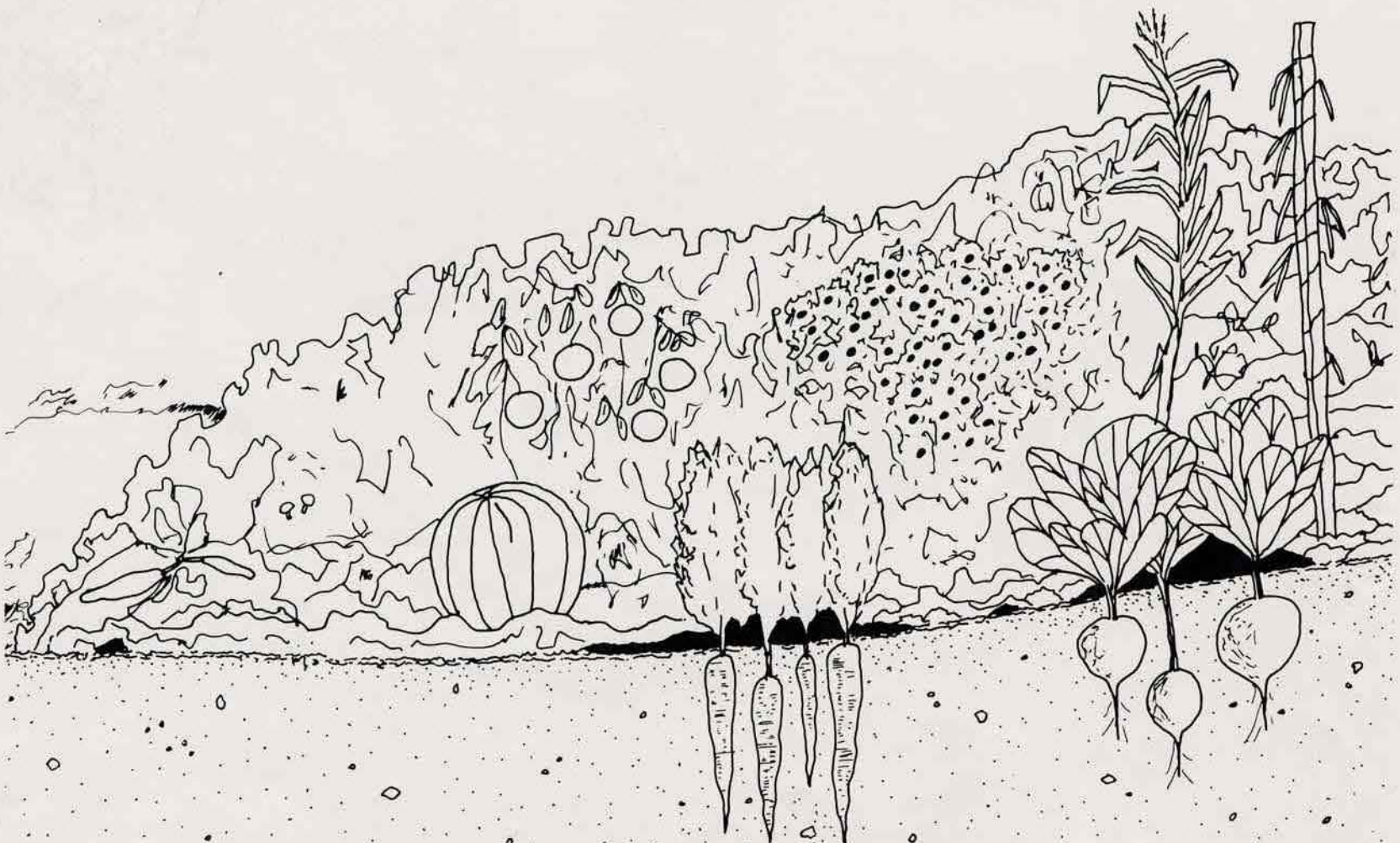




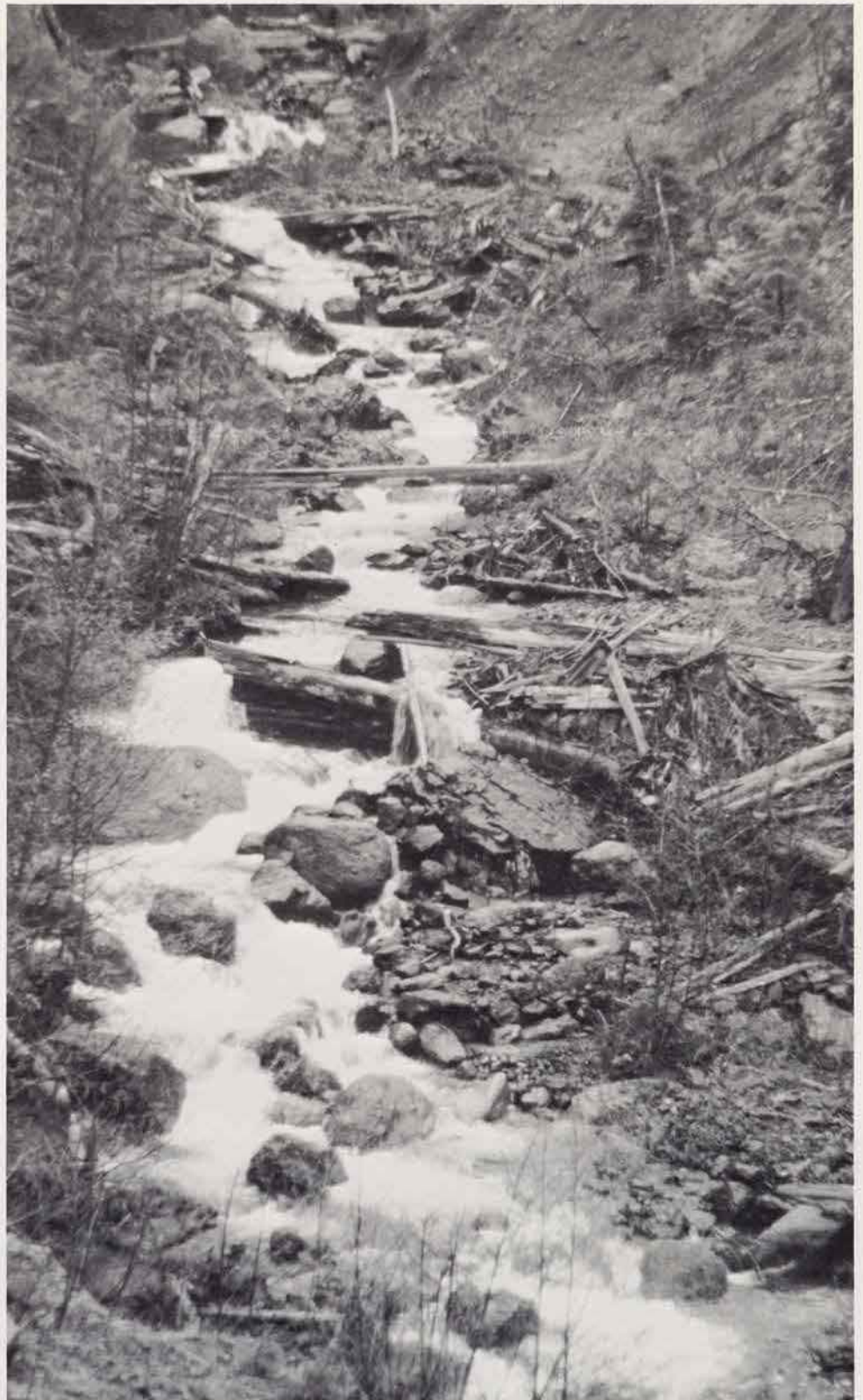
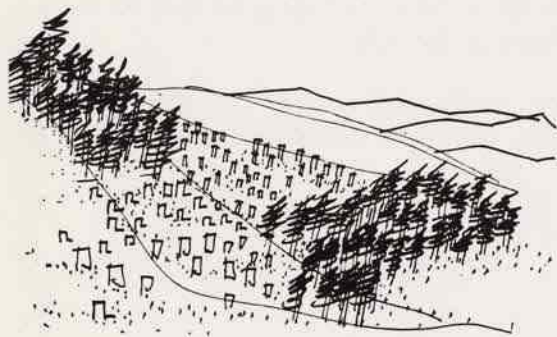
Not only did the suburbs grow. Industry developed near sources of raw materials - timber, pulp and food products. In turn, small communities grew up around these industries. People who lived in these towns and villages enjoyed a beautiful natural environment and had unbounded opportunity for outdoor recreation in their leisure time.

Along with the forest products industry, agriculture had been the life-blood of the Valley's economy. But with growing pressures to use the land for other purposes, agriculture began to decline in relative importance.

Despite its diversifying economy, the Valley remained a remarkably fruitful and varied agricultural land. Across her rolling fields and bottom-lands grew cherries, apples, peaches, pears, prunes, filberts and walnuts; truck crops such as alfalfa, clover, vetch, and ryegrass;; hops for brewing; raspberries, blackberries, cranberries and boysenberries; and a profusion of flowers and bulbs.







Up to the start of World War II, forestry and logging practices had been wild and wasteful in Oregon and across the country. The 1941 Oregon Forest Conservation Act began to control these practices and to encourage sustained yield on private lands (63% of which were in small ownership). By 1949, the rehabilitation of ravaged forests had begun.

Much of the Valley's produce was destined for canning and freezing - especially the food crops. Oregon was able to overcome the disadvantage its great distance from major markets through a burgeoning technology and industry in freezing and canning.

After the war, Oregon's forest and mills were producing 20% of the country's total board-foot production. Out of 370 billion board feet reserves in 1948, 7 billion board feet were cut in Oregon, returning \$650,000,000 to her economy.



Power and energy were needed for the Valley's industries and homes. The Bonneville Dam, completed in 1943, began to tap the state's hydroelectric power potential - an energy source that was thought inexhaustible in 1949. Bonneville served 70% of the people's needs in the 1950's and was supplemented by power from the Grand Coulee Dam. (Grand Coulee, expanded in 1949, had been producing power since the early 1940's.)

Pollution did not receive the attention it does today - at least on an official level. Yet people were beginning to notice the conflict between industrial and recreational use of water - particularly when fish and wildlife habitats were harmed.

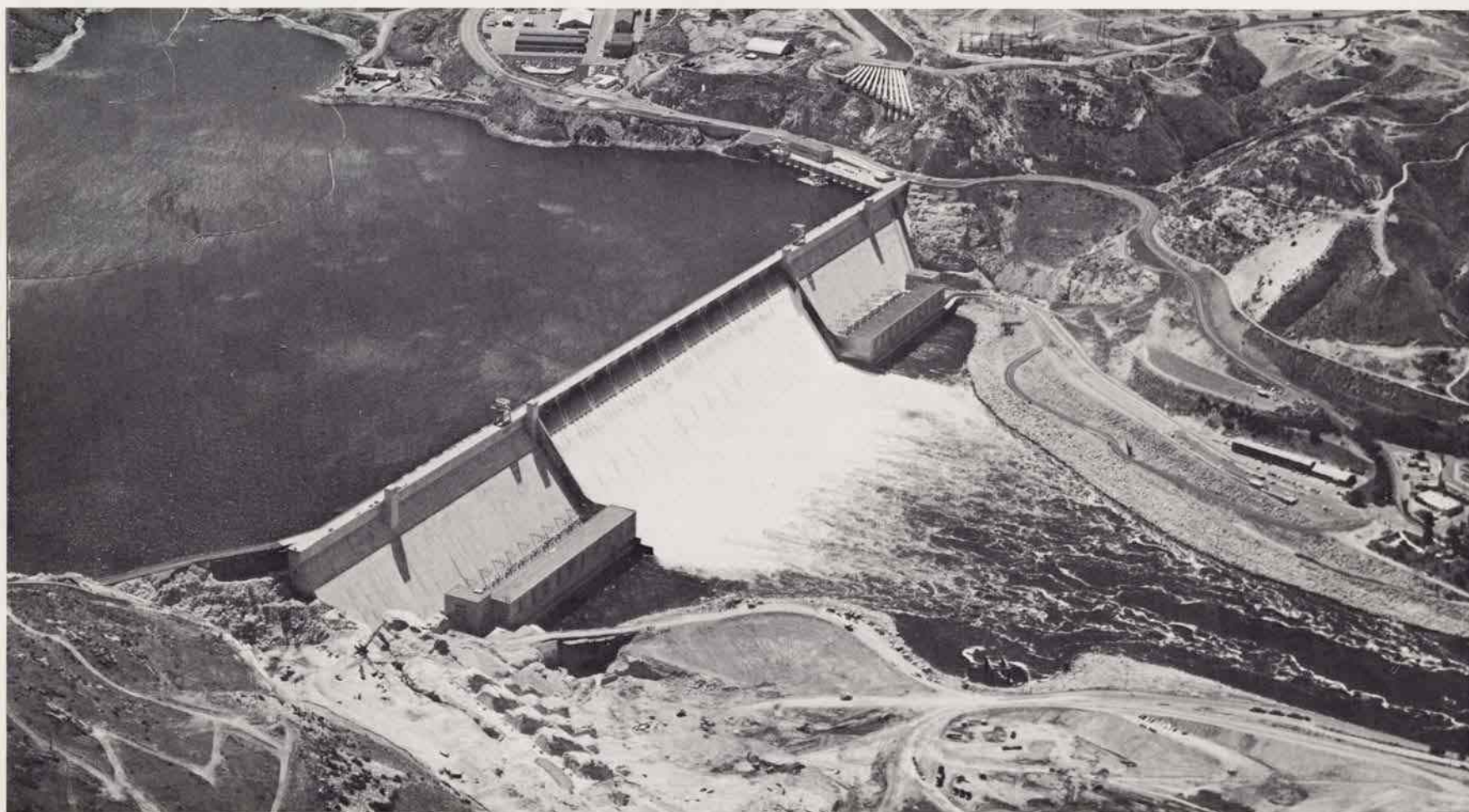
A few years after World War II, the Valley's open spaces and recreation areas began to suffer from the heavy influx of new residents and visitors. State Parks reported "a substantial gain" in visitors to state parks in 1948. That same year, the 6,000 acres of Silver Creek Falls Park were added to the parks system, filling a growing need.

Hunting and fishing were the major forms of recreation in Oregon. The number of state licenses issued tripled between 1915 and 1948, with a heavy upsurge after 1940. In 1969, more than 1 million licenses were being issued each year.

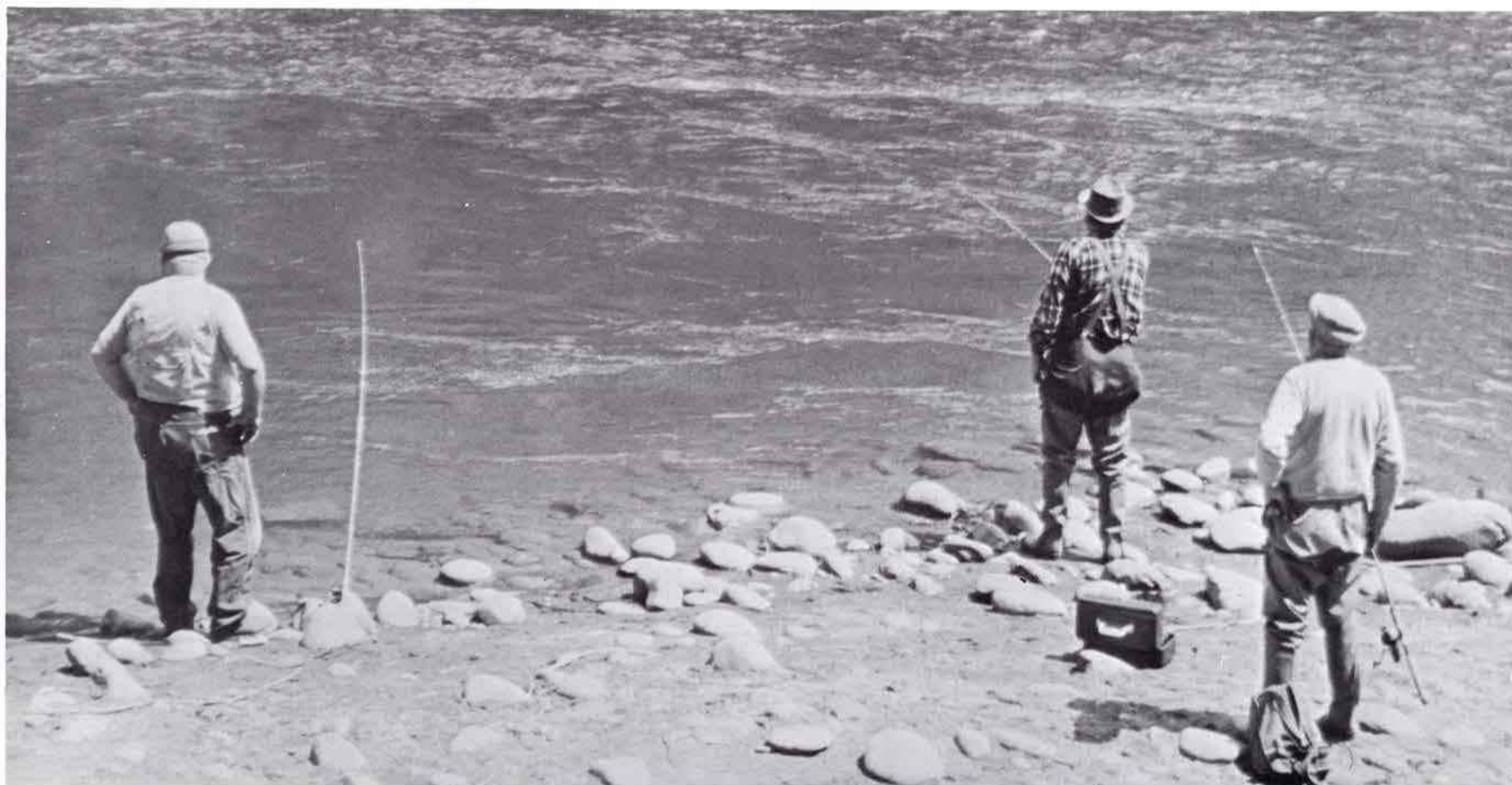
The State Game Commission began to show environmental concern when wildlife habitats came into conflict with other uses of the land.

The Valley's conversion to a peacetime economy was relatively smooth, aided by a diversifying industry base. Value added by manufacturing between 1945 and 1949 exceeded the nation's average by 75%.

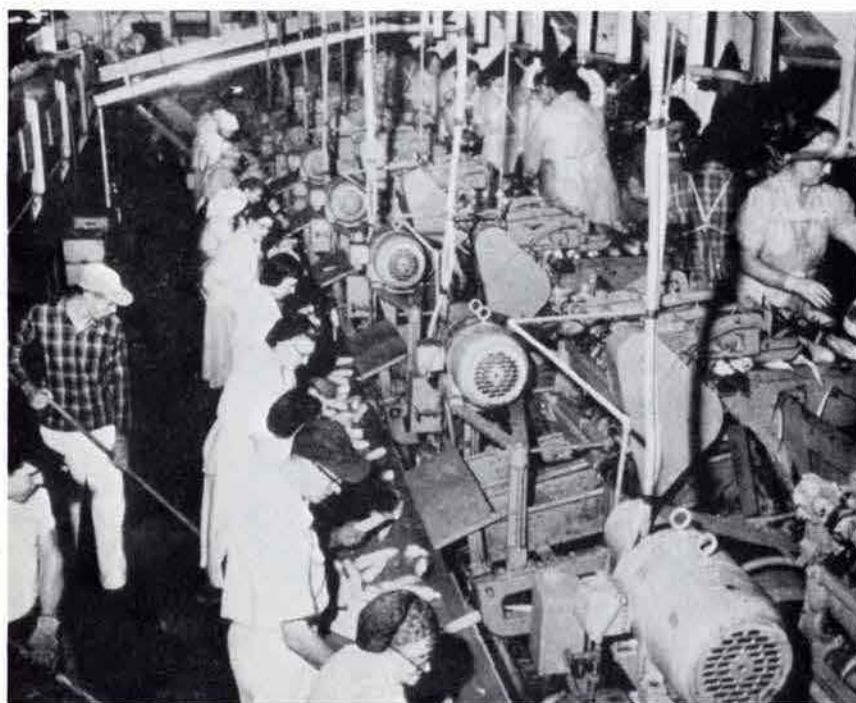
Aluminum smelting and the production of chemicals, iron and steel, machinery, pulp and paper led the growth of industry in the Valley. Bonneville and Grand Coulee furnished a ready and inexpensive source of power to the new factories and mills.







Still newer industries came into the Valley as time went by. The young electronics industry made a growing mark on the Valley's economy. Research and development enterprises settled around Eugene and Corvallis. Portland became a city oriented to service industries, in addition to port activities and the manufacture of goods and equipment.



As the economy shifted away from agriculture and forestry, those two industries began to diversify themselves. Food processing grew in the Valley. The pulp and paper industry began to utilize the former waste products of forestry.



## THE WILLAMETTE VALLEY TODAY

Today, 1,470,000 people live in the Valley - an increase of about 400,000 in the last 20 years.

Clearly, people's living patterns have changed since World War II. Some 62% of the people live in urban and suburban areas - a 34% increase since 1950. Only 38% now live in the country, a decline of 4.8% since 1950.

The continuing changeover from resource-based industry (farming and logging) to non-resource-based manufacturing has been a big element in that urban growth. Naturally, people coming into the Valley have settled around cities where the jobs are.

The burst of population between 1940 and 1950 has levelled out somewhat, but the Valley is still gaining population in all areas.

The counties in the Portland area - Clackamas, Columbia, Multnomah and Washington - are almost at the one million mark. The mid-Willamette counties - Yamhill, Polk and Marion - have 226,000 residents. Linn and Benton counties have 125,000 people. Lane County has a population of 213,500.

As people settle in their own single-family houses in the suburbs, agricultural land is being bought up for new development - about 8,000 new acres per year. Total farmland is declining as a result, despite an increase in irrigated cropland.

With new developments have come new roads - 8,828 miles since 1950. There are now a total of 23,828 miles of road in the Valley. Eighty per cent of these have been local roads and "collectors" which serve the suburban population. Today, 1,423,000 cars, trucks and buses are using these roads. The use of mass-transit buses has declined from 50 million passengers a year in 1952 to 18.5 million in 1970, although this downward trend is now being reversed.

As more people travel by air, more airports have been built. In 1950 there were 21 airports in the Valley - today there are 38 fields using 8,500 acres of land. Most of these fields are used for pleasure flying, crop-dusting and private commercial aviation.

In 1969, 1,500 vessels used Portland's port, bringing an annual flow of \$357 million in imports and \$665 million in exports.

The Valley still provides splendid open space and recreational opportunities for its people, particularly in parks that are more than 25 miles from urban centers.

The picture is not so bright in the urban centers themselves. Conflicts between residential, commercial, industrial and transportation uses have compromised many urban recreational facilities. There are only 4,550 acres of urban parks or about 3.1 acres per 1,000 people. Twenty-five miles or less from the cities there are some 6,395 acres of parks or 4.3 acres per 1,000.

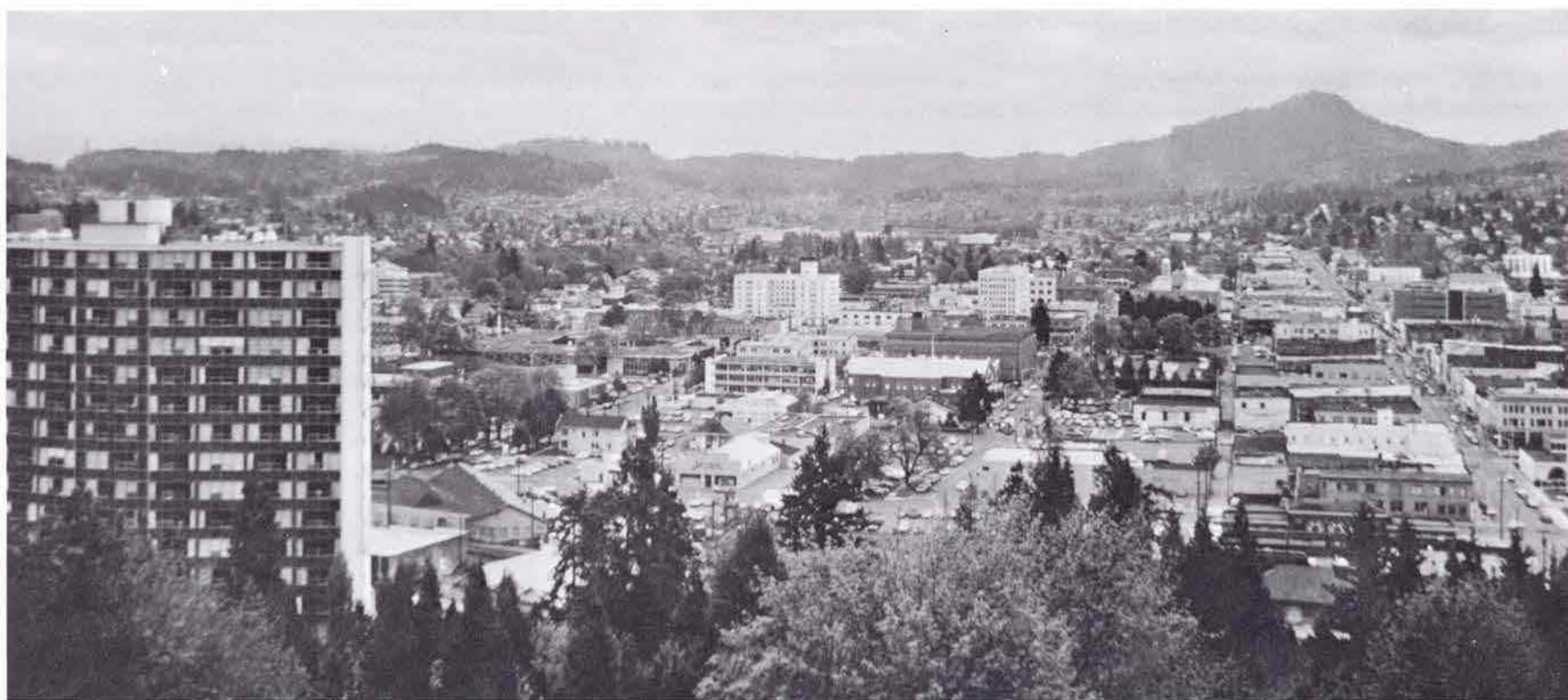




The greatest wealth lies in the recreation areas, open space and wilderness more than 25 miles from the cities where there are 29,740 acres or 20.2 acres per 1,000 people.

Hunters and fisherman are increasing at a faster rate than the population today, although suburban developments are crowding onto many wildlife habitats. More wildlife breeding and fish hatcheries have been needed to keep pace with the 2 million days of hunting and fishing enjoyed by Oregon's sportsman population.

The economy of the Valley - measured in employment and income - has matured since 1960. The number of employed persons has grown 3% a year. Jobs created by our diversifying industry have required an increasing amount of "support employment" in construction, retail trade, services, finance and insurance, real estate, transportation, public utilities, education and government.



This rosy picture has brought many new residents to the Valley. Sixty per cent of the Valley's population growth up to 1970 was from immigrants moving in from other areas.

Incomes in the Valley have risen 27% over 1960 bringing a real gain in the average person's purchasing power. At the same time, disposable personal income - what you spend at the store and for entertainment - has dropped because of the higher bill for government services. State government has grown to cope with population growth and people's new concern for environmental quality. The support this has required has reduced spendable income from 90% in 1950 to 86% today.

Nevertheless, the commitment of most people to make the Valley a beautiful and unique place to live has made the extra "bill" well worth paying.

Pollution is a major area of concern today. Air quality in the Valley has been declining in recent years. However, action has been taken in the mid-1960's to :

- reduce emissions from cars and smokestacks;
- cut down on field burning; and
- control industrial pollution.

There still are air pollution problems in the Valley, particularly on days when the "air shed" spreads pollution, spawned in Portland, around the Valley (see Transportation, Scenario I).

Control of water pollution has been one of the Valley's great triumphs, centering on the well-known clean-up of the Willamette River. There is secondary sewage treatment by almost all communities and industries. New developments are not allowed to compromise water standards.

Thus, waterways have been returned to the people and the runs of salmon and steelhead are thriving once again.

Disposing of solid wastes is a harder problem. There are 48 sanitary landfills in the Valley (the principal method of waste disposal). Sixteen open dumps are being phased out.



Landfills consume land, however. In disposing of waste, they waste land. Government officials in Salem are currently hoping to ease this problem by recycling various solid wastes like glass and metal beverage containers.

The state is in a transition period in the use and demand for power and energy. Power requirements have grown faster than the population - thanks to industrial demands plus consumer demands.

As hydroelectric plants have reached their capacity, other sources of energy have been needed. The Trojan Nuclear Power Plant on the Columbia River is nearing completion. Coal-fired plants have been built.

People are on the move more than ever--making the car the major user of energy. As domestic fuel oils and gas reserves are depleted, more imports are needed, pushing gas and oil prices higher.

How is this intermix of environmental forces governed?

In 1970, there were 869 units of local government (cities, counties, school districts and other special districts); 150 state agencies, boards and commissions; 150 Federal agencies, boards and commissions - making close to 1,200 governmental units with different powers, duties, responsibilities and policies affecting the Valley environment!

Four Administrative Districts were established in the Valley in 1969 as part of a state-wide plan to eliminate some of the overlap and duplication of effort. A more comprehensive approach to planning is being tried in health planning, law enforcement and administration.

The Willamette Valley Environmental Protection and Development Planning Council has been a major outgrowth of this approach - along with its public-oriented Project "Foresight".

Governor Tom McCall said recently, "I feel certain that now - at last - we have the solid foundation for a continuing system of group planning for our interdependent future."

#### THE VALLEY TOMORROW

Now we are ready to look at the future of the Willamette Valley - a future that we will build through our choices.

Certain things we can forecast with considerable accuracy.

For instance, by 2002, there will be 2.5 million people living in the Willamette Valley - 1.1 million more than today.

Nearly 1.5 million will live in the area around Portland.

Some 360,000 people will live in and around Salem.

Corvallis and its neighboring towns will grow to 196,000 people. The Eugene area will increase to 374,000 residents.

The Valley will pass the 2,000,000 mark sometime between 1980 and 1990.

Half our growth will be "natural growth" - the numbers of births over deaths. Half will be from in-migration.

The greatest percentage of the population will be under 35 years old - about 68%. It will be a young and lively society.

Blacks will continue to be the largest minority, and Chicanos the second largest.

But now it is time to leave the realm of history, and look the future thirty years from now.

On the population "canvas" we have just presented, let's begin to paint our picture...

...two views of the Willamette Valley in the year 2002.

## Northwest population to double

SPOKANE, Wash. (AP) — Population of the four Pacific Northwest states will double within 50 years, the Pacific Northwest River Basins Commission's economic studies committee said here Thursday.

Population projections made by the committee are considered vital to development of state water and river basin development plans in Washington, Oregon, Idaho and Montana.

Oregon's current 2,091,385 population is expected to grow to 4,021,000 by 2020 for an average increase of 400,000 each decade.





The aerial photograph taken above the Valley in the summer of 1972 shows the kinds of growth spreading out from existing centers that is changing the face of the Willamette Valley.

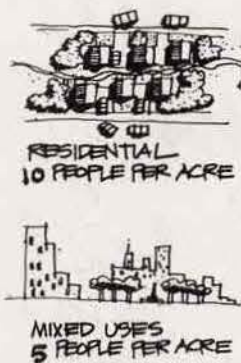


# SCENARIO 1

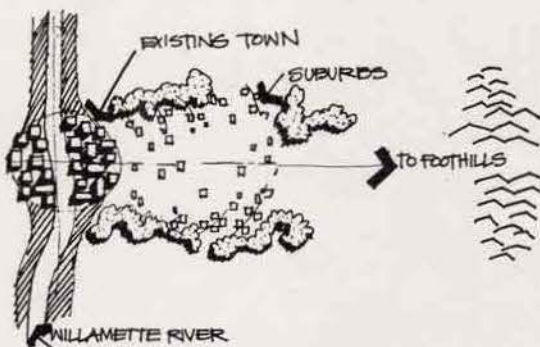
## SCENARIO 1: LAND USE

BY THE YEAR 2000 OUR INCORPORATED CITIES WILL HAVE CONSUMED ABOUT 21% OF THE VALLEY FLOOR, ABOUT 570,000 ACRES. ADD TO THIS APPROXIMATELY 370,000 ACRES USED AS FOLLOWS...13,000 ACRES FOR SOLID WASTE, 76,000 ACRES FOR SAND AND GRAVEL, 91,000 ACRES FOR PARKS, 10,000 ACRES FOR AIRPORTS, 140,000 ACRES FOR ROADS, AND 46,000 ACRES FOR WATER STORAGE. THEN ADD IN THE SUBURBAN AND RURAL COMMUNITIES AND YOU HAVE NEARLY HALF OF THE VALLEY FLOOR USED UP FOR LIVING. THE GIVE COULD VERY LIKELY BE AGRICULTURAL LAND. WITH THE LAND CONVERTED, OUR AGRICULTURAL BASE WOULD GO AS WELL.

"URBAN-RURAL PLANNING AND TAXATION,"  
SPEECH BY KEN OMLID TO EUGENE ROTARY CLUB, MAY, 1972.



The number of people "occupying" the land for various uses in the year 2002 is shown here. In the pattern of residential spread away from cities, approximately 10 people occupy each acre. There are 9 people per acre on the road systems, and 5 people per acre on land devoted to shopping centers, commercial developments, parking lots, and other related uses.



The spread of suburbs from the peripheries of cities almost always has to take place on agricultural lands--the pride and distinguishing element of the Valley. Extension of road systems and other services makes this sort of development possible, but it is a rather uneconomic pattern, since this extension of services frequently benefits private interests through public expenditures. As open space diminishes, there is a need for more careful husbanding of what is left, including the recreational advantages it offers.

AS PROPERTIES ARE ALLOWED TO BECOME OBSOLESCENT, THEIR FUNCTIONAL VALUE DECREASES AS THEIR PHYSICAL UPKEEP INCREASES. USUAL RESULT = DECLINE IN EXISTING STOCK & LOSS OF REVENUE TO NEWER STOCK FURTHER OUT IN SUBURBS.

$$R - P < M + O$$

R = revenue potential from property not preserved & allowed to become obsolescent

P = revenue possible from (same) property when it is improved & upgraded

M = money needed to maintain minimum standard; leading to obsolescence

O = money needed to improve and upgrade property

Land use is a term that covers all aspects of how we use the land.

It includes how we conserve open space and what routes we choose for transportation and transit.

It also includes how land is used to provide space for housing, commerce and industry.

The Valley floor contains about 2 1/2 million acres. That means about one acre is available per person for everything that happens in the Valley in 2002 -- half the land that was available per person in 1972.

Two and a half million people using the Valley in 2002 have given the land an altered appearance.

The developing pattern of housing in the Valley has continued to occupy land on the Valley floor formerly used for farming. People live in their own single-family houses mostly on 1/4 to 1/2 acre lots. With 300,000 new households in the Valley over the past 30 years, this has meant that about 100,000 additional acres have gone into residential development.

We can add to this the other land uses that are necessary to serve these households: shopping centers, schools, strip commercial areas, roads, parking lots, and solid waste disposal. State and local authorities have estimated that these uses occupy 500,000 more acres or 1/5 of the entire Valley floor.

Most people think of the Willamette Valley as extending from the ridges of the Cascades to the ridges of the Coast Range. Actually, of the 7.1 million acres that constitute the Valley, 5.1 million are in forest land. Virtually all activities, therefore, have occurred on the remaining acreage, mostly on the Valley Floor. The Valley is not an inexhaustible "land bank."

Why have people wanted to live in single family residences in a spread out pattern of land use?

Socially, people desire to improve their lives by moving into a neighborhood with their economic and social equals, or with people who may make a little more money. The distinction of owning one's own home and surrounding property is part of this desire; so, is the opportunity to choose where and with whom to live.

Physically, older neighborhoods have deteriorated, mainly in the inner cities. Housing stock has become either very shabby or very costly. Parking is hard to find. Playgrounds are scarce. People find it cheaper as well as more desirable to move to suburban developments.

The equation in the margin shows how this process of deterioration and obsolescence works.

Economically, it is cheaper to move to the suburbs because of long-term payment inducements by developers and low-interest rates by the Federal Housing Administration. In many cases, paying for a house in the suburbs has proved less costly than renting a home in town.



Redevelopment programs in the cities have also induced some families to move to the suburbs. These projects harmed the neighborhoods where people lived. Relocation seldom duplicated the neighborhoods and the ways of life they offered. The redevelopment areas--when finished--often did not coincide with the life styles of the people. New facilities often became too expensive.

A simple answer was to make a clean break and go live out of the city.

A particular pattern to suburban development resulted. Instead of spreading uniformly across the land from the cities, development has occurred in what is called "leapfrogging."

Leapfrogging is just what the name implies--pockets of development skip outward from the city center. Large areas of undeveloped or underdeveloped land lie in between and are usually held open for speculation.

The sketches in the margin tell the story. An existing urban area (1) grew and sent out a shoot (2) of houses and other development. As the population grew and land became more expensive around settled areas, developers bought up cheaper land further out and put up housing (3 and 4). Along the roadways and arterials connecting these developments, commercial strips, shopping centers, smaller housing, and trailer parks sprang up. Eventually (5) the open land that was "leapfrogged" over began to fill in with a diverse mixture of uses in an unplanned manner.

Services that supported these communities had to be extended out across undeveloped land to new developments--sewage, water, utilities, roads, and public services such as schools, fire, police, and health facilities. This was an uneconomical pattern.

### Banning the Boom

Otay Mesa, Calif., is a ghastly example of just about everything urban planners try to prevent. Crammed into an isolated corner of San Diego, Otay Mesa is a chaotic subdivision of spanking new \$20,000 to \$30,000 houses in search of a master plan. The community has no post office, library or fire house and, although it lies miles from the offices of its breadwinners, Otay Mesa offers no public transportation to downtown. The nearest park is beyond most residents' reach, and the nearest schools must now run on double sessions. In 1970, the U.S. Census found 16,200 people in Otay Mesa, although the subdivision was barely three years old. That year there was not a single fire-alarm box in the community.

Unhappily, the trials of Otay Mesa are far from unique. Overcrowded schools, faltering transit and scrambled--or non-existent--services have become endemic to mushrooming megalopolises across the U.S. And as weary taxpayers are fast discovering, correcting existing blight may be less costly than constructing the new sewers and schools that expansion demands. Urban growth, in fact, is beginning to get such a bad name that local government strategists from Cape Cod to the Pacific are starting to plot ways to halt expansion, discourage new building and keep their neighbors few.

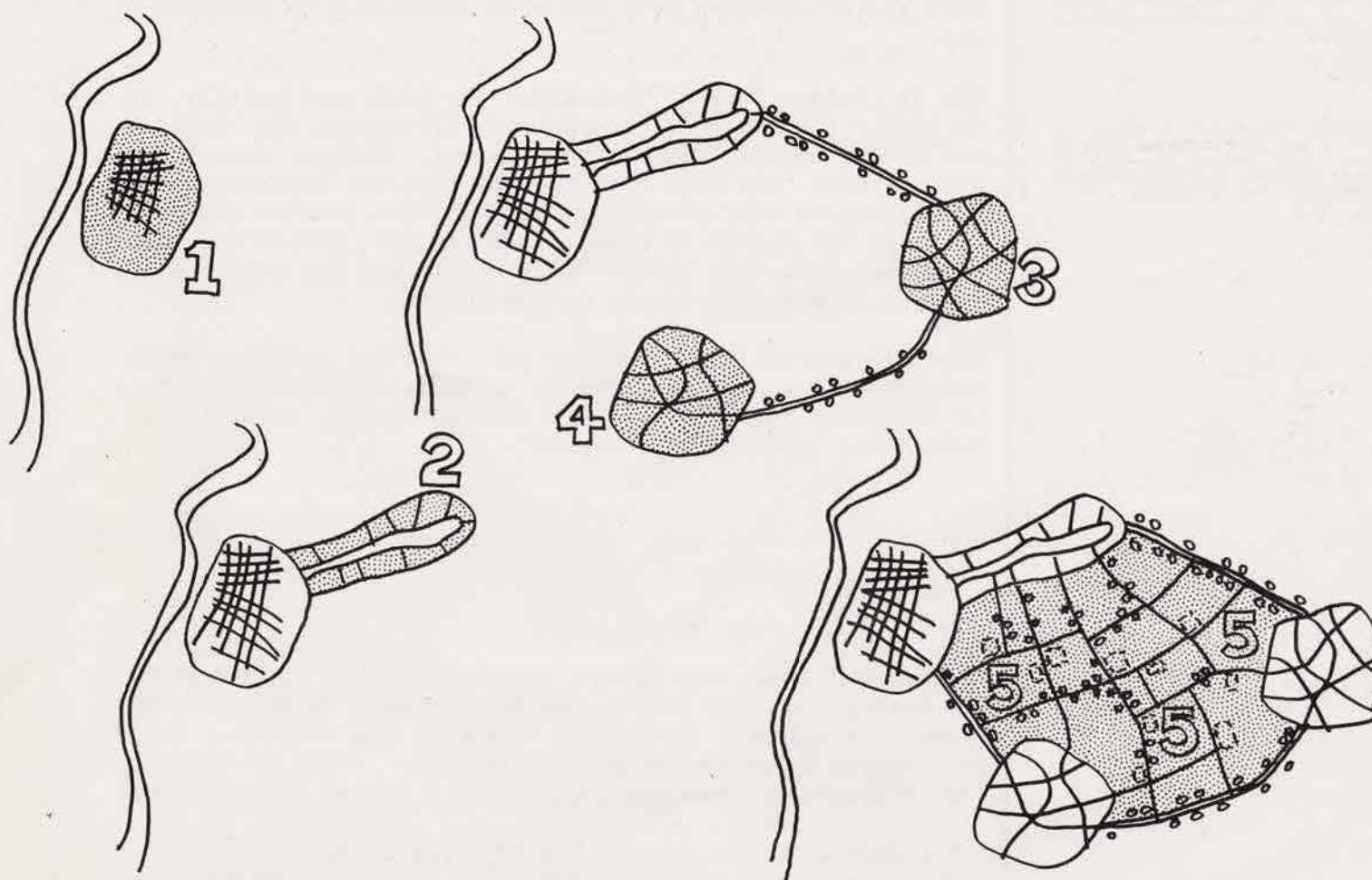
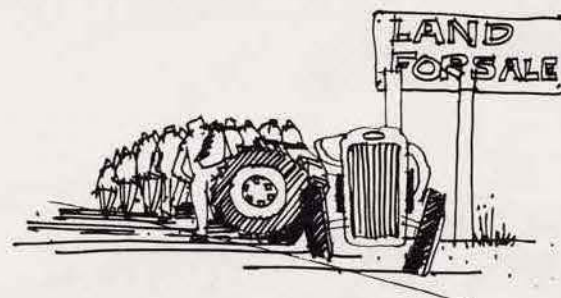
**Anger:** This year in Clearwater, Fla., for example, townspeople questioned angrily why developers were not made to pay for the services their new projects required. The result was that Clearwater upped the initial fee for tapping the town's water system from \$50 per building to \$100 for each unit in a new development. The additional income will come to no less than \$450,000, most of which will be plowed into a new sewer system. Clearwater has also hired an official forester, whose permission is now

required whenever a builder wants to chop down a tree.

A similar get-tough stance has been adopted by the burghers of Loudoun County, Va., where encroachments by Washington's exploding suburbs have increased taxes on some farms by as much as 250 per cent. Accordingly, when Levitt & Sons (of Levittown fame) began planning a Loudoun County "new town" of 13,000 souls last year, the Loudoun board of supervisors passed an extraordinary ordinance. It makes the builders responsible for providing virtually all new facilities--schools, libraries and firehouses--that their projects need.

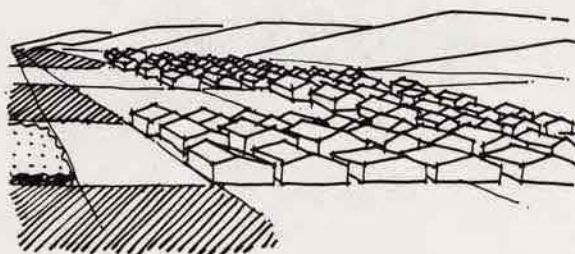
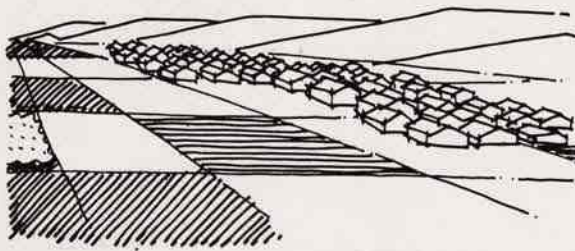
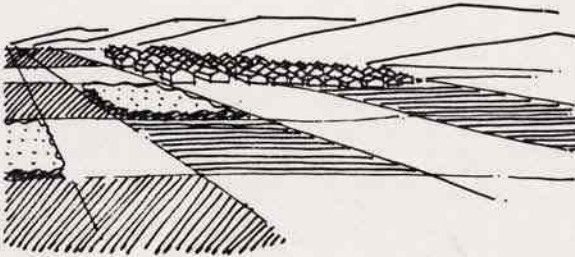
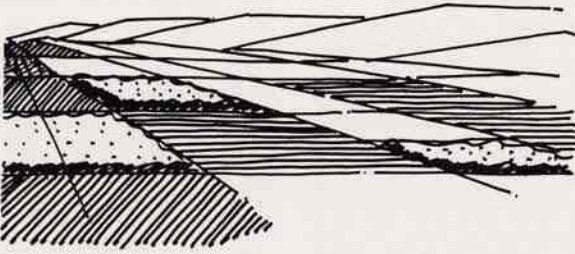
**Fear:** Some communities have grown wary of initiating any urban improvement. In one county in California, locals have managed to block a new water system solely because they fear it would attract more developers. And in San Francisco, voters recently rejected a new bridge over the bay because they suspected it would only mean more cars. Elsewhere, a number of particularly hard-pressed cities have simply begun banning building. Narragansett, R.I., which has been overwhelmed by surfers and sun-seekers, slapped a moratorium last year on all but one-family dwellings. For their part, the town fathers of Livermore and Pleasanton--two communities east of San Francisco--have voted to grant no new building permits for as long as there are double shifts in their classrooms, sewage systems below standard and a possibility of water rationing.

Perhaps nowhere, however, has the struggle to restrict development gone so far as in the pleasant city of Palo Alto, Calif. Home of Stanford University, Palo Alto skirts San Francisco Bay and is backed, to the west, by a range of virtually undeveloped foothills. Understandably, real-estate developers have hungrily eyed the hills for years, a fact that led the city to order a \$144,000





## 1



As the population grew towards the 2,500,000 mark, the housing and other services necessary for that many people marched on across the landscape. People who were elderly in 1972 wouldn't recognize the Valley in 2002. People who are adolescents in 2002 have never had the experience of the Valley the way it was 30 years ago.

Thus leapfrogging was expensive to the city that provided urban services. It cost a great deal of money to lay sewer and water lines and roads past undeveloped land to serve a small development farther out. In most cities the developer paid little of this cost. In effect his development was "subsidized" by all other taxpayers in the city.

The parcels of land passed over when development leapfrogged out from the cities were generally no longer practical for use as farms. Farmers' taxes had to be raised to pay for the urban services that passed them by. Since the owners could make no money at farming, they wanted to sell and get out. The result was more subdivisions, mobile home parks, commercial development, machine shops, warehousing and other small-scale industry, junkyards, and municipal dumps. (If the landowner held out long enough, perhaps a developer would appear to build apartments or townhouses in a more planned manner.)

The overall picture of this kind of uncoordinated development in the Valley has been one of CLUTTER.

Basically, there are three qualities of the Willamette Valley that make people happy to live there: a low-key, relaxed way of life; a feeling of closeness to nature and open space; and a feeling of living a "small town life," even in an urban area.

As clutter has appeared on the landscape, these qualities diminished or became compromised. The Valley is big, and it has not been the victim of massive development like the Santa Clara Valley in California was decades ago. The kind of building and development going on has affected the environment as significantly as the amount of structures built. Clutter in 2002 is not very deep on the land. It generally has occurred along the arterials. The roads leading from downtown get the most clutter because they are most accessible to everyone by car.

But if clutter doesn't "populate" the land very heavily, it is highly visible. It screens and obliterates the landscape and blocks out the natural environment. Without forewarning, people found they have been cut off from the experience of the Valley in many places by the thin neon line of clutter. By using the Valley in a haphazard fashion, people have lost qualities that they love. The river itself has been cut off at many points from access by the public.

Land has generally gone up for sale when its purchase value exceeded its current returns as an operating farm, pasture, or dairy.....regardless of the soil potential, natural conditions or value as "open space".

While people may move to the suburbs for the "improvement" of owning their own homes, the developments themselves provide little social variety of choice in how to live. They all follow a rather homogeneous pattern. There is social mobility, but within the confines of a rather bland system.

This spread to the suburbs has had a profound effect on older urban areas, and even on established close-in suburbs.



As growth has spread out, older existing neighborhoods and commercial facilities have tended to deteriorate. In many cases they have died functionally before they actually wore out physically. As residential buildings deteriorated in the cities, there was often a similar decline of schools, playgrounds, parks, health facilities, and other public services. This is a living example of the equation shown earlier.

Social patterns have changed as new residents move into decaying housing. Minorities and the poor now reside in lower-cost housing, they are seen as a threat by middle-income people, who continue their flight to the suburbs.

Shopping centers and other commercial facilities further out in the suburbs have drained business away from downtown. People now get in their cars and drive a mile or so to the nearest shopping center rather than coming in to the inner city to shop.

To try and meet this competition, cities have continued to build car-free malls and parking lot structures downtown, all of which is quite expensive. Yet most people still prefer to shop in their own communities where there is ample street-level parking all around. This has even hurt shopping centers closer in to the city. Construction of newer and more elaborate commercial facilities further out has caused them to deteriorate functionally.

It resembles the pattern of a pebble thrown in a pond. Commercial activity ripples further and further out, leaving the center becalmed. Development may leapfrog. Obsolescence settles in behind it.

All this scattered development is possible because the automobile and the highway system make movement very easy. At the same time, the automobile and its streets and parking facilities consume so much land that developments must sprawl, and people are so spread out that mass transit cannot be economical.

Trends established in the 1970's, then have:

contributed to the decline of urban centers residentially and commercially;

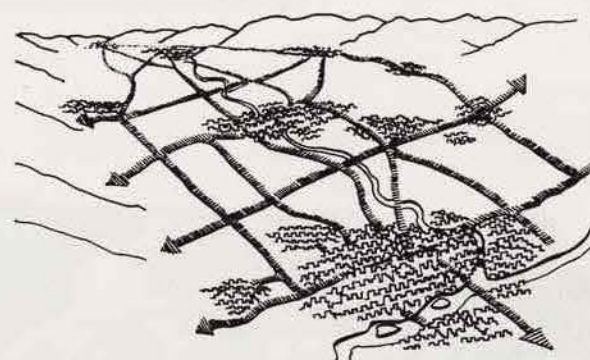
encouraged patchwork development and consequent scatter-action and inefficient use of land;

resulted in commercial sprawl which has camouflaged the environment of the Willamette Valley under a veil of visual pollution; and

through dependence on the private automobile to give access to spreading development, caused more and more developments to grow out over an increasing network of roads.

The pattern of land use and development by now has resembled the Santa Clara Valley in California. Though the population growth is not as great, and though the Willamette Valley is bigger, the trends have been the same. Uncontrolled scatter-action and growth with few incentives for farmers to keep land in agriculture have cluttered our Valley particularly around Portland, Salem, and Eugene.

Hand-in-hand with land use practices goes the way people get around in the Valley. Because people can get in their cars and travel long distances from home to work, an increasing network of roads has grown to provide access to new housing developments. Then more roads extend further out, and permit still more housing on acres that were formerly in open space and farmland.





## PATTERNS OF THE LAND FOLLOWING 1972 TRENDS

As economic pressures increase, farms go on the block and are replaced by single-family residential developments.



This is made possible by roads and highways serving people's dependence on private automobiles. By providing access to areas away from cities, the road system permits spread of the suburbs.



The result frequently is that development skips over some of the more expensive open space closer to downtown, and occupies less costly land -- generally former farms -- further out. Municipalities have to extend services over distances to provide sewage disposal, water, roadways, and other necessities. Taxpayers are usually the ones to foot the bills.

One of the results is clutter -- signs, billboards, growing roadways, trailer parks, roadside stands, parking lots, drive-ins, outdoor movies. Clutter does not take up a lot of space, but it hides from view what remains.







In some parts of the Valley, as in this aerial view near Portland taken in 1972, the floor of the Valley was beginning to fill in years ago.

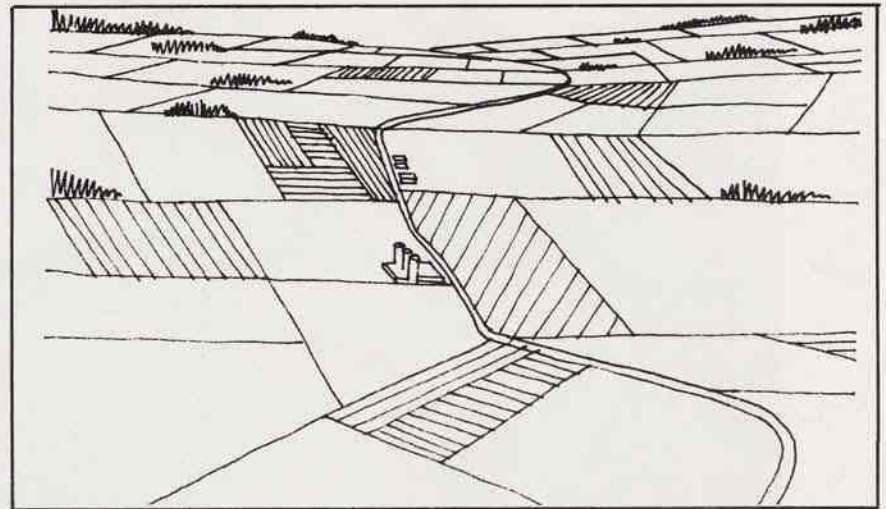
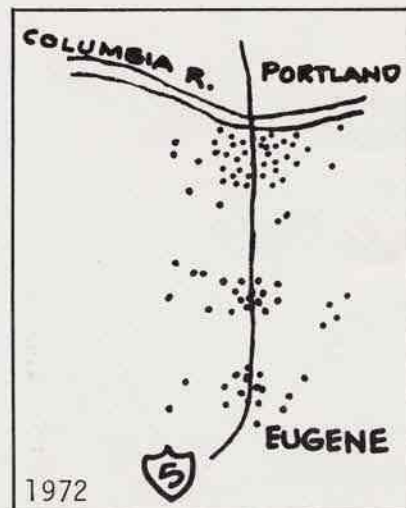
Maybe it can't happen in the Willamette Valley -- and maybe it can by 2050 or 2060 -- but a similar, though smaller valley in California had a grim fate in the mid-20th Century. At the left is what the floor of the beautiful Santa Clara Valley looked like in 1950. Not too different from the Willamette Valley in 1972. And at the right is what the Santa Clara Valley looked like in the same spot only 20 years later, after unplanned and uncontrolled development.



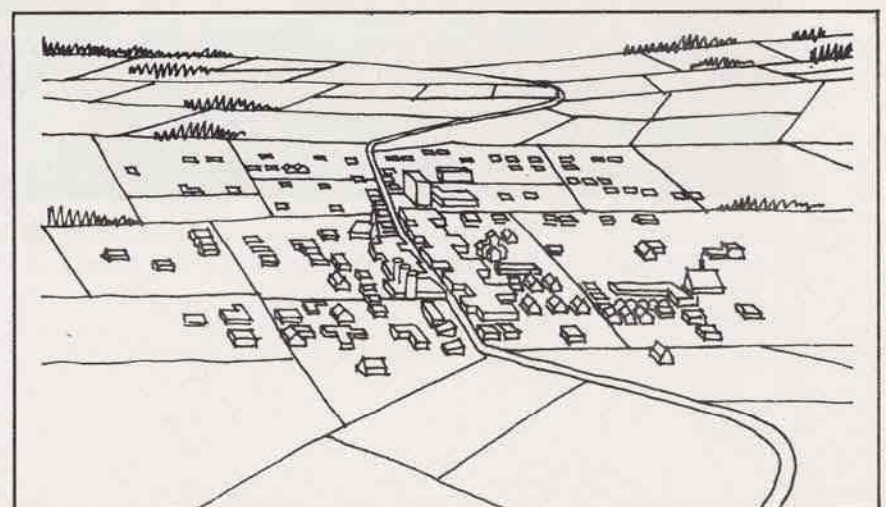
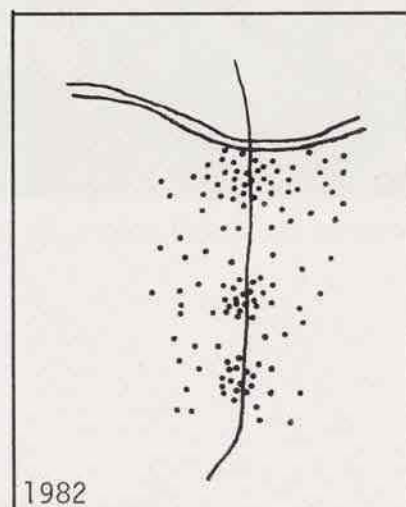


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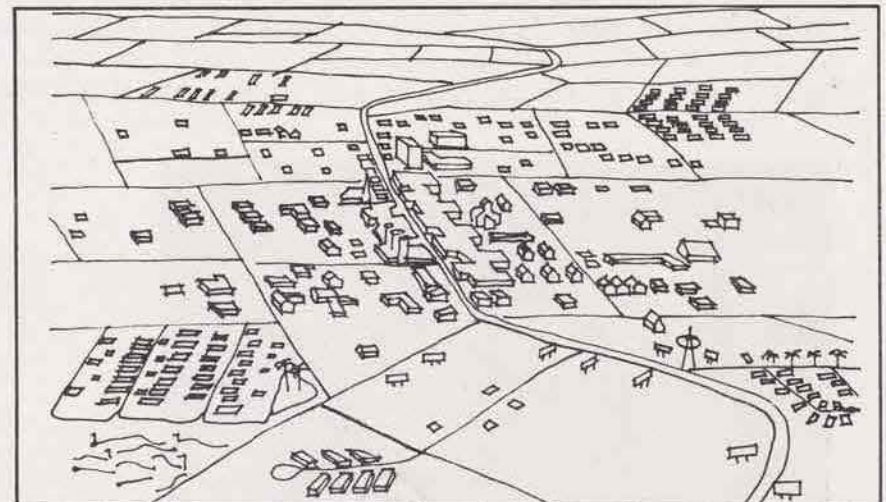
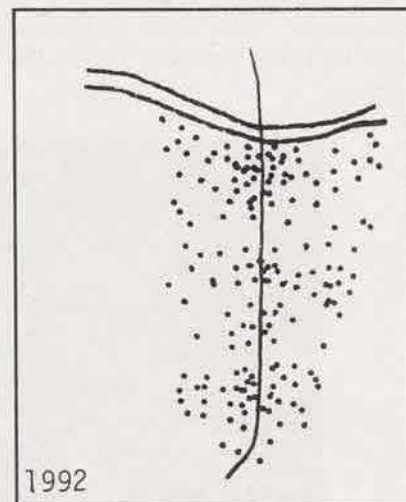
In 1972, many areas in the Valley were still in agricultural use. The Valley floor was open. People lived around the major cities and towns for the most part. Suburbs had spread out from the edges of cities and developers were beginning to exploit the open space still further out.



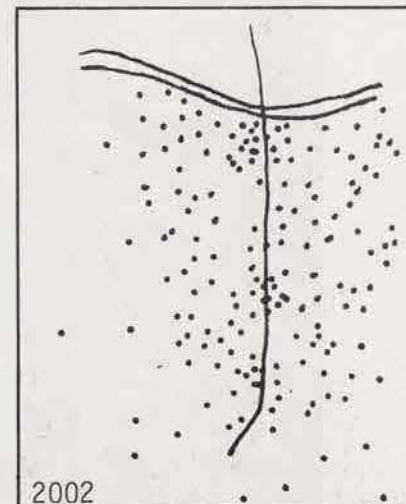
Ten years later, developments had spread out even further onto the former farmland near the big cities. Developments "leapfrogged" over more expensive land to less costly farmland out in the country. The open space in between began to decline in value.



By 1992, the open areas that had been bypassed began to fill up with residential areas, mobile home parks and industry. This required new road networks to serve private automobiles. Roads made the developments possible - then developments made the roads necessary.



In 2002, the Valley environment is dominated by "clutter" - a continuing spread of single-family housing developments and the commercial areas that serve them. The clutter does not extend back very far from the roads - but it effectively hides the landscape that everyone loved.







Two major factors have shaped the use of land in the Willamette Valley: the single-family house and the private automobile.

Most people prefer to own homes outside the center city. This has enticed developers to buy up open space in the country and use it for the construction of suburban housing developments.

As farmland and other open space close to existing developments rose in cost, developers bought up less expensive land further out. Later on the bypassed land filled up with strip commercial areas, industry, smaller residential areas and mobile home parks.

Naturally, more roads had to be built - locals, collectors and arterials. People depended almost completely on the private automobile to get around.

Slowly, the open space of the Willamette Valley has begun to vanish behind a screen of urban sprawl and commercial "clutter". The Valley environment that drew so many residents in earlier years has lost much of its former charm.



## 1

## SCENARIO 1: TRANSPORTATION

How people move themselves and their goods and merchandise from place to place has given form to their environment.

You have only to compare Venice, where people ride on the water and walk on the land, with American cities where people ride in cars, buses, trains and elevators, to see how this happens.

The tight urban villages of Europe and the early settlements in our own country developed because people had to walk to their destinations. Our new sprawling suburban communities which surged forth after World War II owed much of their form to the automobile as a means of getting about.

How has transportation affected the Willamette Valley in the past few decades?

As housing and commercial development spread across the Valley people depended on private automobiles for movement, with increasing use of buses in urban areas and between cities.

This reliance on the automobile and buses, plus the related pattern of suburban housing developments, meant that a network of roads and streets was required to give access at all points to people's houses, shopping centers, into the city, and other places people wanted to go.

There had to be a hierarchy of different roadways servicing the automobile: locals, which let people drive around their own communities; collectors, which collect traffic from many local streets and funnel them toward high speed routes; arterials, which are important conduits for center-to-center travel; and freeways and highways, which handle more long-distance high-speed traffic. ("High speed" in name only, since the crush of private automobiles at peak hours in 2002 causes slowdowns on many highways and arterials.)

Because of scattered patterns of suburban development existing and new roadways have often had to be modified. With new growth taking place further out, some:

collectors became arterials;

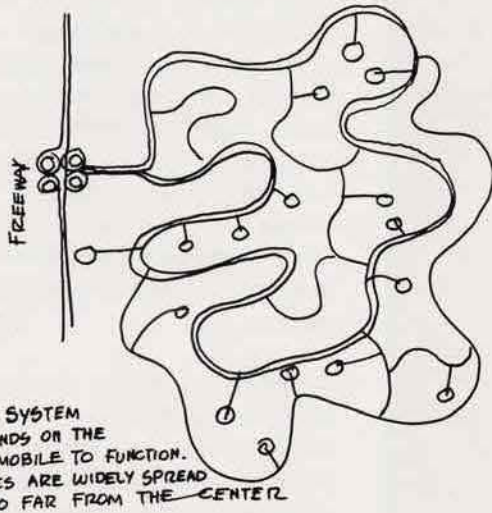
locals became collectors;

and there has been a need for more new locals.

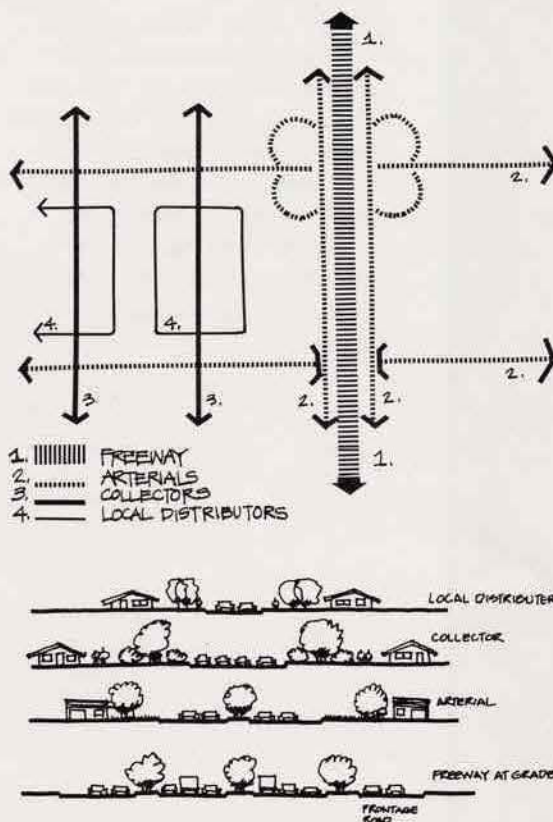
This is because new developments further out require locals in existing residential areas to be widened... and widened again when traffic builds up more.

In these situations, people increasingly find themselves living "by the side of the road" or having their homes moved back to make room for the traffic. In some neighborhoods, the developer or the road-building agency seeks to ease this condition by making wide setbacks from the roadway. This uses a lot of land while seeking to solve a problem.

Land use for transportation has become an important factor in how the Valley environment looks. In areas of housing developments and related uses, as much as 20 - 25% of the land is in roads, streets, and private and commercial parking areas (generally at street level). In cities it can go up to 40 - 45%.



An aerial view of the way suburbs spread across the land shows that people require cars for the system to work. This dependence and ever-greater numbers of people and cars lead to.....



....the necessity of more and more roadways to take the cars over. Locals connect to collectors; collectors connect to arterials, and arterials connect to freeways. As time passes many of them have to be made bigger to accommodate still more cars.



People have to be able to get their cars home and park them there. Many households have more than one car.

The cars require not just one, but a number of storage places:

- where the owner lives;
- where the owner works;
- where the owner shops and does business;
- where the owner goes for fun and recreation;
- where the owner goes to school, the doctor, the beauty parlor, and so on.

If we estimate that a generous parking space plus access takes 400 square feet per car, each car in the Valley today requires 1,200 square feet or more of storage space. Given 800,000 two-car families, this can mean as much as 45,000 acres for parking alone.

Development patterns and movement patterns seem to be mutually dependent.

To build housing developments increasingly further out in the country, developers require public-financed roads to bring homeowners out. Once these roads are built, the development pattern extends out again, and requires more roads for servicing (and an extension of the other services that suburban communities need, such as sewage, power, water, police and fire protection).

The car and its roads make the housing development possible and the housing development makes the car and its roads necessary. Both, by the spread-out and unconnected nature of development, make a rail transit system unlikely and uneconomical. Rail transit depends on clustering, on aggregations of village-type housing. It becomes less practical with spread out suburban-type development.

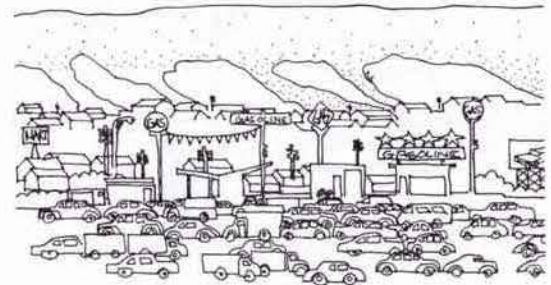
The effect of dependence on private autos in the cities has been quite striking:

- there is a need for increasingly larger roadways and off-ramps to bring the cars downtown from the suburbs;
- once the cars are downtown, they must be housed in parking structures or on parking lots;
- cars have to be serviced at each destination point in the city; and
- there is increased dependence on one-way streets.

Streets and roads have become overcrowded at peak hours even though arterials were designed with many lanes to handle just this peak hour traffic. For 20 hours per day the extra lanes are unnecessary, and the expensive urban land they consume lies wasted. Residents of the city breathe air pollutants from cars, trucks, and buses in Portland which become trapped in the center city, then tend to spill out and drift up the Valley airshed, smogging the Valley and hiding the mountains.



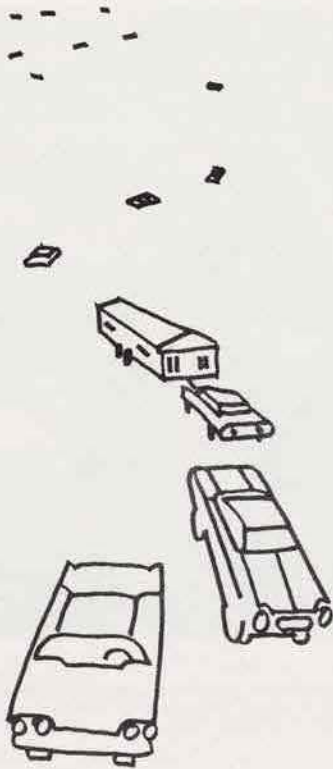
When people require more than one parking space for their automobile, it is called "doubling up." Frequently it is actually tripling up or quadrupling up.



Other kinds of pollution that accompany strip development on arterials are noise from vehicles and visual pollution or clutter from small-scale commercial developments and chaotic signs.



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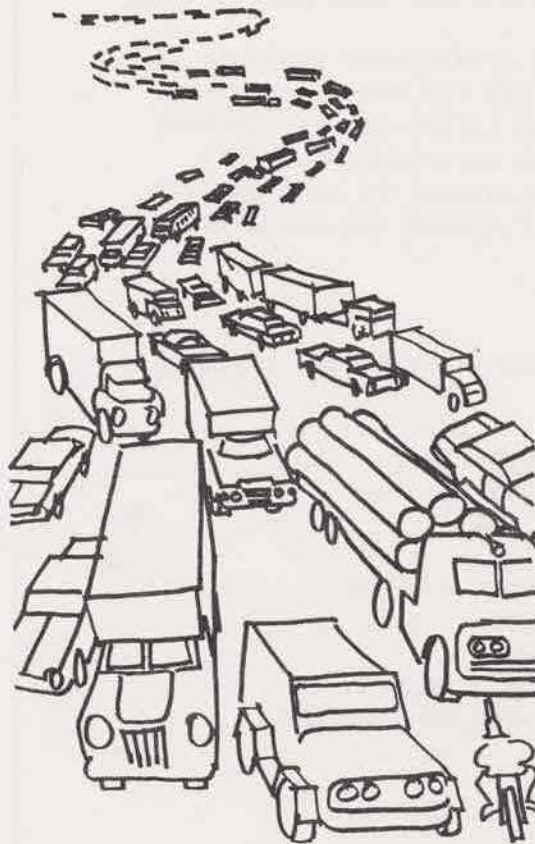
In 1972 the highways were within designed capacity, but the state decided not to build any more major routes.....

This happened despite the fact that the Valley was relatively free of air pollution under the 1975 Federal controls before 1990. Since then, the number of increased vehicles has brought air pollution up again despite further controls.

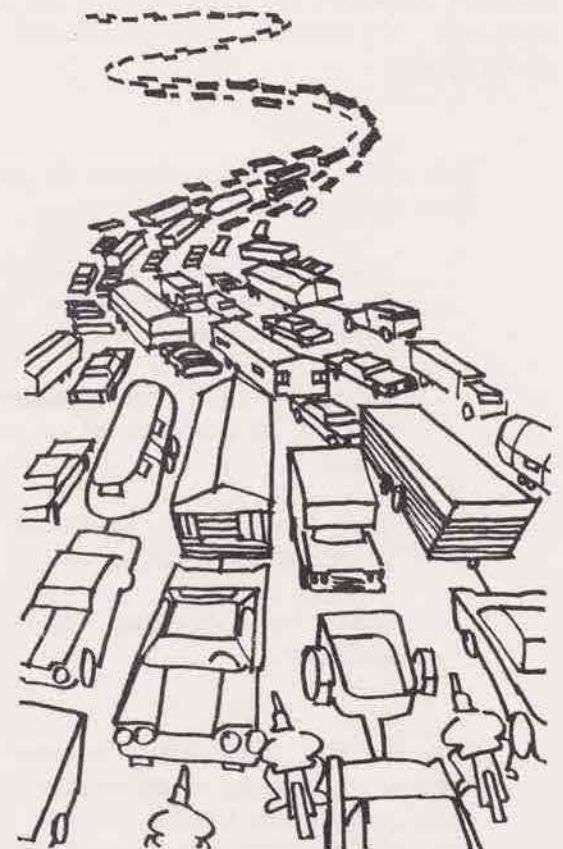
Trends toward increased horsepower have tended to increase pollution by consuming more gasoline and producing more exhaust.

Air pollution hasn't been the only problem connected with automobiles. Over the years the level of noise generally emanating from vehicular traffic has increased in the Valley adding to people's discomfort and stress. Physiological and psychological problems have arisen--mainly in urban and built-up areas--and the public and public officials are concerned about the problem. Solid waste problems have developed as people try to dispose of tires, waste oil, car bodies and parts.

If this paints a negative picture of dependence on private automobiles, there are many who might not want it any other way. Cars do provide the opportunity for people who own them to go where they want, when they want. Some people see this freedom as vital. In the Willamette Valley, however, people are concerned about what this freedom does to the environment and how land is used. But most still want to drive their own cars.



.....Existing routes began filling up over the years with cars and increased trucking.....



....And in 2002, many highways are carrying loads far beyond their capacity.



Practically the only way people can get to recreational facilities, for instance, is by using their cars. When they get to a park or recreation area, they need large parking lots.

This has caused a situation where people's needs for open space and recreation have conflicted with their auto-oriented way of life. They ruin what they want by going there in large numbers and all in private vehicles.

#### TRUCKING

Along with the private auto, the truck is an important mover in the Valley. Trucking makes heavy use of highways up and down the Valley, particularly in serving the Portland distribution center. Trucks also bring goods and products to and from more locally based industries such as pulp mills and metallurgical mills. They also haul mobile home units over increasing distances.

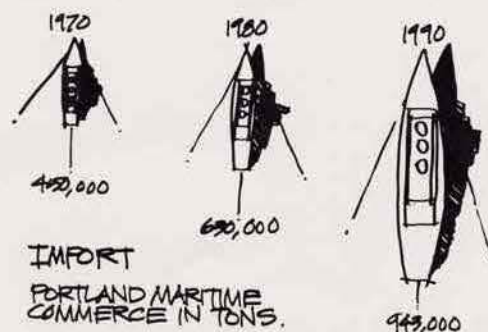
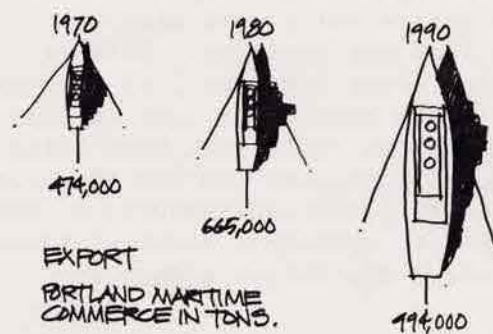
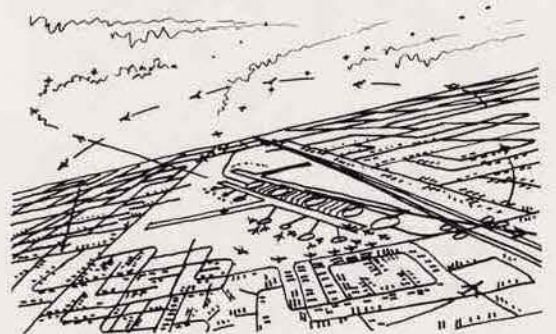
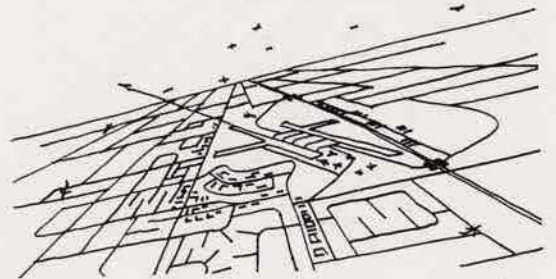
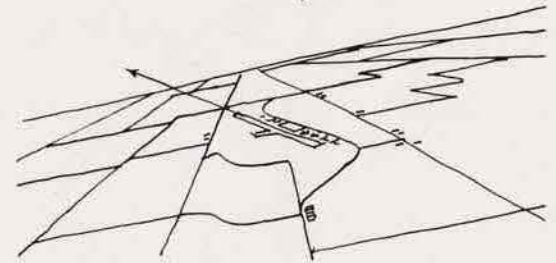
Trucks are a convenient means of moving goods over public roadways. They also work well in conjunction with containerized cargo at the port. This is a major business in the Valley, especially in Portland.

Trucks, though, are noisy, contribute to air pollution, cause wear and tear on the road system, and clog up urban areas.

#### AIR TRANSPORT

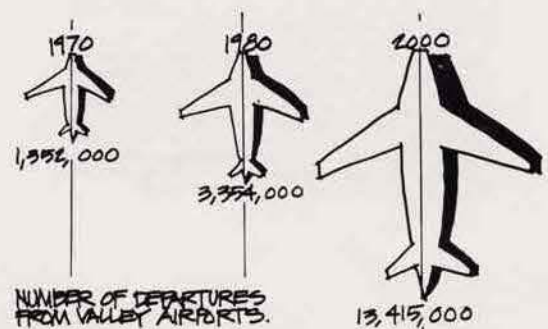
There has been a massive increase in air travel and in general aviation since the 1970's. (General aviation includes private aircraft and non-scheduled commercial flights.)

The major airports in Portland, Eugene, and Salem have had to enlarge physically to accommodate this increase, and there have been 15 new general aviation airports built over the past three decades. About 1,700 new acres have had to be devoted to airports since 1972.



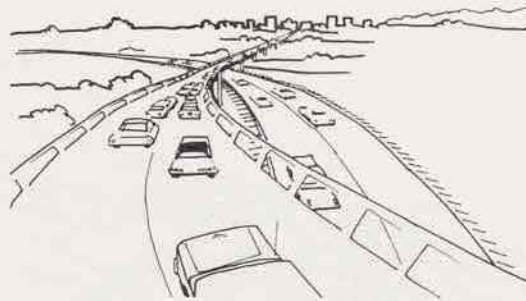
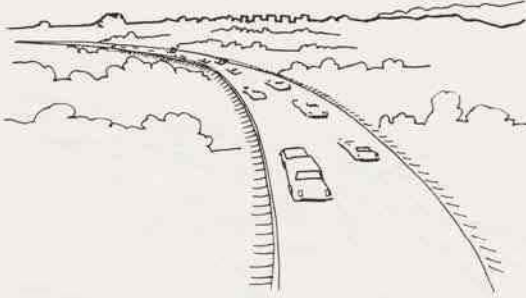
Imports and exports at the Port of Portland have almost paralleled each other for 20 years. New techniques in warehousing and shipping--such as containerization--have not required double the dock-side space.

Greatly increased air travel not only requires more land adjacent to airports, but has a very profound effect on the entire environment. The problems of noise, air, and visual pollution accompany this growth.





## 1



Over the years cars increase and have access to the cities, so networks of highways and connections to highways build up elaborate three-dimensional complexes pushing at the center of the city.

#### The auto in cities

"In all the world's cities, from Bogotá to Bangkok to Boston, the conflict between the city and the car is at the point of impending crisis," the Brookings Institution says in a new research report, "Making Cities Livable." The report was adapted from a book by Wilfred Owen, *The Accessible City*.

The report considers the automobile the prime cause of many urban problems in the United States. The car has made it possible, it says, for "people with enough money and the right color" to create a massive out-migration to the suburbs. "The negative effects of this trend are not being countered by community plans or by appropriate safeguards to prevent the pollution of the land or the decay of the cities left behind." This pattern has been copied all over the world, with particular detriment to less developed countries, it says.

Some of the ill effects everywhere include: The creation of unmanageable megalopolitan sprawl, congestion, inefficient street systems and the related problem of misuse of land, the absence of facilities for pedestrians in locations where walking would be the most efficient transport, and lack of easy accessibility between home and work for many residents. All this has the ultimate effect, suggests the report, of eliminating human communities and increasing alienation. A starting place for reform, it proposes, might be free mass transit.

#### WHAT ARE SOME OF THE RESULTS OF TRANSPORTATION POLICIES TODAY IN 2002?

Families generally own one or more automobiles and depend on them to get wherever they want to go.

The roads that service those cars have increased over the years. In 2002 they take up 270,800 acres of Valley land or over 10% of the Valley floor. Since the state decided in the 1970's not to build any more large-scale highways after the completion of the Mount Hood Expressway, the great majority of construction--220,980 acres--has been in:

locals;

collectors;

arterials;

and related road and street systems.

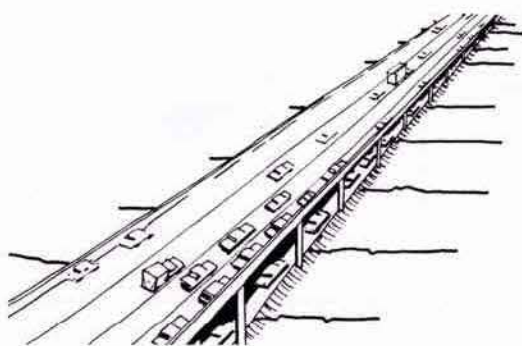
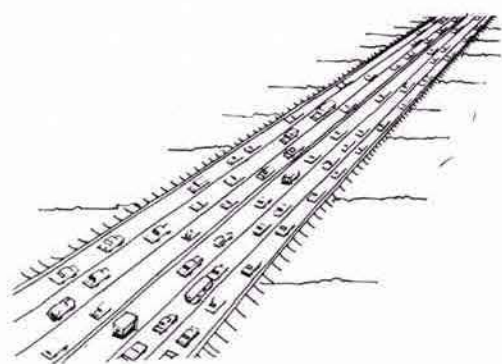
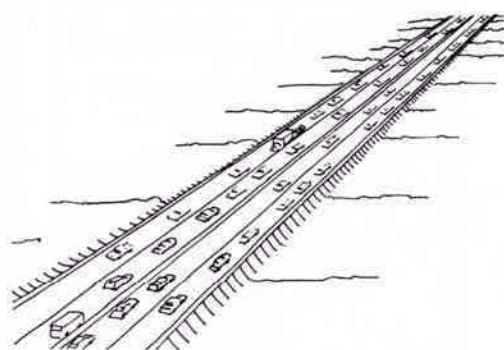
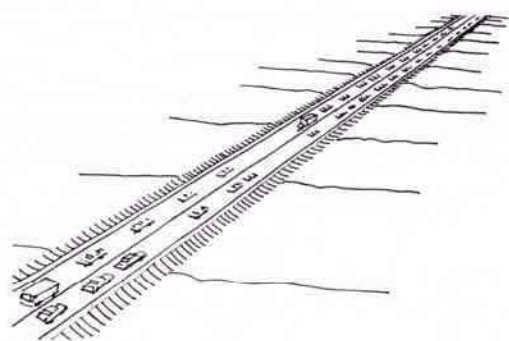
Increased traffic has caused local annoyances. In Portland the short 200-foot blocks make intersection points frequent. A stop-start-stop-start pattern characterizes traffic movement in the city at most hours.

Freedom of movement in the suburbs has forced merchants in shopping centers and commercial strips along the arterials to provide generous parking spaces to accommodate patrons' cars. People can park conveniently, but they must park in and become part of the clutter that was discussed in the previous section. The car has uglified its surroundings.

In the downtown core of cities, parking lots and garages are filled from about eight in the morning to six in the evening, then are useless and uneconomic occupiers of space until eight the next morning.

The trend from 2002 on continues to be more use of automobiles by more people. Today, a viable system of mass transit serving the entire Valley has almost been precluded by roads and spread-out land use patterns. This will become more pronounced as the Valley moves into the 21st Century. The car and spread development feed each other just as mass transit and more contained development could have been allies in more comprehensive planning. To prevent the use of the automobile on ever-increasing miles of roads and streets, a commitment was needed back in the 1970's to sponsor a combined transit and transportation system to serve the Valley's people.





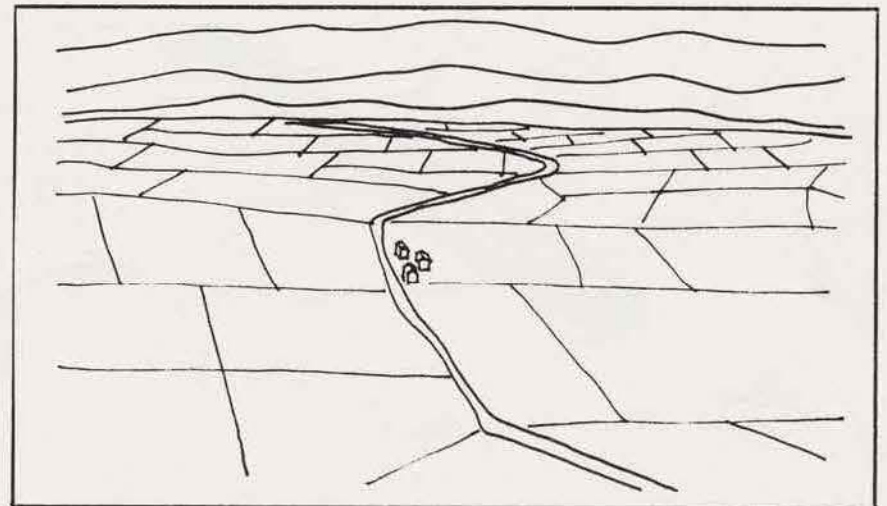
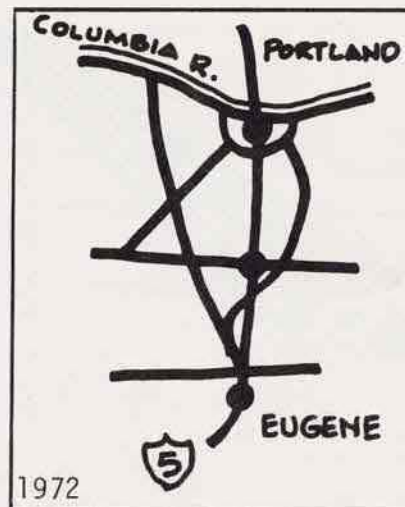
Continuing dependence on private automobiles for transportation around the Valley requires that provision for vehicular movement be made.

Oregon has decided against more big highways. Is double-decking a possibility for the future?

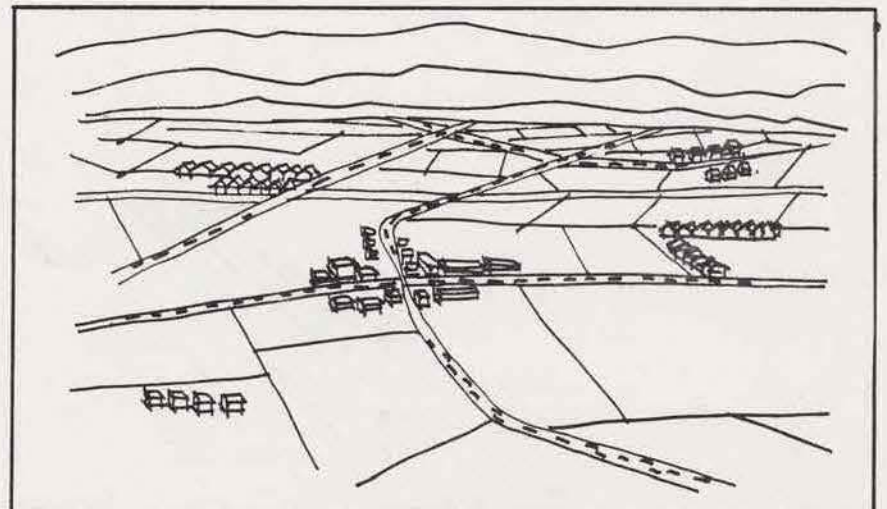
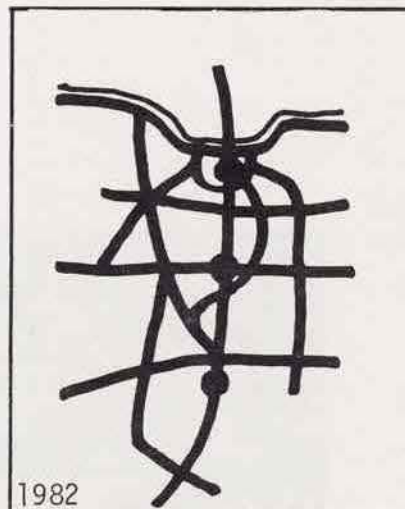


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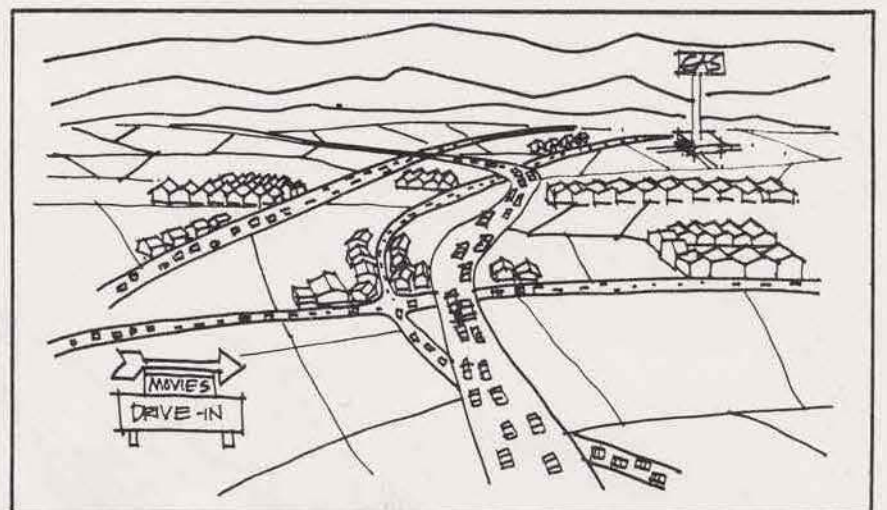
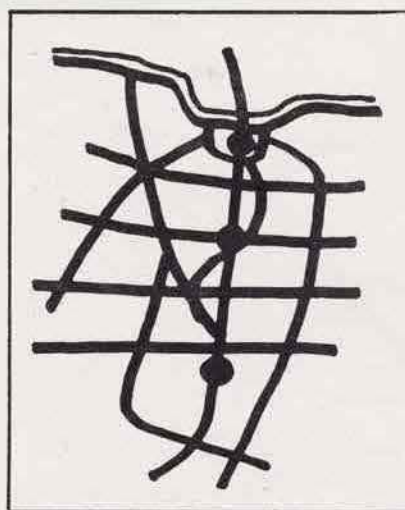
From World War II the vast majority of Valley residents have depended on their own private automobiles for transportation for any and all purposes--to work, to school, to the shopping center, visiting, and going on vacation. Until the 1970's this auto-dependence did not have a tremendously adverse effect on the environment.



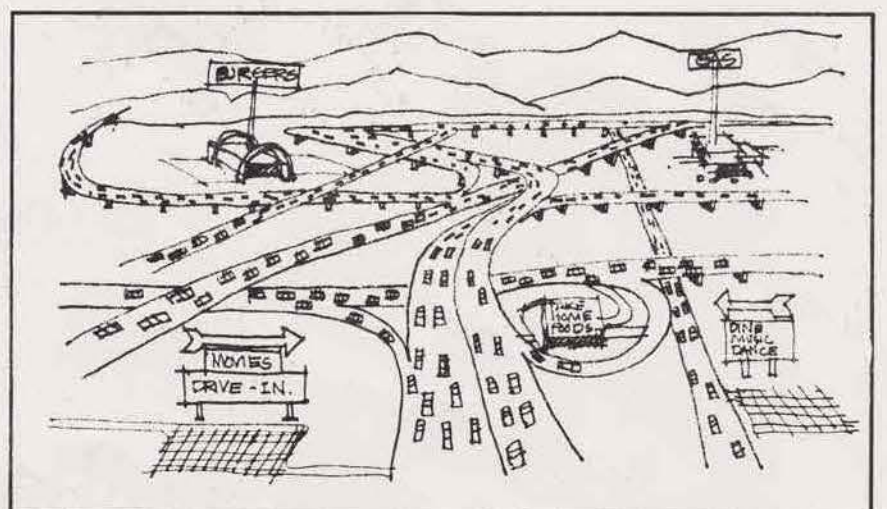
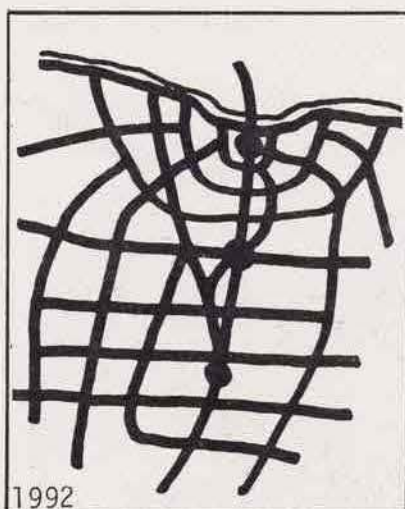
However, the trend continued, and by 1982, the continuing expansion of residential and other developments out further into the countryside was being made more and more possible by new roads of various capacities: local streets, local collectors, arterials, and the connections to existing freeways. Some people were using bus lines.



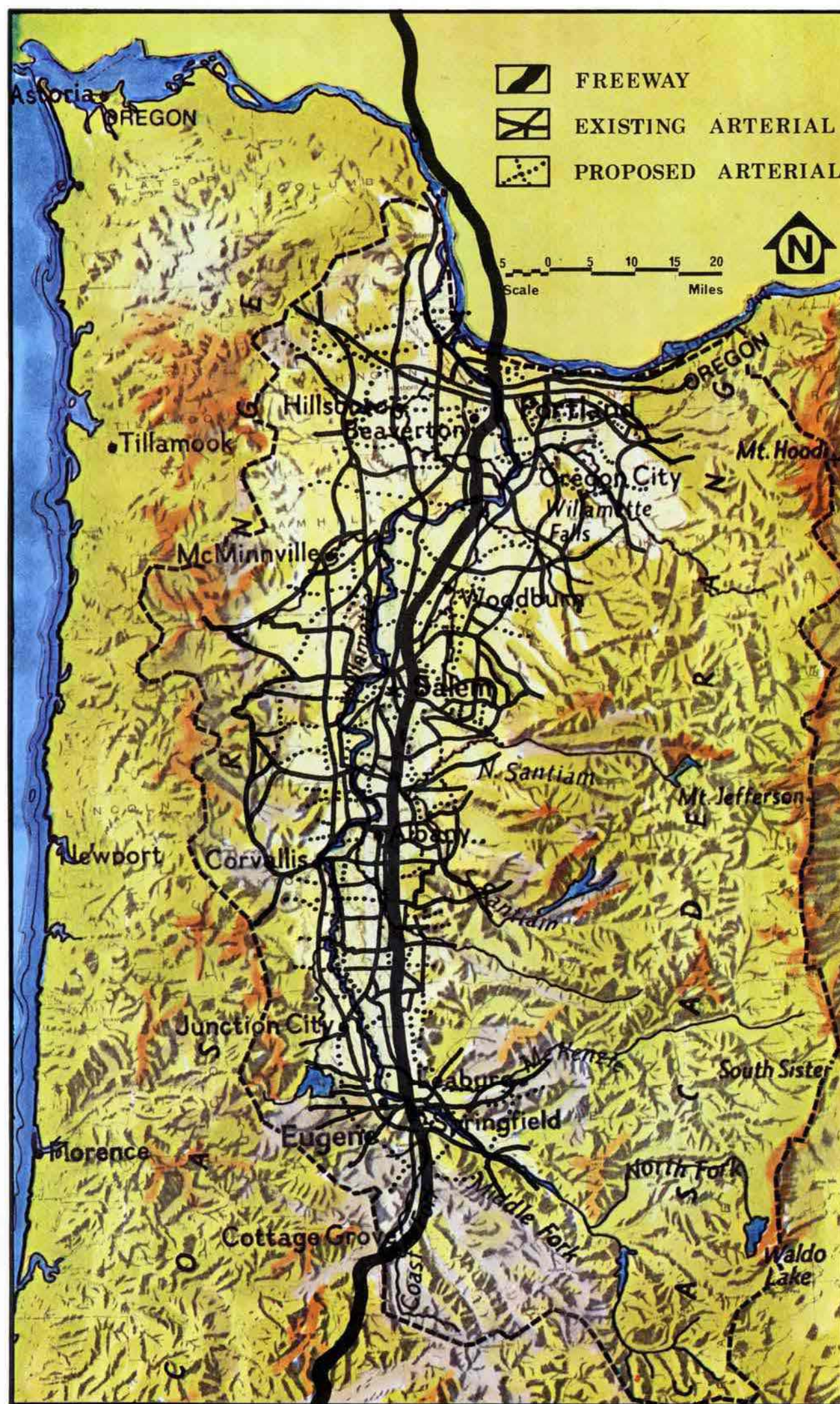
By 1992, the network of roads, streets, collectors, and arterials had intensified again. To serve the increased population and its vehicles, these systems had to be constantly renewed and upgraded. A lot more land was devoted to the movement and storage of cars. People had to park their cars at home, at work, and anywhere else they took them.



In 2002, a population of 2,500,000 people, most of whom have more than one car per family, really utilizes the increased roadway system of the Valley. Accompanying the spread of houses to the open space and the growth of roads has been the other roadside uses that occur in the suburbs: drive-ins, outdoor movies, shopping centers.







Back in the early 1970's the Oregon state government, concerned about the effect of massive highway systems on the environment, decided against constructing any major new freeways.

Thus, I-5 and 99-East and 99-West are still the major routes up and down the Valley.

Since the population has increased by 1,100,000 people in the last 30 years, and the number of private vehicles along with it, there has had to be an increase in the roadways that handle the traffic.

These increases have been, of necessity, in the local streets and roads, collectors, and arterials that provide access to existing freeways and to the cities where most of the people commute to work.

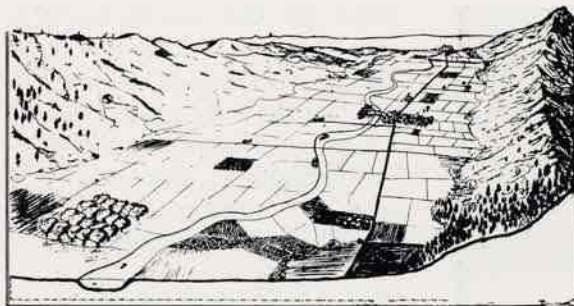
The consequence of this, seen in the map of the Valley in 2002, has been the consumption of more and more land for the use of vehicles. In addition, much land has been needed for parking in urban areas, in commercial and industrial zones in the suburbs, and for the cars and campers of people who drive them to rivers, parks, and wilderness recreational areas.

Another consequence of the almost exclusive dependence on private transportation (there has been an increase in use of buses) has been that a Valley-wide system of public transit integrally planned with other types of development has been made economically impossible.



## 1

## SCENARIO 1: OPEN SPACE AND RECREATION



"...the mountains

Grazing lands and the meadow lands and the ground

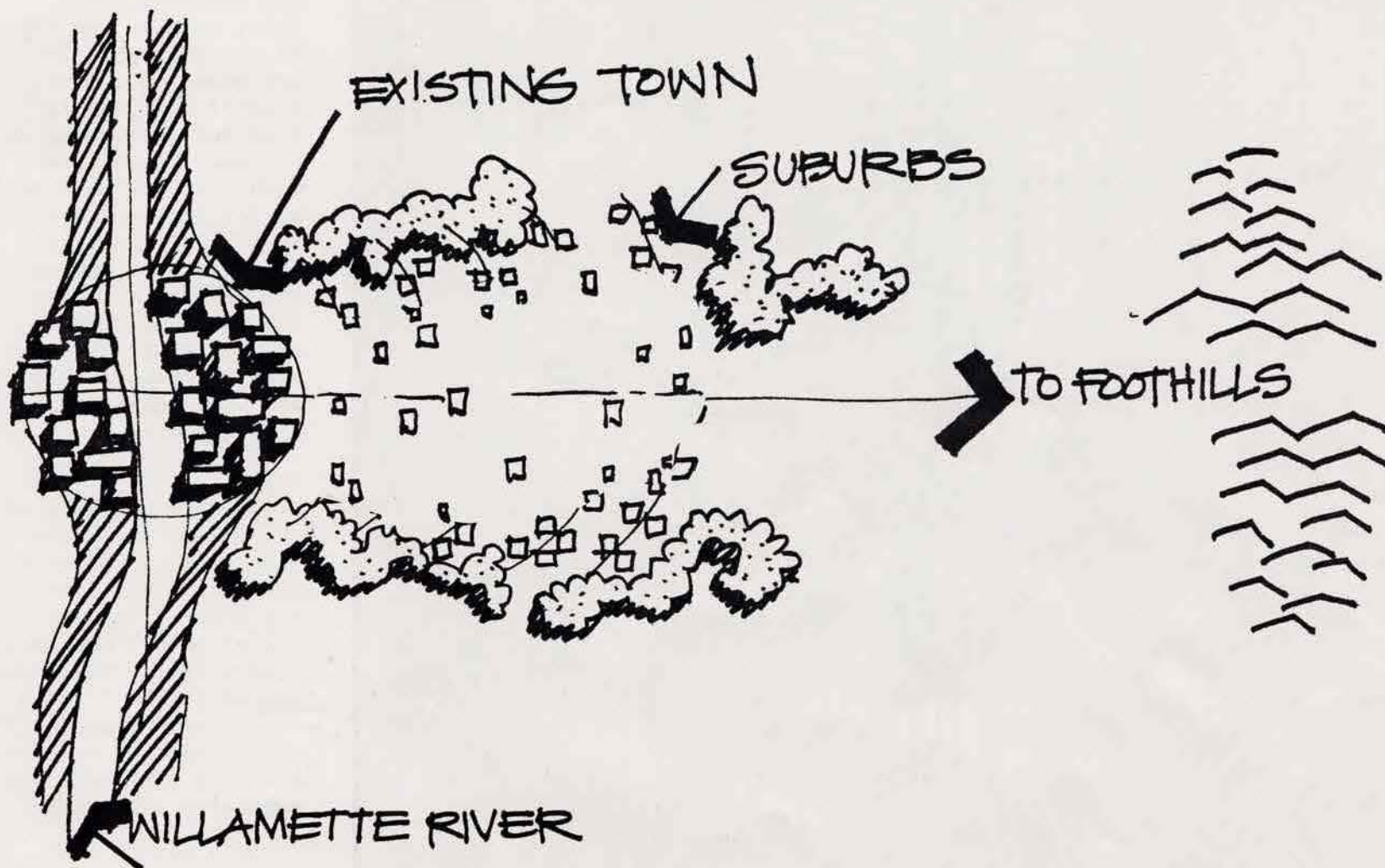
Sweet and open and well drained."

That is what the poet Archibald MacLeish wrote about the Willamette Valley as seen by Lewis and Clark back in 1806 (see inside back cover).

Over the years, that is what has given the region its uncommon hold on people - the open spaces of mountains, rivers, buttes, forest and farmland. It has been as unique a symbol of the Valley as crowded skyscrapers have of New York or a vast blue bay of San Francisco.

Trends that began after World War II caused the loss of some of this quality, and the erosion of open space and recreation facilities.

Trends of development in the 1970's were basically founded on two factors; scattered spread of developments providing single-family houses on individual lots, and the private automobile that made it possible for people to reach these developments. Some of the consequences have been the absorption of open space and agricultural lands by new construction further out from urban areas, decline in nearby outdoor recreational opportunities, clutter of commercial developments along the roadways connecting suburbia to the cities, increasing roadways, and some urbanization of the river banks.





## PRIVATE OPEN SPACE

Since 1972, there has been a decreasing supply of open land in agricultural use. Falling farm profits and the tendency to develop land further away from city centers has caused many landowners to sell their land. This is particularly true of marginal farm lands that have fallen out of production because of competition from other areas of the U. S. Advancing technology has increased the productivity of prime land and marginally productive lands have become unprofitable. As agricultural usage has declined, this land has become available for development in 10-40-100 acre parcels for housing developments and in smaller lots for mobile home parks and commercial centers.

The result has been extensive physical and visual clutter--open space screened, hidden, or made inaccessible by random and scattered intrusions. Since these developments have been random and scattered, they obliterate more open space and scenery than they actually occupy.

The problem is not so much development itself, but the small-scale scattering of all kinds of developments, which give a mangy quality to the landscape. The quantity of development is bad enough, but its quality oppresses the senses of Oregonians. "It's like finding a beer can on a wilderness trail."

The out-of-doors recreation, for which the Valley has long been renowned, has suffered from unplanned development.

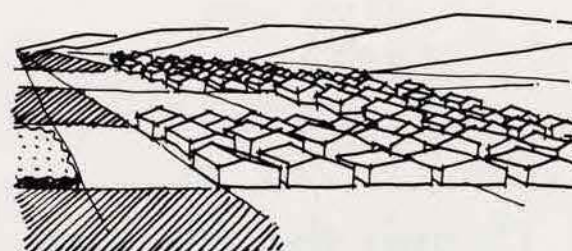
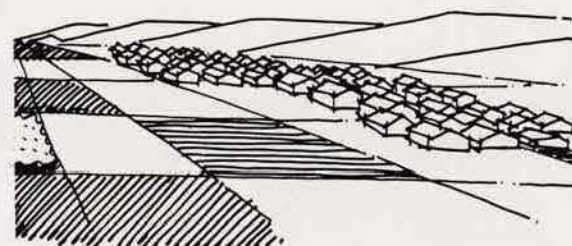
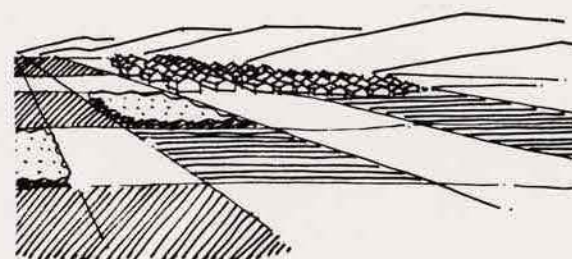
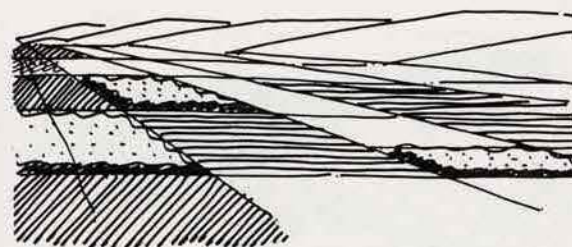
More and more housing subdivisions, commercial areas, and the roads and parking lots that service them have destroyed wildlife habitats. Encroachment on streams has harmed fish and diminished propagation. Declining levels of maximum substantial yield for fish and wildlife have occurred concurrently with the presence of 882,000 licensed fishermen and 360,000 licensed hunters in 2002.

## PUBLIC OPEN SPACE

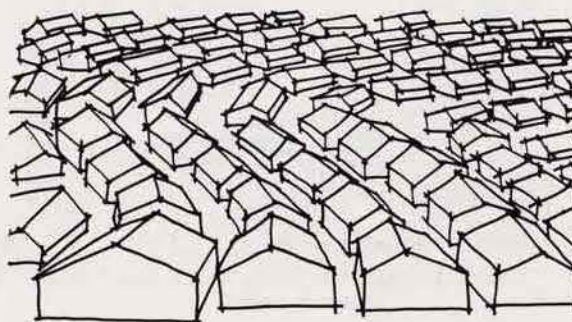
Public open space--parks, recreation areas, rivers, wilderness--has deteriorated because of more automobiles, more intensive use by the larger Valley population and more tourists.

Access to open space has become less efficient. People must drive to it--and the land has become less effectively utilized.

Use, accessibility, and enjoyment of open space have been compromised by the patterns of land use (scattered development) and transportation (lots of cars and roads). We have less public open space in all respects--amount, quality, and availability.



*By 2060 or 2070,  
it could look  
like this 2!*





## 1



## URBAN OPEN SPACE

Urban open space has been in short supply for a number of years. People and freeways have competed for access to waterfronts with freeways usually winning. Disintegrating city cores have lost people and business to the suburbs and are able to afford fewer and fewer parks, open spaces, and recreation areas.

Urban open spaces have been created and maintained where there is a strong social and community base--where people are "together." In transitional areas where existing buildings have deteriorated and a ghetto environment has taken over, there is little new and replenished open space.

How do the residents of the Valley experience its open space and the recreation opportunities that are part of it as they move into the 21st Century?

There is no doubt that parks and open spaces in rural areas and the wilds are still more available to Valley residents than to residents of more crowded regions. The Greenway system of parks along the Willamette River (nearly 250 miles long now) is right at the center of the region. Some remaining farmland has been kept open through tax incentives from the state, and it forms a "visual amenity" for people. Wilder areas up in the more rugged hills and mountains are also open.

But much of this space, especially in land formerly occupied by farms, is gradually disappearing beneath clutter, developments and the roadways leading to them.

People in other areas might scoff at the Oregonian's concern for dwindling open space. "You have more than anybody! We come all the way from Southern California just to visit your parks and camp sites!"

But residents of the Valley know that when open space has been "paved over", it almost never becomes open space again. It is like using up capital when you could live on interest.

It has been noted by many behavioral scientists and psychologists that open space exerts a positive psychological effect on people, particularly people who face the same sort of environment every day.

Open space is "functional," too. It acts positively as an air purifier. By not adding to existing pollution it also has a beneficial effect. Open space can retain fresh water as ground water and doesn't add to pollution like new developments do. Open space dissipates noise pollution.

There are some forms of recreation that invite crowds and even flourish with large numbers of people, such as group sports and spectator sports. These are frequently urban modes, however. The Valley is especially beloved for its recreation opportunities in rural and wild settings where other people are an intrusion---camping along the river, hiking and climbing in the mountains, enjoying a quiet fishing holiday.

## Dennis the Menace

By HANK KETCHAM



"There's a place that looks like it hasn't been slept in lately!"



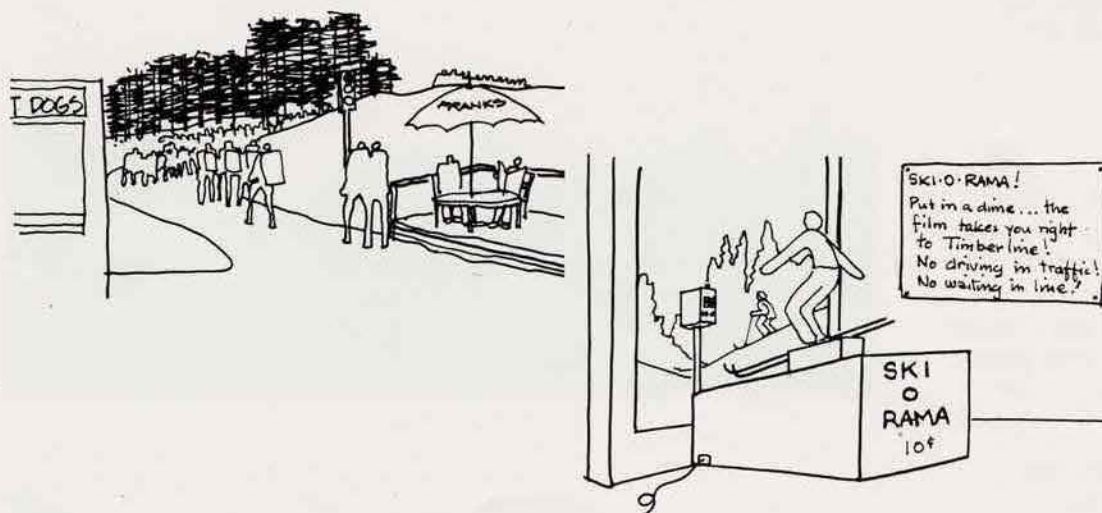
Yet Valley people seem to have been getting less open space and recreation than they "pay" for. Per acre costs have gone up because of increasing emphasis on development and continuing need for more real estate. Competition for land makes open space harder to buy. Prime land has been going to large scale homebuilders who can better afford it.

Costly provisions for access and parking in recreation areas have used up a lot of our open space, and the presence of many cars degrades the recreational quality of open spaces.

Oregon has had many good laws and regulations concerning open space and related recreation activities. One bill requires that 1% of highway funds and gas tax money go for bicycle and foot trails along developing roads and in park areas. Continuing examinations of ways to develop the Greenway park system and similar areas on the Willamette's tributaries have helped retain open space.

Land use can be regulated by law. But there are less visible pressures having to do with the way people live in 2002. Most people have much more leisure time--shorter work weeks and longer vacations. They have developed habits of using open space and recreation places unknown a generation ago.

The weekend drives people used to take for recreation stopped being fun in the 1960's; now they wish to escape the traffic. They can pack up for four-day weekends for hunting and fishing and camping trips. They can leave the Valley for lengthy vacations, but that only means their counterparts are coming into the Valley for their vacations. A lot of people favor day trips to river parks or the hills for hiking and picnics.

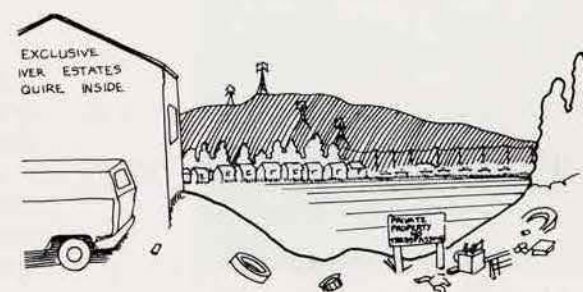
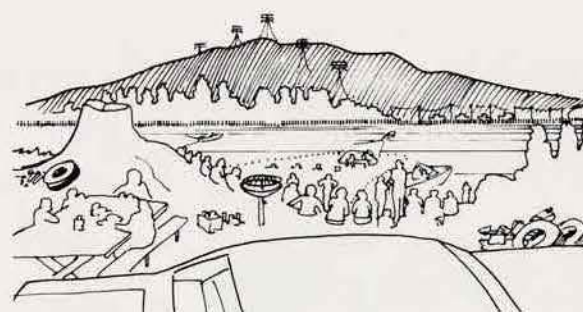
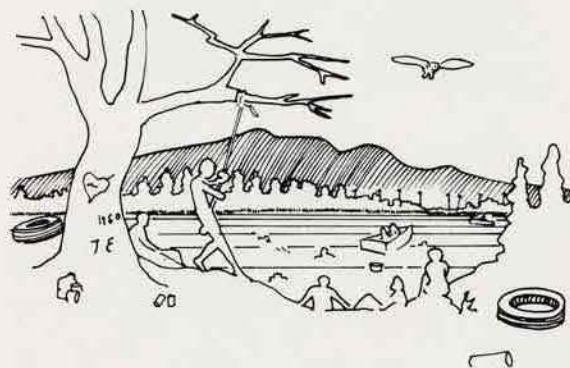
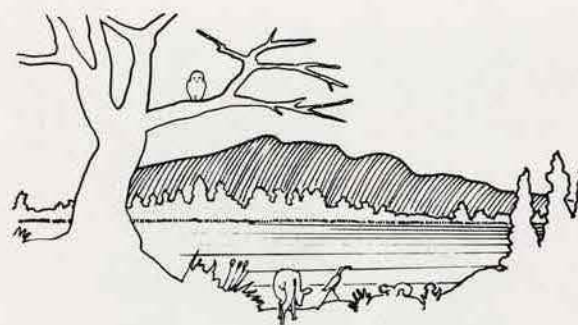


All of this means that remaining open space can get pretty frayed from over-use. This particularly so near urban and suburban areas, where there is heavy daily use of facilities.

In 1972 an article on the revived Willamette River in the National Geographic stated "obviously, man and nature have come to terms along the Willamette."

"Come to terms" sounds rather warlike, but perhaps it describes what is needed more and more in the Valley in 2002.

People are far from antagonistic to nature. In the year 2002 they treasure it and are as profoundly aware of its importance as they were back in 1972. But there are more cars, more people with more leisure time, all competing for less land. And the measures taken in 1972 to preserve and acquire land and prevent its cluttering have not been adequate for our needs in 2002.



### National parks: The wilderness cries for help

Yosemite National Park has smog, vandals and, sometimes, drag-racing. Yellowstone has autos and autos and autos. In fact, almost all the national parks have more motor vehicles than they can cope with. The National Park Service has a level of appropriations that allows the agency only to maintain parks in their present condition, with none left over for improvements. Unless there are some major changes, suggests an Advisory Board on National Parks in a report issued this week, not even the maintenance mission can continue to be accomplished for very much longer.

The national parks problem is one of once-sensible developments compounded with a modern mobile and affluent population in a new mixture that does not work. Explained a National Park Service official: When Yellowstone, the nation's (and world's) first national park, was created, its attractions were a day's stagecoach journey from the nearest railhead at Gardiner, Mont. Thus roads had to be

built to Old Faithful and the other attractions and hotels had to be erected near the attractions. These roads still exist, but now they carry millions of cars instead of a few stagecoaches. "The problem is not one of too many people but of too many cars," said the official.

The new report's prime emphasis is on the need for higher level of Congressional appropriations to build new facilities. The facilities, said the official, would basically be visitor centers, interpretive facilities and parking lots on the peripheries of parks, and "people mover" systems to take people to the attractions within. Such systems could include buses, monorails or articulated trams such as those that carry tourists around the U.S. Capitol Mall in Washington. NPS has already started such systems on a small scale in parks such as Yosemite and Everglades, but a major problem is the low cost-effectiveness of expensive transportation systems that sometimes could be used only three months a year.



## OPEN SPACE &amp; THE CONTINUATION OF 1972 TRENDS

The open space of the Willamette Valley is one of the major factors giving it the special quality that people admire. Residents are concerned that it seems to be disappearing.



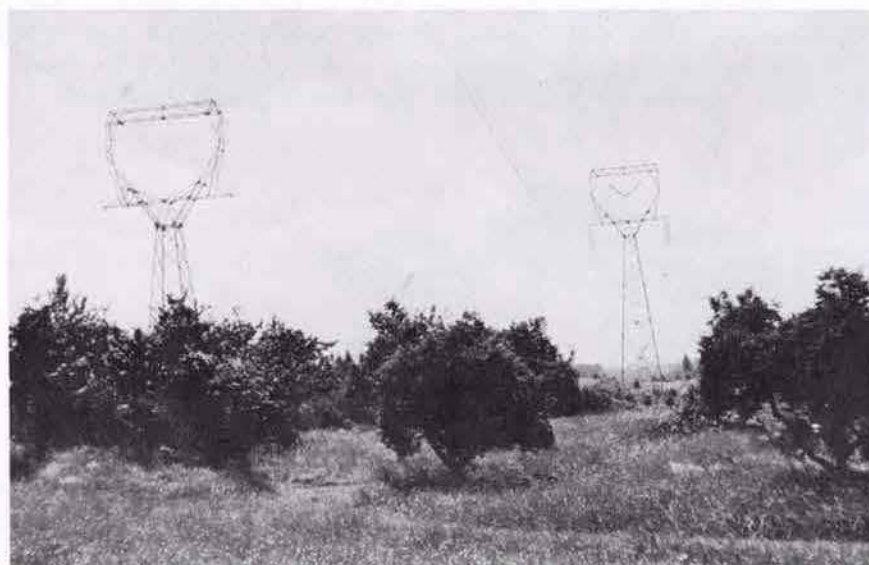
Land formerly in farms, dairies, orchards, and pastures is being phased out and bought up for construction of other uses.

Oregon State Highway Department



Some land uses - such as logging - have taken areas of open space out of commission for long periods of time. The land can't be used for other purposes while it recuperates.

Continuing need for power has caused increased intrusion onto the landscape by power lines, stations, and power stations.



The need for - and lack of - urban open space is acute. Here in the city is where many other uses often occupy the land. New connectors have been built to accommodate an ever-increasing flow of commuter traffic from the suburbs.



Even where there is urban open space, as at Forest Park in Portland (right in photo), it is often compromised. Here the people cannot reach the river, which is isolated beyond freeway, railroad, and industrial and marine installations.

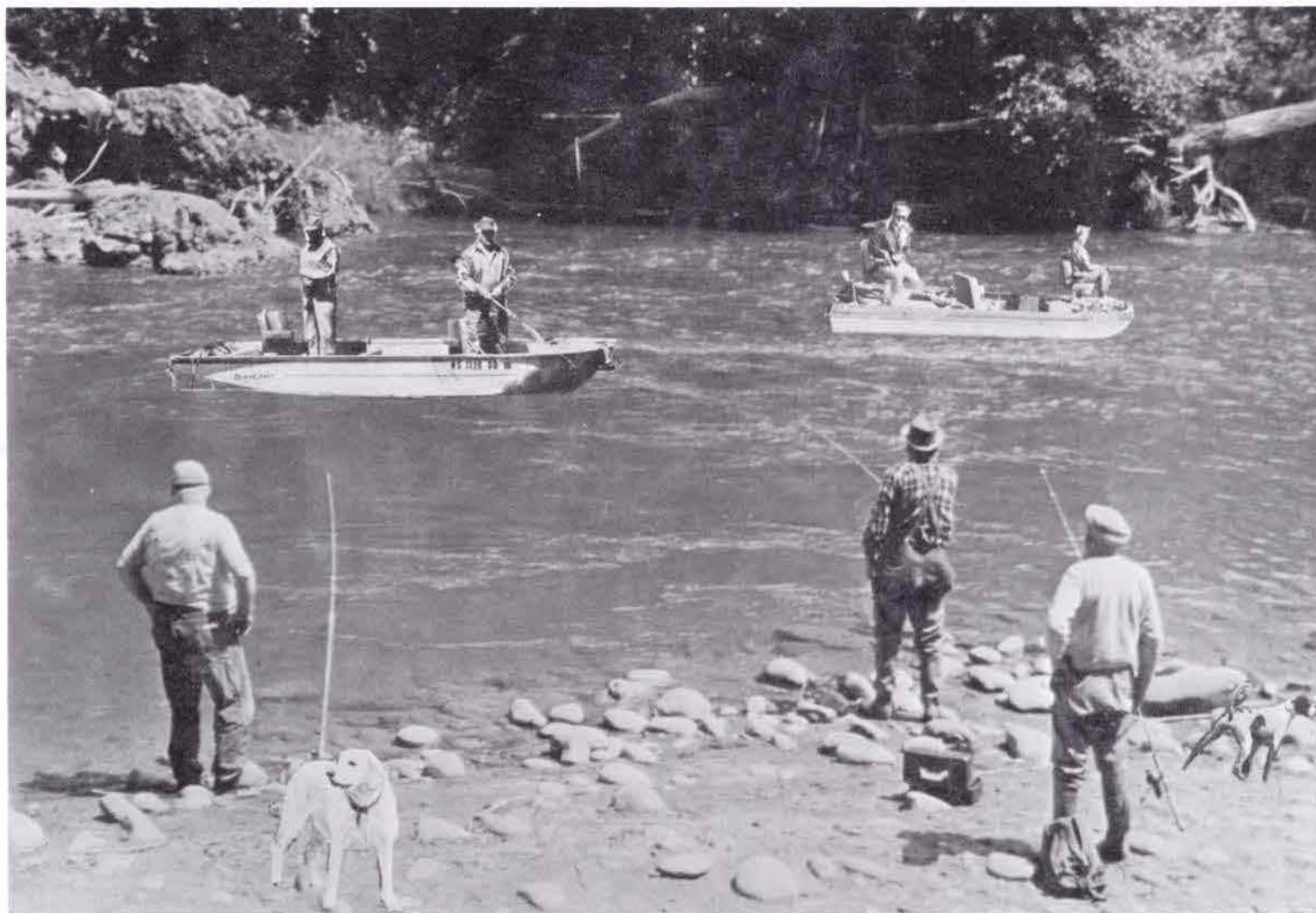




Further into the Valley, the picture improves, but this scene indicates too that the only way people can get to open spaces and recreation at distances from the city is by the private automobile.



People go for long jaunts in search of open space recreation, often in vehicles designed for the purpose. They take their houses with them. Such access to public open space frays its natural aspects.

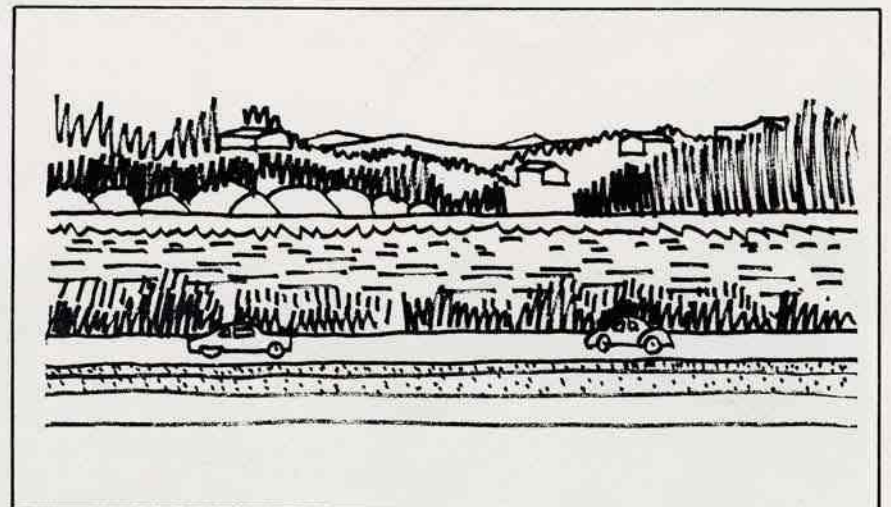


Here we are in 2002. The ideal of man and his faithful companion alone on a beautiful stretch of rural river isn't possible when 2,500,000 Valley residents want to get to the dwindling supply of open space.

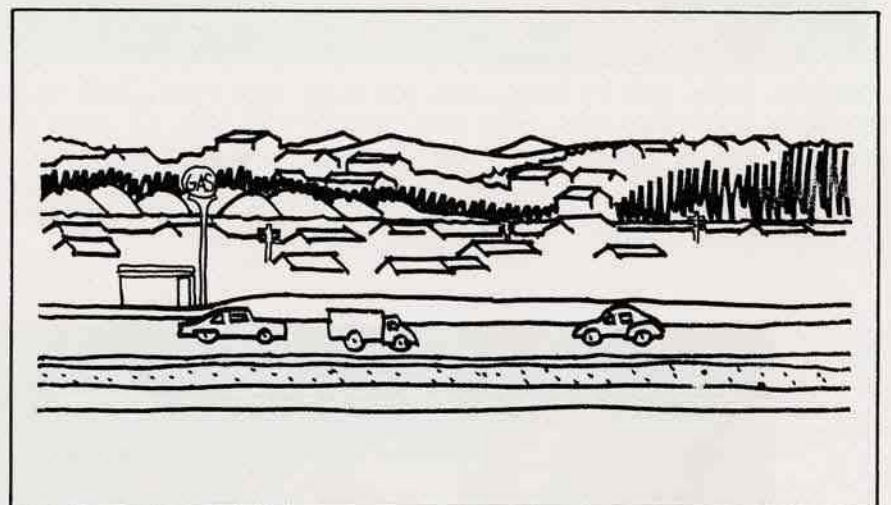
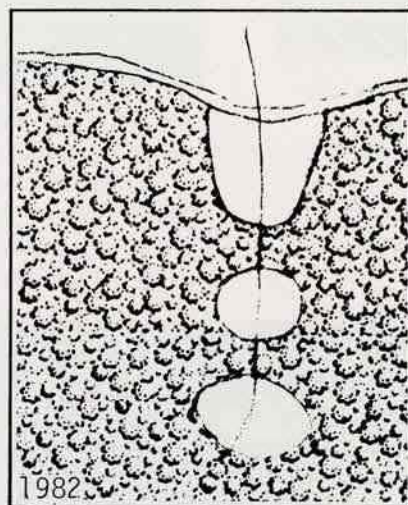


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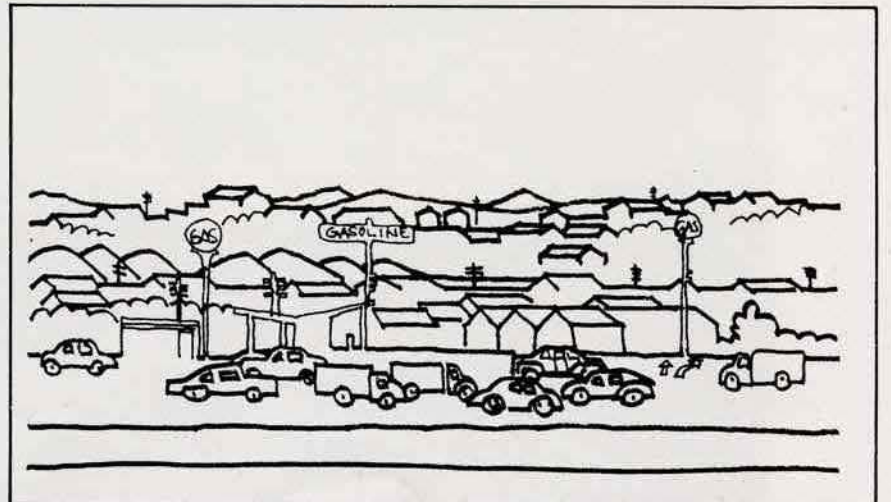
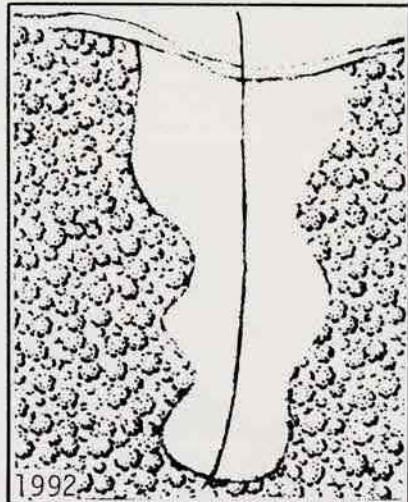
There was plenty of open space in the Valley in 1972 when the population was only 1.4 million. People could take family drives through the countryside, enjoying the views or go for picnics in county or state parks. Generally they could feel a closeness to nature and enjoy sweeping panoramas of the Valley.



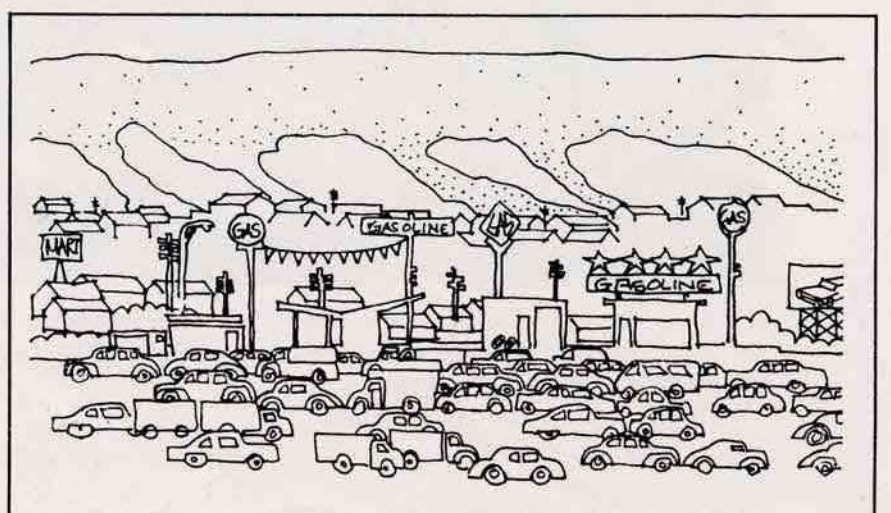
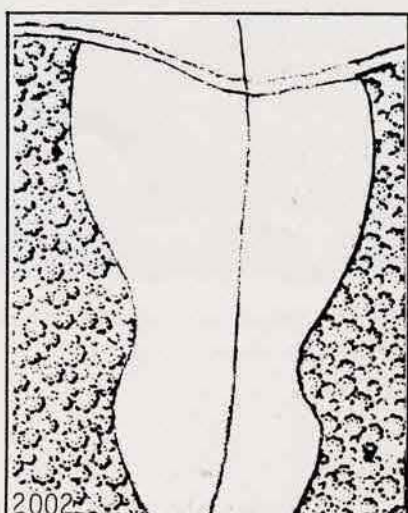
In 1982, new roads and developments had used up large portions of the available open land - mostly farmlands that were becoming difficult to manage economically. Open space seemed much scarcer. On family drives, you were likely to pass through more built-up areas.



By 1992, it was getting hard to find uncluttered open space. The Valley was filling up with new development. People of course continued to use their cars to get to parks and recreational areas. This meant more parking lots and roads in the wilderness and rural areas.



By 2002, much of the open space of the Willamette Valley has disappeared for good. Everywhere you look there is scattered development and commercial infill. More cars, more roads, more people - the Valley has become more like a city and open spaces are increasingly further away.







Since 1972, the population of the Willamette Valley has grown by 1.1 million people. Out-of-state tourists are pouring into the state in greater numbers every year. This has put considerable pressure on the Valley's available open space and recreational facilities.

In the 1970's, the Greenway park system was begun along the banks of the Willamette River. It is the main system of open space on the floor of the Valley today. Though it has grown since 1972, it remains strained and over-used.

The picture is brighter in areas that are 25 miles or more from the cities. These parks are still in good shape - but every year the higher levels of tourists and Oregon residents who drive out to enjoy them create new pressures. New parking places must be provided for cars and campers.

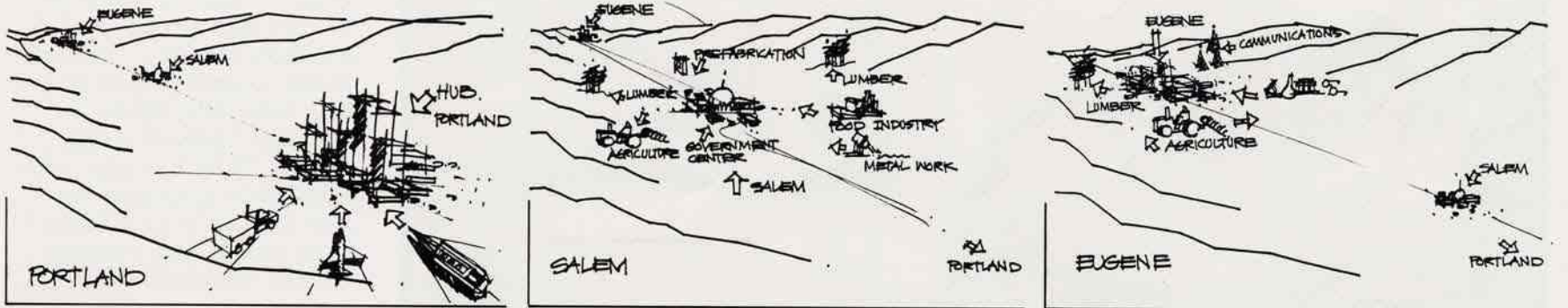
Several Valley residents go to the coast or to central and eastern Oregon for recreational opportunities. Overcrowding is becoming a problem there as well.

In the cities and suburbs open space is at a premium. Land use has been based primarily on economic profit - thus the space available for recreation has diminished year by year.



## 1

## SCENARIO 1: EMPLOYMENT AND INCOME



By the year 2002, the Willamette Valley has demonstrated an exceptional degree of economic and demographic growth.

Employment has levelled off in two of the Valley's major industries - agriculture and forest products. But this situation has been more than balanced by employment gains in other sectors of the economy.

The manufacturing base has diversified. There has been an increase in the government and service sectors. Together they have provided a major impetus for economic growth.

This growth has produced many economic and social benefits; it has also created social burdens.

On the benefit side, a high rate of economic growth has helped provide more job openings for people of the Valley. Nevertheless, unemployment has been slow to decline because the increase in job opportunities has attracted many "outsiders" to the Valley. In fact about 50% of the Valley's population growth in the last 30 years has been caused by people coming into the Valley from outside. This means less than half of the Valley's population growth since 1970 has been due to natural increase (births over deaths).

Unfortunately for Oregonians, many of the new jobs created by economic growth have been filled by qualified persons coming into the Valley from other areas. This tended to keep less skilled Oregonians on the unemployment rolls.

The distribution of the population has added to the unemployment problem in the Valley. Most development over the last 30 years has taken place in the metropolitan areas of Portland, Salem, and Eugene, resulting in an imbalance of employment opportunities in smaller communities of the Valley.

Despite this pool of hard-core unemployed, economic growth and job expansion resulted in raising incomes for the majority of people in the Valley. In 1970, per capita personal income averaged \$3,877. In 2002, it has increased to around \$15,000, representing a growth rate of over 4.5 per cent a year.





Some of this increase has been inflationary, however, and income growth in real terms has been proportionately less. But, even after inflation, real per capita income since 1970 (stated in 1967 dollars) has risen from \$3,335 to \$7,500, reflecting a significant gain in the average person's purchasing power over the past three decades.

Much of the growth in per capita incomes has gone into increased consumer spending. This increase in per capita consumption along with the growing number of consumers has further stimulated the economy of the Valley, creating additional jobs in the industries which produce consumer products.

This rapid economic development and accompanying population growth has produced heavy pressures upon the government to provide new and expanded programs, particularly in the areas of environment and social services. Thus an increasing share of the average person's income has gone to financing government services. In 1970, disposable personal income of Valley residents amounted to about 86% of total personal income. By 2002, this proportion has been reduced to approximately 82%, meaning that a steadily increasing proportion of personal income is used to finance government.

So while economic growth has generated greater public revenue, it has also brought about an even greater demand for more government services.

The Valley's development over the past three decades has been accompanied by the rise of numerous social and ecological problems. The environmental and social disruption associated with pollution, urban sprawl, urban decay, traffic congestion and resource depletion intensified as the economy and population expanded.

From an economic standpoint, the social costs that came with rapid economic development should have been given more attention in planning 30 years ago. In 1972, the people of the Valley still had a tendency to isolate the economic benefits of development from the related social costs. The costs were there, but they were not obvious enough to arouse the concern of the Valley's people.

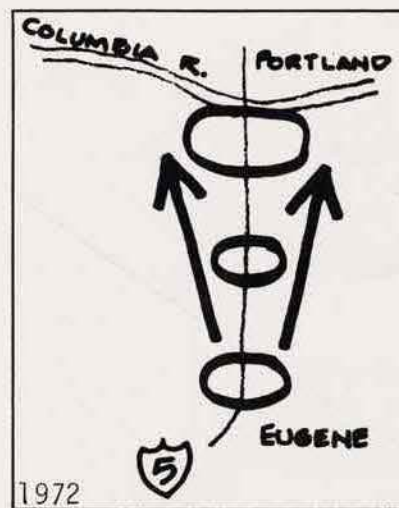
This was natural enough in the past because social costs were difficult to identify and estimate. They were long-range in nature and ordinarily did not have a direct financial impact on people. As a result, the market system had never put a price on them for the consumer to pay.



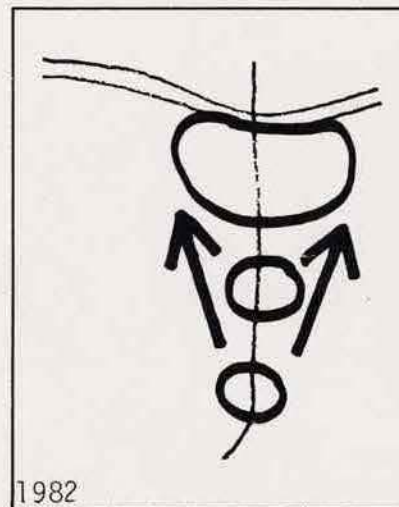


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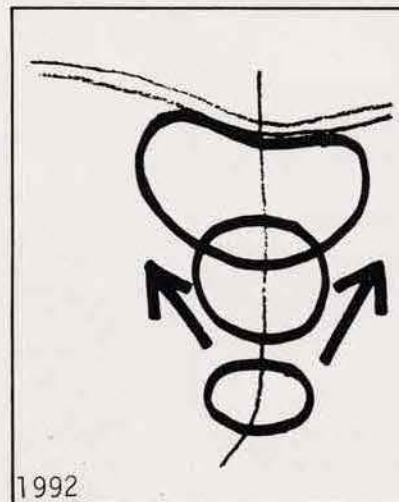
In 1972, the Valley's dependence on resource-based industries was declining and undergoing a changeover to non-resource-based industries.



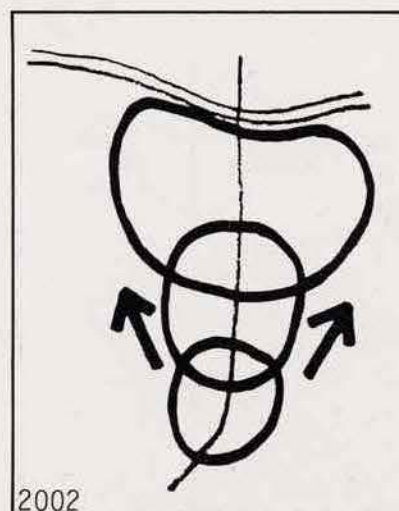
This meant a decline in the economy and population of communities that had been dependent on timber products and agriculture. By 1982, the pattern was quite evident.



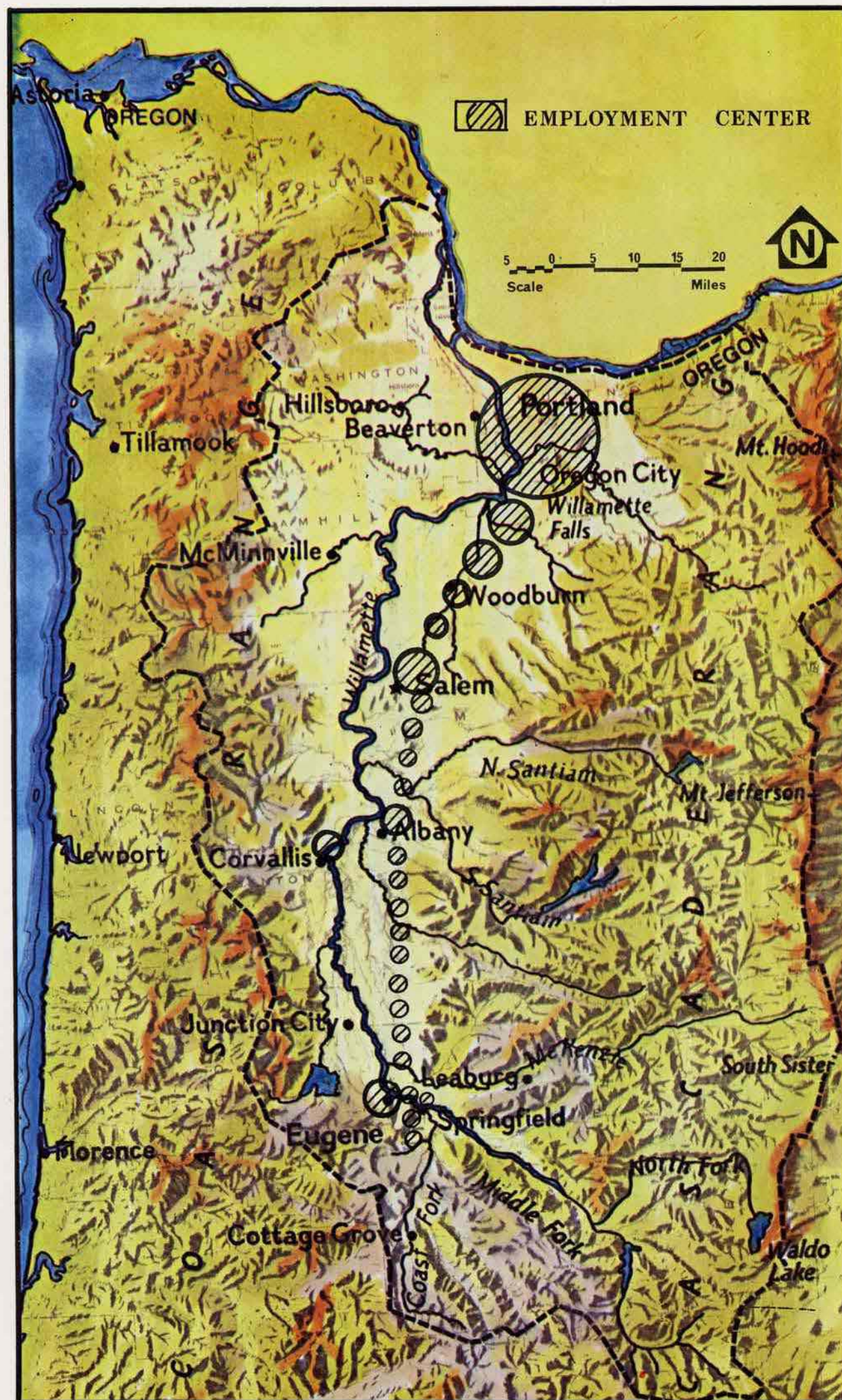
Non-resource-based industries located for the most part around growing urban centers, and the people who were employed in them settled in the suburbs outside the cities. In Portland, the growth of service industries and related commerce was pronounced.



Agglomeration of industry and suburbs around urban areas is still on the increase in 2002. Increased roadways are needed to carry more commuter cars and the goods and materials transporters.







The trend ever since the 1970's has been for industry to locate in and around established urban centers, principally Portland, Salem, Eugene, Corvallis, Springfield, and Albany. Industries based on agriculture and timber products have declined and non-resource-based industries have increased, and with them the desire to be close to urban centers and transportation lines.

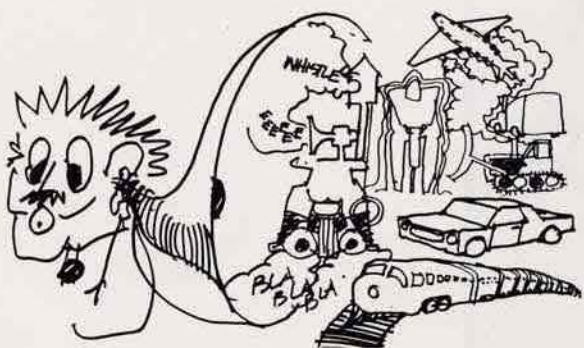
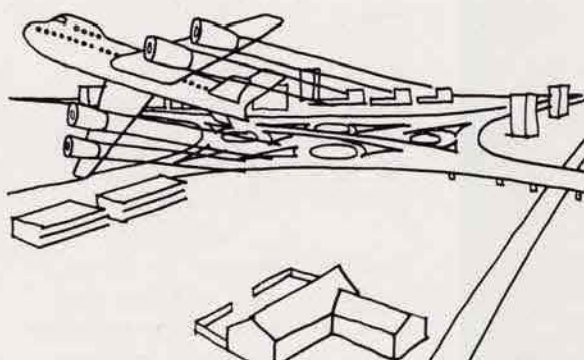
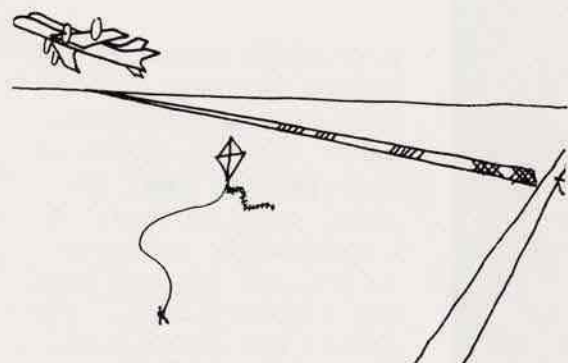
Portland's greatest growth has been in service industry and business such as financial enterprises, real estate, construction. A considerable increase in tonnage for the port has also occurred. Air travel and cargo handling have increased at the airports of Portland, Salem, and Eugene, and there has been a growth of general aviation business in the smaller fields in the Valley.

People generally live outside the cities and use private cars to commute in to work. This can be a slow process in 2002.



## 1

## SCENARIO 1: POLLUTION



The concern with various forms of pollution that were afflicting the Valley and the rest of the nation back in the 1960's and 1970's paid off in a number of good remedies for specific pollutants.

The Willamette River, which was going the way of Lake Erie back in the 1960's was revived, restored, and made a fit water environment for man and fish through the joint efforts of the state, the Federal government and private industry, in the short span of 5 years.

Oregon has prided itself for a number of years in going beyond basic standards of air and water purity. Most of the nation looked to this state as a leader in pollution control and abatement.

By 2000, tertiary sewage treatment was universal in the Willamette Valley. The by-products of treatment have even found their way into the Valley economy in the form of fertilizer and fish food derived from dried and processed odorless residue. Water flows clean and clear.

The story is not quite so rosy concerning air pollution. By rigid observance of the 1975 Federal air pollution controls for motor vehicles, the Valley's air was relatively pure up until about ten years ago. Then, the increasing numbers of automobiles driven by the Valley's 2,500,000 inhabitants drove air pollution over acceptable marks again, and officials have had to re-examine controls and requirements for high levels of air quality.

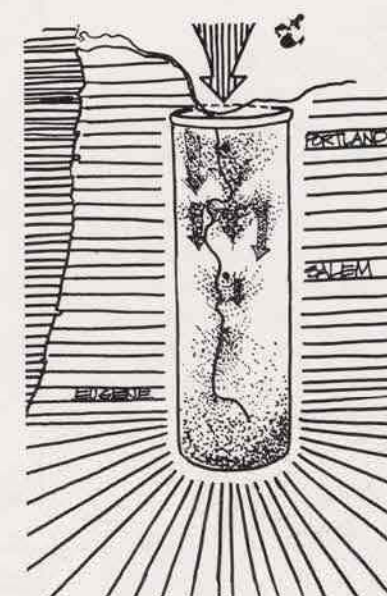
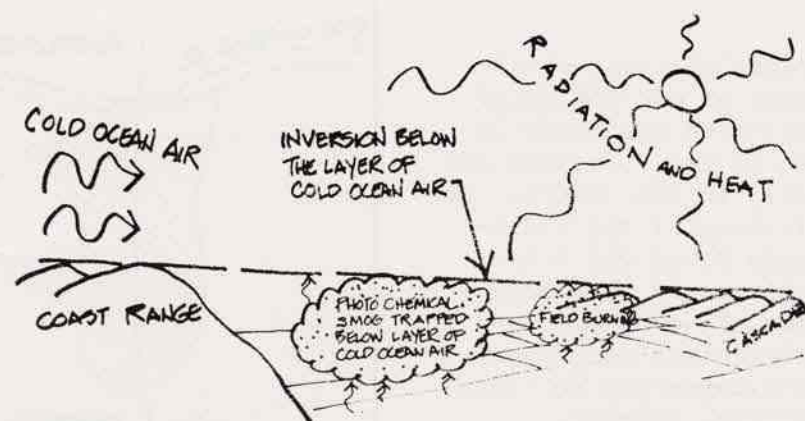
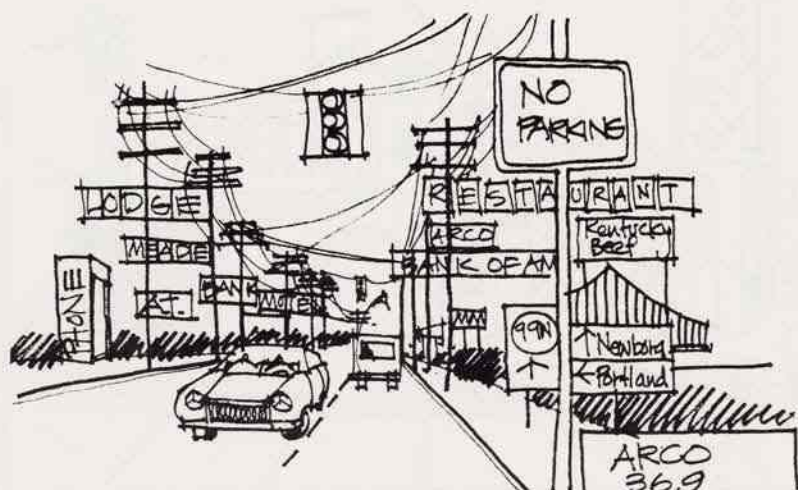
An area that has received adequate control is exotic wastes and odor pollution. When pulp mills successfully combatted their air pollution problems in the 1970's, unpleasant odors still emanated from the plants. Through new chemical technology, this was cured and no longer assails the nostrils of Valley residents.

Four pollution problems do remain to plague people in the Valley. They are noise, solid waste disposal, visual pollution, and heat dispersion.

Noise has become an area of concern--noise from planes, trains, jackhammers, trucks, road machinery and private vehicular traffic on an increasing grid of roads, streets, arterials, and highways through the spreading suburbs in the Valley.

In the 1970's, medical authorities began detecting hearing impairment among people exposed continually to noise pollution. Doctors discovered harmful psychological effects from persistent exposure to noise in the form of anxiety and tension. This is a problem that the Department of Environmental Quality has tried to solve for a number of years without any conclusive results.





The disposal of solid waste, garbage and refuse on open land has continued. As land fill it has required a total of 20,000 acres by 2002. It is predicted to fill another 10,000 acres in the next ten years.

Some recycling measures have been instituted, however; mainly where they were economically feasible. There are strict controls on the disposal and recycling of metal and glass beverage containers, for instance.

There is concern over the heat given off by the many steam-driven electric generating plants. Those powered by nuclear reactors have the added potential of radiation leakage. National standards have been set and the state has endeavored to live up to them or better them, but the huge demand for electricity is difficult to deal with. Few good hydro-electric sites remained after the 1960's.

One of the areas of considerable irritation is visual pollution. This was described under Land Use as clutter, and it is the result of land-extensive development in leapfrogging, scattered-site patterns. All the small-scale commercial uses, trailer parks, and less-expensive housing developments that fill in between bigger developments cause visual blight along the roadways and effectively obscure the Willamette Valley from view.

This kind of pollution is qualitative, although there is concern that too much of the Valley floor is being absorbed. But not many fried chicken drive-ins, gas stations, drive-in movies, and trailer parks have to be built along the arterials to alarm people that the Valley is disappearing. People are becoming increasingly concerned about this form of pollution which is beginning to make the Valley look increasingly like the areas around Los Angeles. Many people feel that something must be done. Sign controls and some zoning controls have been applied but more stringent regulators will have to be applied before it is too late.

The Valley is an "air shed" as well as a water shed. This means that smog and pollution that start in Portland, with its industry and constant stream of automobiles, drifts southward, being added to by vehicular and industrial pollutants along the way. The air becomes hazy, and it is sometimes impossible to see the mountains. Inversions of temperature can trap this smog below a layer of colder air and intensify the problem.

#### Costs and benefits of pollution control

An area of increasing controversy is the economics of pollution abatement. Conservatives in the Nixon Administration claim costs of abatement will be huge, the benefits will sometimes be small and that the nation's standard of living will deteriorate as the public pays the tab. Although many economists disagree, there have been few precise studies that clearly delineate cost-benefit ratios.

The National Wildlife Federation has just completed a detailed study of cost-benefit ratios in pollution abatement. The organization estimates that clean-up programs will yield far more benefits to the public than they will cost.

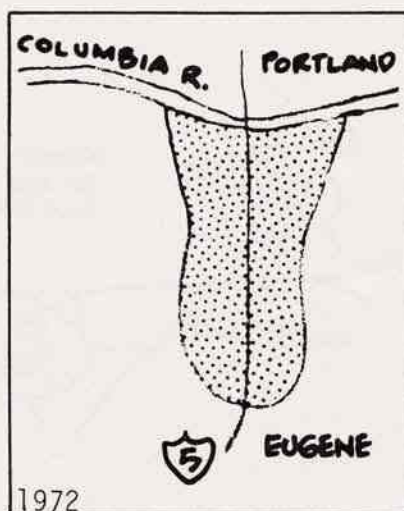
The reason, according to NWF Director Thomas Kimball: To allow pollution to continue is very expensive. Air pollution damages in the United States in 1972 will cost about \$16 billion and water pollution damages, nearly \$13 billion. Kimball says. The figures do not begin to measure less quantifiable costs such as those of health effects.

Kimball says that if an optimum clean-up program began now, it would cost the average consumer-taxpayer \$500 by 1975, with very little tangible return. However, by 1979, the average family would recoup this loss, and, by 1980, begin realizing annual returns of \$200. The benefits of air pollution abatement would begin as early as 1976, but clean water benefits would take longer and begin in about 1980.

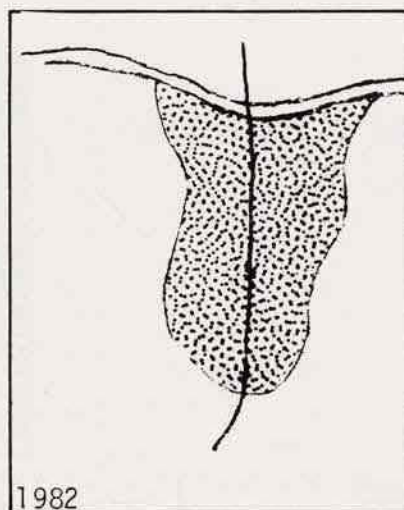


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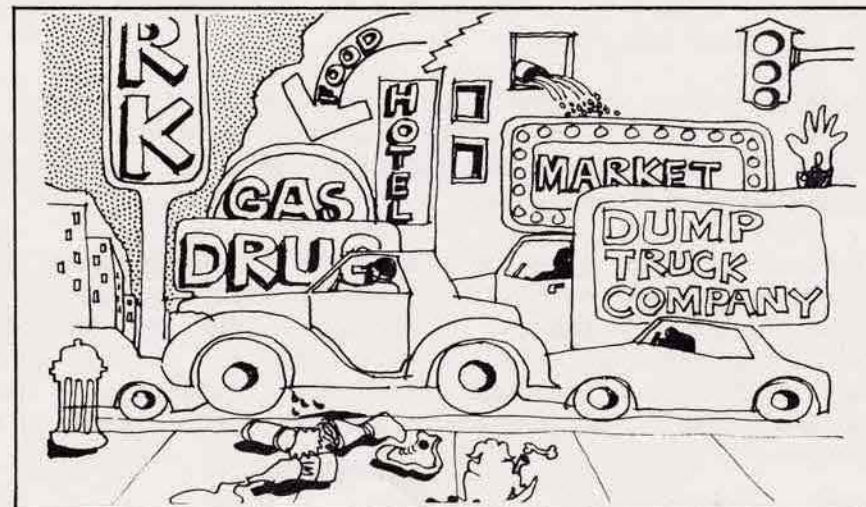
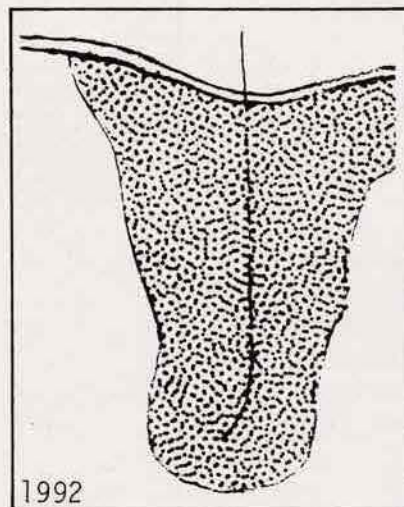
Oregon's strict observance of air and water pollution standards began to have positive effects in the 1970's. The clean-up of the Willamette River was a notable event that made news all over the U.S. Other kinds of pollution were beginning to cause concern, however.



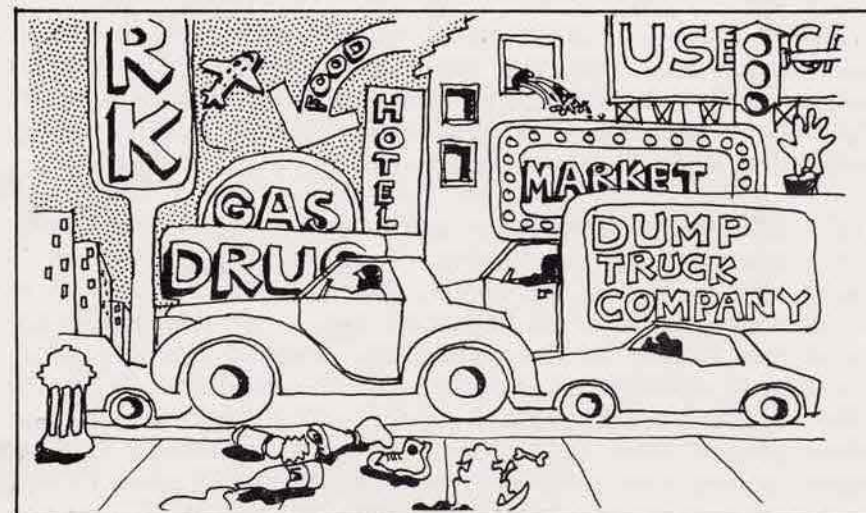
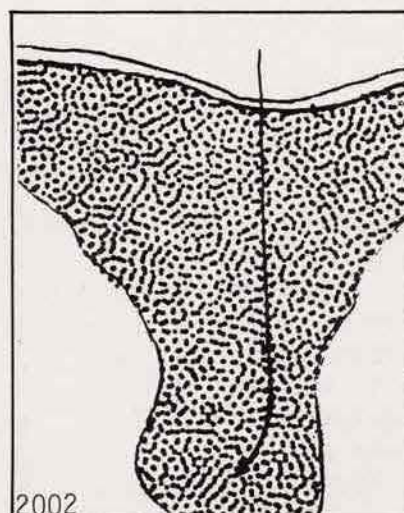
By 1982, adherence to Federal air pollution standards of 1975 had reduced emissions from vehicular and industrial sources to a satisfactory level. Water standards were also satisfactory. But visual and noise pollution were on the rise with a growing population and increases in car traffic.



Even observance of the 1975 Federal standards for air quality was inadequate by 1992, when the population and its autos had grown beyond the bounds of the controls. Along with increasing distress caused by noise and clutter, disposal of solid wastes was a major concern.



Today's heavily consumption-oriented society is faced with tons of solid wastes that must use up open space in the form of land fill. Visual pollution in the form of clutter has increased, as has noise, and air quality is undesirable.







Despite Oregon's high standards against pollution of all kinds, the Valley in 2002 suffers from several forms of pollution that have compromised the famous quality of its environment.

The principal reasons for pollution:

- more people
- spread development
- more motor vehicles.

This combination causes more air pollution, more noise, more visual pollution or clutter on the landscape. The society is one that consumes more and more materials and products, and has to throw them away on open land as land fill.

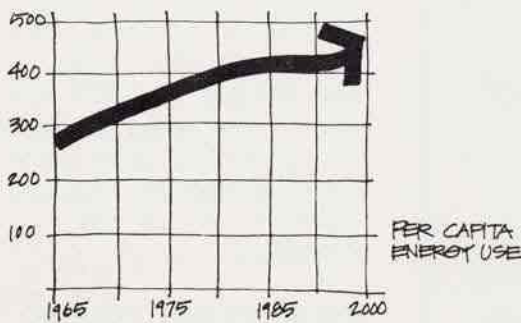
High requirements for energy and power have made necessary building nuclear power plants for satisfying 50% of the Valley's needs. A related problem of excess heat dispersal from these plants now faces authorities.

In many places, the Valley has "disappeared" under clutter, smog, and land fill. Great efforts and expense will be necessary to return it to its former high quality.



## 1

## SCENARIO 1: ENERGY AND POWER



The Oregonian  
JULY 23, 1972

## Nation's power pinch

Punishing blackouts and brownouts of electrical power in broad areas of New York City and in Rhode Island, Massachusetts, Vermont and New Hampshire, in the midst of a cruel heat wave, are new reminders of the penalties of inadequate generation reserves and transmission reliability.

The Pacific Northwest, although naturally air conditioned on most days of the year, is not immune to such deprivations. The regional Joint Power Planning Council, now in substantial agreement on a 10-year power program which includes three additional nuclear plants in Oregon and Washington and coal-fired units in Wyoming and Montana, plus additions to the federal hydroelectric system, is talking about a minimum program. If all units are built on schedule there will still be a potential shortage of firm energy in three of the five years from 1977 to 1982.

### Nuclear power plant coast sites selected

PORTLAND, Ore. (AP) — Portland General Electric Co. announced Tuesday it has selected three coastal sites in Tillamook County for a possible nuclear power plant.

The sites are "back from the beach" and would not affect the appearance of shoreline areas, said Frank Warren, PGE president.

Warren said the sites, which will be studied in the near future, are at Jetty Creek, south of Nehalem Bay; Daley Lake, northeast of Neskewin; and Watseco Quarry, north of Rockaway.

The company hopes to have a plant completed sometime after 1985, he said.

Warren said a Portland engineering firm would conduct test drilling to check foundation materials at the locations. PGE has obtained permission from land owners to do the exploratory work.

The coastal sites would

have cold sea water available from the ocean nearby. The company says this would eliminate the need for tall cooling towers similar to ones constructed at PGE's Trojan nuclear plant near Rainier on the Oregon side of the Columbia River.

Warren also said the firm is preparing to ask the Oregon Nuclear and Thermal Energy Council for certification of an Eastern Oregon nuclear plant site near Boardman.

He said if the Tillamook County sites are ruled out, PGE will "go back to the drawing boards" to look for other possible nuclear plant locations.

Energy consumption and the growth of population have fed each other over the years. The bigger the amount of one, the faster the other grows.

But energy consumption has grown faster than population.

Our consumption-oriented, highly industrialized society has become dependent on vast supplies of energy. Yet these supplies are becoming scarcer and more expensive. Tapping these supplies has serious effects on the welfare of the environment (and consequently, the people). People are concerned in 2002 by threats to air and water quality and the negative aspects of a "waste" economy.

The major energy needs are for industrial processes, especially aluminum smelting; transportation, especially private automobiles; and space and water heating for cities and new developments.

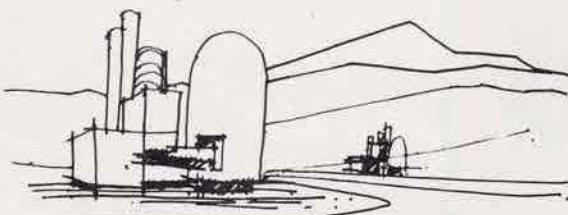
Several energy and power sources still are available in the Valley for various uses. Fuel oils, electricity, and natural and bottled gases are used in housing. Vehicles still depend mainly on fossil fuels but more and more oil is being imported and the price of all petroleum products has risen appreciably. Hydro-electric power peaked around 1980, and then no further increase was deemed practical. (Remember in the 1940's and 1950's when people thought of it as an "inexhaustible" resource?)

Electric energy has grown the fastest over the years. It continues to be supplied by thermal generating plants fired by oil, coal and nuclear fuel. The fear of nuclear power plants subsided, and people are as accustomed to them as the British became years ago. Today nuclear power plants provide 50% of the Valley's power.

Some sources of heat and power continue to be under-utilized in the Valley. They include the enormous amount of excess heat expended by thermal generating plants that could be used for central city steam heat, but is not. Instead this heat is discharged into the atmosphere or bodies of water. Energy from solid wastes has not yet been tapped and the effluent continues to pose pollution problems.

Increased power needs and the 40-year life span of the nuclear fission plant have intensified development of alternative means of power generation - mainly magneto hydro-dynamics and breeder and fusion reactors. In 2002, we stand at the dividing point between the older technology and what is to come.

The pattern of suburban spread development and reliance on private automobiles is both symptom and cause of this energy crisis. Extension of utilities and services across open land, and the network of roads for automobiles have required formidable amounts of energy and power. Lack of cohesive planning has resulted in energy loss and uneconomic use of resources over the years.





1

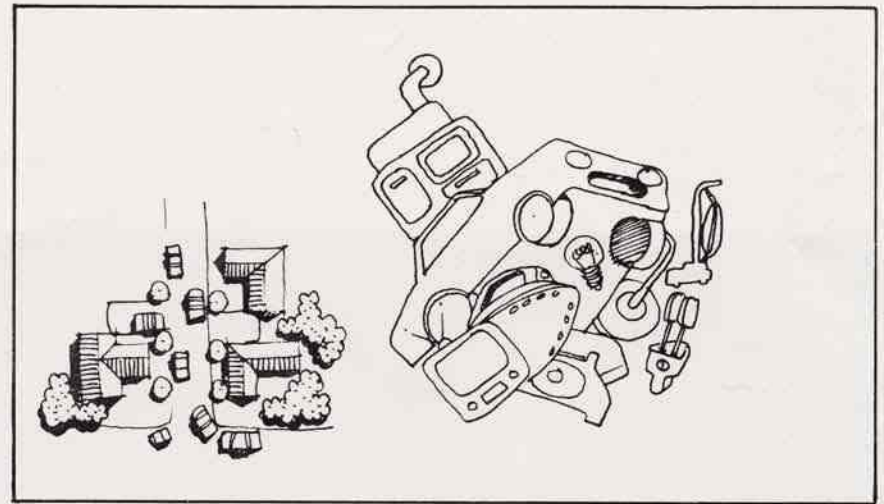


Oregon State Highway Department

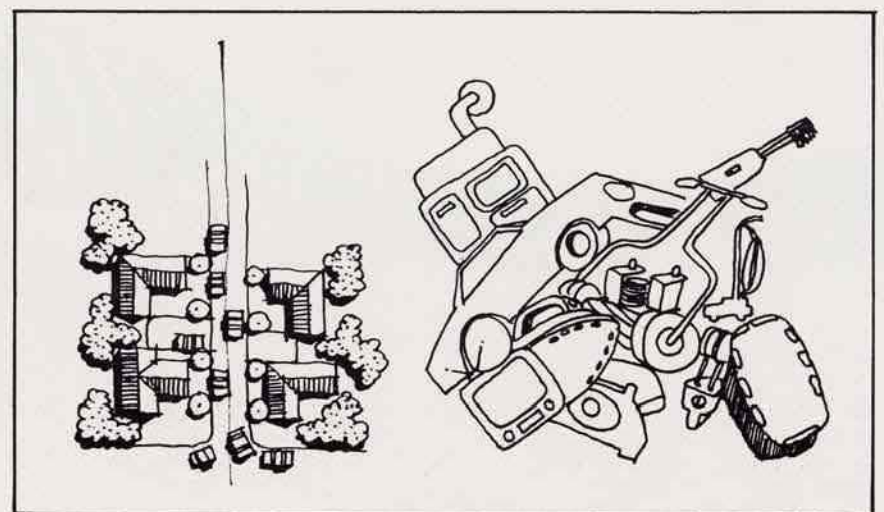
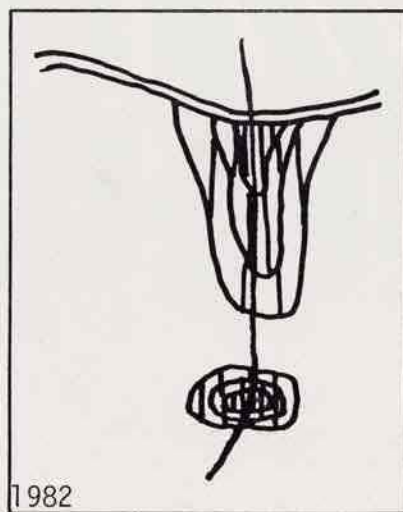


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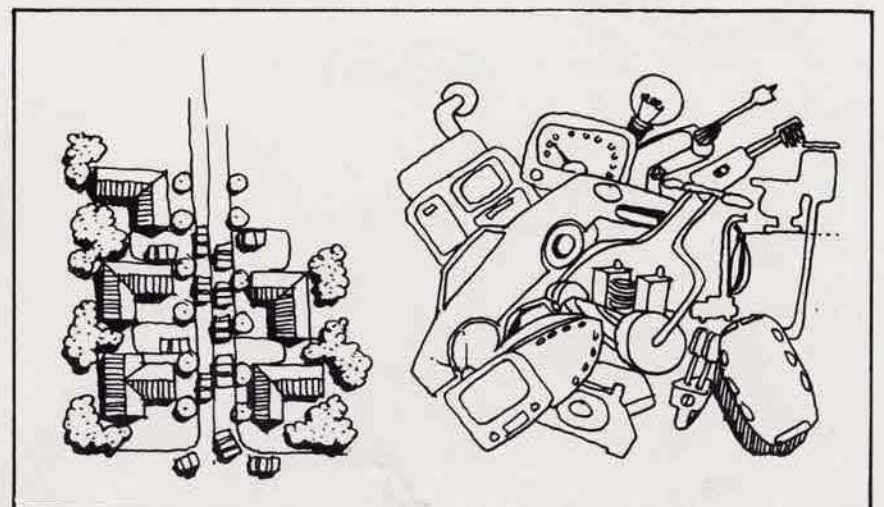
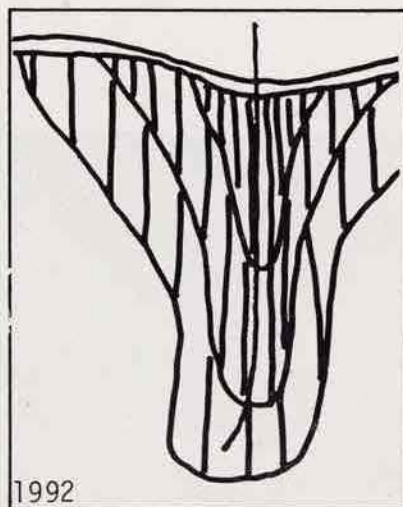
Ever since the mid-20th Century, we have lived in a consumption oriented, highly industrialized society. It has placed immense demands on energy and power sources. Throughout the 1970's the old pattern continued - single-family housing in spreading suburbs reached by private automobiles. It has reinforced the demand for power and energy.



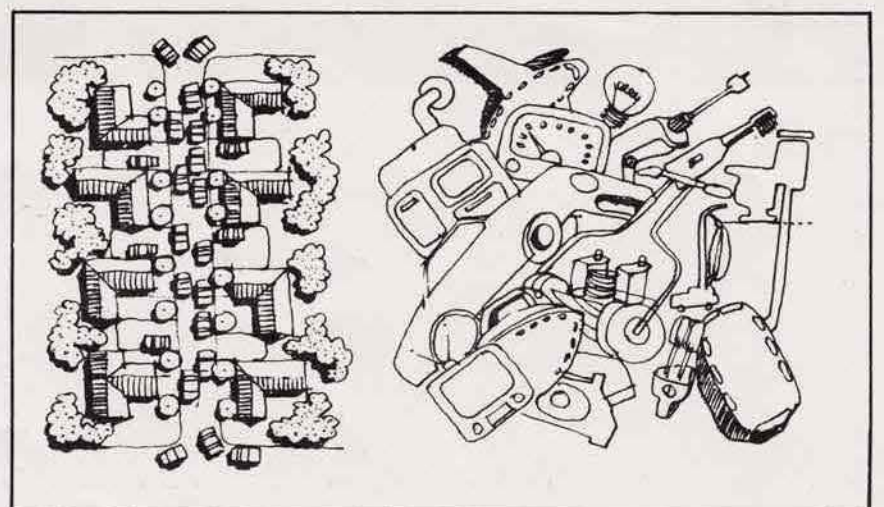
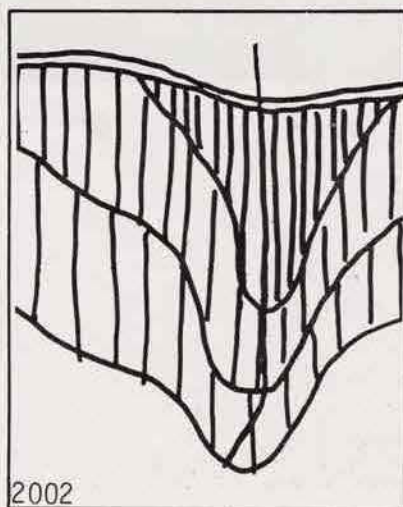
Hydroelectric power was once thought of as inexhaustible. But it peaked in the early 1980's. New electric energy has been supplied by thermal generating plants fired by oil, coal and nuclear fuel. Private automobiles are increasingly expensive to own because gasoline prices are constantly going up. Domestic supplies of fossil fuels are dwindling and more fuel is imported.



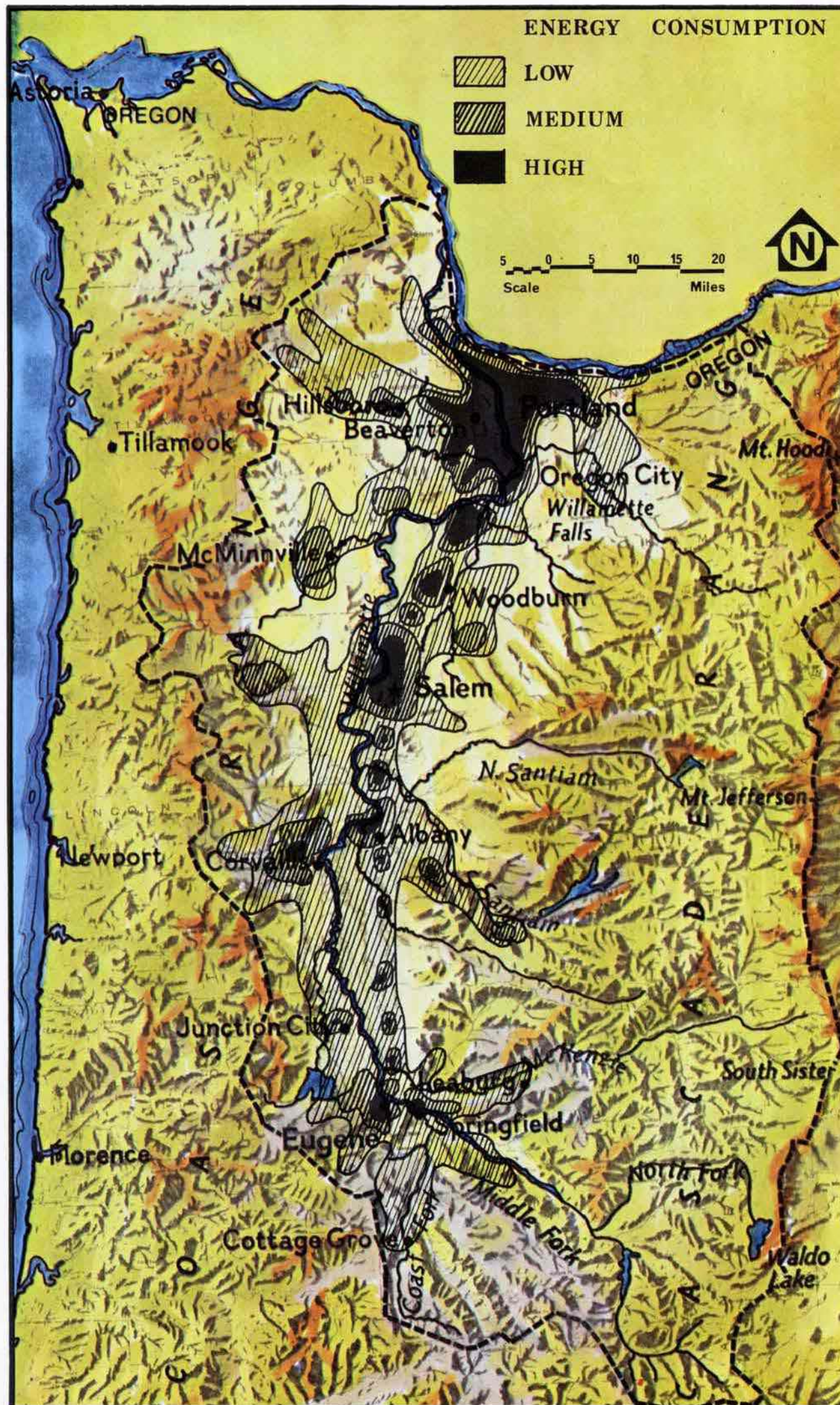
In 1992, there are still some sources of energy that are untapped by Valley citizens - notably the excess heat from thermal generating plants that could be used for central city steam heat. There is also energy to be found in the solid wastes that now go into land fill.



In 2002, men are searching for new sources of power generation. Although nuclear power plants provide more than half the Valley requirements, demand is still increasing and nuclear fission plants have a very short "life". Men are turning to alternative sources - mainly magneto hydrodynamics and breeder and fusion reactors.







Energy consumption in the Valley reflects the patterns of land development and transportation routes. In and around the cities where people live and work and where industry is located, energy consumption is great.

It is somewhat less in the surrounding residential suburbs, though it is still heavy.

Consumption is lowest of all in the remaining rural parts of the Valley, away from the suburbs and near the foothills.

The major energy needs are for industrial processes, especially aluminum smelting; transportation (especially private automobiles); and space and water heating for cities and suburbs.

Today the nuclear fission plant is responsible for much of the power generation for the Valley's needs. People are more tolerant of these plants than they were in the 1970's. Fission reactors have a short life, however - about 40 years. Alternative power sources are under continuing development.



# 1

## SCENARIO 1: GOVERNMENTAL INTERRELATIONSHIPS

In 1972, residents of the Willamette Valley faced nearly 1200 separate units of local, regional, state, and Federal government. These included 869 local governments (cities, counties, school districts, special purpose districts); about 150 state agencies, boards and commissions; and about 150 Federal agencies, boards and commissions.

Now, 30 years later, there are still nearly 1200 separate units of government whose decisions affect the liveability of the Willamette Valley.

The number of cities and counties in the Valley has remained fairly constant over the last 30 years. In order to provide municipal services more efficiently, several smaller cities merged with neighboring cities. Portland and Multnomah County consolidated. This reduction in the number of cities, however, was balanced by the continuing industrial, commercial and residential expansion into areas of the Valley which were unincorporated in 1972. In turn this expansion led to the creation of many new and relatively small suburban cities.

There has been a slight reduction in the number of special purpose districts. In 1972, there were three Boundary Review Commissions in the Willamette Valley. As a result of their activities, the number of special purpose districts had already declined over earlier years. By 1982, there were Boundary Review Commissions in every area of the Willamette Valley. They have continued to encourage reduction in the number of special purpose districts.

Federal and state funding structures have had a mixed effect on special purpose districts. By channeling funds to "general purpose" units of government (cities and counties), Federal revenue-sharing encouraged reduction in the number of "special purpose" districts. On the other hand, grants for specific purposes such as planning, education, sewage treatment and transportation have continued to exceed shared revenues. Since such grants have been available to special-purpose governments, the effects of revenue-sharing have been unclear in this respect.

Urban growth boundaries have been established for most large Valley cities. Development near the boundaries was slowed but escalating land prices within city limits resulted in political pressure for their expansion. Once the first outward adjustment took place, speculators began to compete briskly for land just outside the boundary lines and stimulated a continuing outward readjustment.

In 1969, the State Legislature passed Senate Bill 10 requiring the formulation of comprehensive plans by counties and larger cities. Within a few years, these governments had adopted such plans. The State has since compelled the cities and counties to update their plans regularly in accordance with standards established by the State and regional planning agencies. Councils of Governments have played an increasingly important role in the planning process. Federal legislation in the 1970's required state regulation of land-use planning; the state in turn delegated part of this responsibility to the Councils of Governments.



In the area of environmental controls, the 1970's saw a continuation of a process begun in the 1960's: restriction of state powers by Federal pre-emption of controls, particularly in fields such as radiation, emissions, and noise control. By 1985, however, a series of legal challenges had defined the effective extent of such pre-emption and Oregon continued to impose stricter controls on pollution and land use than the nation as a whole.

Beginning in the early 1970's with the Serrano vs. Priest case, court decisions increasingly cut back on the use of property tax revenues for any purpose other than providing services to property. This reduction in constitutionally acceptable applications of the property tax reinforced public opposition to property taxes. The revenue sources of local government shifted almost completely from property taxes to shared revenues and other sources such as use taxes or income taxes. This shift convinced local governments that they could no longer generate a tax base by competing for commercial and industrial developments.

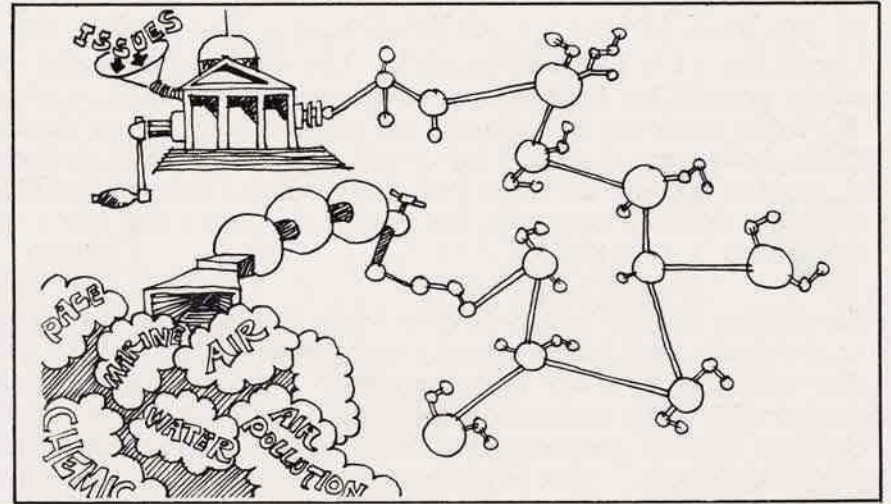
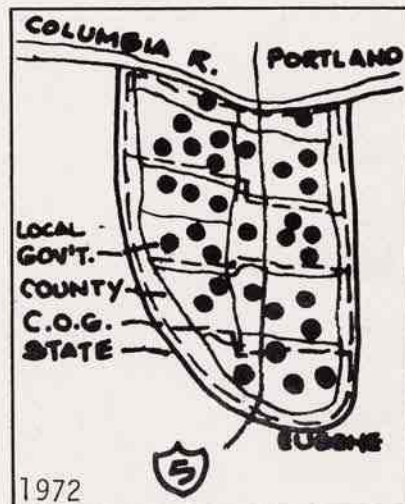
Beginning in the 1960's, the concept of citizen participation began to broaden. Within the larger cities, improvements in communications technology coupled with the demands of public opinion for greater grass roots involvement made the establishment of viable neighborhood organizations feasible. These organizations have, since that time, played an increasingly strong role in city decisions that affect their neighborhoods.



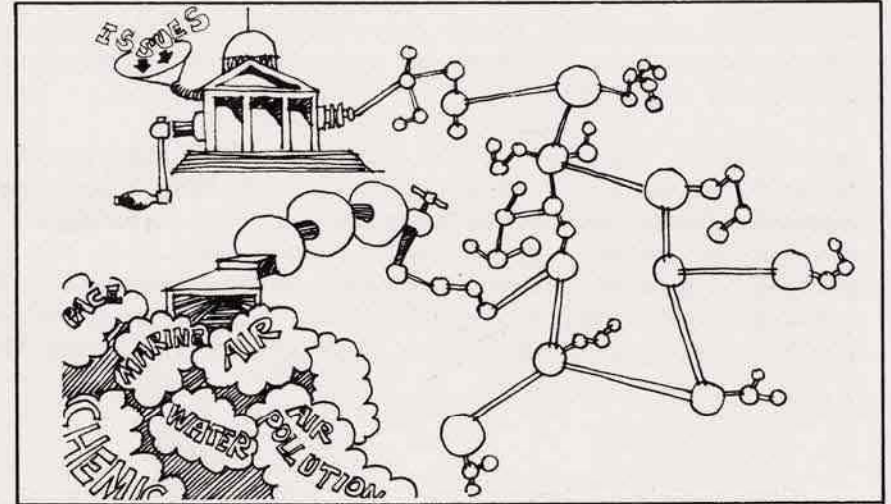
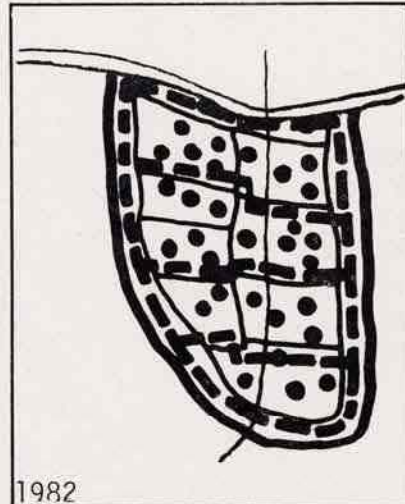


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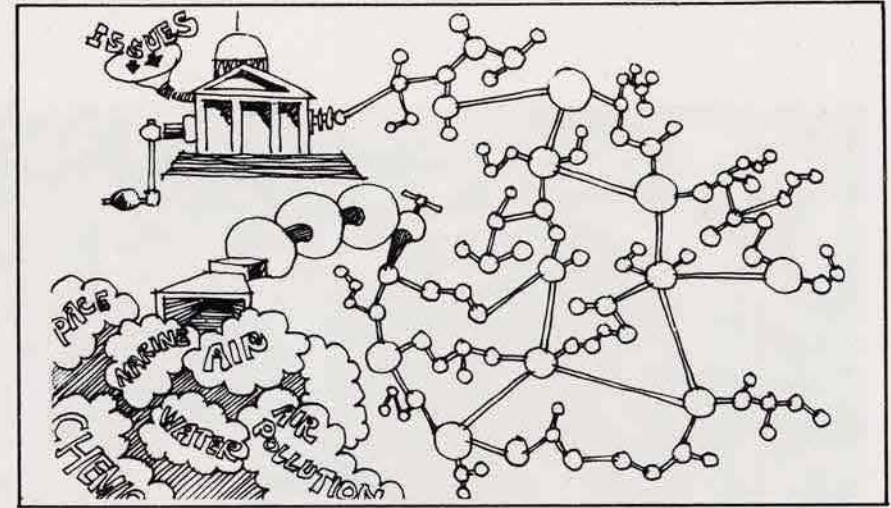
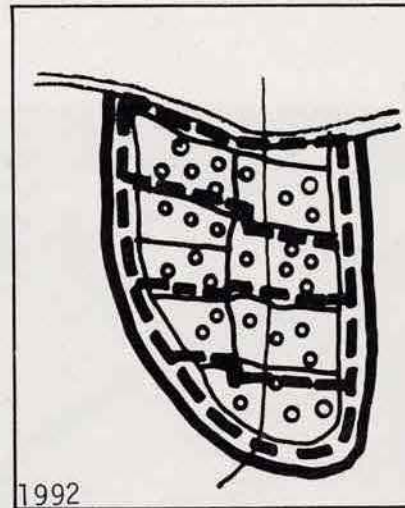
In the 1970's there were over 1,200 separate units of government in the Willamette Valley - all having different responsibilities for the Valley environment directly or indirectly. These ranged from local school districts on up to agencies representing the Federal Government.



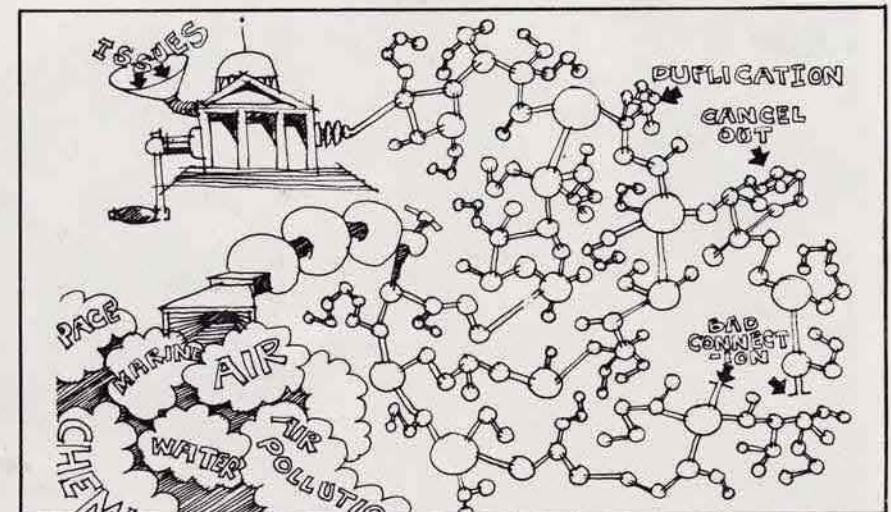
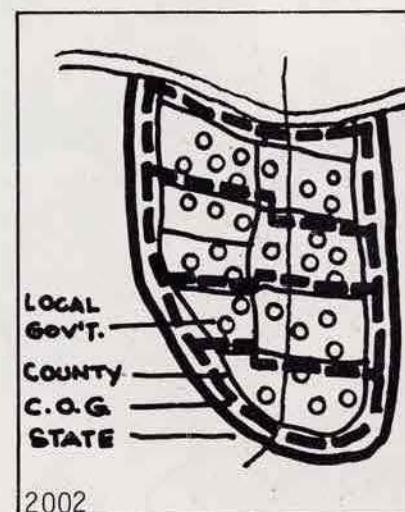
By 1982, Boundary Review Commissions in every area of the Valley had encouraged reduction in the number of special purpose districts. Councils of Government began to play an increasingly important role in the planning process.



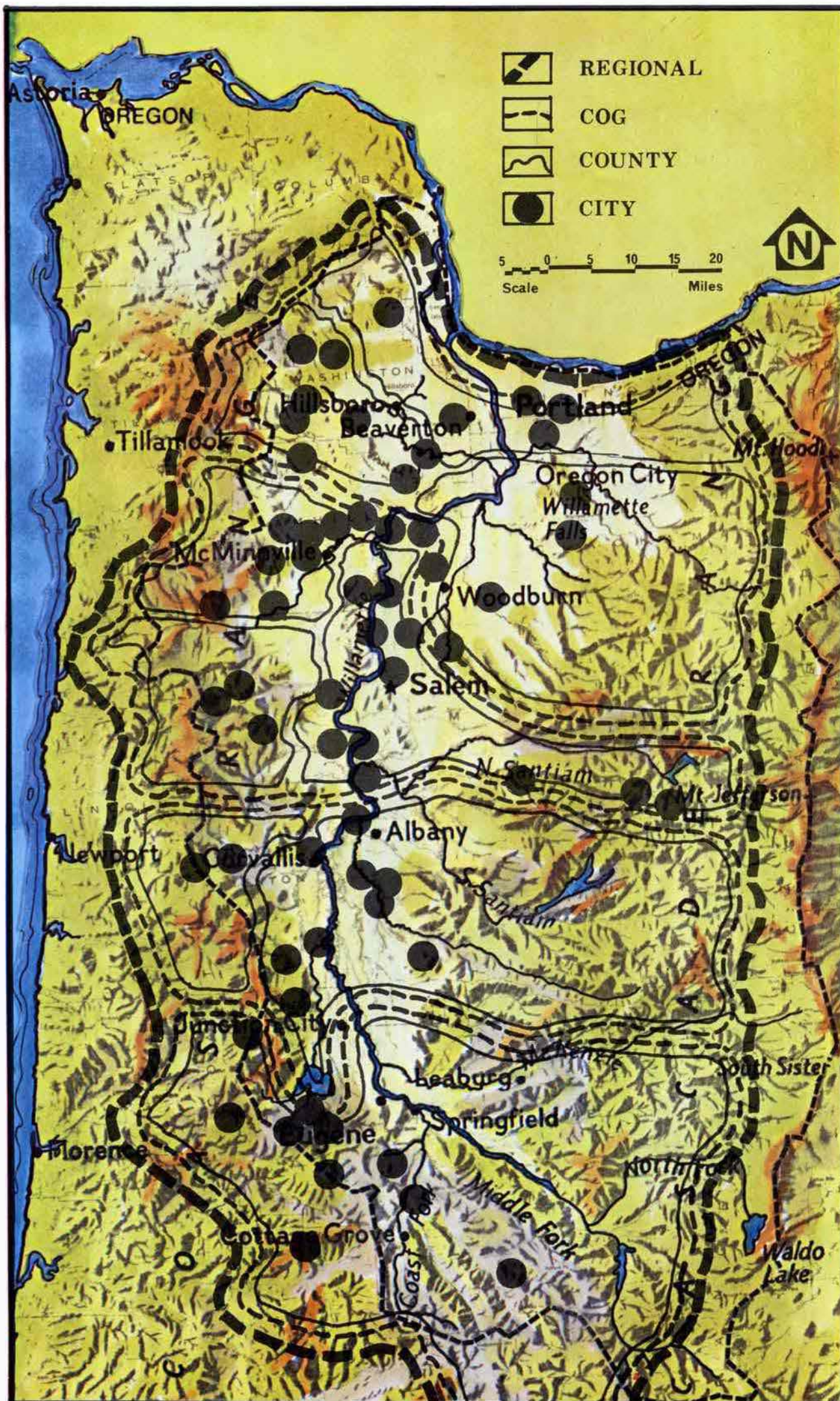
Over the years, people voiced their own ideas and needs more openly to legislators and local officials. Neighborhood organizations were formed, but they frequently repeated the parochial pattern of acting only for their own specific areas.



By 2002, there are still nearly 1,200 government units making decisions. The trouble is, they are having to make many more decisions. There is considerable overlapping and duplication of effort - and occasional failures in communication.







Over the past thirty years, the total number of government units that affect the Valley's environment has not diminished. This is true, even though there are fewer special purpose districts. The number of cities and counties has remained fairly level since many smaller cities have merged with their neighbors. A number of smaller suburban communities have sprung up, keeping the total number of government units constant.

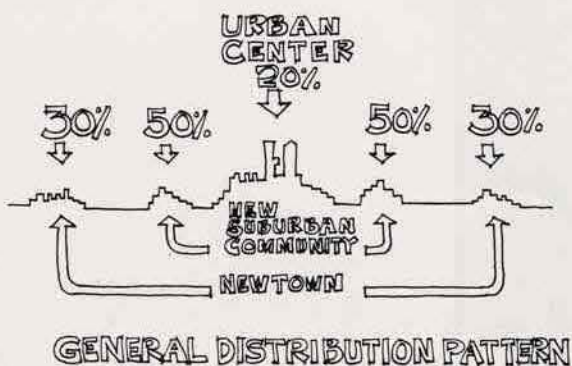
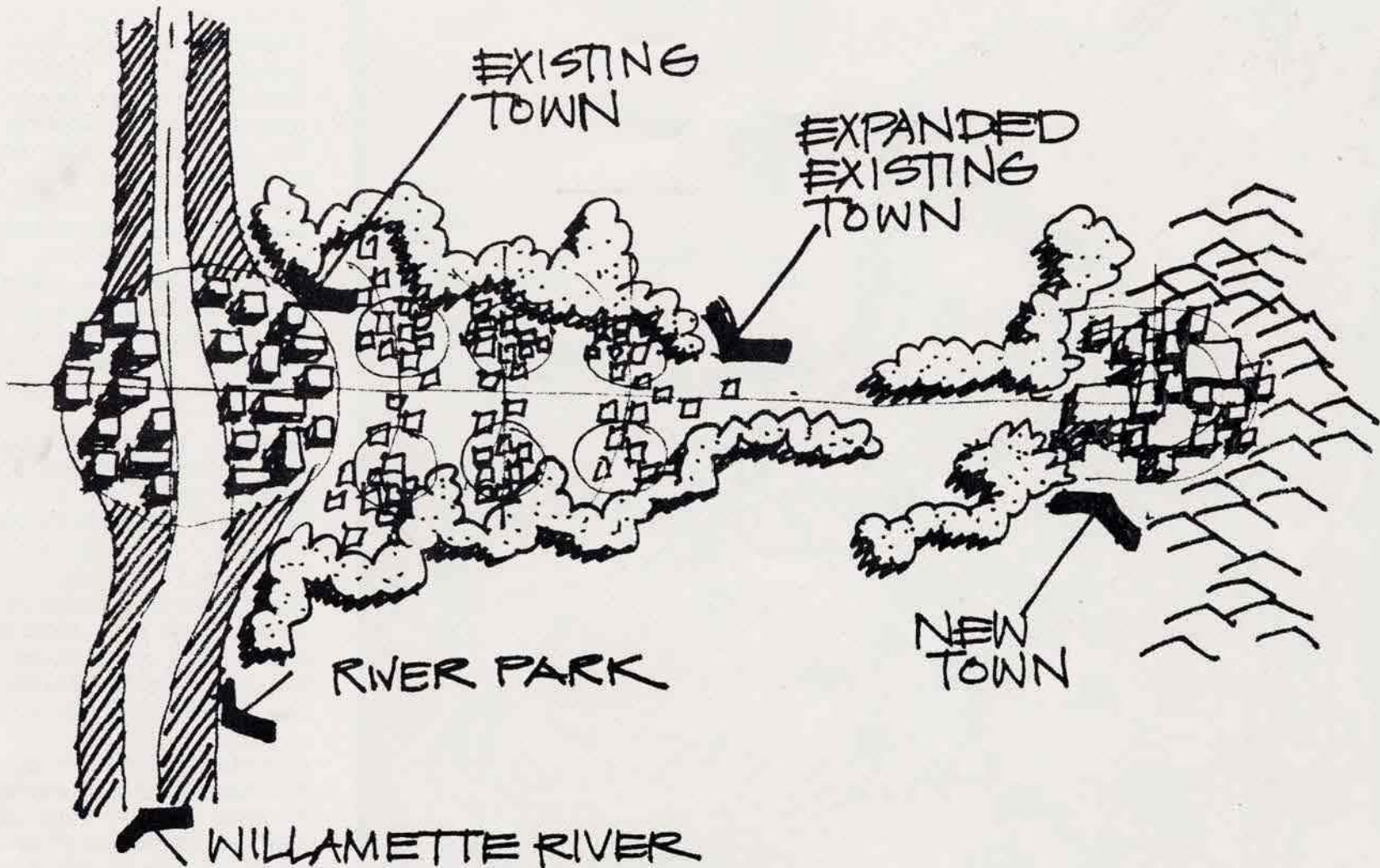
However, these 1,200 units of government - local, regional, state and federal - have many more decisions to make for a population of 2.5 million. With so many agencies, there is bound to be a certain confusion as to who plans what and how it affects the Valley as a whole.

Counties and larger cities now have to make comprehensive plans - this is the law of Oregon. However, this same law does not apply to spreading suburbs outside of the cities. There is still a need for regional comprehensive planning so that agencies do not duplicate or cancel out each others efforts.



# SCENARIO 2

## SCENARIO 2: LAND USE



Thirty years ago, a prominent sociologist said "We can state unequivocally that a regional perspective in planning is and will continue to be mandatory."

This attitude has been shared for some time by Oregon officials responsible for how the Valley's land and resources are used. They have understood how environmental planning decisions interact. They have adopted comprehensive approaches for land use, transportation, and protection of open space.

In the early 1970's, it became apparent that land on the Valley floor was being used more and more for the development of single family houses and related commercial uses. If random, project-by-project development had continued, a great amount of open space would have been buried under sprawl and clutter.

Since most people did not want to live in the center of cities, an alternative was needed if the Valley was not to suffer from uncoordinated development and consequent environmental deterioration.



The alternative put into effect was a process of contained urban development on four levels or degrees of intensity:

expansion of existing urban centers, horizontally and vertically, by building new developments on empty lots and rejuvenating existing city core areas;

contained suburban development next to the city, basically in housing clusters on 1/4 to 1/2-acre lots;  
creation of planned communities;

expansion and rejuvenation of existing communities.

Criteria established to guide development included:

separation of cars and pedestrians;

adequate open space in and around urban settlements;

integration of transit lines within the community;

control of heights and densities;

careful location of building types (commercial, residential and industrial);

parks and playgrounds in neighborhoods;

respect for and access to the surrounding natural environment;

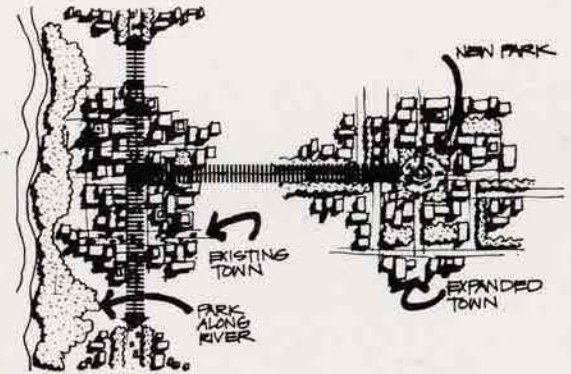
building well-rounded towns and city centers instead of "bedroom communities" or specialized towns.

These criteria were designed to respond to the needs of people and the environment and to create a disciplined growth in ways that would relieve pressures on the environment. They were not an unchangeable master plan. Instead, they were a way for people to plan within a commonly-accepted set of guidelines for the future. The aim was to provide diversity, vitality and excitement, not planned sterility.

Basic to the approach, particularly in the new communities, was the concept of clustering.

#### CLUSTER not CLUTTER

Clustering in community planning is a way for people to live together in a variety of ways, in houses of many sorts, in more direct and fruitful relationships with their community, each other, and the environment. People now can live in clustered communities in single-family houses on their own land, in town houses or in condominiums. Different people have different needs, and they are met by providing a variety of residence choices.



#### STATE LAND USE PLANNING

The National Land and Water Resources Planning Act of 1971 (S. 632) would establish a more comprehensive national land use policy and set up a program to assist states in developing, implementing, and administering statewide land use plans. Similarly, the National Land Use Policy Act of 1971 (S. 992) would authorize grants to encourage states to plan and regulate land use for the protection of areas of critical environmental concern and for the control and direction of growth of more than local significance.

Both S. 632 and S. 992 could give the states an active role in regulating local land use. Proposed amendments by the National Association of Counties and the National Service to Regional Councils suggested that regional and local elected officials sit on state land use planning commissions. They emphasized that regional councils are best able to protect local and regional interests, that such councils are already recognized in state land use policies, and that they should be directly funded to carry out this responsibility.

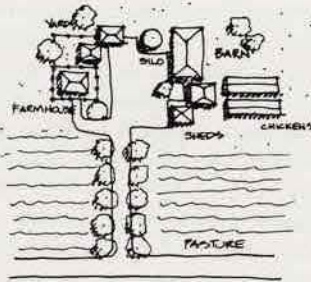




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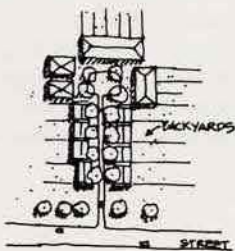
The basic purpose of clustering was to collect open space so that it could be enjoyed and used by everyone. Density of development occurred, but it did so in ways that protected the environment. It was tightly knit, not ravelled out thinly across the landscape in a space-consuming way.

It is interesting to note that mobile home parks, which were part of the "clutter" pattern of development in the 1970's even then had to cluster to share service facilities. Today, these economical ways of living have emphasized clustering even more. Mobile home park residents enjoy a good community life sharing common facilities like swimming pools, "town centers," recreation areas, shopping centers, laundries, child care centers, and facilities for older citizens to gather together.



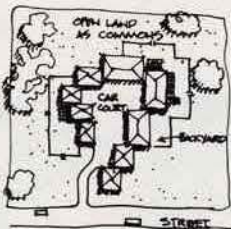
Clustering is not a way to get more buildings on the land and thus build up density (although some people want to use it in that way). It is a way to take a given amount of land and keep most of it open by concentrating the buildings on it in one area. Farmers have used this idea for years to keep as much of their land in productive agriculture as they could.

Typical American Farmhouse Cluster



TYPE I

Courtyard clustering. Fourteen units per acre. Therefore, three times the amount of open space gained for common recreation and parkland use.



TYPE 2

Row house clustering. Typical European type. Twenty-five per acre.

Manmade environments do not intrude on natural environments. Buildings do not intrude on desirable or fragile open space. Places that support natural systems of wildlife and waterfowl, areas necessary to conserve drainage patterns, the Valley's hills, woods, streams now have their niche in the overall system of the Valley, and man lives compatibly with them.

These comprehensively developed communities provide people with choices of where to live, of how to be involved in the community in its public open spaces, and of whether to work in the same community or go to work on the transit system. There are a wide range of residential facilities from subsidized low-cost housing to townhouses to expensive detached dwellings. These communities offer social opportunities as well as environmental amenities.

Social and environmental opportunities are not easy to put a dollar sign on. But they are the real reasons people live in the Willamette Valley. The relaxed way of living, the sweeping views, the clean air and water, the closeness to nature, a variety of environmental experiences, the chance for social mobility -- these things may be economically intangible, but they are incalculably important to the Valley people. Within the Valley's communities, the diversity of interests of the people living together, their shared and unique cultural backgrounds, the dialogue between young and old, different income groups, varying ethnic groups, has promoted a richness of experience that was not common in U. S. communities a number of years ago.

This pattern is ecologically sound because it is diversified and not uniform. In nature, relations are diversified. That same diversity in the Valley has proved applicable to human settlements. Uniform communities of the past were rigid. Change affected them in harmful ways because they couldn't cope with it. They tended to break rather than bend. Today's diversified communities can absorb change, and change with change.

Diversity and change has not meant haphazard development and clutter. Clutter is not evil in itself. It is evil in its effect. Just a little of it effectively obscures the Valley for many people. But when it was absorbed by planned community development, these small-scale commercial and light industrial uses blended into the rest of the civic landscape. Clutter belongs now because it was given a place instead of being flung across the landscape willy nilly.



Devoid of commercial sprawl, agricultural lands now remain mostly in active production. They provide beauty and access to open space. They give the sense of well-being that psychologists and behavioral authorities attribute to open space. Agricultural lands have been kept open through tax incentives, zoning that encourages clustering and the purchase of development rights to set aside farm land for open space.

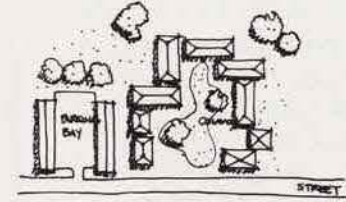
In the Valley's older urban centers emphasis has been on rehabilitation. Redevelopment has occurred, but it has not been allowed to destroy living neighborhoods or alter the ways people want to live in the city. Upkeep and improvement of the urban structure, old and new, is an integral part of the comprehensive approach. This has included residential areas, schools, parks and recreation, cultural facilities, as well as structures in the central business district and neighborhood centers. The obsolescence equation on page 20 has been reversed.

In a building, "rehabilitation" means new kitchens and bathrooms, safer wiring, and major structural improvements. In a city it has meant improved transit, more parks, efficient schools and hospitals. Social amenities have been improved. People no longer disappear to the suburbs or hide behind their doors at night as some used to 30 years ago.

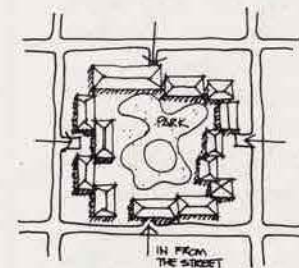
One of the things that made flight to the suburbs so easy was low-interest, low down-payment loans for individual houses. The same funding and financing has now been applied to rehabilitation of the city. Today, the Willamette Valley has a program for development that permits -- indeed requires -- conservation of open space by clustering communities and providing a public transit network. The clustered communities are invigorating and are molded into the Valley environment. The public transit network provides ease of access to many points in the Valley for everyone. Transit lines connect the three community types -- urban centers, contained suburbs, and planned new communities and expanded existing towns. In the newer communities, town centers developed on publicly owned and leased land around major transit stops.

People enjoy the pleasures of their great environment. They live in places of their choice in communities that are planned to protect the environment they love. They have ready transit to home and work and recreation opportunities throughout the Valley. And the qualities that Valley residents have always sought have been preserved:

- a feeling of closeness to open space and nature;
- access to recreation opportunities in natural surroundings;
- a small-town "feeling" to life even in urban areas; and
- a low-key, relaxed way of life in a diverse and creative environment.



TYPE 3  
Cars aggregated and stored in a parking compound. Entire area pedestrian - Capitol Towers, St. Francis Square, U.C. Married Students Housing. . . . Twenty-five per acre.



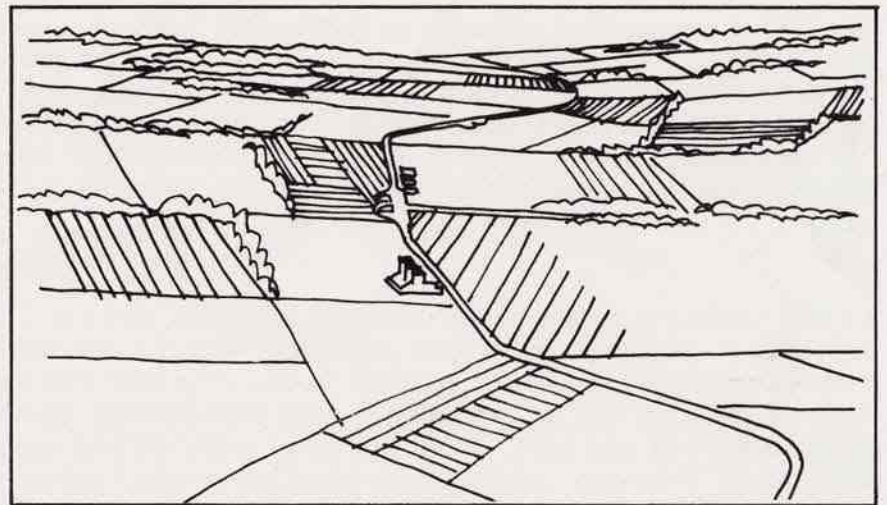
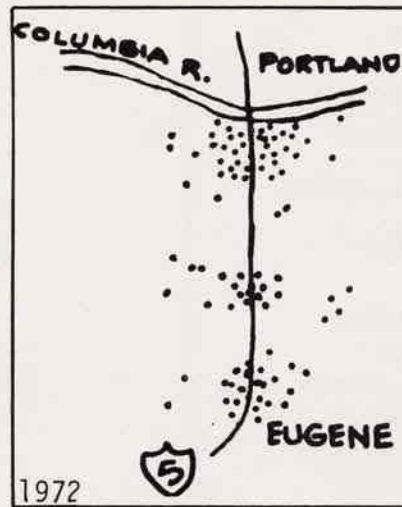
TYPE 4  
Parking underneath units. Can be as high as forty per acre with six acre park in center which aggregates the open space.



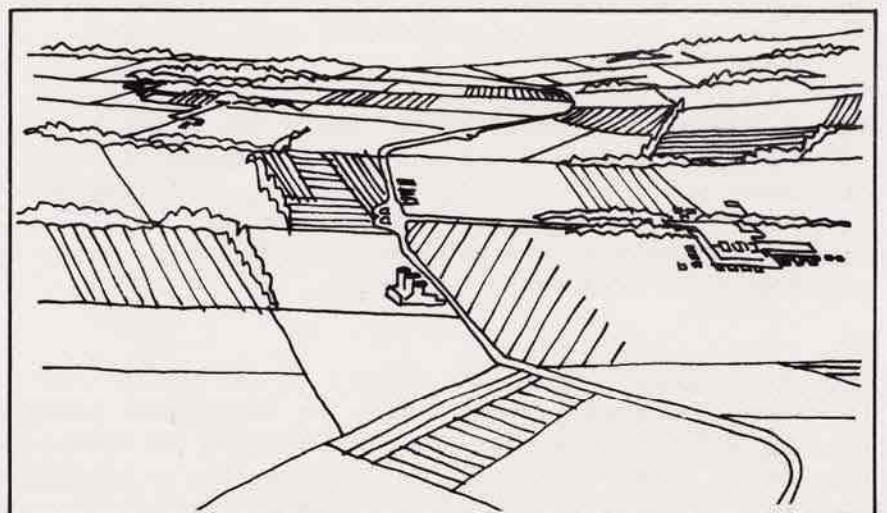
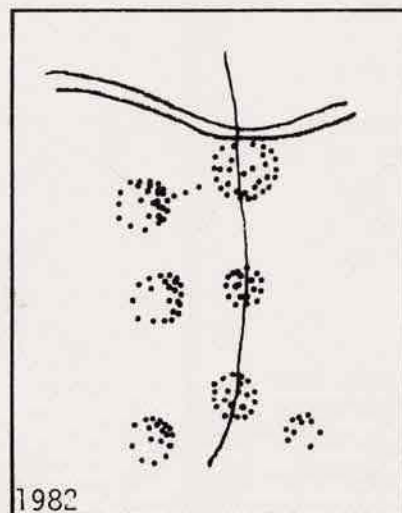


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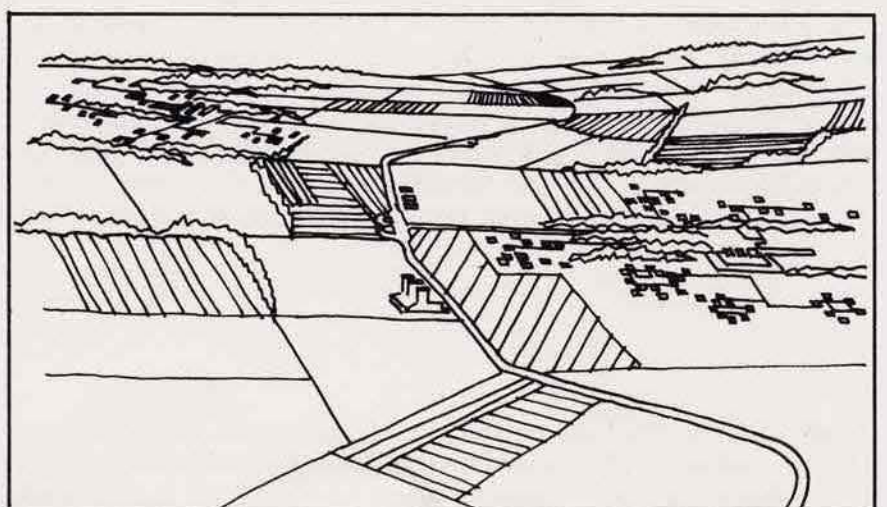
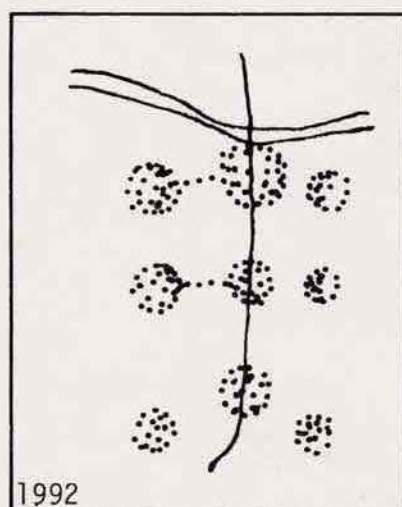
In 1972, the floor of the Valley was beginning to show the effects of suburban development that spread out from the cities and consumed farm lands and open spaces. However, there was still a great deal of open space in the Valley, either in agriculture or other uses, and it was one of the major factors that made the environment so special.



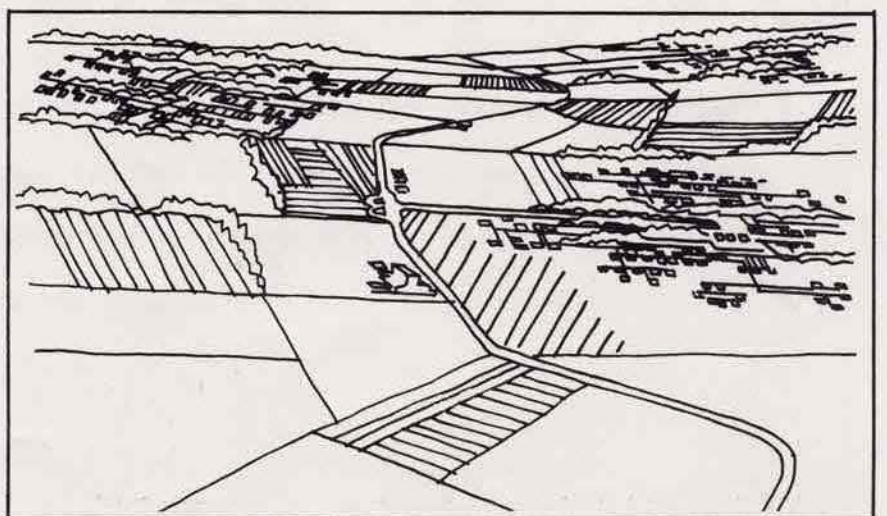
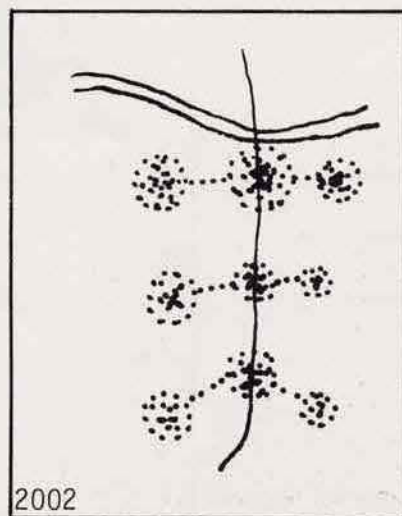
Realizing that the future effects of uncontrolled suburban development would be the disappearance of the landscape to most people, a system of comprehensive planning was instituted that situated growth in urban centers, controlled suburbs, and planned new communities. Existing smaller communities in the foothills were also a part of this.



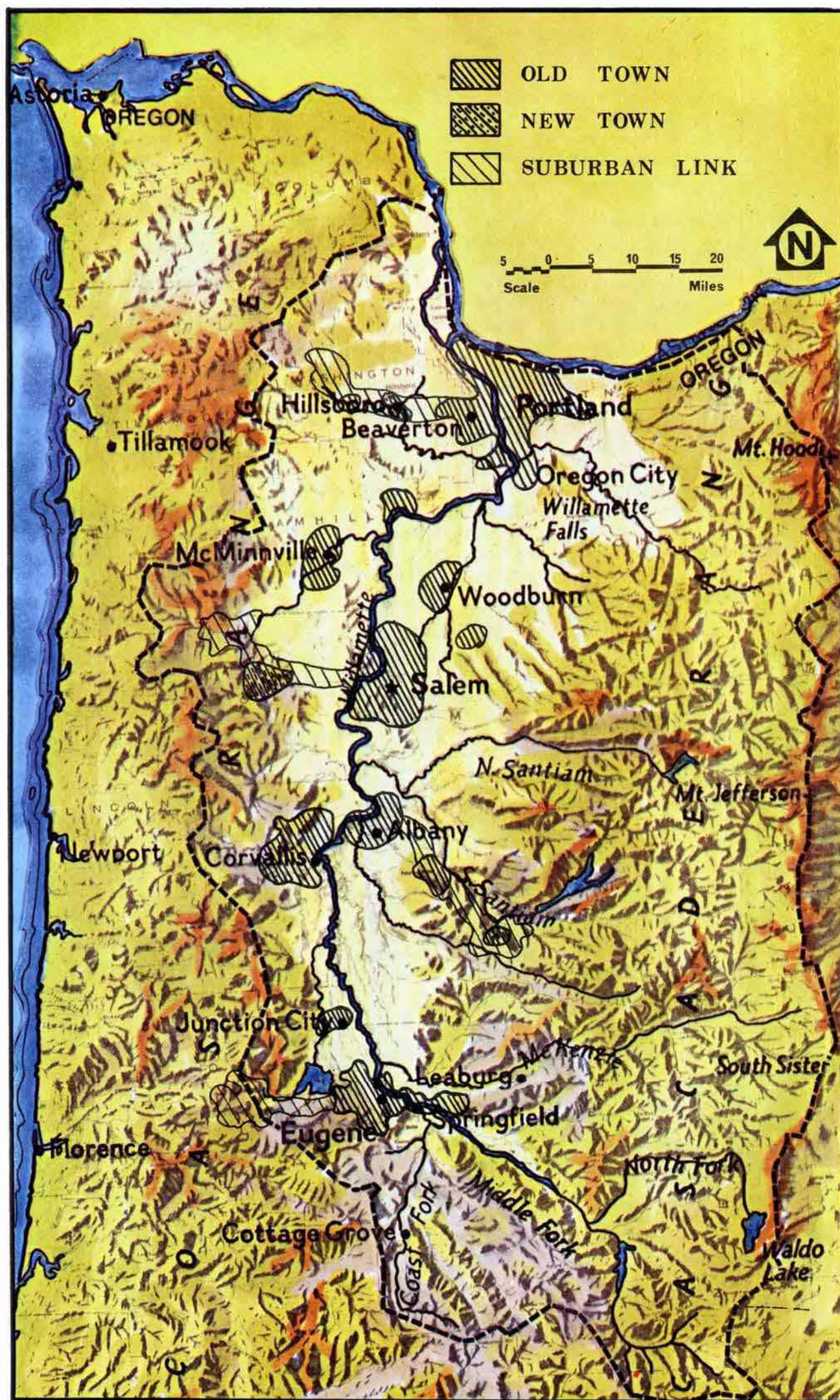
By 1992, the pattern was well established, and it was easy to observe the relationships between the comprehensive land planning approach and other elements that affected the Valley environment - especially transportation and the conservation of open space accessibility. Public transit systems were integrated into the process of planning for new development, and open space was conserved.



Today in 2002, people can decide where they want to live from a generous array of choices: in the center of cities, in suburbs that do not spread out over the countryside, and in newly developed communities or expanded older towns where there are many kinds of residences to choose from, including town houses, single-family houses, and subsidized low-income housing.







The use of land in the Willamette Valley over the years since 1972 has been based on a program of comprehensive planning that has permitted growth and development, but which has prevented uncoordinated spread on the land.

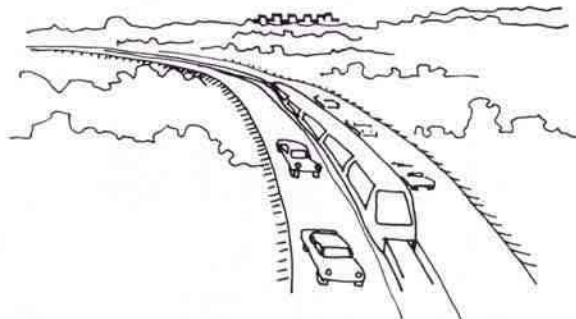
Basically, growth has been contained in existing urban centers, which have been able to grow up and, to some extent, out; in contiguous suburbs, which have had definite limits set to the amounts of rural and open space they could consume; and in clustered, new communities and expanded existing towns in the foothills.

These types of communities, as the map of the Valley in 2002 shows, are connected. The suburbs form the "urban tissue" that connects the cities with the new communities in the foothills. Each kind of community has its own advantages that are different from other kinds of communities. People can therefore decide what kind of place they wish to live in. With public-support measures such as subsidized housing for low incomes, everyone has social and physical mobility around the Valley.



## 2

## SCENARIO 2: TRANSPORTATION



As a major formgiver to the landscape, regional transportation and transit has vast potential for enhancing or defacing the environment.

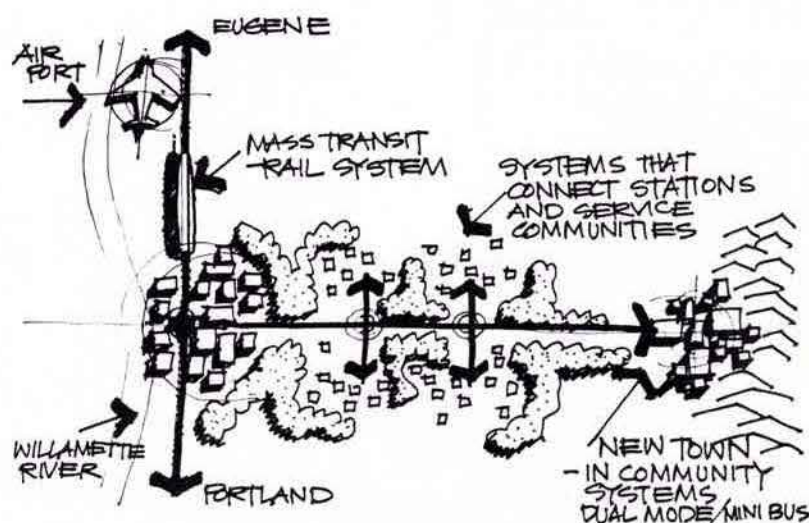
The decision by the State of Oregon to build a comprehensive rail transit system more than two decades ago has encouraged the Willamette Valley to develop along chosen lines, preserving the unique qualities of open space and natural environment that residents and visitors so admire.

The bold decision to plan and create a regional rail system all at once was possible because of several factors:

The Federal Government, specifically the U. S. Department of Transportation (D.O.T.), supported the program through grants. This was the first time in the U. S. that a mass transit system had been developed on a real geographic, regional basis. D.O.T. was interested in supporting it to demonstrate the validity of the concept. Previous systems had been designed to serve large metropolitan regions, such as the Bay Area Rapid Transit system in San Francisco.

By leading with the transit system, expenses were controlled, comprehensive planning became possible, and the system contributed to the now-accepted form of development in the Valley rather than having to conform to the older uncontrolled spread and sprawl. Transit and transportation planning went hand in hand with community planning. They interacted with each other and made each other possible.

What was the cost of the basic "spine" of the system, the elevated, double-railed, pneumatic-tired transit system that runs north-south in the Valley paralleling the railway? Answer: \$5.4 million per mile, or \$702,000,000 for the 130-mile-long system. Because of the need to put the system underground for five miles to reach Portland, there was an additional expenditure of \$100,000,000. Yearly costs per ten-mile section of the system in 1995 were \$6.4 million, including electrical energy, maintenance, and administration costs.\*



The mass transit system as a form-giver to the Valley has as its major spine an elevated rail system running north-south, off which branch forth smaller-scale systems that serve comprehensively developed communities. Development on public lands around local stations provides town centers. Still smaller systems--dual-mode, mini-buses--provide movement possibilities within communities, and also give access to open space and recreation.



\* Based on extrapolations of figures from a report on Mass Transportation Demonstration Project, Port Authority of Allegheny County, Pittsburgh, Pennsylvania, and U. S. Department of Housing and Urban Development, 1967.



The choice of an elevated system was difficult because it cost more than a ground-level system. But the advantages were obvious. Pedestrians could cross under the right of way. The elevated track had little impact on the landscape. Views were more exciting and beautiful. The system was far less dangerous.

All in all it seems to have been an excellent decision.

Future extensions off the main line into newly developed communities are now planned. These include monorail systems such as those first used in the 1960's and 1970's in Seattle, at the Dallas airport and in Disneyland. Monorail trains ran on an interurban basis to connect communities. Being elevated they provide separation for cars and pedestrians. They are relatively quiet and pollution free. Networks of large and small buses have been established within communities and reaching out to recreation spaces in the Valley. These bus systems have taken a great deal of pressure off roads and highways. They provide access throughout the Valley for everyone, and do not threaten the atmosphere since they are run on a low-pollution power source.

The transit system has operated as more than a mover of people. Coordinated with environmental planning, it has contributed to the form of communities and the freeing of open space. It permits people to make choices of where to live and work and how to get there. Consequently it has operated as a social and economic "form maker". Stations have acted as central development nodes in new and developing communities, and have brought rejuvenation of older urban centers.

People now have much more access to open space and recreation since emphasis was placed on mass transit rather than on private automobiles. Using the elements of the transit system - central rail up and down the Valley connected to local circulation systems - people can reach many varieties of open spaces with ease, and without the bother of having to drive their own cars. Riverbanks, farmlands, mountains and wilderness areas, are increasingly accessible to people in center cities, suburbs, and developing communities along the transit routes.

There is still some automobile access to recreation and open spaces, but it is now closely controlled. These controls include fewer parking areas for private cars, advance reservations for parking, time and location limits, and charges for the few parking privileges available. The tragedy of overuse by machines that almost befell Yosemite National Park in the mid-20th Century has been avoided in the Willamette Valley.



Some of the many electric cars under development  
(52b) Peel Trident



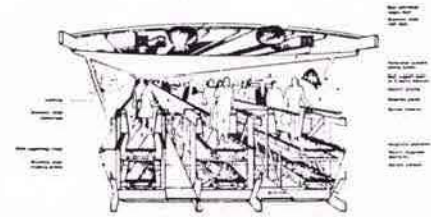
(52d) Quasar Khan



(52c) Ford Comuta



5 Brian Richards, New Movement in Cities Studio Viste, London, 1966; Gabriel Bouladon, in Science Journal, October 1967. Both comparative studies are excellent and show the wide variety of possible systems



### Speedway system

Dunlop, abetted by Brian Richards, Ove Arup and partners and even Jean Prouvé, have developed their Speedway system with great determination in recent months, and have recently announced the results of three separate studies for its possible application in Liverpool to link the central area to large car parks on the edge of the inner motorway.

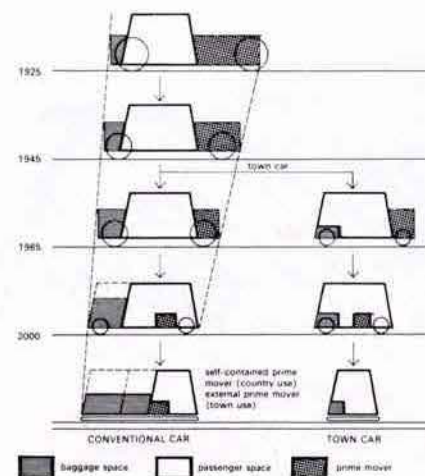
At La Defense, in Paris, running 1,000 yards along the central spine of the mammoth development (to be completed by 1976), and as a link between London Bridge and Liverpool Street Stations. The system can clearly be of great value in large cities, but equally it is only with the greatest difficulty to be threaded through existing built-up areas without destroying all sense of amenity that they might still possess.

ARCH DESIGN - APRIL 1972

### 'Dial-a-Ride' for Buses

An experimental project to provide door-to-door small bus transportation that could be summoned by a phone call is being proposed by AC Transit in the East Bay. General manager Alan L. Bingham, who has proposed using the East Bay as a federally aided transit laboratory to explore various modes of travel, has been authorized by AC Transit directors to apply for funds to study the new "dial-a-ride" concept. The study would cost approximately \$40,000 (two-thirds of it to be federal money) and would require three months of work, Bingham said. It would determine the need for the specialized on-call transit, where such service would work best, what technological know-how is needed, and how to set up the service. Actual installation of the system would require additional funds to buy the small vehicles that would be needed, Bingham said. Many people shun regular buses because of their inflexible routes and hours of operation, Bingham said. The "dial-a-ride" concept would go far to overcome these disadvantages.

S.F. CHRONICLE - 17 JULY 1972



(53) Gabriel Bouladon can envision a small, roomy monorail system, the sub-urban, or urban, urban, which is replaced either by air bearings or magnetic suspension, and the finger which is incorporated in the road.



# 2

Diversion of gas taxes and monies formerly going into freeways and highways were an additional source of revenue. Oregon's decision in the 1970's not to build any more major highways "liberated" these funds. The availability of mass transit lessened the need to build other kinds of roads.

The location of stations at strategic points for a variety of life styles has been significant in the Valley's development. Through the public purchase of land around stations, the state and community have the review right to any development that occurs in the centers. Leased to developers, these areas have become the life-givers to developing communities. Plans for multiple use around stations are encouraged, so that commerce, institutions, open space, recreation, and residential uses occur in harmony with each other in downtown areas. And the developers' lease payments to the state for the privilege of developing around stations makes the maintenance of a rail system feasible.

Acquiring lands around transit stations was an innovative step and has since proved a prototype for nation-wide developments. It is based on the principle that value which accrues because of public investment ought to benefit the public, not private investors. As these lands were leased to developers for the construction of approved, mixed-use town centers and commercial developments, they allowed the transit system to pay its way.

The reason the state decided to go all out in developing the transit system was that there were other forces at work as early as 1972 that would ultimately have made mass transit uneconomic and inoperable. These forces included scattered, leap-frogging development, dependence on private automobiles, building grids of roads connecting cities, and the spread-out and uncontrolled "clutter" of commercial and industrial areas between suburbs and cities. The significant decision in the 1970's was to install the system before there was an actual need for it and before the system could be proven economically viable.

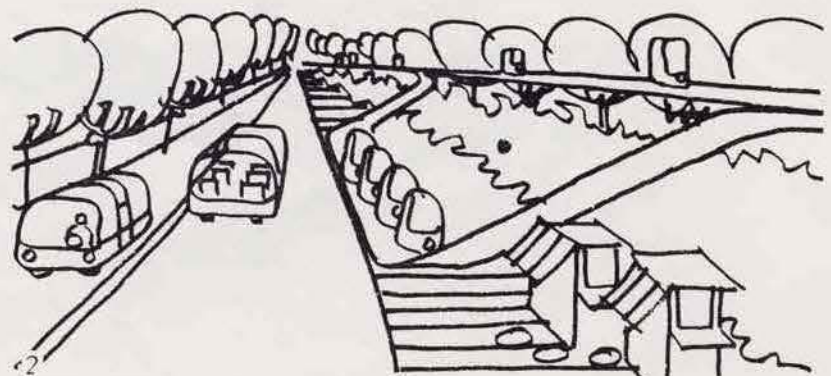
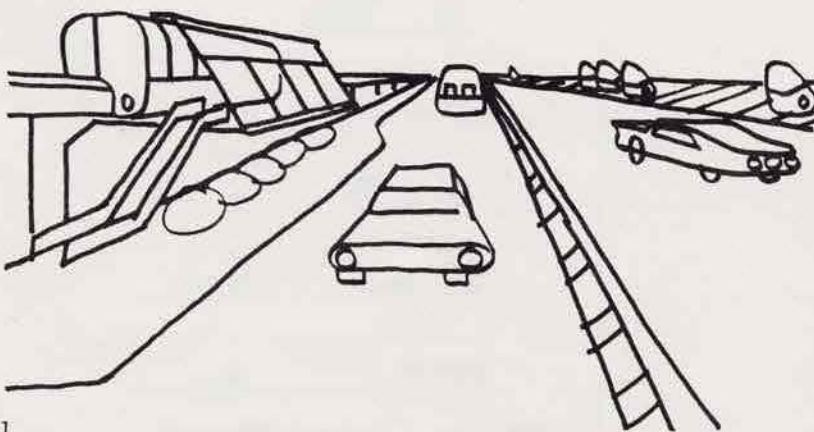
Today in 2002, this comprehensive transit and transportation system contributes greatly to the environment of the Willamette Valley.

Efficient mass transit has actually proved faster than individual auto travel. It is more convenient for more people, and has captured at least one-car-per-family's worth of traffic.

Vehicular traffic has been reduced, sometimes by as much as half.

There is less pollution because of fewer autos and low-polluting energy sources for mass transit.

A number of transit types and systems available through technology already known in the 1970's can be used as alternatives: (1) transit corridor arrangement based mainly on the elevated rail transit system; (2) bus guideways and dual-mode systems, where individual movement units can be plugged onto a public moving system; (3) integrated high-speed long-distance modes and local systems; and (4) individual or multiple-use local systems that permit movement within and around communities.





Parking space has been liberated for other uses.

Noise has been reduced.

There is less load on existing roads and no need for additional roads.

A transit system now serves inner cities, suburbs, and contributes to the positive growth of new and rejuvenated communities.

This same system offers people choices about how they wish to live in the Valley environment.

People have not had to give up their automobiles completely. Some are still in use for long distance travel, out-of-state vacations, and short runs within the Valley to places not served by mass transit. But the convenience of mass transit has caused a pronounced de-emphasis on auto-reliance, and Valley residents are enjoying a much cleaner, quieter atmosphere. In addition there are small electric powered cars, bicycles, and electric mini buses. And, of course, the newer communities are tighter knit and easier to move about in by foot and moving sidewalks.

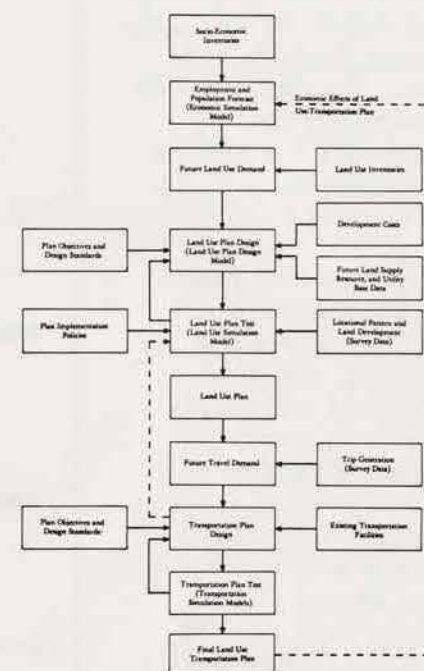
Moving sidewalks finally made a major technological breakthrough some 15 years ago. Their cost and usefulness out-of-doors made the dream which started in the 1880's in New York and Paris a reality at last.

Over the years, officials were concerned by the considerable growth of travel by air. They feared that expanded airports and a lot of smaller airfields would be needed around the basin for general aviation.

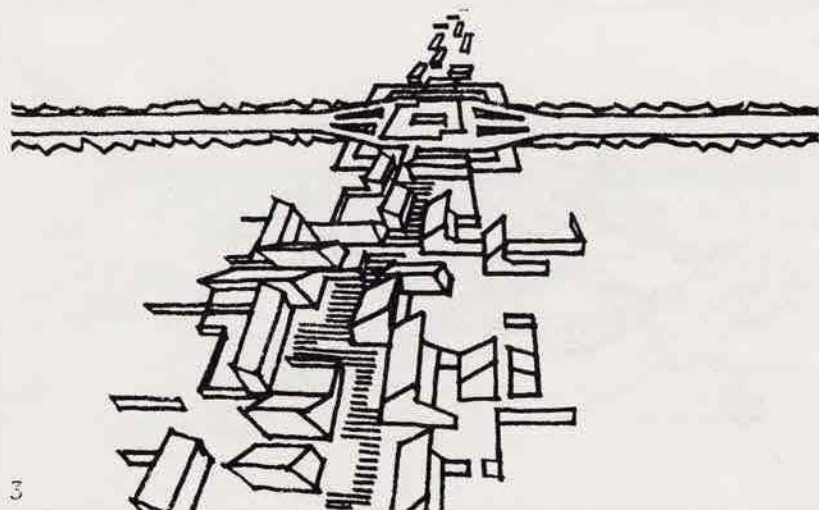
The decision was made, however, to "fill seats, not the land around airports." It meant eliminating unnecessary and repetitious flights, and booking all aircraft (including wide-bodied models) closer to their capacity. This prevented expansion onto additional land around the major airports at Portland, Eugene, and Salem.

General aviation has been accommodated in four or five sub-regional air fields rather than in 15 or more new fields scattered around the Valley. Private airplanes between 1980 and 1990 began to be a problem in terms of air pollution, noise, and consumption of open space. Oregon moved to restrict their use and control their affect on the environment.

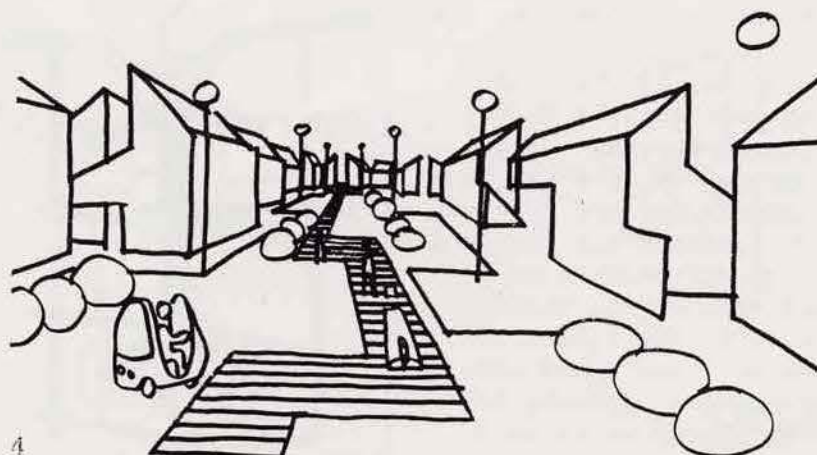
To service air passengers arriving and departing from commercial airports, there are now connections to the mass transit system' permitting ease of movement between terminal and city and out into the Valley.



PROTOTYPICAL TRANSIT PLANNING PROCESS



3

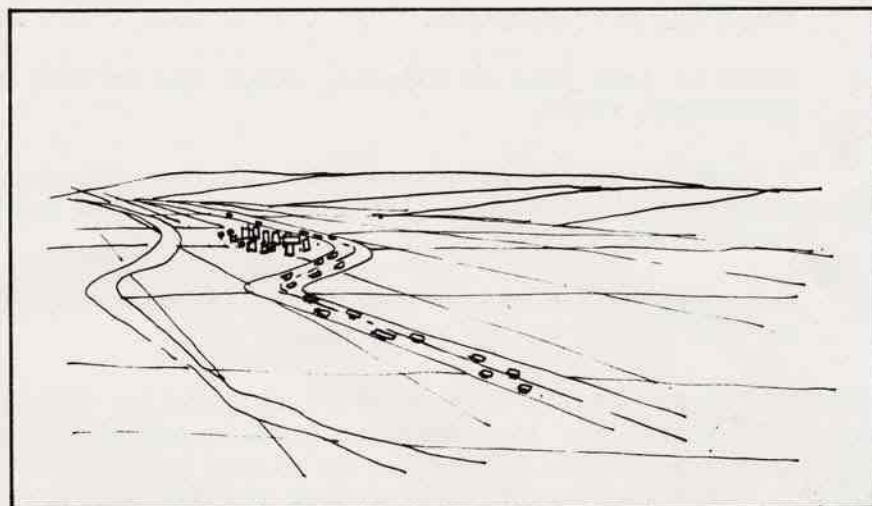
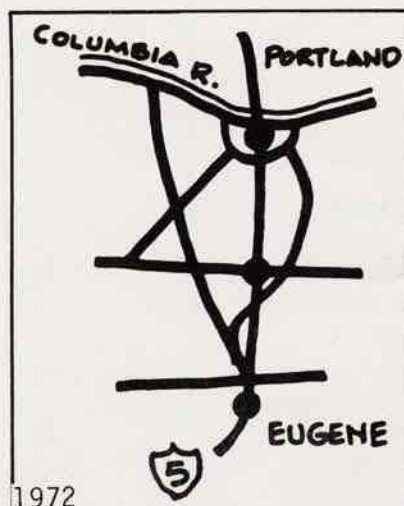


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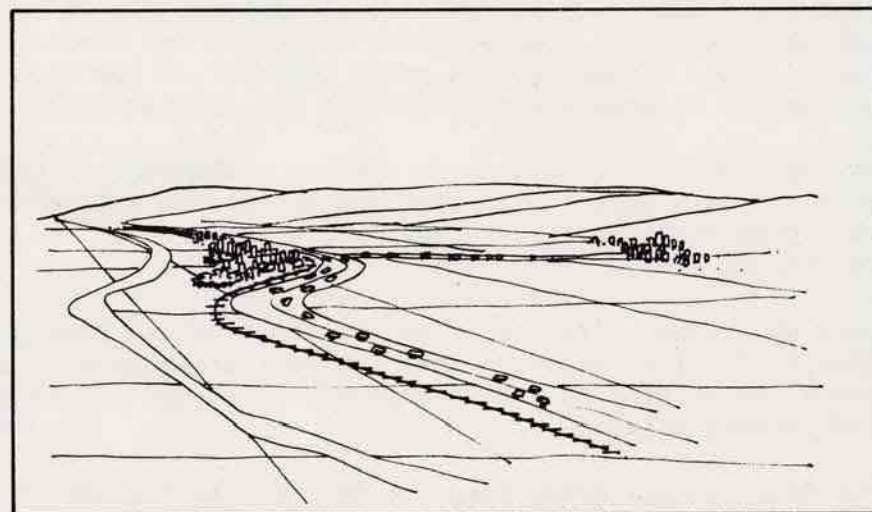
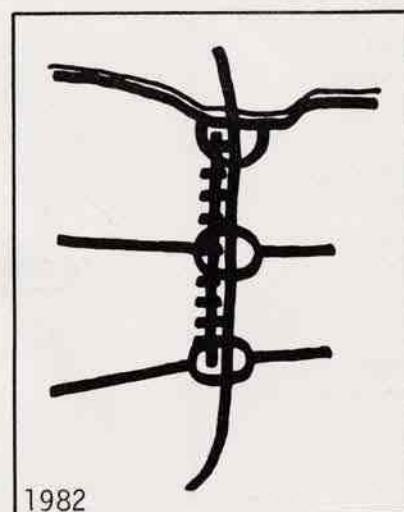


## 2

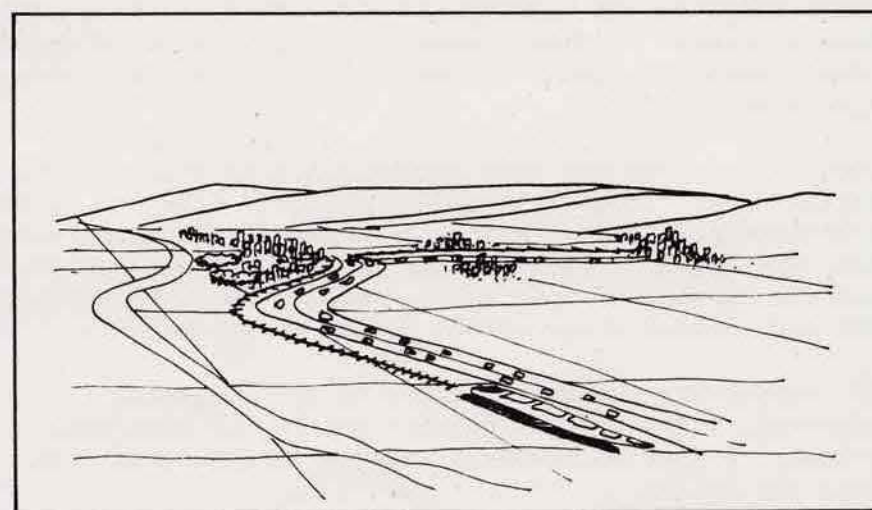
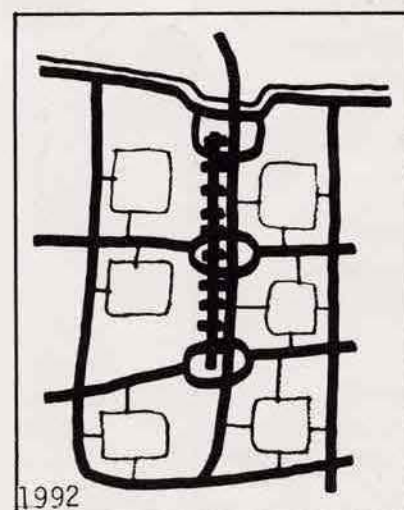
Back in 1972, people of the Valley still depended overwhelmingly on the private automobile for transportation. This was of concern to state and regional officials because of the enormous amounts of land required and the types of development supported by road systems. It was decided to go all-out for the development of a public transit system.



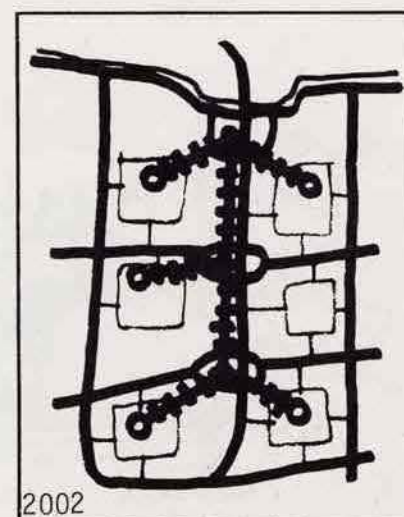
By 1982, major elements of the system were almost all constructed and serving the region. The elevated rail system that ran north-south connecting Portland-Eugene with stops at appropriate points in between was planned along with new ideas about how land should be used for other purposes, especially community development and open spaces.



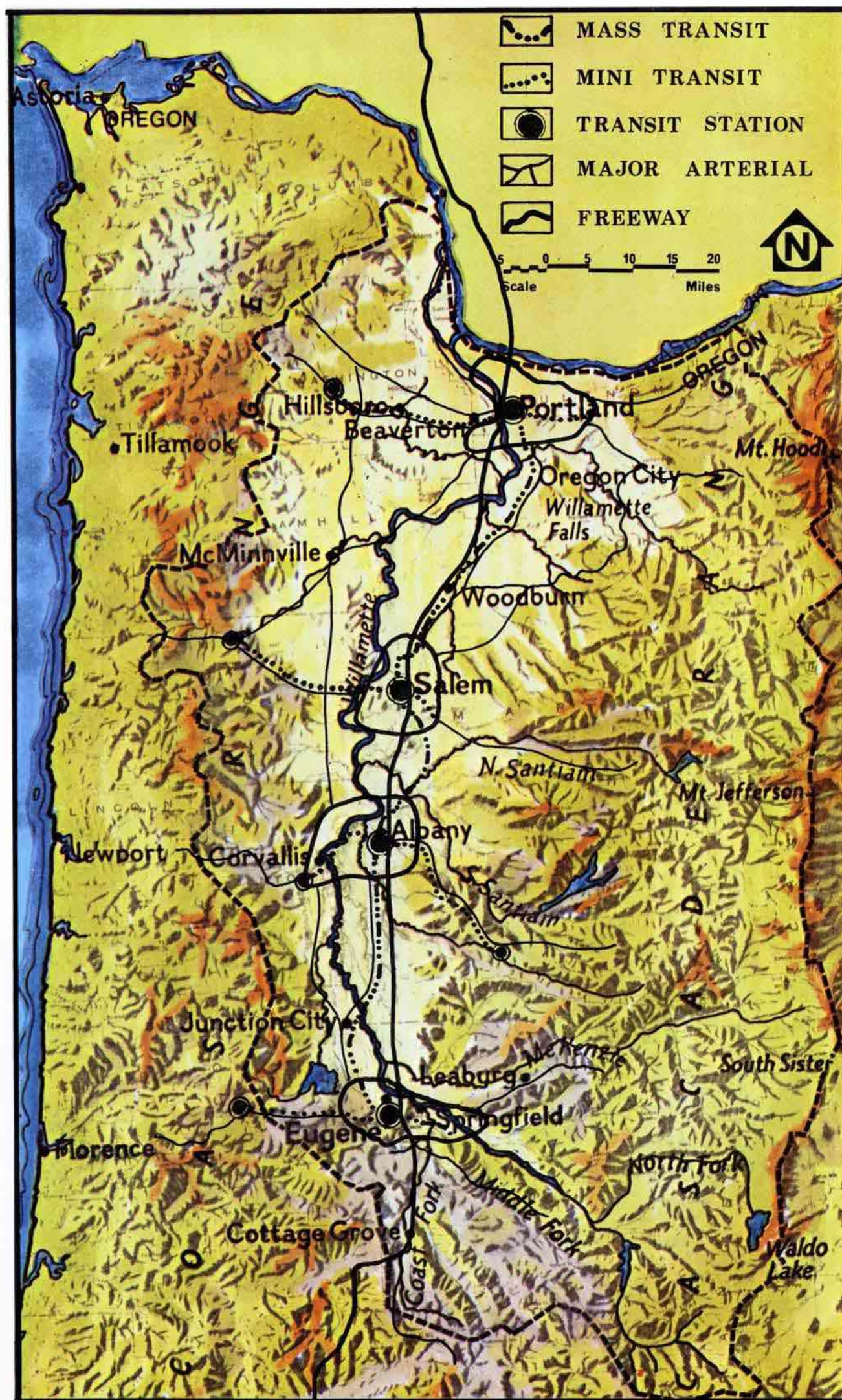
The pattern of comprehensive planning of transit systems, land use, and open space had become a visible force creating the quality of the Valley environment by 1992. Existing cities and contained suburbs were served by the elevated rail system, and new communities and rejuvenated hilltowns grew around transit stations in their centers.



Since the land around the stations was owned by the public and leased to developers, it provided economic support to the transit system. Other support was from gas taxes formerly devoted to highway construction (no longer needed because of less reliance on the roads). In 2002, the system of public transit and comprehensive planning of development works in a mutually-supporting way.







A bold move was made by the State of Oregon back in the 1970's to develop all-at-once a regional public transit system that would help give form to future development and answer to the needs of Valley inhabitants on into the 21st Century.

This far-sighted project was supported by the U.S. Department of Transportation as the first really comprehensive mass transit approach on the basis of a geographical region. There had been public transit systems serving metropolitan complexes, such as the Bay Area Rapid Transit system in San Francisco, but this was the first time such a concept had been taken a step further.

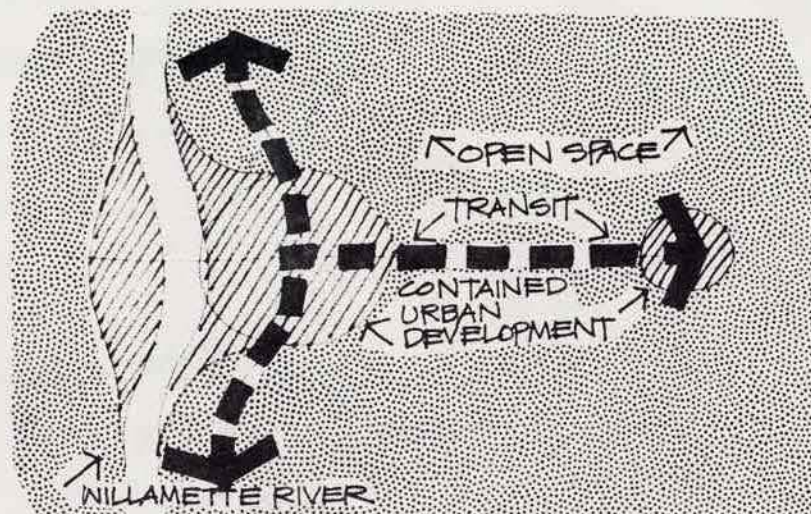
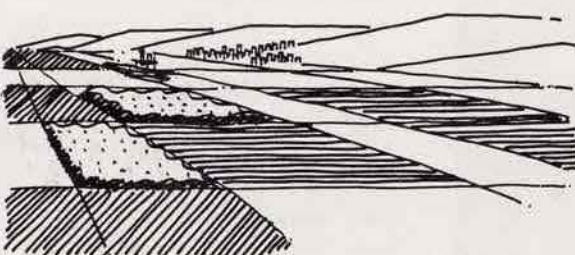
The principal "spine" of the transit system is an elevated rail system that runs from Portland to Eugene. Since it is elevated, it does not violate the landscape. Stations are located at significant nodes, and where they can efficiently connect with other public transit systems.

Branching from the major spine and connecting it with new communities and rejuvenated existing communities in the foothills are smaller-scale transit systems. Within communities, there are movement systems that range from mini-buses and aerial tramways (connecting to open space and recreation facilities) to "dual-mode" systems that allow people to drive leased units locally, then connect to mass guidance systems to go longer distances.



## 2

## SCENARIO 2: OPEN SPACE AND RECREATION



There are three types of open space:

Private open space.

Public open space.

Urban open space.

In the past 30 years we have become increasingly aware of how these are mutually related. Thus, we have been acquiring land and easements in an organized fashion to develop valleywide systems of open spaces according to a carefully developed plan.

Private open space - principally farmland on the Valley floor - gives the Valley its intangible quality of beauty. You can't put your finger on it. But it is the reason many people have chosen to live in the Valley. They enjoy being in contact with the spaciousness, openness, and natural beauty of their environment. People don't have to stand on a piece of land to enjoy spectacular views. But if someone builds a food stand or erects a billboard, they wipe out the property's "usefulness" as open space.

Public open space - is the space that people use directly -- parklands, wilderness areas, hiking trails and river greenways. This space is both visual and functional.

Urban open space - can mean a variety of things. City people need relief from the urban environment through parks, squares, fountains, playgrounds, and places where they can get together outside the walls of their own houses.

By 2002 private open space in the Valley has been assured through continued use of large portions of agricultural land of good quality on the Valley floor. This use has given people good visual access to scenery.



By 1970, we had begun to realize that our cherished "visual open space" was being threatened and we took action to preserve it. We realized that there weren't enough parks in public ownership. Most parks were beginning to be over-used. Much of the great open space we used to drive, hike, and ride through was in fact privately owned and was beginning to be sold off. New techniques had to be devised to keep private open space OPEN.

It was quickly apparent that the public could not buy up the entire Valley. Nor could farmers be required to continue farming when increasing taxes forced them to sell to developers. Fortunately, the realization came early enough to allow the success of new techniques. Private open space, it was found, could be preserved in many different ways without outright acquisition, and all of them have been used where applicable.

Many farmers did not want to sell out. They were happy to keep their lands in production (and hence, visually open) if it were made economically possible. From legislation that was already on the books in Oregon and other states (California's Williamson Law, for instance), there were tax incentives for the landowner to keep his land in farm use. In Oregon, these were updated to make provision for long-term commitments on farm land use. The decision to apply tax incentives to farm open space became the option of the public rather than the individual.

Visual easements were variations on this same technique. They were used to keep open space in farming and preserve visual access for everyone.

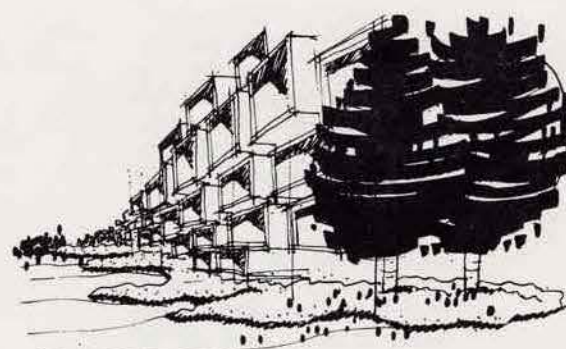
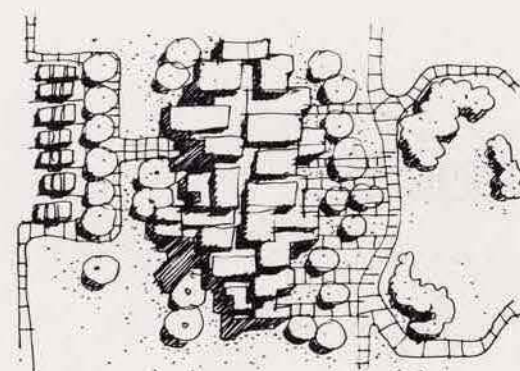
The state began a program of outright purchase of certain lands that were deemed desirable and necessary in the overall open space system. Some of this land was considered a "bank" for potential development as recreation or scenic areas.

The purchase of "development rights" by the state or county has also allowed for conservation of open space. This technique gave the buyer control in perpetuity over the development of the land. The farmer could maintain his land in agricultural production, and the state guaranteed that it would remain open space. Developers also have purchased perpetual development rights on farmlands adjacent to their developments to keep them open as part of their open space requirements.

Another technique for making open space available is called "compensable zoning." This assures land owners that they will be adequately compensated when their land is zoned for other uses such as open space. Compensable zoning is explained in the margin.

Comprehensive land use and planning, with emphasis on clustering of development, reliance on mass transit, and public and private open space, has worked to the benefit of everyone since the 1970's.

Today, in 2002, because of these measures, everyone can enjoy open space. Clutter on the landscape has been checked because of comprehensive land use planning. Development concentrates in the cities, the suburbs, and the newer communities. Measures to conserve open space outside these communities have received support from Valley inhabitants, because they benefit environmentally. Farmers and land-owners support them because they do



Various kinds of uses are possible under this planned approach: industrial, commercial, residential. Mobile home parks, for instance, which have always been arranged on cluster basis, have improved and become interesting places to live.

COMPENSABLE ZONING HOLDS PROMISE AS A TOOL FOR PRESERVING REGIONAL OPEN SPACE . . . UNDER THIS CONCEPT, A PROPERTY OWNER WOULD BE COMPENSATED FOR ANY LOSS OF LAND VALUE CAUSED BY THE IMPOSITION OF REGULATIONS. AN OWNER DESIRING TO SELL HIS LAND WOULD RECEIVE AT LEAST ITS VALUE BEFORE REGULATION, ADJUSTED TO CHANGING DOLLAR VALUES. IF THE SALE PRICE WERE LESS THAN THIS GUARANTEED FIGURE, A PUBLIC AGENCY WOULD MAKE UP THE DIFFERENCE.



## 2

Legislation to encourage cities to block off motor vehicle traffic in crowded downtown areas by creating pedestrian malls was approved narrowly yesterday by the Senate Finance Committee.

Under the bill by Senator Nicholas C. Petris (Dem-Oakland) cities with a population of more than 150,000 persons could receive up to \$5 million for construction of the malls. The money would come from the State Motor Vehicles fund.

The measure also would make it easier for a local government to decide to create pedestrian malls. The law currently requires city or county councils to determine that motor vehicle traffic would not be unduly inconvenienced before creating the malls.

Petris cited the mall in Copenhagen where he said several downtown blocks were roped off to traffic. He said the results have been less pollution and traffic congestion in the central city while merchants have increased business in the mall area.

The bill was sent to the Senate floor on a 7 to 2 vote.

*United Press*

not lose through this approach. Developers, too, can profit from building comprehensively planned communities with plenty of open space within their developments. Three-level planning for land use, transportation, and open space has made it possible for each to grow together, and not at the cost of other areas.

Private open space measures have gone so far as to indemnify farmers and other land owners against injuries to hunters and fishermen on their property. This has made much more open space available for hunting and fishing than was possible thirty years ago. Wildlife habitats have been protected by wise land use patterns.

Public open space has been conserved for enjoyment in areas where it is ecologically and socially most beneficial:

along rivers and tributaries;

in wilderness areas;

near agricultural lands, where a park next to a farm results in large open spaces and views;

in areas where fragile conditions must be protected -- flood plains, slopes, wildlife habitats;

in places offering sweeping views and panoramas;

in timber preserves;

in areas for hiking, boating, bicycling, picnicking, hunting fishing, camping and climbing;

in urban parks where people can gather and share cross-cultural experiences and feelings.

Open-space land use has protected the land and has given people many choices of how to use it respectfully. Public agencies, with guidance from the people, have been able to pick and choose what areas best satisfy people's needs for open space.

Beginning with the Greenway park system along the Willamette River 30 years ago, an uninterrupted system of open space has extended out and up from the parklands along the river. People are never very far from many parts of this system and can reach it by public transit without using their cars. For most people sitting at home or riding around the Valley, there is plenty of visual access to open space so that the fine Valley environment can be seen at all times.

Urban open spaces in older urban centers and in new and rejuvenated communities are integrated through comprehensive land-use planning. Those open spaces are located at strategic places where people need them, and they link up with the regional system of public open spaces.

In communities today there are:

public squares and parks around transit stations;

small parks and playgrounds through neighborhoods and communities;

pedestrian corridors and malls;



larger parks and sports areas; and

open space links to the mountains and the Valley floor.

In existing cities and smaller communities, people have worked with their elected officials under Federal programs to provide:

new parks;

rehabilitated existing urban open spaces;

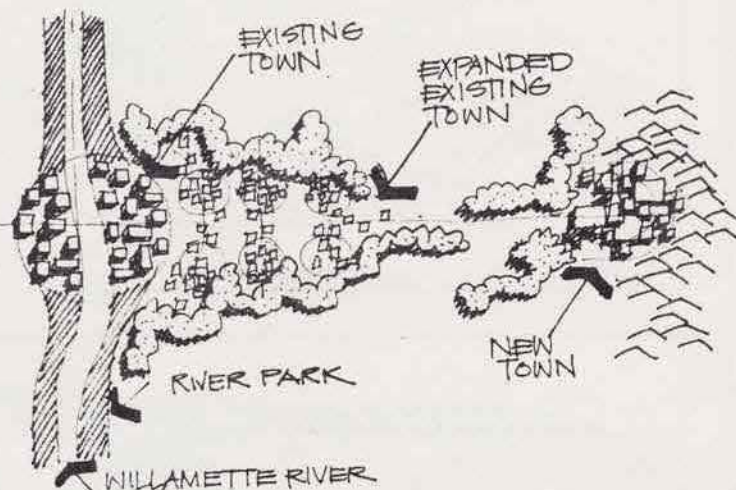
miniparks and neighborhood playgrounds; and

neighborhood and community facilities that people decide they need -- gardens, places to exchange opinions, places to sell crafts and products, places where adults and children can be together, zoos.

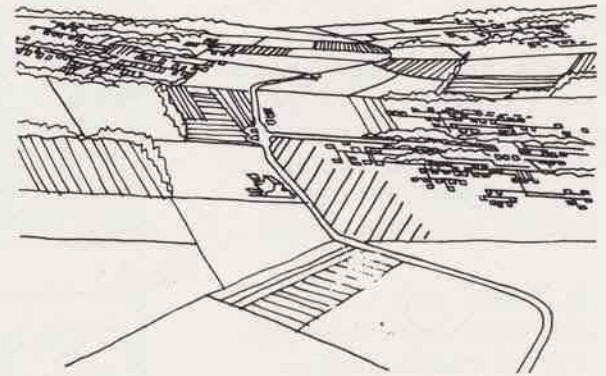
This community creation of urban open space is part of the overall rehabilitation of center cities and neighborhoods that started under Neighborhood Development Program-type concepts. Rehabilitation also included residential housing, schools, health services, neighborhood commerce, and cultural facilities.

The coordination of private, public, and urban open space into one environmental fabric can be seen, felt, and experienced by all Oregonians. It has brought new meaning to the Valley's grace and splendor.

Never far away from open space and the rhythms of Valley life, people can know that the land is as "sweet and open" as the poet described it.



The open space options available in the planned environment include local parks and play areas, pedestrianways connecting to larger open space and recreation opportunities further away, and greenways and river parks. In the hills and more distant mountains, open space and recreation of a different sort are convenient by public transit.



Conservation of agricultural lands through a number of economic incentives, plus clustering of community development makes possible a network of open spaces throughout the Valley.



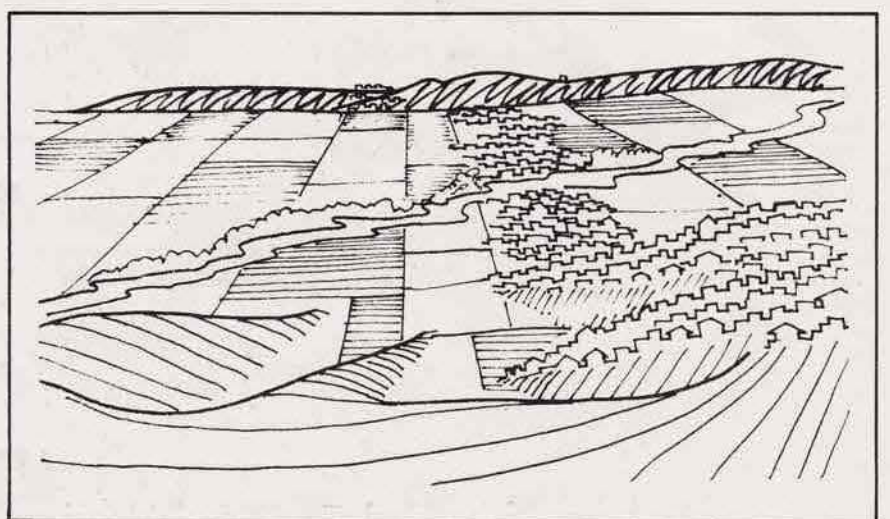
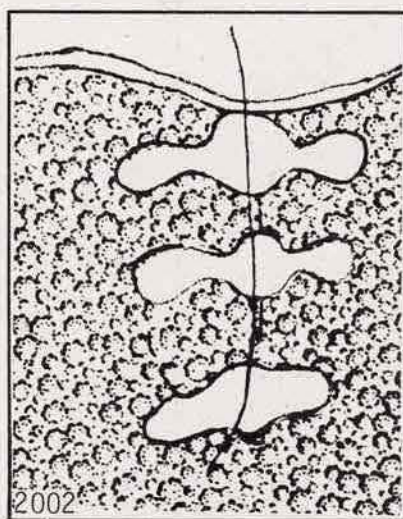
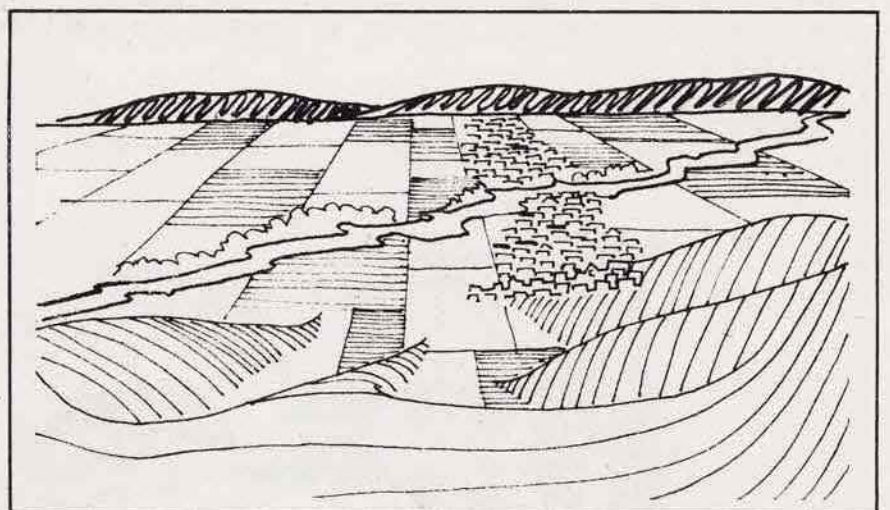
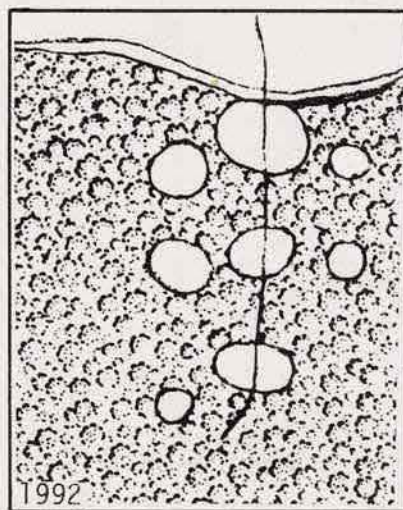
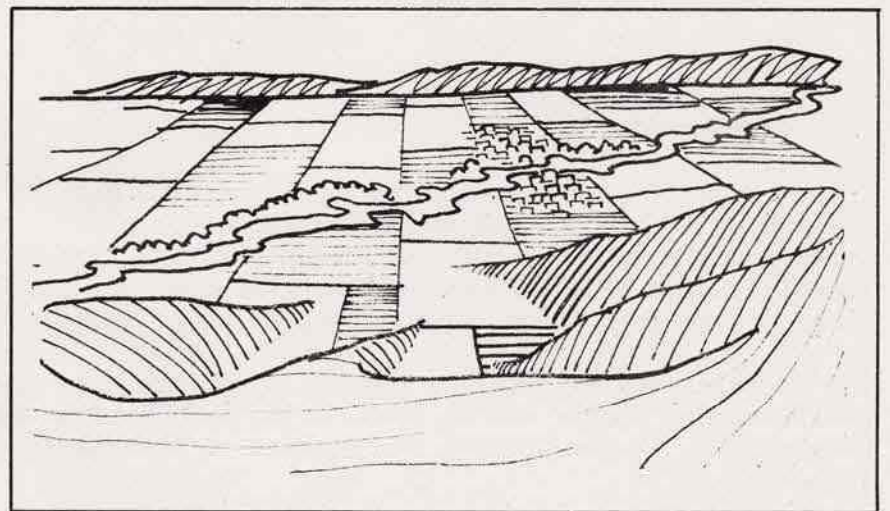
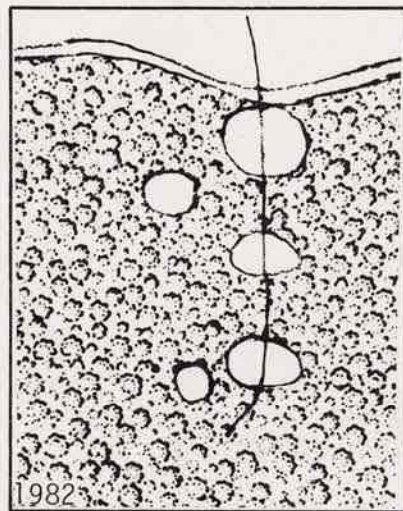
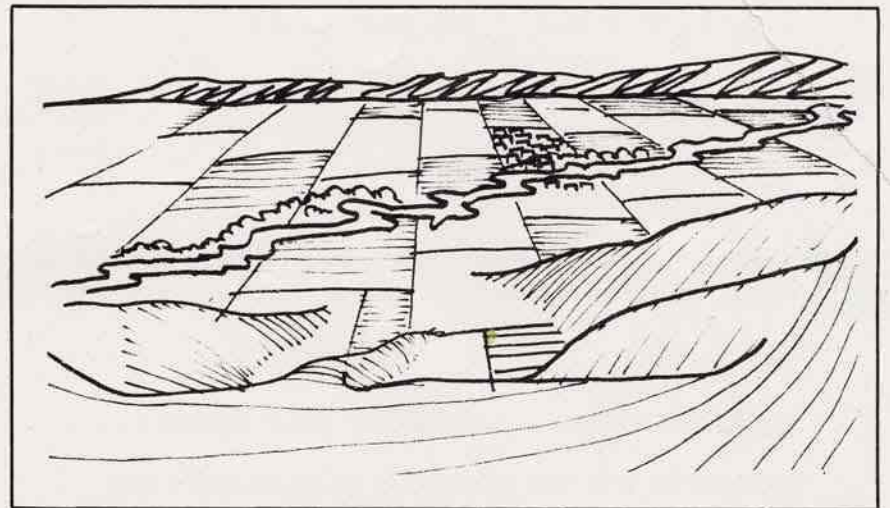
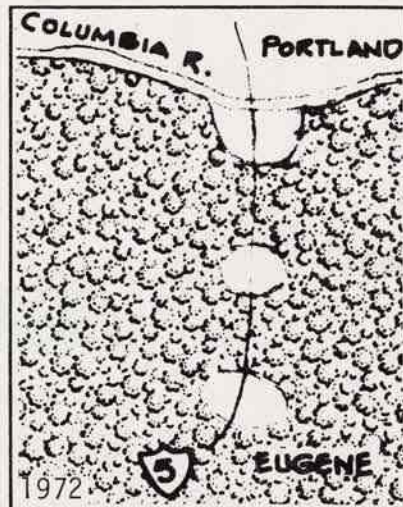
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Open space on the Valley floor in 1972 consisted of state and county parks plus a rather inadequate supply of urban open space in the cities. A great amount of what was experienced as open space was actually privately owned farms, but these "open space banks" were beginning to give way to housing developments and other uses. The residents of the Valley were concerned.

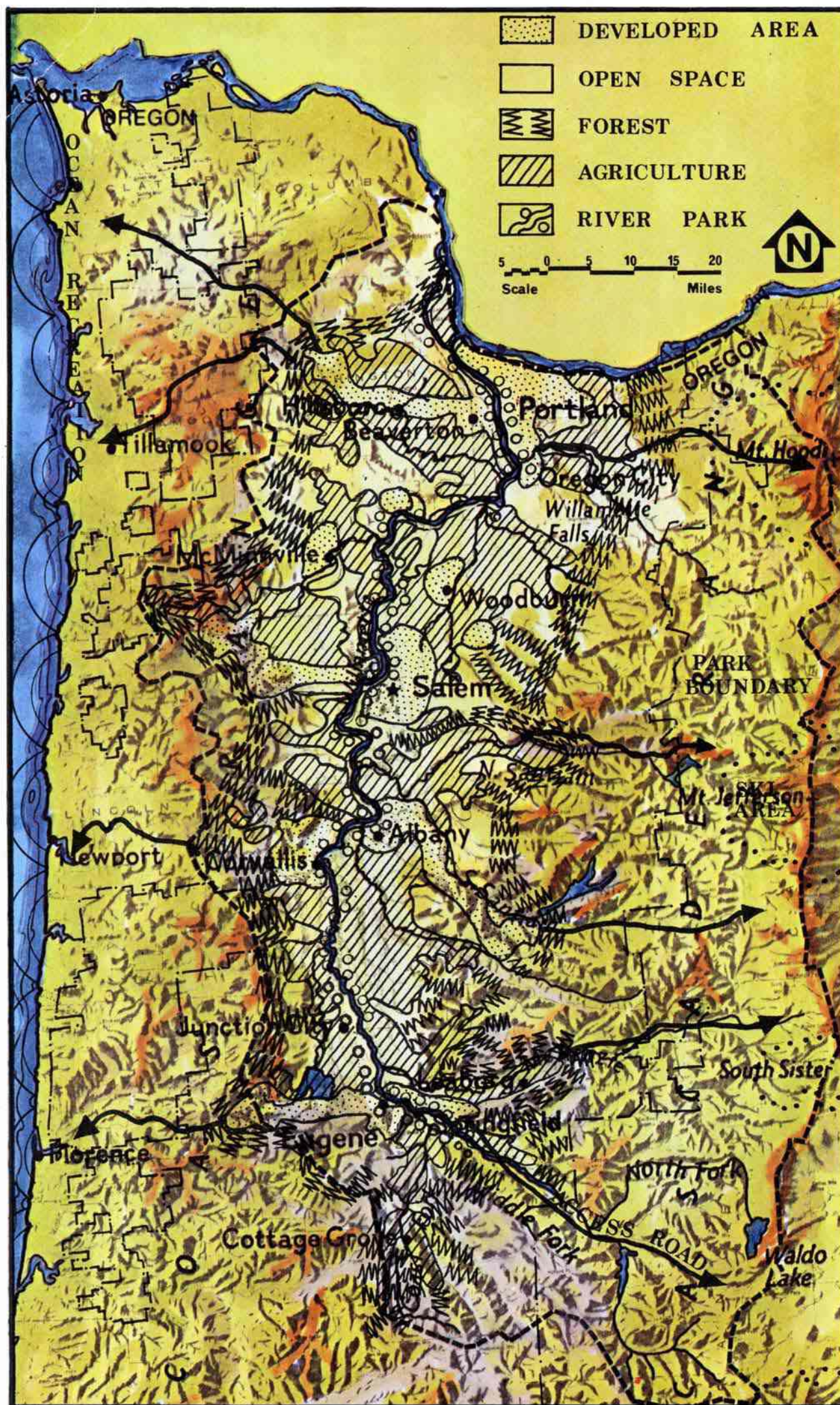
By 1982, the state had embarked on a new policy of comprehensive planning that included the conservation of private open space and the related development of public open space. The new public transit system had been created, so there was no need for any new or upgraded roads to take up Valley land. People could reach open spaces without using cars.

Planned development of urban, suburban, and new community growth took into consideration the respect for conserving access to open space, both directly and indirectly--visual appreciation being an important element of the Valley's qualities. A whole array of choices was available to residents: forests, rivers, farms, the wilderness, and urban open spaces.

Farmers who kept their land in production, and therefore in visual open space, were compensated in several ways so they did not suffer financially. By 2002 open space network developed that included in-town parks and connected pedestrianways, parks and greenways along all the rivers of the Valley, and easy access by public transit to recreational areas further away.







Central to the system of the Valley open spaces are the "Greenways" or river parks that now line the Willamette and many of its tributaries.

Since the 1970's more parks have been added, and the parks, recreation, and open space systems have become an integrated and inter-related series of opportunities for people to experience the natural environment of the Willamette Valley. Included in this network of open space is the private land--mostly in agricultural use--that provides the unique visual panoramas that are so special to the people of the Valley.

Through having been integrally planned in connection with other land uses and with the public transit system, open spaces and parks occur where they are needed and where people can most easily get to them. Instead of having to drive cars to picnics or camping areas, the residents of the Valley can reach them by public transit. This means that the natural environment is now available to everyone.

There is a whole "hierarchy" of open space occurring, from small neighborhood parks and urban playgrounds on up to majestic wilderness areas. In between are large urban parks, central plazas in new communities, rural and river park areas, hiking trails, and farmlands kept in use for visual access. The success of the whole system is basically due to comprehensive planning--land use relates to transit and transit relates to open space.



## CLUSTERING, PUBLIC TRANSIT &amp; OPEN SPACE

Clustering for conservation of land and open space has been a Valley tradition ever since human settlement began. The Indians clustered in tribal villages.



Farms and their related communities on the Valley floor clustered to leave as much land as possible open for cultivation.

There were clustered hill towns founded around resource-based industries such as timber products and agriculture.

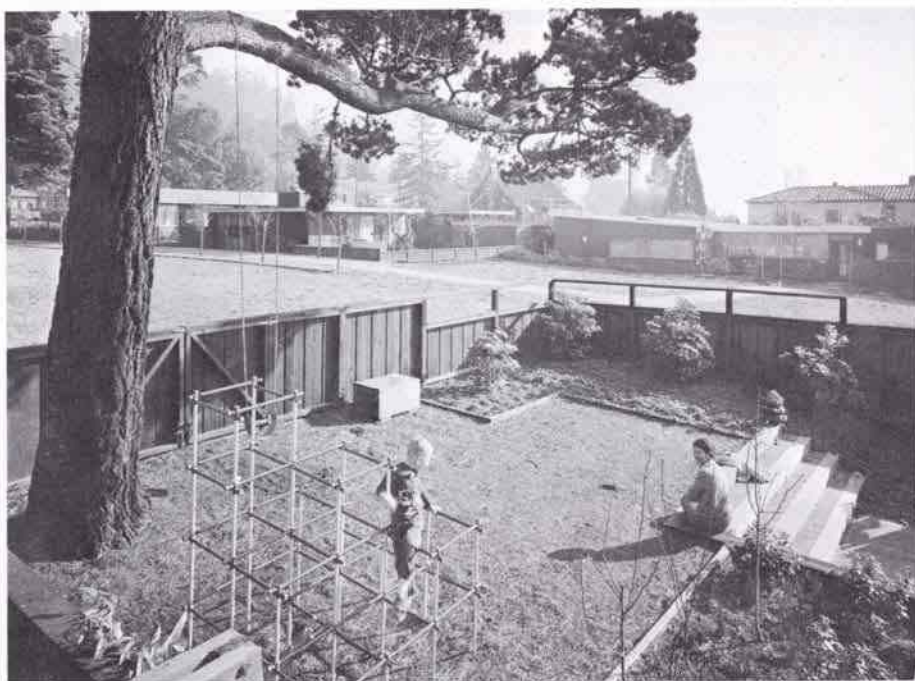


In the past 30 years, clustered development of new communities and the rejuvenation of older hill towns has meant that inhabitants can enjoy open space.





Clustering hasn't meant living in a great housing development cheek-by-jowl with a lot of other people. This West Coast condominium shelters 15 families in ways that preserve their privacy and let everyone enjoy natural vistas.



Individual houses clustered around a "common," or mutually shared public greenway conserve the land for all.

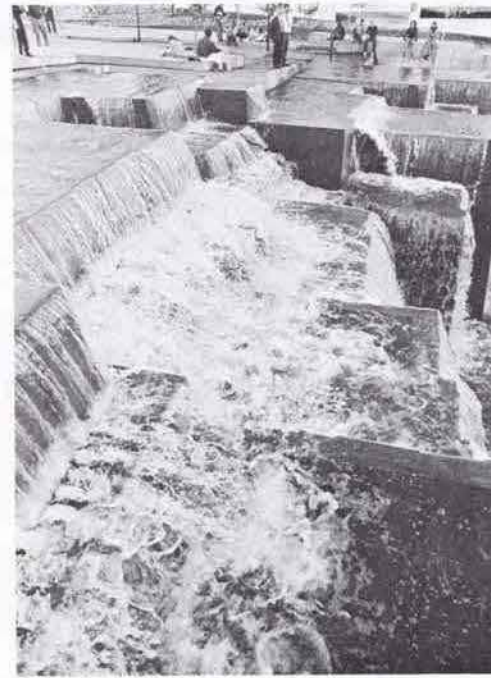
Open space in cities is vital to providing amenities that make urban areas enjoyable exciting places to live...



... kids can play near home within easy calling and viewing distance of their mothers..

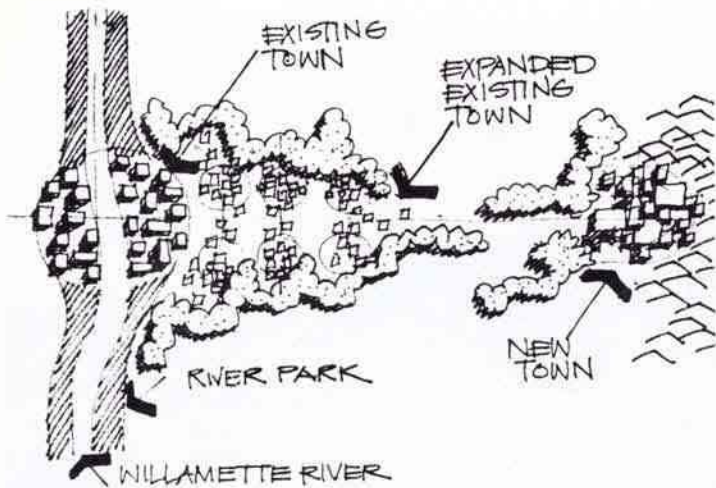


... serene parks are available...



... and more exciting, involving plazas, parks, squares and fountains act as the spark to bring together the community.

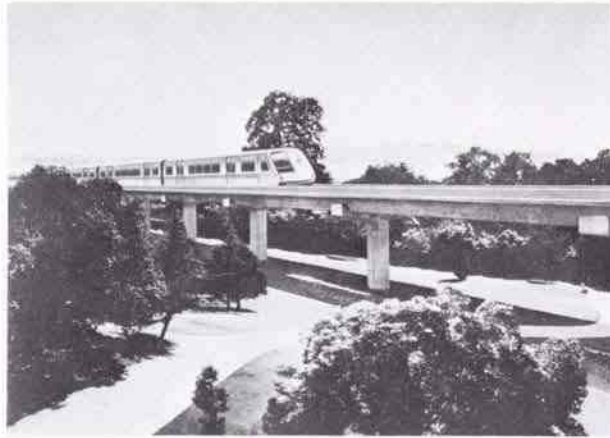




Comprehensive planning of the Willamette Valley on three major levels has permitted the techniques of clustering, open space creation and conservation, and integrated public transit...

...urban living is available, as is life in single-family houses in contained suburbs, and the stimulating atmosphere of the new communities that have grown around transit stations. The stations have become "public squares" for the communities -- the land around them was purchased in the name of the public and leased to developers to create approved, multi-use town centers.

A trip on the main elevated transit line and related branches into town centers is an exciting sequence of experiences.

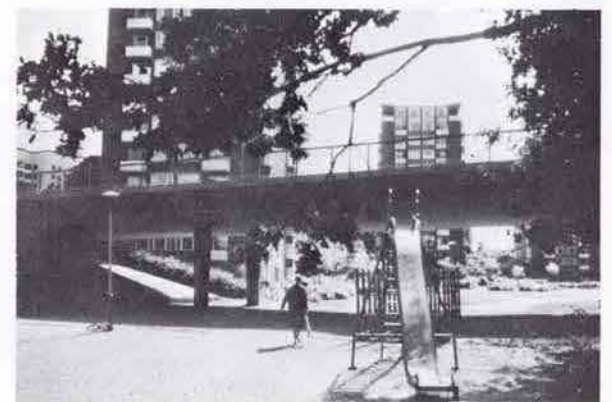


Leaving the transit system at the town center, people move through the station . . .

. . . and out into the town square, where there is activity and life of all sorts at all times of day and night. From the town center . . .

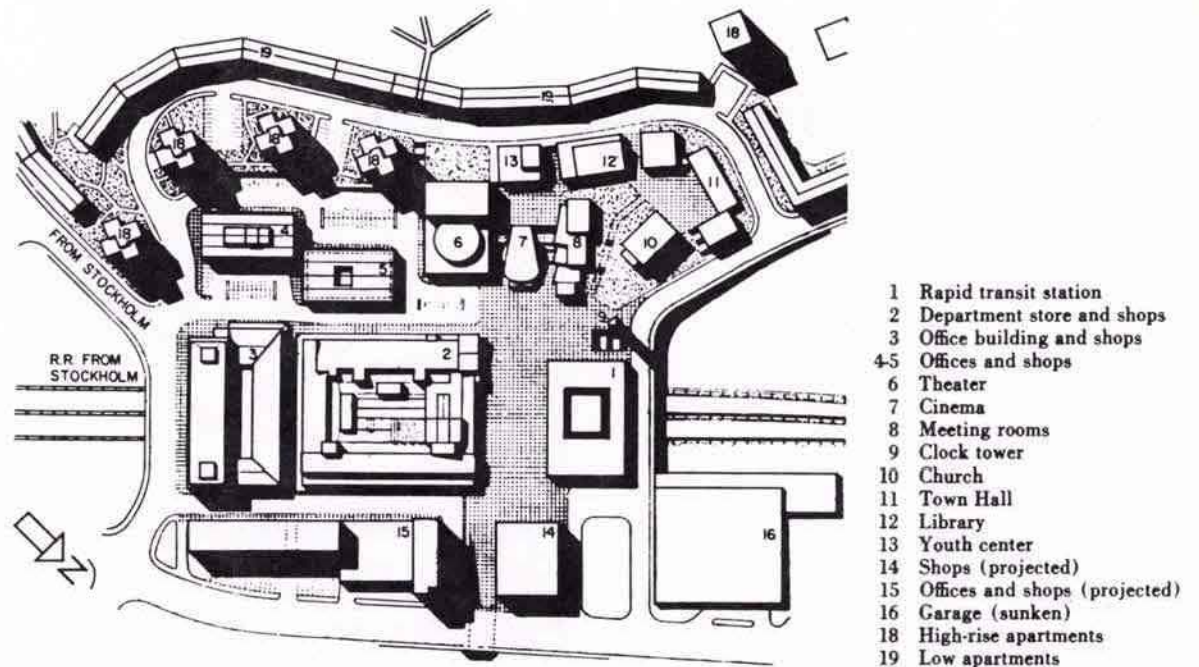


. . . it is an easy walk home through parks & playgrounds. The transit system glides by almost noiselessly overhead.





This plan of a new community center planned around a transit station shows how they did it in Sweden several decades ago. This is the town center of Vallingby, a city for more than 80,000 people.



There are a number of smaller systems for moving people within and between communities, and recreation and open space opportunities . . .



aerial cars up to the hills . . .



. . . and people who do not wish to walk within communities can take people-mover systems or moving sidewalks to their destinations.

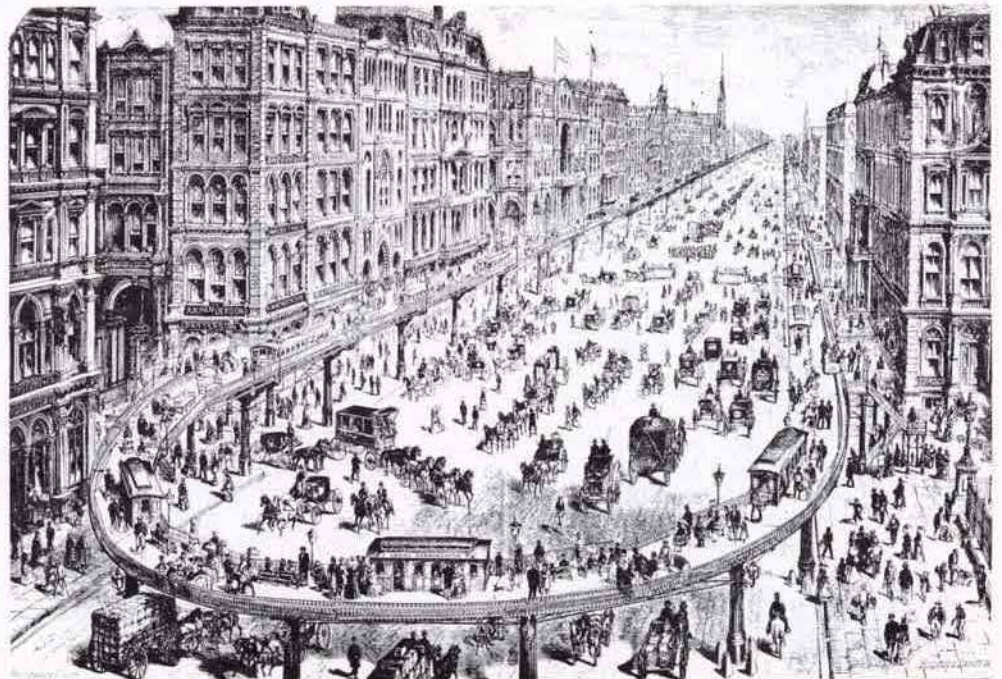
When such systems were proposed in New York and Paris in the 1870's, they were never realized. With our technology & the commitment to having a full-scale integrated public transit system today, the idea has come of age.



. . . mini-buses that bring people in and out of downtown without their having to use their cars . . .



. . . small computerized personal transit systems summoned by pushing a button; they operate on concrete guideways between the hill towns . . .





## 2

## SCENARIO 2: EMPLOYMENT AND INCOME

## Landport district studied

EUGENE (UPI) — The feasibility of establishing a dry landport district in Lane County is under investigation.

Members of Lane County's Citizen Advisory Committee for Economic Development decided Tuesday that such a district might be the means of encouraging what the committee feels is needed economic growth in the county.

Committee chairman Nils Hult said he will appoint a subcommittee to investigate and make final recommendations.

The dry port district, which would require voter approval, once boundaries were set, could involve operation of railroad, airport and warehouse facilities, construction of nuclear power plants and subsidizing of industrial plants.

The economic base of the Valley has gradually changed over the past thirty years. These changes have had significant implications about how people live and what the Valley produces. Just as important, and as profound in its influence on people's lives, is the strengthened emphasis on preserving the Valley's unique environment.

The structure of employment in the Valley has changed markedly since the 1970's. Continuing and expanding upon a trend already apparent in the 1960's, the rate of growth in employment in certain portions of the private sector slowed down, but the slack has been more than taken up in other areas of employment.

Gradually the economy of the Valley has shifted away from a heavily resource-oriented base. Consequently, employment opportunities have moved away from such resource-based industries as forest products to service industries, to the public sector, and to the new industries attracted to the Valley because of the environmental amenities and competent labor force to be found there.

People and industries have tended to seek for the qualities that exist in the Willamette Valley. Amenities do attract "footloose" industry, that is, industries which are mobile and not tied of necessity to a particular location, and the Valley has continued to get more than its share. This can be compared to the situation in the Southeast U. S. a number of years ago, when states were aggressively competing for new industries.

Atlanta, at that time possessed of many urban, suburban, recreational, and cultural amenities, attracted a large amount of industry. Mississippi, which had few amenities to offer, did poorly and remained stagnant.

A number of industries find the superior environment and a good way of life for their employees most in the newly developed communities and rejuvenated towns around the Valley. These industries have been strong forces in local economies. Some of the amenities offered by the Valley are:

Compatibility of home-work relationship. The trip between a person's home and his place of business has been greatly reduced by the new transportation choices made by Oregonians.

Range of choice of where to live and work. The access to areas throughout the Valley has made it possible for people to pick and choose which communities they wish to live in, and whether they desire to live near their work or within easy transit reach.

A range of housing types in all communities has encouraged economic and social mobility.

Increased environmental amenity and access to open space has become possible for people in all types of careers wherever they live in the Valley. These open space and recreational opportunities have proved exceptionally valuable in a time when most people have more leisure time.

The costs of the improved environment and the things that made it possible -- mass transit, open space retention, recreation opportunities, creatively contained communities -- have not been cheap, but they have been shared by the Federal, state, and local governments, private industry and developers, and the people. Disposable income has tended to be less than under a more pronounced consumer-expansion economy, but better quality of life more than makes up for it.



To offset any job loss occurring as a result of the transition from a resource-based economy, new employment opportunities were generated in such fields as public transportation. The development of the rail transit system and related feeder services has produced many construction, maintenance and service jobs.

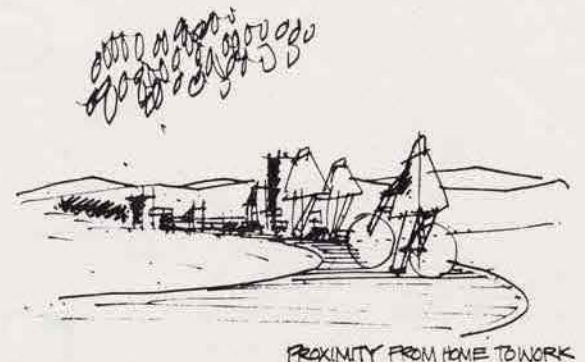
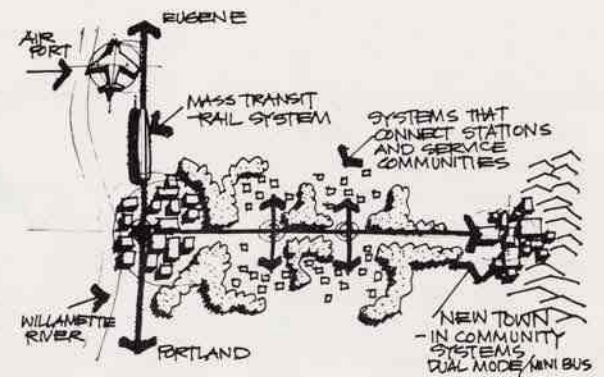
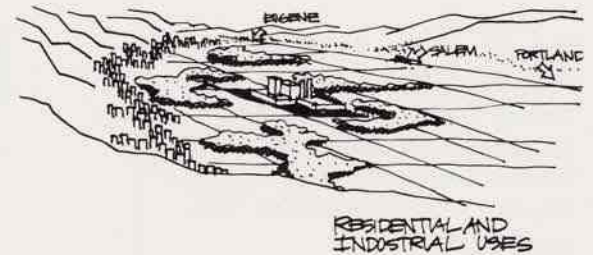
Construction of transit systems and stations and their administration and maintenance have stimulated economic growth and related employment both in existing cities and in new town centers. New town construction itself, of course, has been responsible for many new job opportunities.

The emphasis on preserving open space has kept more agricultural land in production. This has preserved farm income to some extent. It has even provided second incomes to owners of hobby farms -- once considered a planner's nightmare.

There are now other benefits to life that can be called "income". People get satisfaction and sustenance from a clean environment, attractive surroundings, a new sense of community and easy access to recreational facilities. Most of these intangible qualities cannot be measured. Most people agree today that their real "income" is much higher than before.

In order to achieve this state of affairs hard decisions have had to be made. Some of the environmental and land use controls involved choices that were not always easy to accept. Sometimes they meant more restrictions on individual freedom -- such as doing what you wanted to do with your own land, and consuming as many resources as you could afford. Other times they meant less autonomy for local governments.

After having considered and assessed the alternatives, and after viewing the effects of unrestricted growth on other areas of the country, most Valley residents agree on one thing: the decisions made and the regulations implemented have not been too high a price to pay for the heightened quality of life it has bought.

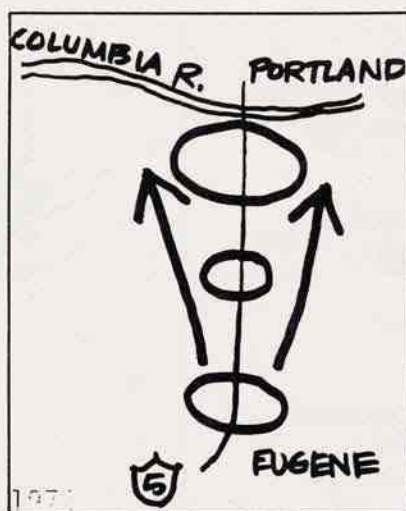


There are options for people to take when deciding how they wish their home-work relationship to be. Because a number of industries locate in newer communities to share their environmental amenities, people have a chance to walk to work. Others can take jitneys or mini-buses a short ride to their employment. People who live further away may take the main public transit system which will have them to work in a half-hour maximum. Even people who may have to make business trips the length of the Valley will not have to take more than an hour on the transit system.

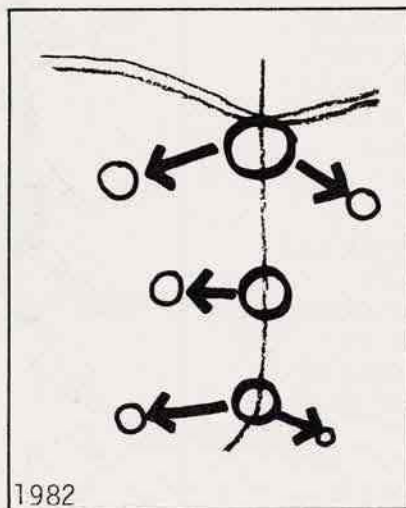


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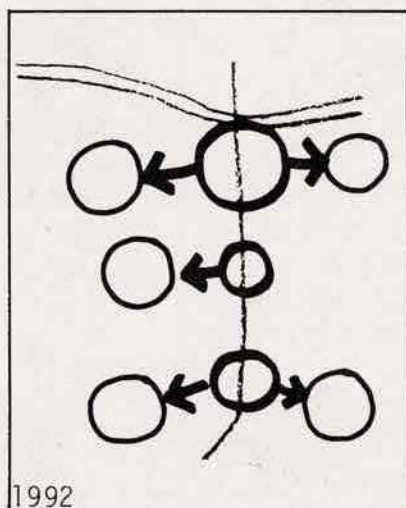
The trend in 1972 was a decline in resource-based industry and an increase in non-resource-based industry and services. This pattern has continued.



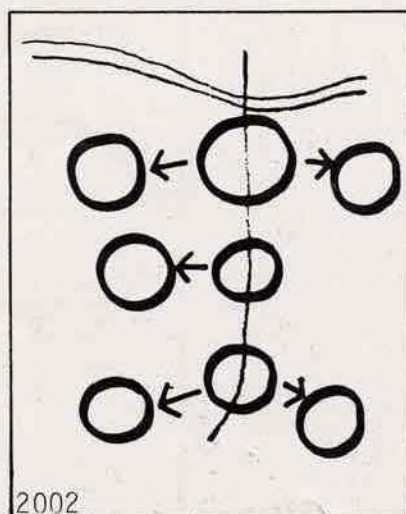
Under new concepts of comprehensive land use planning, public transit, and energy and power controls, the picture of employment and income opportunities in the Valley by 1982 had begun to shift.



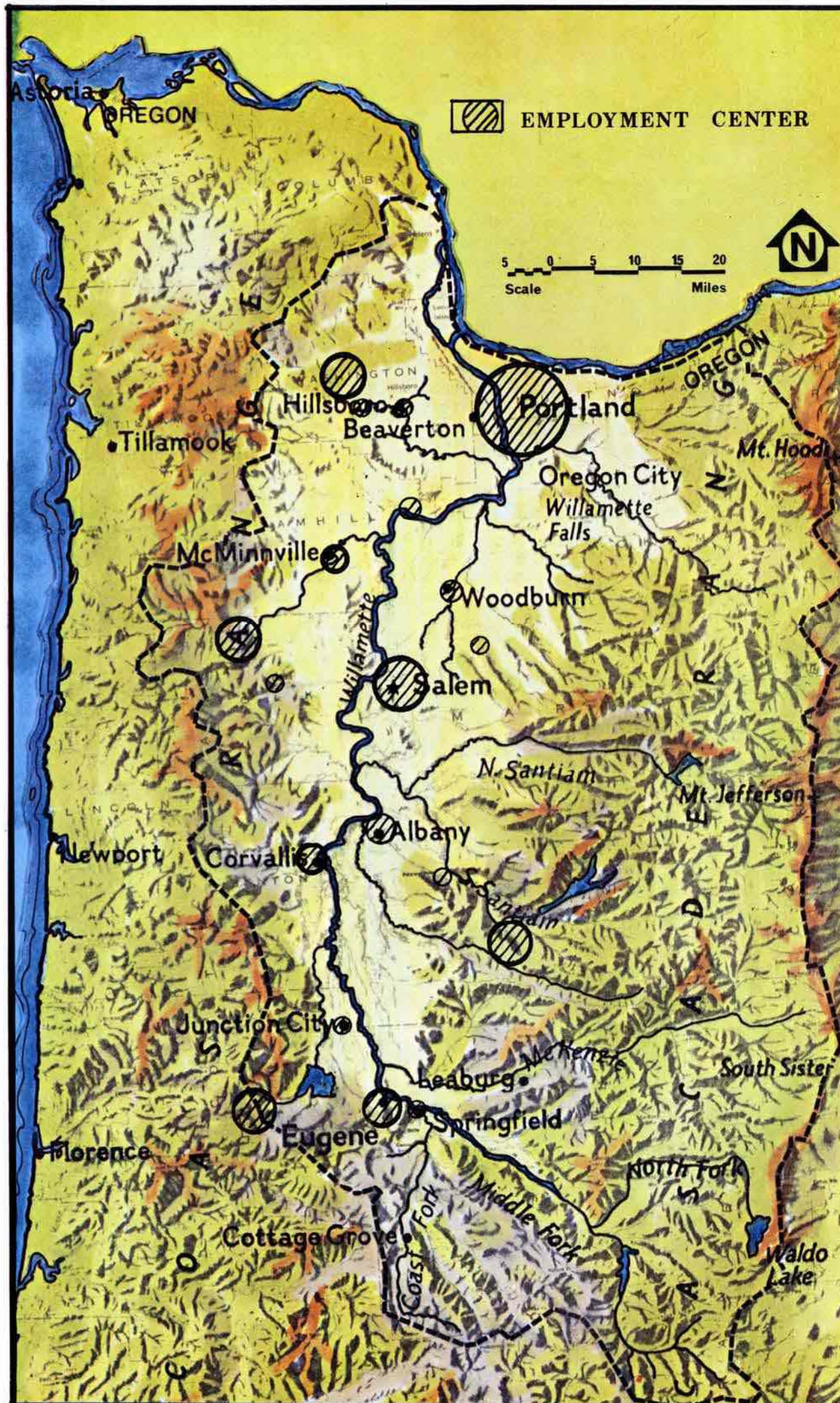
Many industries that did not have to settle in specific places, and which came to the Valley for its environmental amenities, decided to locate in newly-developed communities and the hill towns.



Today, people can to a significant extent choose where they wish to work and live and how their home-work relationship should be. They can walk to work or use the public transit into the city.







When the Valley's industrial patterns changed from farming and timber products to metallurgy, electronics, mobile home manufacture, and other industries not based on its natural resources, there was concern that there would be agglomeration of industries in the cities and a decline everywhere else.

When it was decided to concentrate development in urban centers, contained suburbs, and new communities and rejuvenated hill towns, the opportunity appeared to locate "footloose" industry in these new communities. Since footloose industries did not have to be located in cities, and since most of them came to the Valley for the superior environmental qualities provided in the new and rejuvenated communities, they were happy to locate there.

Construction of these communities and the public transit systems that serve them has been another decided plus for the Valley economy. The management and maintenance of transit lines and the new town centers that have sprung up at the stations are new sources of income.



## 2

## SCENARIO 2: POLLUTION

Almost 70% of the people of the Valley have grown up experiencing the widespread environmental consciousness that began back in the 1960's, when the Willamette River was cleaned up.

The importance of the Valley's environment is a constant concern in 2002 and the public has little patience with despoilers.

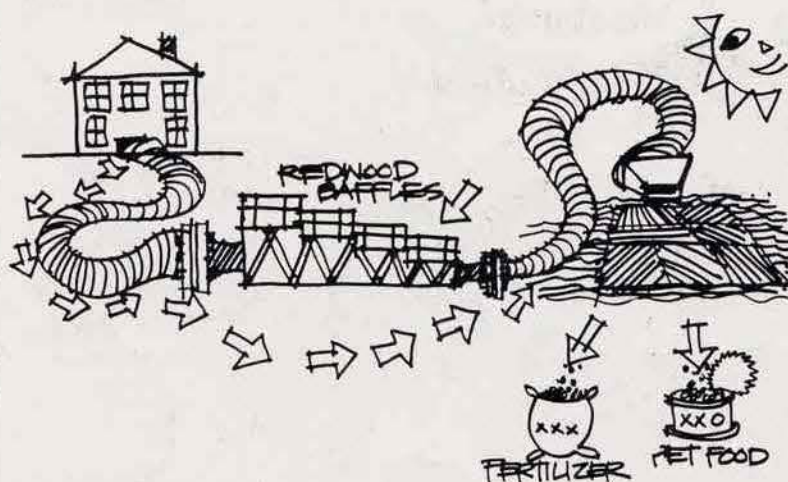
In order to continue the high quality of life in the Valley, people have cooperated to preserve the environment. They have established pollution controls and land-use patterns that protect open space. They have removed clutter from the landscape. They have been busy damping down noise, recycling solid wastes and finding ways to use excess heat from generators.

The visual pollution and clutter that began to be such an irritant in the 1970's have been greatly diminished by zoning. Scattering of housing developments and commercial infill has been controlled. More control of billboards and signs has produced a visually pleasing environment in urban areas and along roadways. Developers now lease public land around transit stations and face rigid controls over what they can put up. This insured that town centers became visually exciting without getting sleazy or honkytonk. Clustering of new developments, emphasis on rehabilitation of city centers and containment of the suburbs have provided generous open space and pleasant views.

Because there are fewer cars, there is less air pollution and less noise pollution today than 30 years ago. Most cars are not even allowed in densely developed urban areas. People can walk about and ride electric mass transit in relative quiet. They breathe cleaner air. Since people depend on electric rail transit throughout the Valley, the air has cleared and riders can hear rural sounds as they are sped swiftly over the landscape.

Water of uncommonly high quality continues to be one of the blessings of the Valley, a blessing guaranteed by tight quality controls, careful location of industries and tertiary treatment of all sewage.

Some years ago people of the Valley realized that a portion of their landscape was disappearing under tons of garbage. This was caused by the need for disposing of solid waste as land fill.

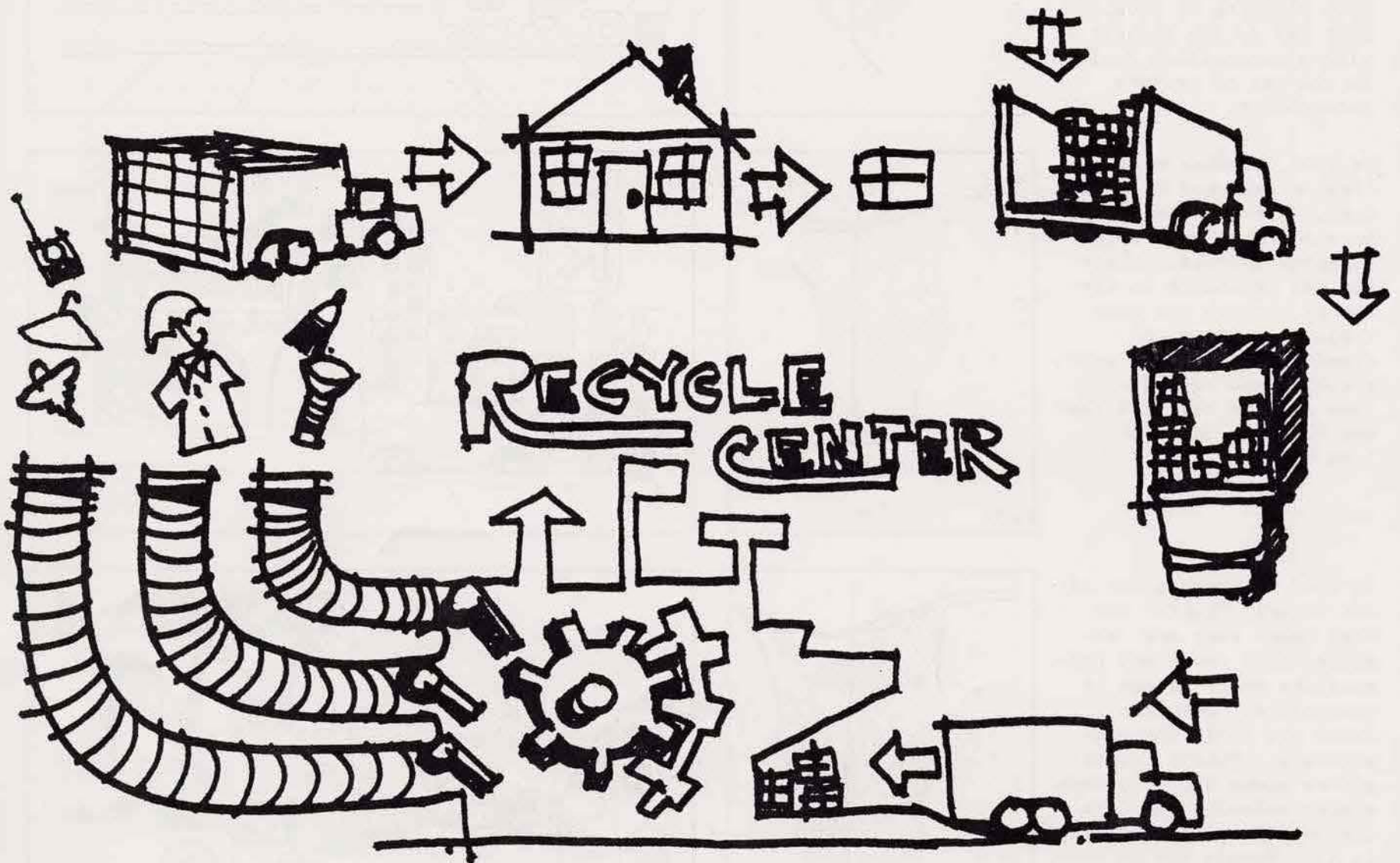




Since then, people have demanded that emphasis be put on recycling of solid waste. Metal, glass, and other materials have been made to "live more than one life." They are converted into form after form and use after use.

This emphasis on reuse and recycling has also affected the area of tertiary sewage treatment. For example, when Cottage Grove opened its tertiary sewage treatment plant more than 30 years ago, the odorless, dried residue of the process was given away to gardeners as fertilizer. It was also made into pellets as experimental food for fish cultures. In 2002, this residue has become increasingly plentiful, and has been used on a much larger scale in agriculture and fish farming.

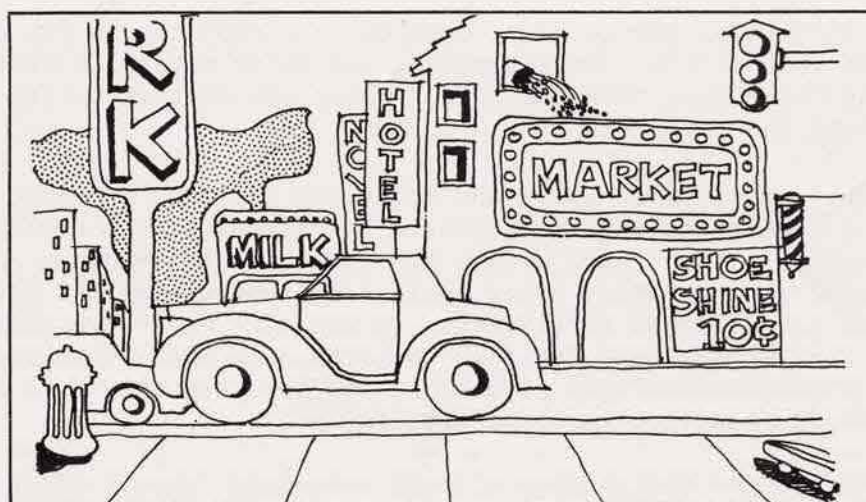
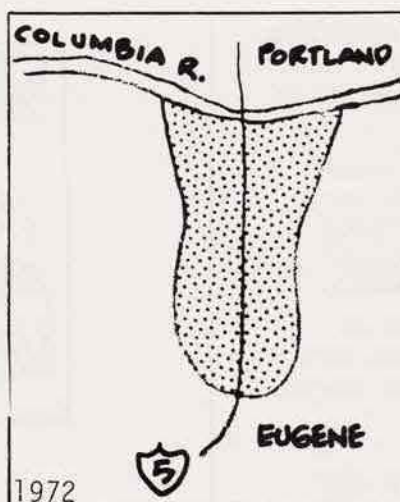
Today, the Valley uses all its resources, enjoys clean air and water and has open space available to all. Because clutter has been controlled, every Oregonian can have close contact with his environment. And, he does so in a serene attitude undisturbed by noise, smog, bad odors, or the view of the beer can on the wilderness trail.



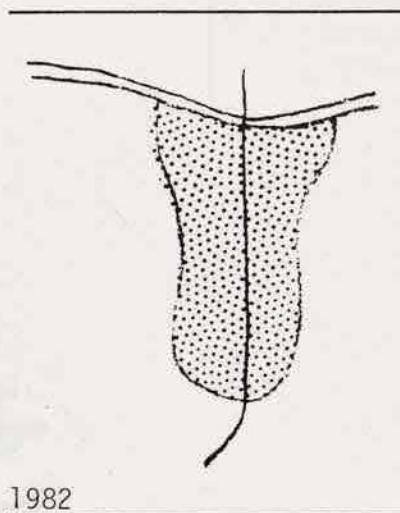


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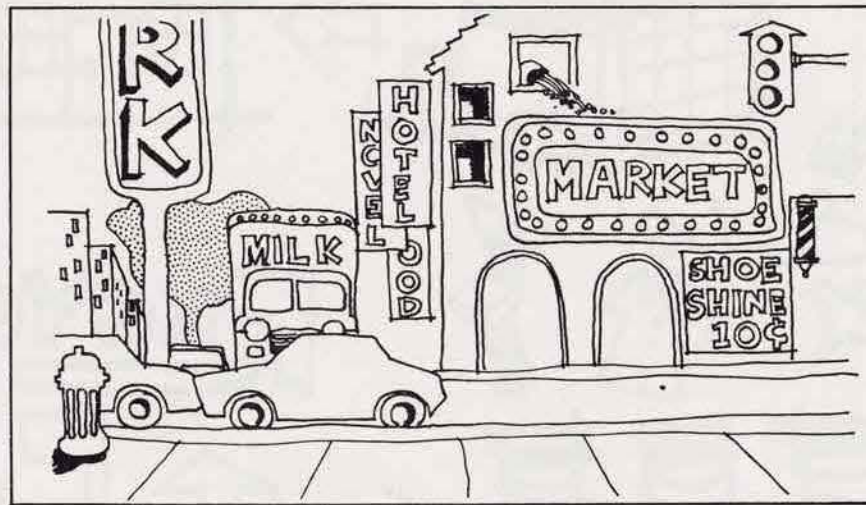
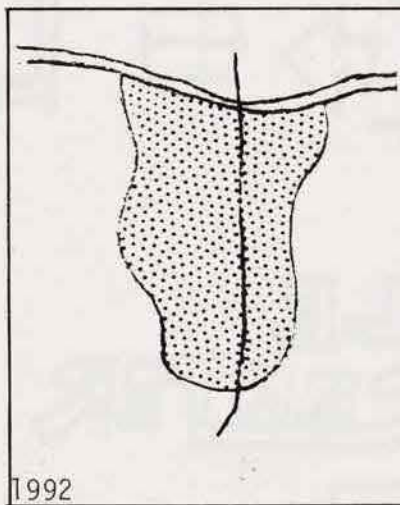
Thirty years ago, men triumphed over water pollution in the Willamette River. People began to feel a deep concern for their environment. But the spread of new construction across the Valley floor had begun a pattern of visual pollution that was increasingly offensive.



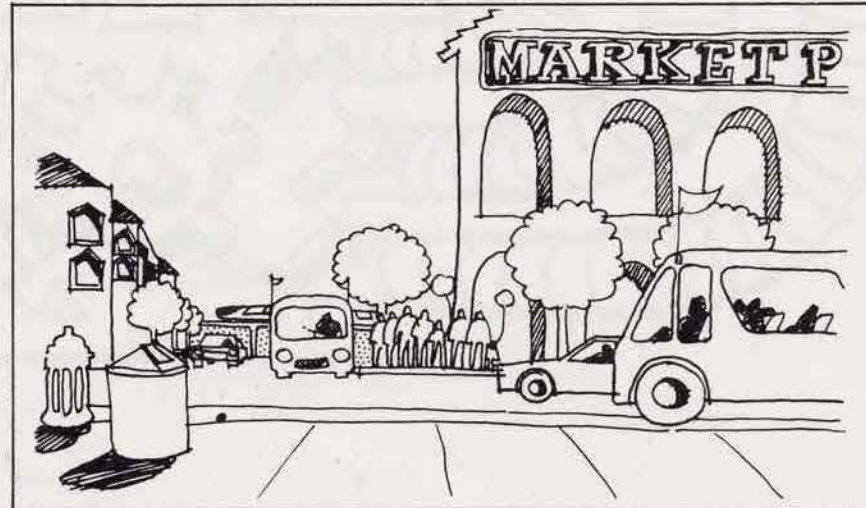
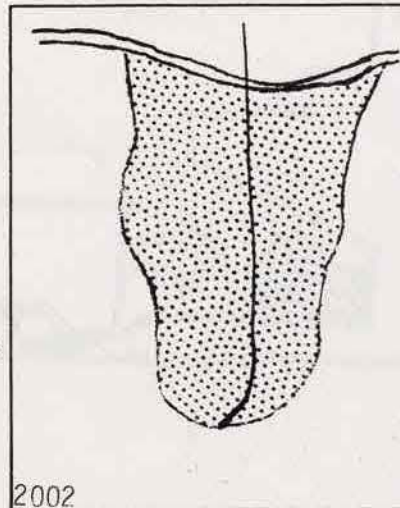
Air pollution was reduced by 1982 because of the enforcement of Federal guidelines. The water of the Willamette and other rivers was purer than ever because of tertiary treatment of liquid wastes. Visual and noise pollution began to decline because of the comprehensive planning of development and public transit - with a concomitant decline in the use of private automobiles.



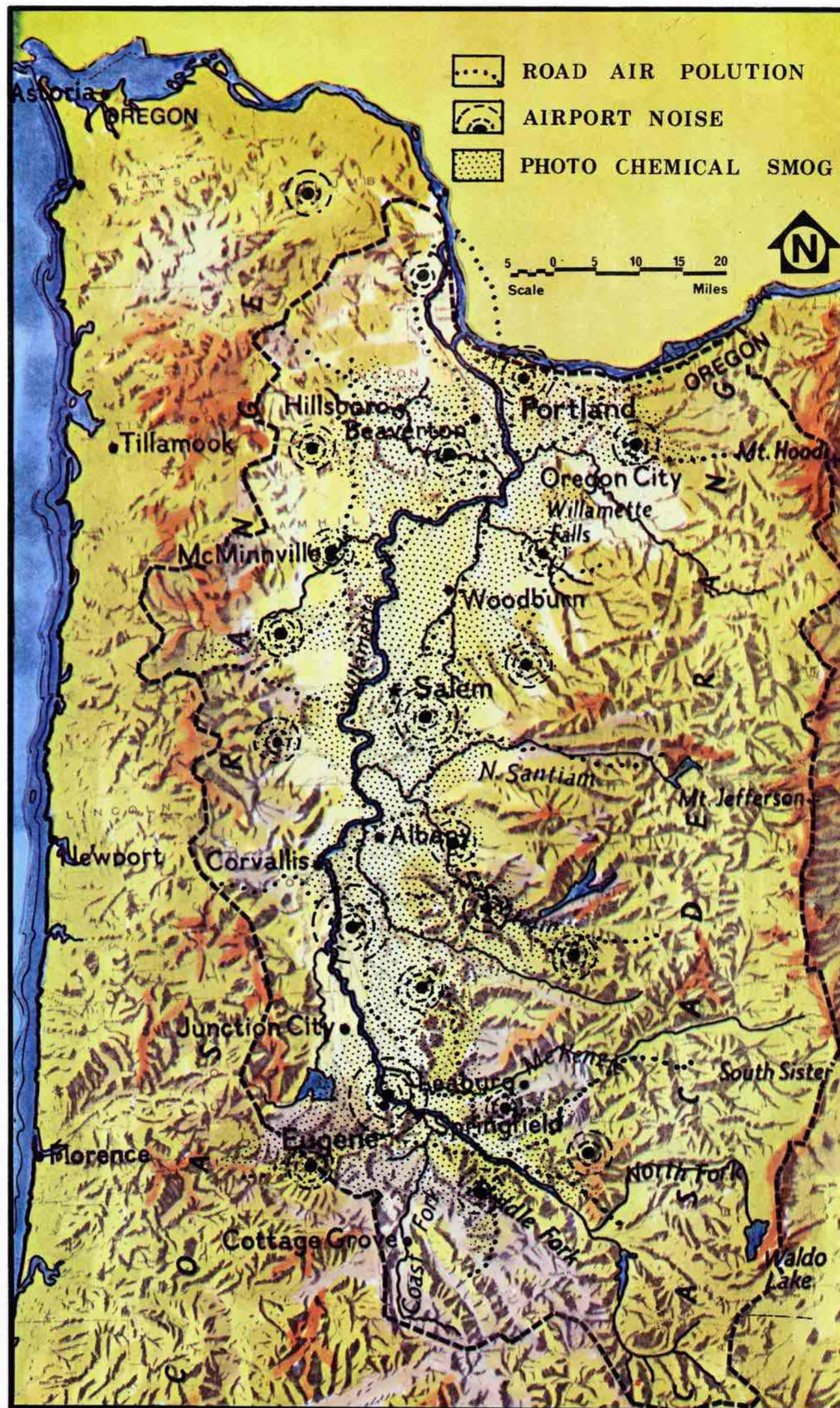
In 1992, streets were cleaner and used by fewer cars. Air was cleaner because there were fewer emission sources. Clutter was beginning to disappear through new controls over signs and development. Wastes were recycled and reused - thus sparing the land that was formerly used for land fill.



In 2002, we have clean air and water. Clutter has been taken away and absorbed into developed communities where it can be controlled. Downtown areas are built for pedestrians. Public transit glides above the landscape almost noiselessly. The car has its place and stays in it. People are in contact with the environment.







In 2002, there is a new atmosphere in the Valley. The key to it is the public transit system - a low-pollution, almost noiseless elevated rail network throughout the Valley. People no longer depend on their cars as they used to. This has reduced air pollution, noise pollution and the consumption of vast areas of open space for highways and roads.

Cars have all but disappeared in urban and new communities because of the convenience of mass transit.

Industries are now dispersed throughout the Valley instead of in a few urban cores. This has reduced pollution into the Valley air shed, as has the emphasis on stricter controls.

New laws have reduced the consumption of energy and power - thus reducing pollution. People have chosen a superb natural environment as the main element of their "life style" rather than more physical possessions and gadgets.

Today solid wastes are recycled. Excess heat from generators is used. Wastes are processed for agriculture and fish farming. Former sources of pollution now contribute to the economy.



## 2

## SCENARIO 2: ENERGY AND POWER

A desire to limit pollution and reduce waste in power consumption - and deeply felt concern for the quality of the environment - led to a new energy policy for Oregon between 1975 and 1980.

The objectives of the policy were to:

limit the region's per capita use of energy;

improve efficiency of energy usage; and

conserve irreplaceable fuels.

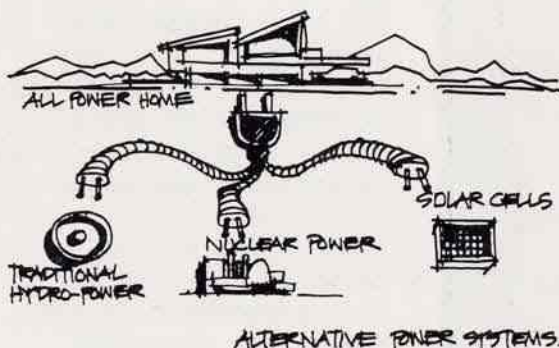
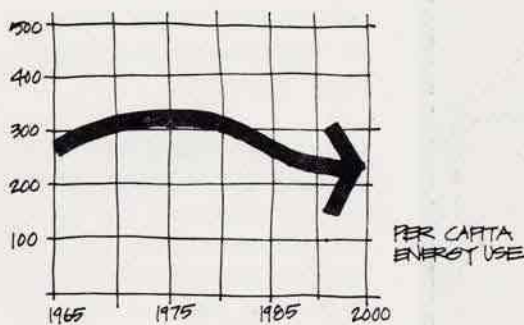
By 1980 a ceiling of 370 million BTU's per capita per year was placed on energy consumption. (BTU means British Thermal Units, a standard energy measurement. A person requires 12,000 BTU's of food energy each day, the equivalent of 3,000 calories.)

After that, the per capita consumption of energy declined gradually toward the 1970 figure of 180 million BTU's per capita per year.

An effective curb on increasing demand for energy was a tax on energy of all forms. By artificially raising prices years ago, gains were made that began implementing the new energy policy. Proceeds from these tax monies were used to develop mass transit systems and to underwrite public corporations who planned and organized integrated residential, commercial, and industrial complexes. This program tied in neatly with the comprehensive planning of land use, open space, and transit and transportation throughout the Valley.

While the tax measures were primarily aimed at improving housing development practices, a special energy tax was imposed on industry in longer range terms. The theory was that if a high energy tax causes industries to relocate out of the Valley because of energy costs, there would be more energy available for labor-intensive industries and the Valley resident.

Efficient use of energy has been possible because of planned-use policies concerning development and transit. With clustering and no sprawl, there has been less requirement for massive power generation all over the basin. Similarly, the automobile has declined as an energy consumer and mass transit provides quiet, and relatively pollution free rides, using a central energy source.

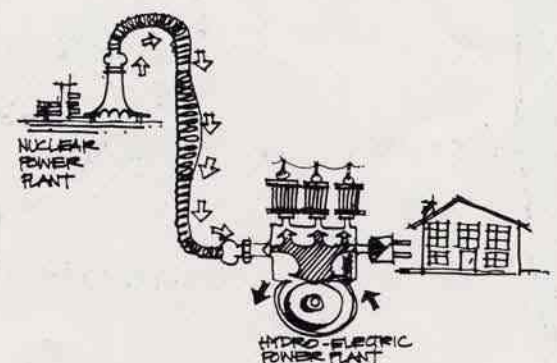


#### Less energy, same standard of living

Two researchers at the University of California at Berkeley report that studies they have done show it is possible to reduce per capita energy consumption in the United States to 62 percent of current levels and maintain the same standard of living.

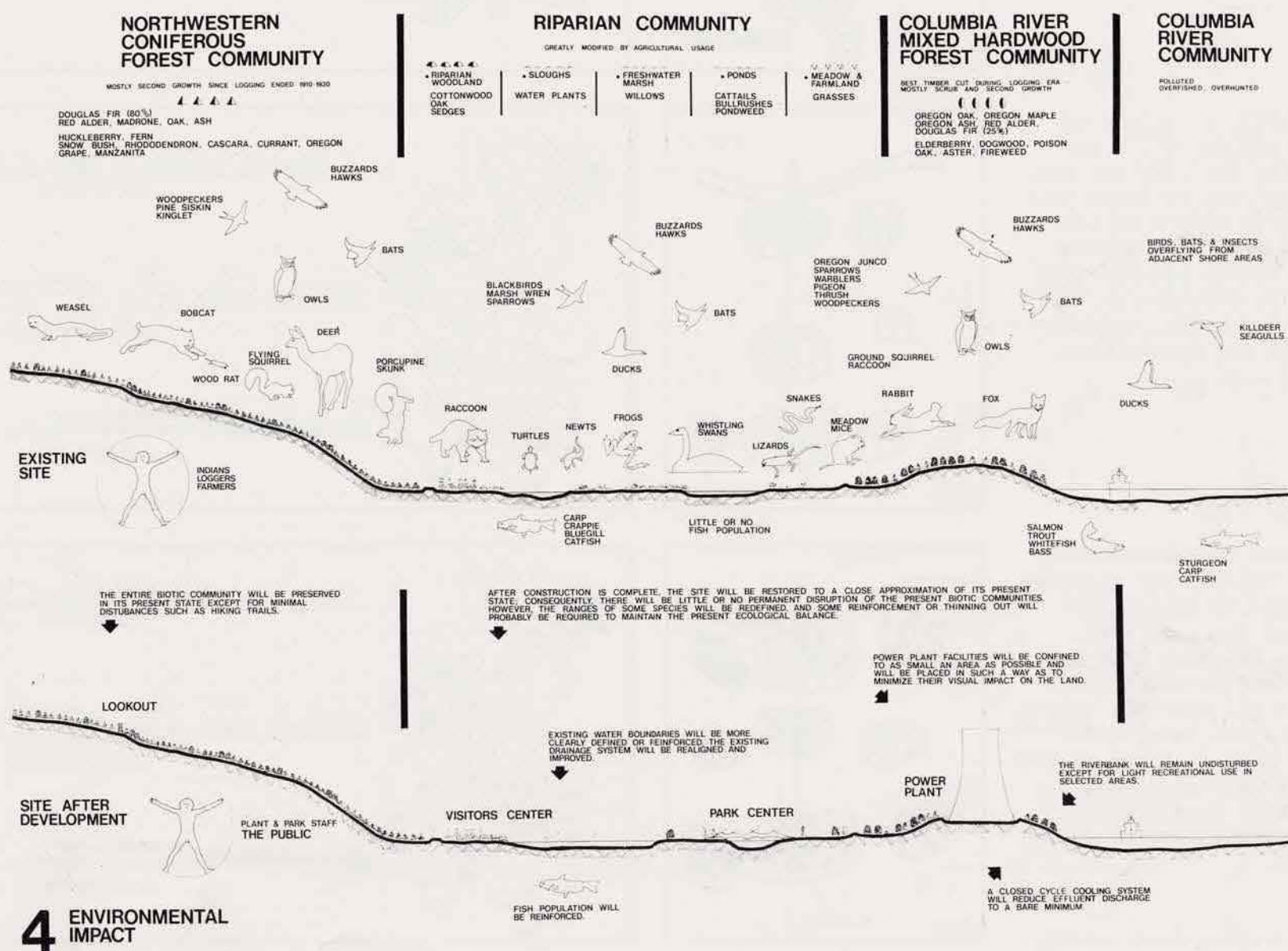
A. B. Makhijani and A. J. Lichtenberg of the UC College of Engineering recommend a five-point program for reducing energy waste and for utilizing now unused available forms of energy: 1) Use of solar energy for household heating and other purposes, a potential which could be realized "if the necessary funding for the R&D were to become available"; 2) Implementation of a "total energy" concept, the use of now-wasted heat from nuclear and fossil-fueled power plants for operating turbines, for preheating, drying, space heating or desalination; 3) Materials reuse and recycling (for instance, instead of using energy-intensive aluminum for throw-away beverage containers, the beverage industry would go back to the use of returnable bottles); 4) Improving transportation efficiency—through rapid transit, through smaller automobiles, through the use of recycled materials in automobile manufacture and through partial replacement of truck hauling with rail hauling, and 5) Improving the thermal efficiency of power plants, through such devices as magnetohydrodynamics (MHD) topping cycles or an increase in maximum operating temperatures of power plants.

Science News, 3/11/72





Just as the rail transit system was created all at once to prevent land use and transportation practices that would ultimately have made it too costly, so the new energy policy went directly into effect between 1970 and 1980. Otherwise plans in process at the time for atomic power plants, large leapfrogging housing developments, influxes of industry, and bigger and better road systems would have prevented it from having the desired effect of slowing growth and promoting a more desirable environment for everyone in the Willamette Valley.



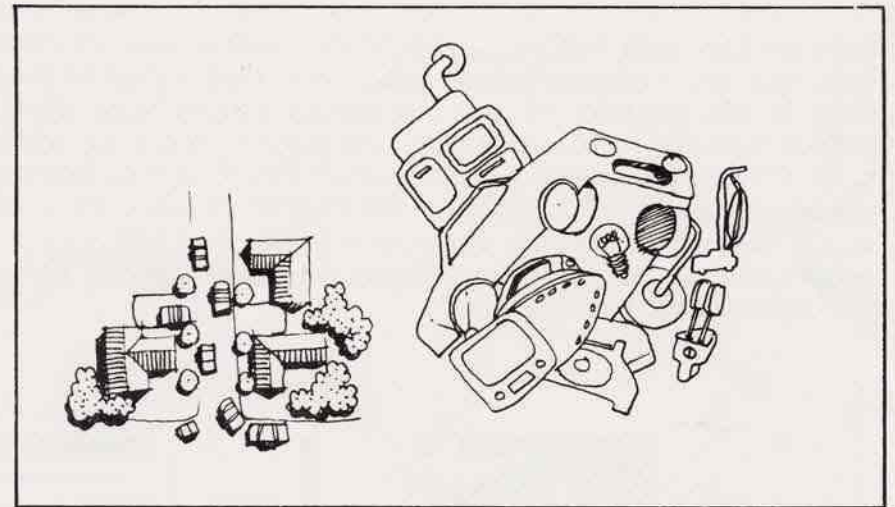
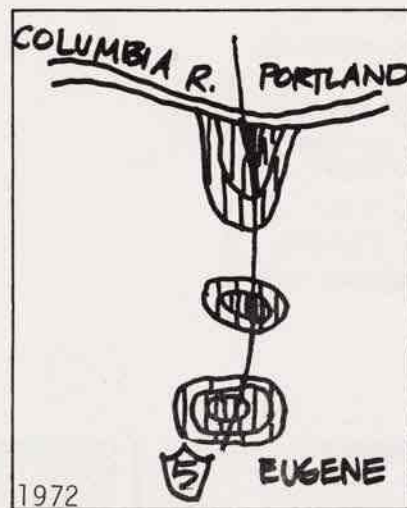
#### 4 ENVIRONMENTAL IMPACT

An example of ecological land-use planning in the siting of the Trojan Nuclear Power Plant.

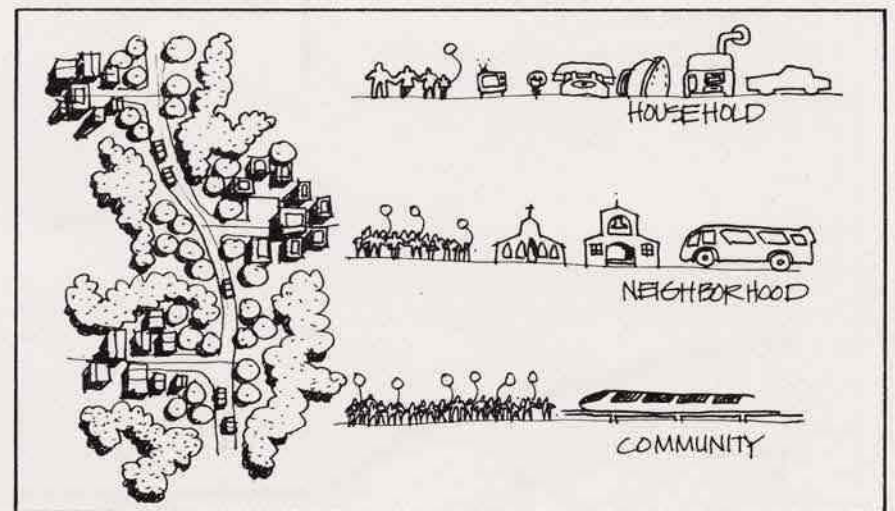
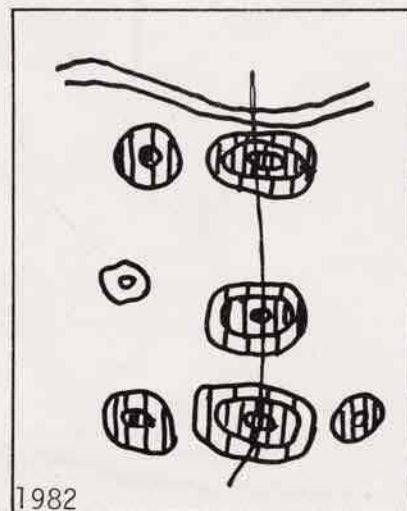


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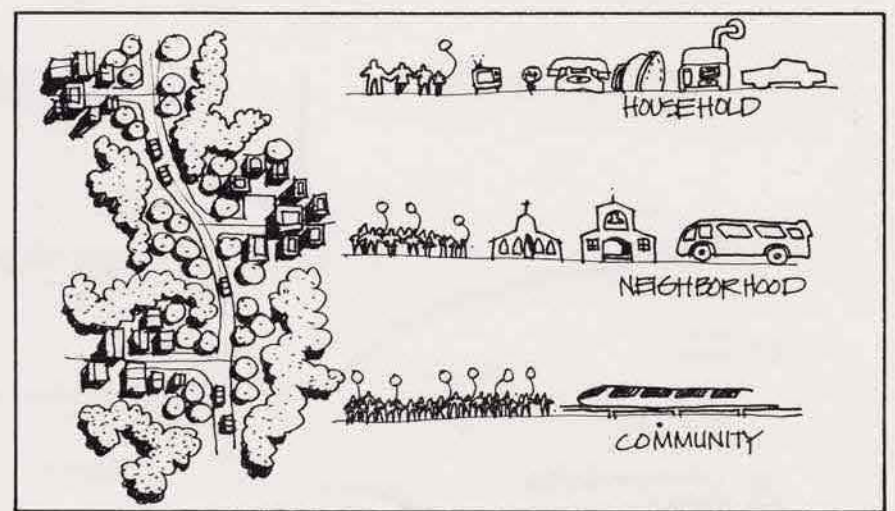
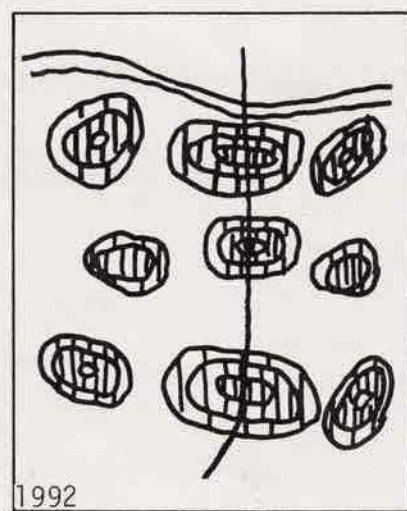
Between 1975 and 1980 a new energy policy was established in Oregon. The objectives of this policy were to limit the per capita use of energy; to use energy more efficiently; and to conserve irreplaceable natural fuels.



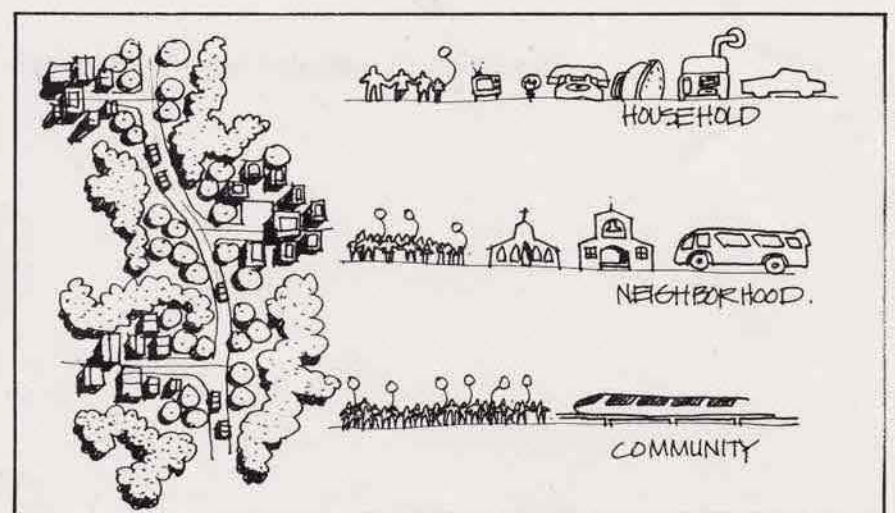
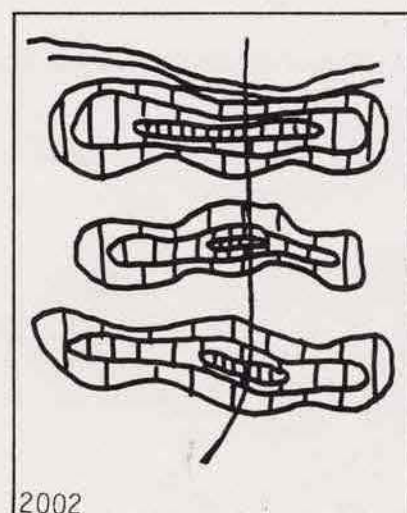
In 1982, a ceiling of 370 million BTU's per capita per year was set. Actual use declined during the 1980's to less than half that amount. The widespread rise in energy use was reversed in households, neighborhoods and communities.



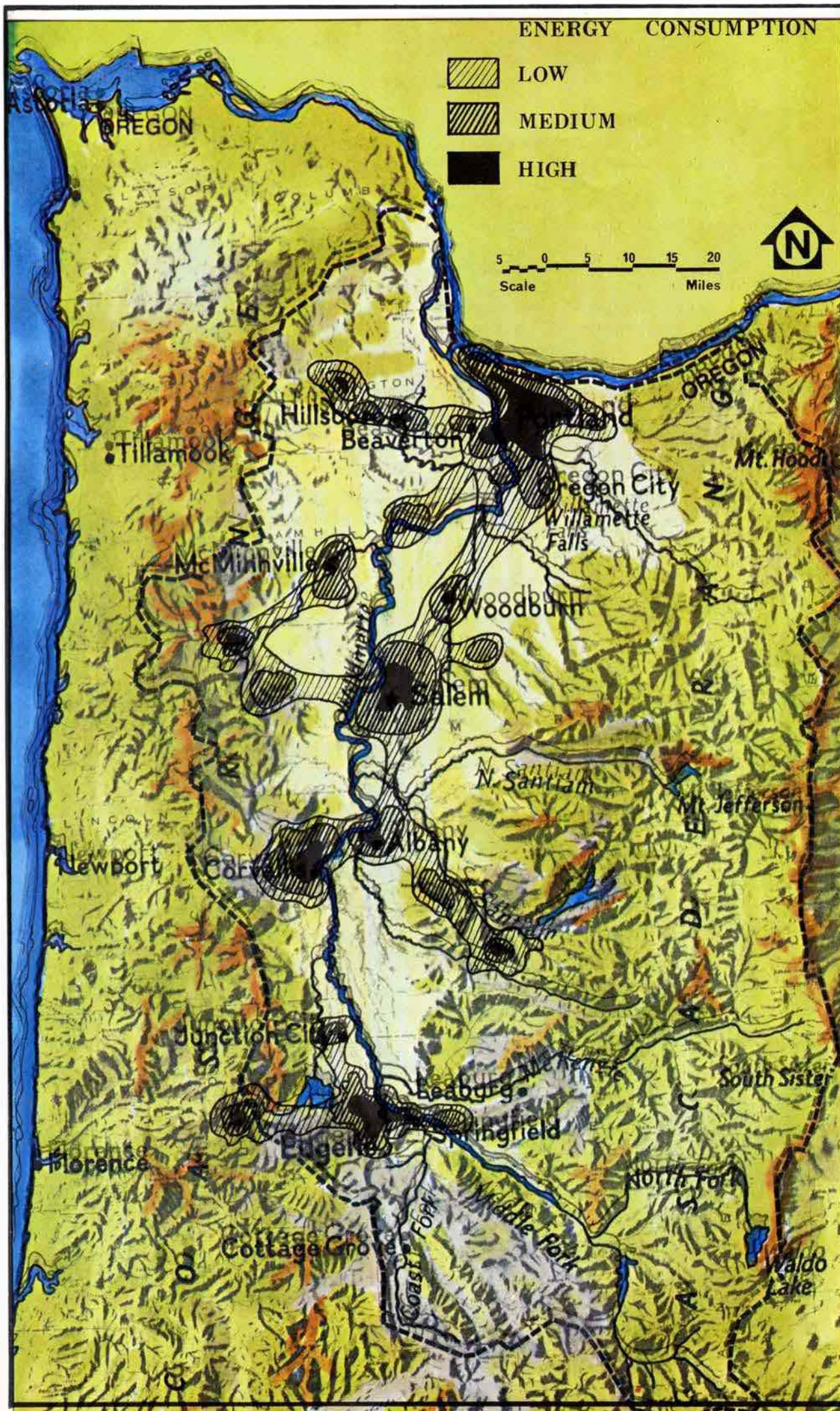
Because new communities are "clustering" together instead of spreading across the open land, there has been less need for massive power generation all over the Valley. People are using their cars less in favor of the modern public transit system - thus lowering the consumption of fossil fuels.



In 2002, we have a radically changed energy policy. People use energy judiciously because of high taxes on energy consumption - particularly on high energy users. These tax moneys provide funding for comprehensive land use development and public transit systems.







It is easy to see on the map how consumption of energy in 2002 reflects new development patterns in the Valley.

Comprehensive planning of cities, suburbs and new communities has "paid off" in reduced energy use. Residents of the Valley have used an integrated approach in tackling their problems. By building a public transit system, they have reduced the need for cars and new roads. Fewer fossil fuels are used. There is less air and noise pollution.

Gas taxes and fuel taxes have been used to improve the environment and support comprehensive planning. In turn, comprehensive planning creates many varied choices of living and working styles for people of all interests and income levels.

In this way, a new energy policy has dove-tailed with the overall comprehensive planning for the Valley's future.



# 2

## SCENARIO 2: GOVERNMENTAL INTERRELATIONSHIPS

In the thirty years between 1972 and 2002, there has been a major change in governmental interrelationships in the Willamette Valley. Citizens and public officials have tended increasingly to treat Valley-wide problems on a Valley-wide basis.

The present governmental structure reflects a new understanding that certain problems have implications far beyond any single city, county, or regional Council of Governments. People now realize that actions taken in one part of the Valley may very well affect -- or even predetermine -- actions taken in other parts of the Valley.

State-wide decision-making processes were thoroughly reconsidered in the 1970's. Citizens and public officials examined which decisions should be made at the different levels of government (local, regional, and state). Guidelines were established defining what constitutes a local, regional, or state matter. Since that time, actions with ramifications beyond local boundaries, such as major developments, have been reviewed at the state or regional level. Local governments have been left with only decisions having a minimal effect on areas outside their localities.

The state now directly controls lands that were earlier determined to be of critical state interest, including areas of recreational and scenic value to the entire state and developments that are by their nature or scale of state-wide interest. The state has also set minimum standards for the quality of local comprehensive plans.

Federal legislation in the 1970's provided funding to encourage state regulation of land-use planning. The state delegated first-line authority for this to the Councils of Governments (COG's), subject to state review. The COG's consequently developed greater planning capability. More and more the COG's began contracting with cities and counties to provide planning, zoning, administration, and other technical services. This, in turn, tended to improve communication between the COG's and local governments. It also improved the quality of local planning.

In the 1970's, COG's in the Valley began planning together for services that extended beyond the boundaries of the individual councils - such as Valley-wide mass transit. Since the COG's were comprehensive planning agencies, mass transit planning was coordinated with other transportation planning. This made it easier to achieve a balanced transportation system.

The role of the Boundary Review Commissions has been strengthened. Some time ago, they were given greater authority to initiate as well as review changes in the boundaries of cities and special purpose districts.

Through the years the Legislature required that boundary commissions reduce the number of special purpose districts and municipalities and rationalize their boundaries. As a result, there has been a decrease in the number of such governmental units since 1972. There has been a substantial reduction in the problems of duplication, overlapping, and uncoordinated provision of urban services -- problems that were pronounced in the 60's and 70's. Since the number of governments providing services is smaller than in 1972, the implementation of comprehensive planning has become easier.

Decision-making is more informed today because of the development of broader concepts of cost-benefit analysis. There are more effective techniques of carrying out such analysis (involving the use of computers). There is a greater willingness to use it at



all levels of government. Cost-benefit analysis is broader in 2002 because it includes a consideration of social costs and benefits involved in any decision -- such things as aesthetic values, environmental impacts and effects on income levels. Long-range costs and benefits of proposed actions are now more fully identified.

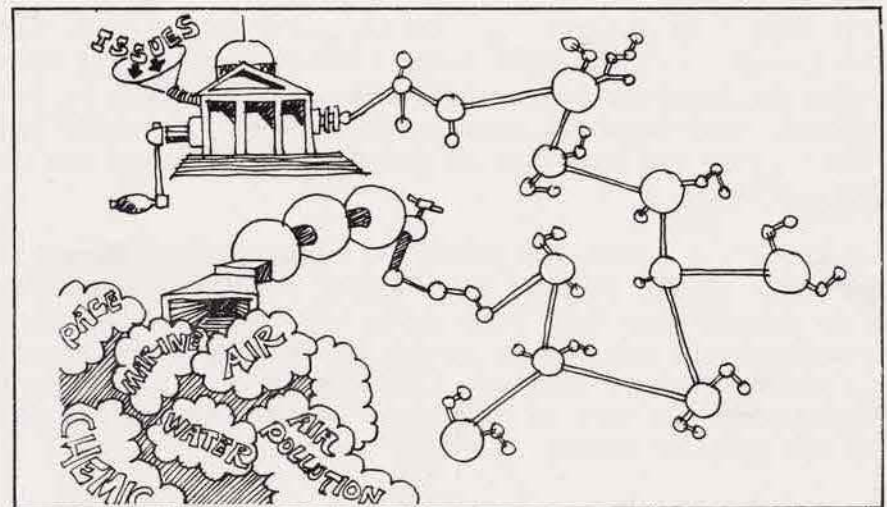
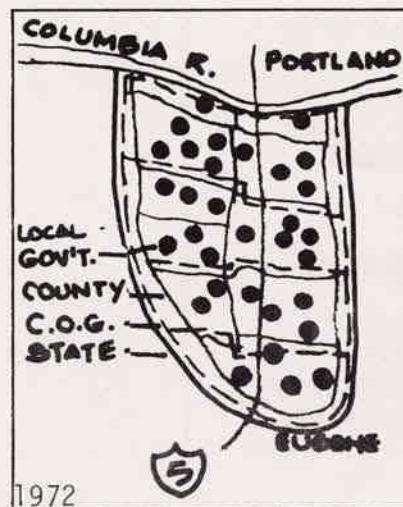
At the local level, neighborhood organizations have become actual partners in the process of planning for their communities. In many cases, they have been given the option of planning their neighborhoods subject to review by the county or municipality in which they are located. The county or city adopts and enforces these plans as long as they pose no adverse effects for the rest of the city or county.



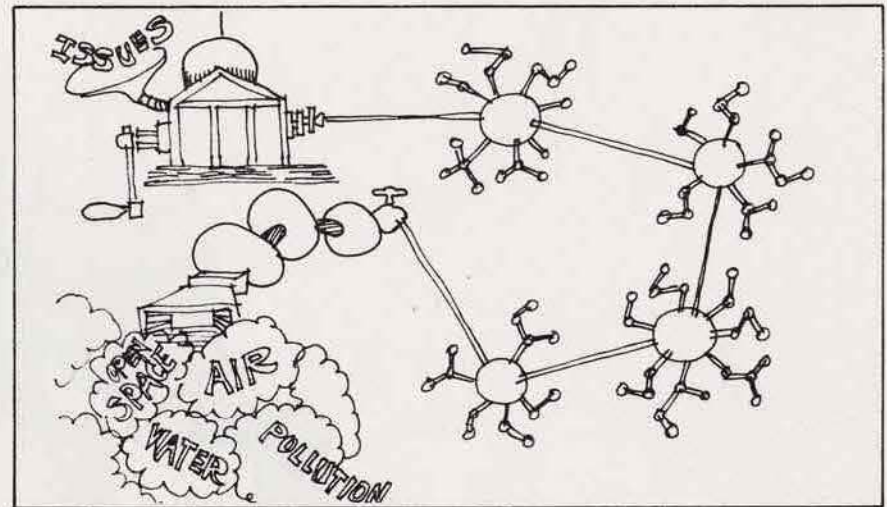
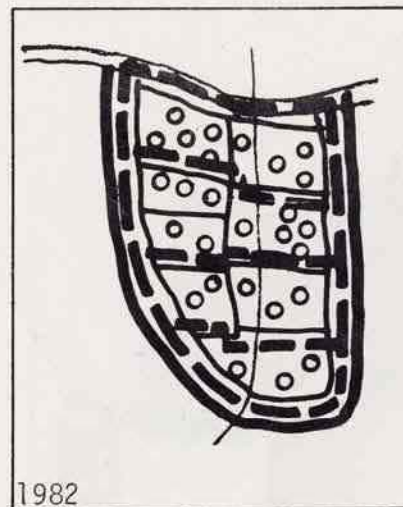


## 2

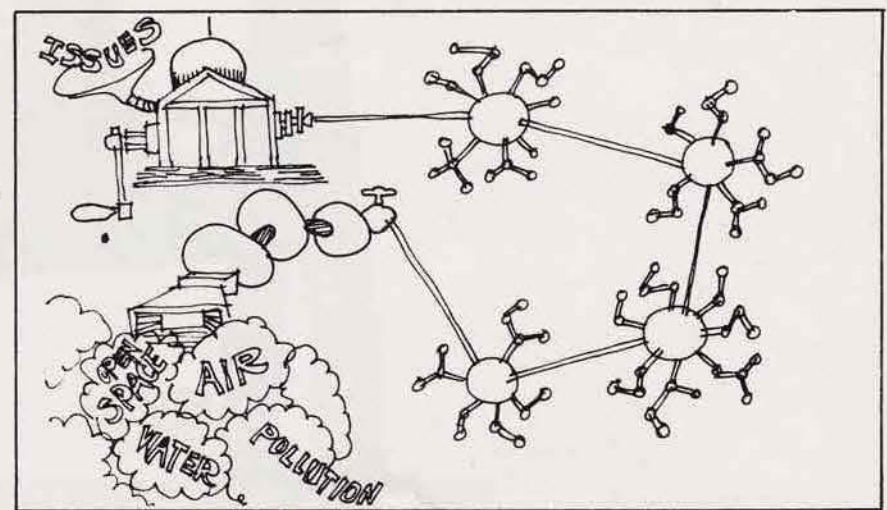
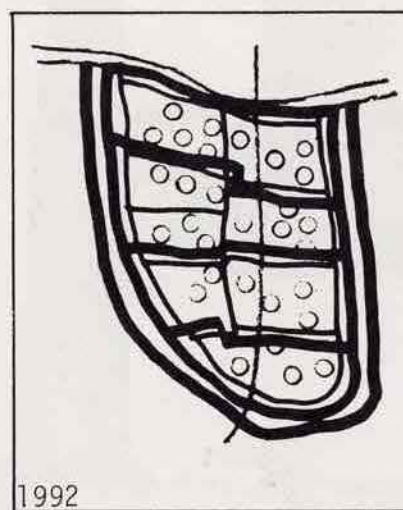
The large number of local, regional, state, and Federal agencies making plans and legislation in the 1970's was reviewed almost 30 years ago, and state-wide decision-making policies were completely reconsidered. Guidelines were established defining what constitutes a local, regional, or state matter.



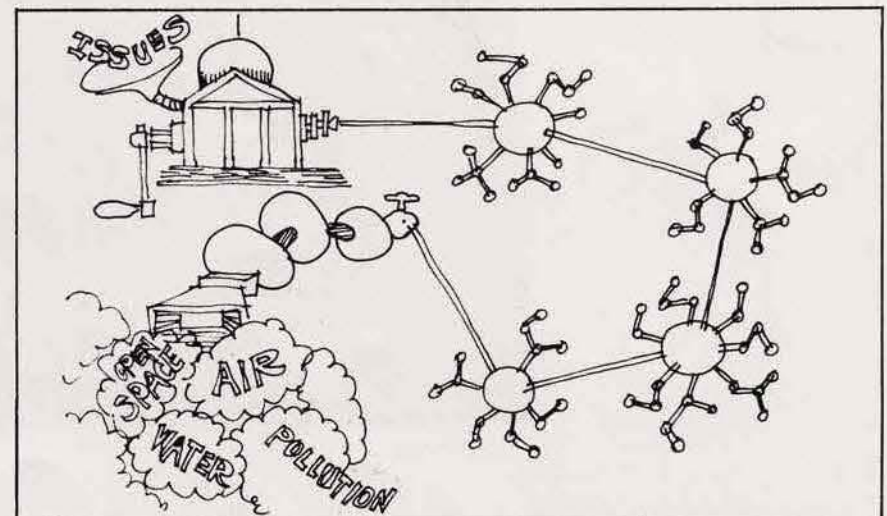
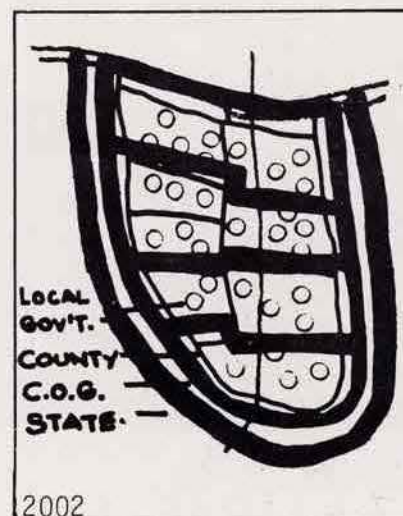
The process was well under way by 1982. Councils of Government took on greater land-use planning authority, with state review in cases where consequences went beyond the boundaries of a COG district. The Boundary Review Commissions had more influence, with power to initiate as well as review sub-regional boundary changes.



All large-scale plans receive review at the state level. The state has asserted control over special lands deemed necessary for conservation of open space and provision of public recreation. Minimum quality standards have been established for local plans.



Cost-benefit analysis today includes the social costs and benefits in any decision. The public now is involved in the planning process, making plans for its own cities, towns, and neighborhoods.







The levels of government that affect the Valley in 2002 are smoothly integrated so that what is decided at the local level is a part of what is planned at the regional or state level.

At the most active level, the sub-regional level, the COG's in the Valley now plan together for all services and future development that extend beyond their individual boundaries. Having become comprehensive planning agencies -- with ultimate review at state level -- the COG's now can coordinate the Valley-wide public transit system with other transportation planning such as air travel and the diminished roads program. Quality and quantity review of any proposal having environmental or social impact is lodged with the COG's or, if the scale is sufficiently large, with the state.

By planning comprehensively on a regional and sub-regional basis, there has been a substantial reduction in problems of duplication, overlapping, and uncoordinated provision of public services.



# HOW TO MAKE YOUR OWN SCENARIOS

One way for people to really understand how profoundly their actions affect their environment is to make their own scenarios for the future.

In this section we will show you ways to develop and write your own scenarios. This can be fun, but it is really a very serious process. Babies born as you read this will be experiencing the consequences of your decisions by the time they reach 30 years of age.

Let's have a look at some other possible alternatives for the Valley and see how you can make your own choices and work with other citizens and legislators to realize them. These are nine mini-scenarios for the future. Following them, we will see four more full-scale scenario alternatives covering all the issue areas.

## 1. ALTERNATIVE: Open Space and Recreation

A decision might be made to extend the present Greenway park system on the Willamette River to include the entire river and all its tributaries. This open space would not be a slim strip along the river banks with occasional parks along the way, but a generous network of public open space with access from transit flung up and down and across the Valley and penetrating up into river valleys east and west. The Greenways would extend for one-quarter mile inland from both banks of the rivers at all points, creating a skein of one-half-mile-wide linear parks converging on the Willamette all along the Valley.

## 2. ALTERNATIVE: Population



One alternative to a population of 2,500,000 in the Valley 30 years from now is to place restrictions on immigration.

Immigration controls and disincentives might bring the year 2002 population down by about a quarter of a million people.

For instance, if the state decided to de-emphasize heavy industry and institute more energy-consumption controls, it would likely mean fewer job opportunities and less immigration. With a comprehensive program of on-the-job training and up-grading the native labor force it would also mean jobs for the people who are here.

There are alternatives to this.

A lottery for prospective immigrants may sound quixotic. But it could be effective and it is no respecter of persons. It would mean that no-one would be excluded on the basis of education, skills, or social or economic "status."

## 'Visit, but Don't Come Here to Live'

S. F. examiner 8/17/72

By Ed Edelson

Pollution is changing the minds of some U. S. communities — and even entire states — about the wisdom of unlimited growth.

In most places, the thought of stopping economic and population growth still is heresy. But in a growing number of situations it is becoming a religion.

These examples show a clear trend:

- Governor Tom McCall of Oregon has said on national television: "Please come visit us in Oregon again and again. But for heaven's sake don't come here to live."

- The Hawaii state legislature passed a bill establishing a control commission that would set an annual limit on the number of automobiles allowed in the state and the number of planes and ships bringing passengers to the islands.

- Livermore, Calif., passed an initiative measure that will shut off new construction under any one of three circumstances — double sessions in public schools, failure of sewage plants to meet regional water standards, or rationing of water supplies to existing residents.

- Brentwood, Calif., with 2300 residents, narrowly voted down a law that would have put a flat limit of 7500 on the town's ultimate population.

★ ★ ★



### 3. ALTERNATIVE: Transportation

One of the great attributes of the Willamette Valley is its variety of environmental conditions and spectacular natural scenery.

What about an electric mini-rail system that would ring the Valley above the foothills? It would be connected to the mass transit system at various links, giving access to hiking, camping and rock climbing plus giving incredible views of the Valley below as you travelled along it at a leisurely speed. At each end of the loop--Portland and Eugene--there would be opportunities for more imaginative urban development. People could climb down into the Valley and the river-park network as well as up to the mountains. This system would be a strong tourist attraction as well as a way for Valley residents to leave their cars behind and reach recreation and open space around the Valley without bother to themselves or their environment.

### 4. ALTERNATIVE: Land Use

Between Eugene and Salem the otherwise flat landscape on either side of Highway I-5 is dotted with dome-like hills that are, in actuality, volcanic buttes.

One way to provide people with a chance to live outside the city with great views of open space and a unique "village" environment would be to develop these buttes as miniature hill-towns. People could live here in easy commuting distance to Salem or Eugene. Thus, open farm land would be saved for agriculture and for its visual beauty. Yet there would still be a profit for land-owners and developers.



This alternative might sound far out, but historic precedents exist in monastery towns such as Mont St. Michel, a complete town built on a domed island around a church and monastery in the 12th Century. And, many people have visited the Montmartre district of Paris without realizing it was once a suburb of the city built on a butte!

### 5. ALTERNATIVE: Employment and Income

There were 2,848,000 tourist autos visiting Oregon for more than 24 hours in 1969. (That's a standard measurement for tourism, and usually indicates a longer stay by one automobile and its passengers.) Tourists spent \$326,435,000 in Oregon that year. It is safe to assume that a good portion of that amount was spent in the Valley, but undoubtedly a lot went to developed tourist centers on the coast, in the Columbia and Rogue River gorges, in national parks and forests, and at other resorts and recreational areas.

An alternative for Recreation and one that would spell more Employment and Income too, would be to mount an intensive development of tourist-oriented cities and facilities. Such places would be located where the most opportunities for recreation exist--and the Valley possesses many such opportunities. To take just one example, Junction City in Lane County lies right at the "crossroads" of many of Oregon's prime attractions. Both river, Valley and mountains are accessible. The Siuslaw National Forest is right above. A trip over to the Pacific Coast is easily made. The cosmopolitan university city of Eugene can offer entertainment and cultural opportunities. Junction City even has an annual Scandinavian Festival that could be capitalized on.



There are towns and small cities all over the Valley that can offer visitors unique experiences. There are rodeos in St. Paul and other towns; the annual state fair in Salem; the Willamette Falls; the locks; nearby state, county, and Federal parks. People could visit lumber camps, the State Capitol, see buildings that trace the development of the whole area (barns, silos, Victorian houses, forts), and most of all, absorb the glorious Valley scenery.

They could even do it all on the Valley mini-rail mentioned in the Transportation Alternative above.

#### 6. ALTERNATIVE: Governmental Interrelationships

Everyone concerned with the Valley--from the Governor to the farmer who is wondering how much longer he can hold on to his farm--feels there should be a way for people and their officials to make decisions about the future in a spirit of mutual understanding and mutual concern for one another.

One idea is to hold a convention to which delegates would be elected by the public. Representatives of many localities and interests in the Valley would hammer out agreement on:

1. major objectives for the future of the Valley environment, and
2. guidelines on how to make environmental decisions in the future to attain those objectives.

Many people could participate in the convention, and it would be thoroughly covered by the news media. Public participation would be guaranteed by having delegates campaign for their posts. They would be elected or rejected by their fellow Oregonians on the basis of their beliefs for the future of the Valley.

#### 7. ALTERNATIVE: Land Use

If comprehensive planning is to work on a full-scale basis, statewide zoning will become normal in the next 30 years, as it is in Hawaii today (see "Background Information, Land Use Legislation").

People have learned that actions taken in one part of the Valley have consequences in other parts. On a state-wide basis, this is also true. What people do on the coast, in central Oregon or eastern Oregon influences the state's economy and environment.

A central structure is needed to prevent adverse affects of new development on the environment.

Statewide zoning will provide such a structure. It will include basic measures such as densities, uses and site sizes. It will also balance out different types of land use, the protection of open space and the most efficient transportation routes.

#### 8. ALTERNATIVE: Energy/Pollution

To preserve the visual beauty of the Valley and to protect open space, all power lines will be placed underground throughout the Valley. The "undergrounding" takes place in the 1970's because public officials and citizens realize that the longer they wait, the more expensive and time-consuming it will become. All continuing construction of utility lines in rural, urban and even wild areas comes under this new ruling at one time.

#### 9. ALTERNATIVE: Energy and Power

New sources of power become increasingly available. The Valley no longer needs to search for power from its present sources. As we have seen, hydroelectric power will peak out by 1980. Fossil fuels are becoming increasingly expensive. Nuclear fission reactors have a relatively short life.

One alternative source is solar energy. It is being investigated now and should be in full use by the turn of the century.

Solar energy is inexhaustible, universal and clean. Solar generating plants will not even be located in the Valley. Some might be in the desert areas in eastern Oregon. Others might be in the deserts of the Southwest, on solar islands in the Pacific Ocean and in solar satellites circling the earth.

Together with collector systems and storage systems, these solar energy stations will be able to provide plentiful energy to vast areas of the world, including the Willamette Valley.



MORE ALTERNATIVES: Scenarios III, IV, V, VI.....

What might alternative scenarios look like as they cover the whole range of interconnected environmental issues we have discussed in Scenarios I and II:

Scenario III: Land can be developed in east-west "sectors" extending from established centers in the Valley.

These sectors would be served by a north-south road spine connecting them. A major east-west transit system in each sector would take people to home, work, and recreation.

Generous bands of open space, agricultural land, and recreational areas would occur between the developed sectors.

Employment for the most part would be centralized around nodes in the sectors. Emphasis would be on sub-regional government making most of the decisions affecting the environment.

Scenario IV: Another possibility is for development to occur in a contained linear pattern extending north-south along the Valley. This linear development would connect with existing centers.

Movement systems would be directly integrated with the linear development, with roads and the main public transit route running north-south.

Open space in this scenario would stretch out from the linear occupied areas and penetrate in between existing urban centers.

Opportunities for employment would be distributed in communities along the linear development and also in existing cities. Governmental interrelationships would tend to emanate from a strong central authority in Salem.

Scenario V: This alternative would see the precise containment of existing urban centers under urban growth limits, and all other development taking place in new communities. This would eliminate suburban development for the most part.

A circular public transit loop would connect the new communities and relate them to the established centers. A north-south road system would accommodate cars and trucking.

Much commercial and industrial development would be redistributed into new communities. Governmental decisions affecting the environment would be made on a regional basis by agencies specializing in specific concerns.

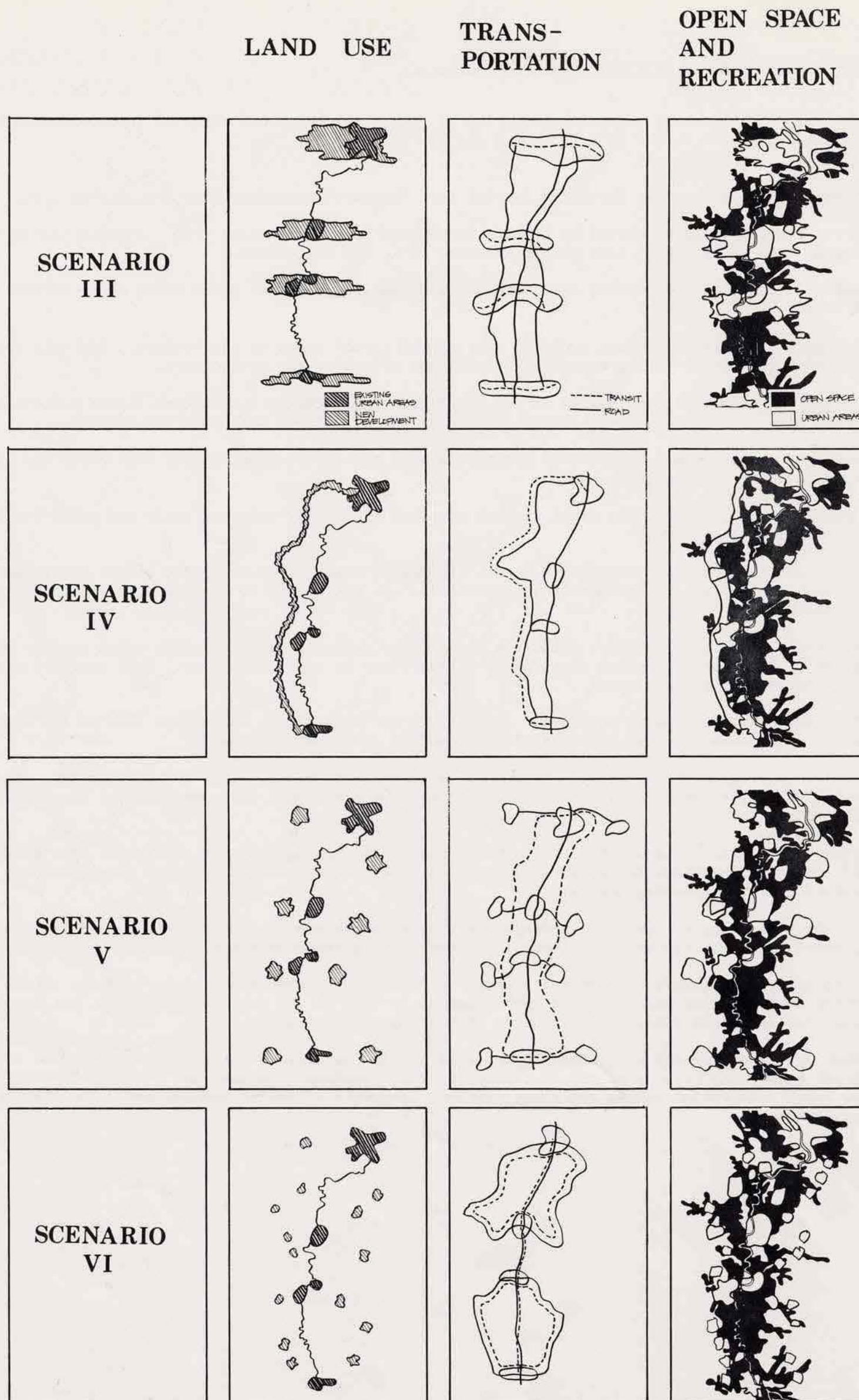
Scenario VI: Still another idea is to have much of the new development and growth take place in a number of smaller communities dotted around the Valley. These communities would be developed on a contained basis, as would existing centers.

To serve existing cities and new small communities there would be a north-south transit and road spine planned with sub-regional loop transit systems serving the communities.

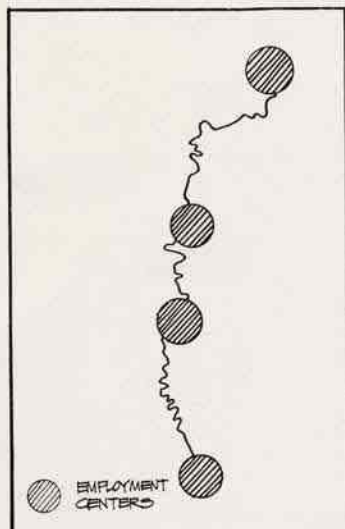
Open space and recreation potentials would be distributed between and close to these cities and communities. There would be just about as much open space as in some of the other alternatives, but it would be in smaller areas more directly in relation to the community served.

Much of the employment will still be centered around the cities, but there would also be considerable local employment related to the newer communities. Government might take the form of "city states," or local authorities making decisions within a framework of mutual concern and respect for the Valley environment.

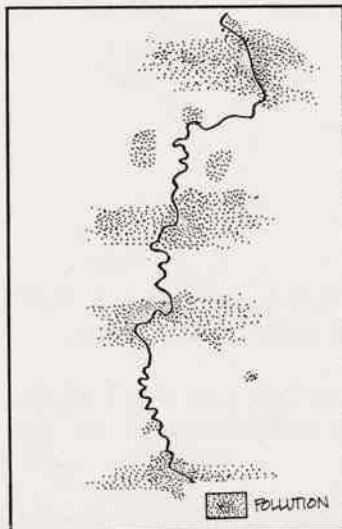
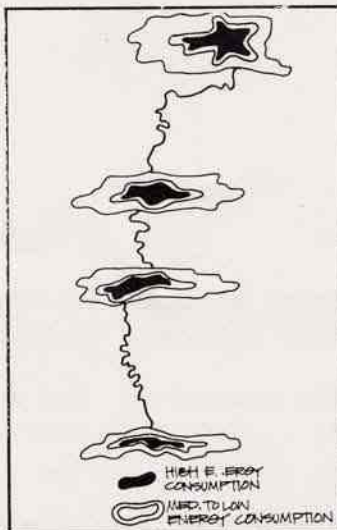
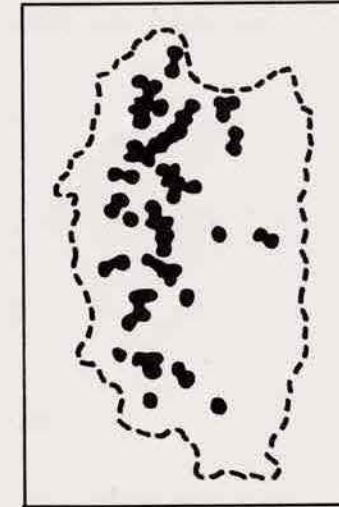
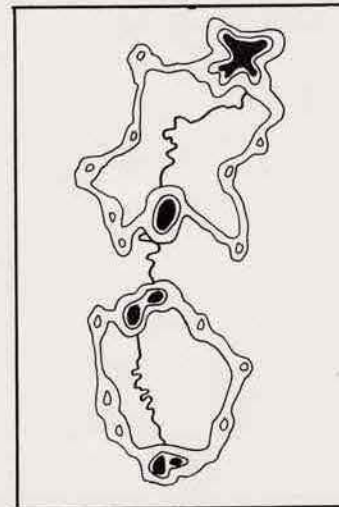
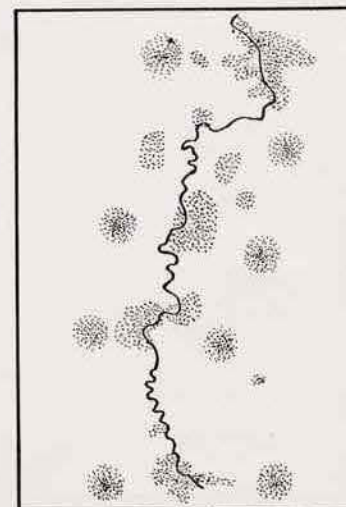
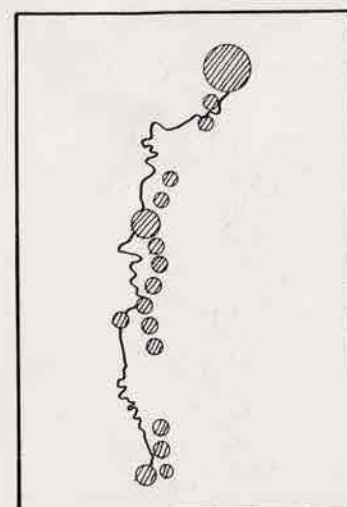
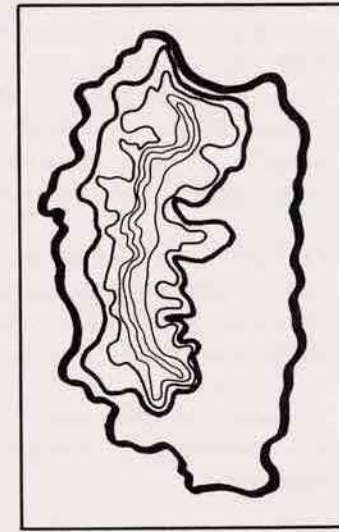
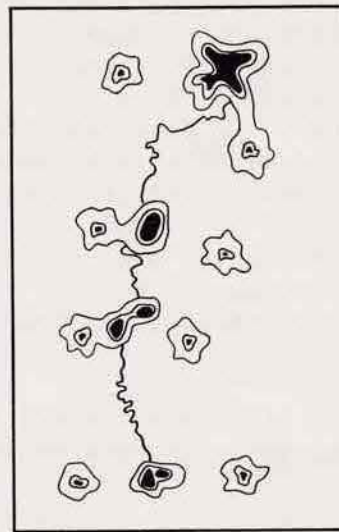
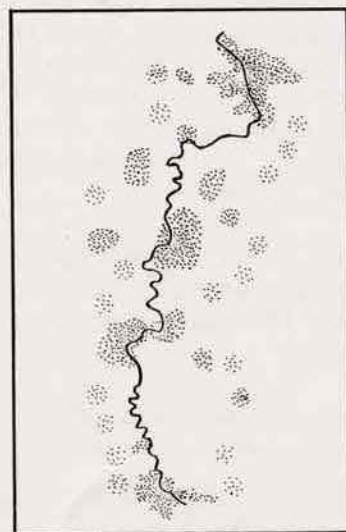
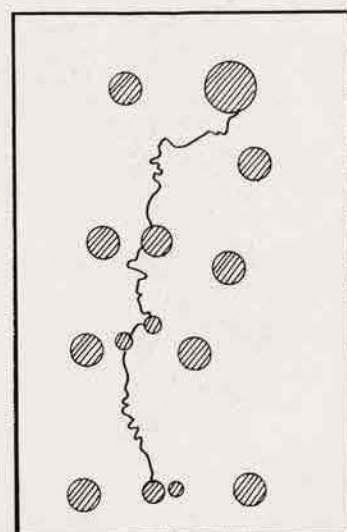
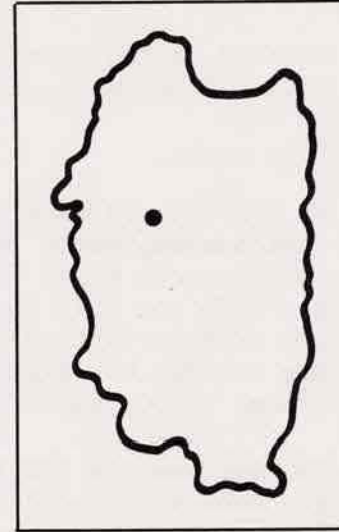
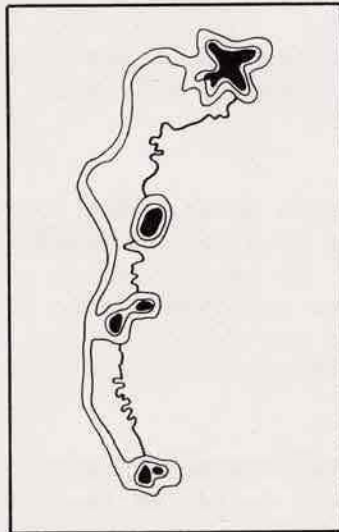
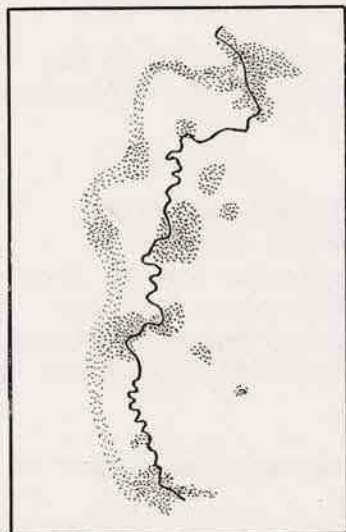
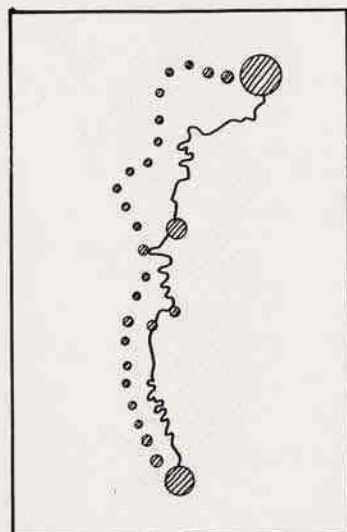
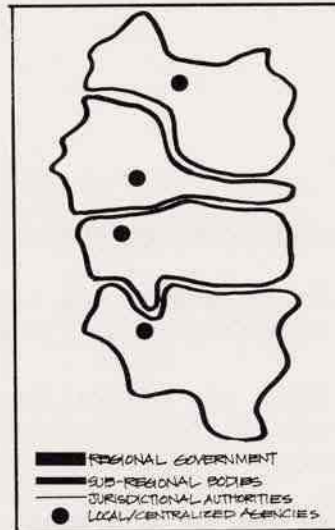






EMPLOY-  
MENT AND  
INCOME

## POLLUTION

ENERGY  
AND  
POWERGOVERN-  
MENTAL INTER-  
RELATIONSHIPS



#### MAKE YOUR OWN SCENARIOS:

As we said at the beginning of this chapter, these are just a few alternatives we illustrate for you. There are many, many more.

These are all Valley-wide scenarios. But scenarios can deal with cities, towns, counties. . .even with your own neighborhood or the block on which you live.

We suggest now that you make your own alternative scenarios for the future, and see what the consequences might be.

Printed on the opposite page is a copy of the Guide Chart to the Future from the inside cover of this book. There is one difference.

It's empty.

We urge you to make future choices for yourself and the Valley environment, write them down in the chart, and see what the consequences might be. If you decide on a particular way to live, how will you fill in the cross-influence block between land use and transportation? If you decide to limit energy and migration into the Valley, how might that affect your children under Employment and Income in 30 years?

You can see how the interrelated consequences affect each other as you make your choices and decide on the future.

We think that you will get both pleasure and information from developing these charts with other people, and comparing the results. Perhaps you can involve legislators and state officials and share your discoveries. The Project "Foresight" people are obviously interested, or this book would never have been printed. But contact people at all levels: local officials, members of your subregional Council of Governments, and officials in Salem.

We hope that this book has given you some ideas about causes and consequences in the environment. We hope you see the realm of choices that lies open for people. We hope you'll share your ideas with others.

If many people and their officials can get into the process of environmental change together, it will be an all new American approach.

Chances are that the environment of the Willamette Valley will become what the people want it to be!



GUIDE TO THE FUTURE	SCENARIO ↓	LAND USE	TRANSPORTATION	OPEN SPACE AND RECREATION	EMPLOYMENT AND INCOME	POLLUTION	ENERGY AND POWER	GOVERNMENTAL INTERRELATIONSHIPS
		1	2	1	2	1	2	1
LAND USE	1							
	2							
TRANSPORTATION	1							
	2							
OPEN SPACE AND RECREATION	1							
	2							
EMPLOYMENT AND INCOME	1							
	2							
POLLUTION	1							
	2							
ENERGY AND POWER	1							
	2							
GOVERNMENTAL INTERRELATIONSHIPS	1							
	2							



# BACKGROUND INFORMATION

WILLAMETTE VALLEY POPULATION PROJECTIONS<sup>1</sup>

TABLE A

WILLAMETTE VALLEY	1970	1980	1990	2000
Baseline	1,495,691	1,740,839	2,083,012	2,474,653
Lower Area				
Baseline	880,675	1,022,000	1,232,000	1,480,000
Middle Area				
Baseline	399,615	444,499	525,402	620,612
1. Middle Sub-area A				
Baseline	276,871	282,060	346,720	424,062
2. Middle Sub-area B				
Baseline	122,744	162,439	178,682	196,550
Upper Area				
Baseline	215,401	274,340	325,610	374,041 <sup>2</sup>

WILLAMETTE VALLEY POPULATION PROJECTIONS

TABLE B  
PERCENTAGE OF INCREASE

WILLAMETTE VALLEY	1970	1980	1990	2000
Baseline	27.9	16.3	19.6	18.8
Lower Area				
Baseline	21.0	16.0	20.5	20.1
Middle Area				
Baseline	43.8	11.2	18.2	18.1
1. Middle Sub-area A				
Baseline	53.9	1.9	22.9	22.3
2. Middle Sub-area B				
Baseline	25.2	23.3	10.0	10.0
Upper Area				
Baseline	32.2	27.4	18.7	14.9

<sup>1</sup>Economic Task Force Projections, May 1972

POPULATION CATEGORIES

TABLE E

1990 TOTAL POPULATION

Age Group	Males	Females	Total	Pct Male	Pct Female	Pct Total	1415
0-4	92256.	89367.	181623	9.1	8.4	8.7	1415
5-9	95139.	91923.	187061.	9.4	8.6	9.0	1415
10-14	91601.	88793.	180394.	9.0	8.3	8.7	1415
15-19	83703.	83191.	166894.	8.3	7.8	8.0	1415
20-24	77214.	77459.	154672.	7.6	7.2	7.4	1415
25-29	85512.	86013.	171525.	8.4	8.0	8.2	1415
30-34	88084.	88635.	176720.	8.7	8.3	8.5	1415
35-39	85139.	89341.	174480.	8.4	8.3	8.4	1415
40-44	66525.	76439.	142964.	6.6	7.2	6.9	1415
45-49	55995.	57416.	113411.	5.5	5.4	5.5	1415
50-54	42913.	44011.	86924.	4.3	4.1	4.2	1415
55-59	35441.	39395.	74836.	3.5	3.7	3.6	1415
60-64	33962.	40236.	74198.	3.4	3.8	3.6	1415
65-69	30456.	39425.	69881.	3.0	3.7	3.4	1415
70-74	23577.	32827.	56404.	2.4	3.1	2.7	1415
75-79	16270.	25143.	41413.	1.6	2.4	2.0	1415
80-84	9109.	16012.	25121.	0.9	1.5	1.2	1415
85-89	3309.	6287.	9595.	0.4	0.6	0.5	1415
90-94	1268.	2656.	3924.	0.2	0.3	0.2	1415
95 + OLDER	832.	1881.	2713.	0.1	0.2	0.2	1415
TOTAL	1018304.	1076447.	2094750.	100.0	100.0	100.0	1415

TABLE F

2000 TOTAL POPULATION

Age Group	Males	Females	Total	Pct Male	Pct Female	Pct Total	10	1	1615
0-4	59759.	57036.	116795.	8.4	7.6	8.0	10	1	1615
5-9	69122.	66717.	135839.	9.7	8.9	9.3	10	1	1615
10-14	74675.	71676.	146351.	10.5	9.5	10.0	10	1	1615
15-19	71379.	73045.	144424.	10.0	9.7	9.8	10	1	1615
20-24	57551.	67041.	124592.	8.1	8.9	8.5	10	1	1615
25-29	51430.	51806.	103236.	7.2	6.9	7.0	10	1	1615
30-34	41178.	40841.	82019.	5.8	5.4	5.6	10	1	1615
35-39	36866.	38409.	75275.	5.2	5.1	5.2	10	1	1615
40-44	40097.	42211.	82308.	5.6	5.6	5.6	10	1	1615
45-49	42215.	44980.	87195.	5.9	6.0	5.9	10	1	1615
50-54	39935.	41981.	81916.	5.1	5.6	5.3	10	1	1615
55-59	36430.	38385.	74815.	5.1	5.1	5.1	10	1	1615
60-64	30148.	33227.	63375.	4.3	4.4	4.3	10	1	1615
65-69	23168.	27793.	50961.	3.3	3.7	3.5	10	1	1615
70-74	17925.	23803.	41728.	2.5	3.2	2.9	10	1	1615
75-79	12698.	18405.	31103.	1.8	2.5	2.2	10	1	1615
80-84	7775.	12228.	20003.	1.1	1.7	1.4	10	1	1615
85-89	3380.	5728.	9108.	0.5	0.8	0.7	10	1	1615
90 + Older	1589.	2732.	4321.	0.3	0.4	0.3	10	1	1615
TOTAL	717320.	758064.	1475384.	100.0	100.0	100.0	10	1	1615

<sup>1</sup>Economic Task Force Projections, May 1972

TABLE D

1980 TOTAL POPULATION

Age Group	Males	Females	Total	Pct Male	Pct Female	Pct Total	1215
0-4	83510.	80825.	164335.	9.8	9.0	9.4	1215
5-9	78036.	75571.	153607.	9.2	8.4	8.8	1215
10-14	66962.	63975.	130938.	7.9	7.1	7.5	1215
15-19	73677.	72487.	146164.	8.7	8.1	8.4	1215
20-24	81153.	81014.	162168.	9.6	9.0	9.3	1215
25-29	81268.	84927.	166195.	9.6	9.5	9.5	1215
30-34	63877.	73705.	137582.	7.5	8.2	7.9	1215
35-39	54925.	55805.	110730.	6.5	6.2	6.4	1215
40-44	43651.	43445.	87097.	5.2	4.9	5.0	1215
45-49	38096.	39959.	78055.	4.5	4.5	4.5	1215
50-54	39215.	42419.	81634.	4.7	4.7	4.7	1215
55-59	38724.	43766.	82490.	4.6	4.9	4.7	1215
60-64	34174.	39500.	73673.	4.1	4.4	4.2	1215
65-69	28300.	34391.	62690.	3.4	3.9	3.6	1215
70-74	20475.	27482.	47957.	2.5	3.1	2.8	1215
75-79	13077.	20182.	33259.	1.6	2.3	1.9	1215
80-84	7814.	13841.	21655.	1.0	1.6	1.3	1215
85-89	3170.	5796.	8966.	0.4	0.7	0.6	1215
90-94	1287.	2416.	3703.	0.2	0.3	0.3	1215
95 + Older	800.	1657.	2457.	0.1	0.2	0.2	1215
TOTAL	852188.	903163.	1755351.	100.0	100.0	100.0	1215

<sup>1</sup>Economic Task Force Projections, May 1972



## BACKGROUND INFORMATION: LAND USE

### WILLAMETTE VALLEY SOIL CATEGORIES <sup>2</sup>

TABLE A

Class	Summary Description	Basin Acreage (in 1,000's)	% of Total
Class I	Few or no limitations or hazards.	171.5	14
Class II	Few limitations or hazards; simple conservation practices are needed when cultivated.	906.2	
Class III	Have more limitations and hazards than Class II; require more difficult or complex conservation practices when cultivated.	851.9	22.3
Class IV	Have greater limitations and hazards than Class III; very difficult or complex measures are needed.	872.2	
Class V-VIII	Land limited in use, generally not suited for cultivation.	4,800.8	63.6
	Total land area	7,602.6	99.9
	Water area	106.6	0.1
	Total Basin area	7,709.0	100

TABLE B

Land use acreages within the Basin as of 1966 were as follows:

Dryland Crop	1,212,480
Irrigated Cropland	243,660
Total Cropland	1,456,140
Native Pasture	236,940
Woodland	5,100,970
Urban	331,530
Other	583,420
Total	7,709,000

<sup>2</sup>Willamette Basin Study: Pacific Northwest River Basins Commission

### PROJECTED LAND USE ACREAGE <sup>2</sup>

TABLE C

	ACRES		
	1980	2000	2020
Dryland crop	1,005,000	571,000	372,000
Irrigated cropland	430,000	850,000	1,000,000
Total cropland	1,435,000	1,421,000	1,372,000
Native pasture	202,000	156,000	113,000
Woodland	5,054,300	4,982,600	4,885,000
Urban	433,700	568,400	772,800
Other	584,000	581,000	566,200
Total	7,709,000	7,709,000	7,709,000

### PROJECTED PRODUCTION OF SAND AND GRAVEL IN THE WILLAMETTE VALLEY <sup>3</sup>

TABLE D

Decade	Average Population	Factor*	Millions of Tons Consumed in Decade	Equivalent in Acres**	Cumulative Acres
1970-80	1,604,191	120	192	6,015	6,015
1980-90	1,907,560	120	229	7,153	13,168
1990-00	2,297,081	120	275	8,614	21,782
2000-10	2,801,568	120	336	10,505	32,287

\* 12 tons per capita x 10 years (in decade) = 120.

\*\* 43,560 x 10 ft. (deep) = 435,600 cu. ft./acre ÷ 27 = 16,000 cu. yds./acre.  
= 32,000 tons/acre.

### PROJECTED URBANIZATION IN THE WILLAMETTE VALLEY <sup>3</sup>

TABLE E

Decade	Acres Urbanized	Cumulative Acres
1970-80	7,410	7,410
1980-90	9,600	17,010
1990-00	11,700	28,710
2000-10	13,700	42,410

<sup>2</sup>Willamette Basin Study: Pacific Northwest River Basins Commission<sup>3</sup>Project Foresight, First Phase Report, December 1971.



## BACKGROUND INFORMATION: LAND USE

### LAND USE LEGISLATION

#### OTHER STATES

Basically, three methods to regulate land use exist: Acquisition in whole or part  
Police power regulation  
Contractual restriction

Most states use a combination of the three, whereas California relies heavily on contracts (Williamson Act).

Assessment is based on either market value or value relating to income-producing capability.

Preferential assessment is less than the highest and best use value. It is related to actual agricultural or open space use.

Deferred taxation is the difference between the highest and actual value. It is due at the time of development.

Restricted use occurs when land must be subjected to land-use restrictions as a condition precedent to use-value assessment.

Hawaii is the only state with positive and comprehensive state programs of land-use control. Act 187, Session Laws of Hawaii, 1961 provides for:

A state land use commission of seven members, for administrative purposes, part of the Department of Planning and Economic Development.

The commission places all state lands into urban, rural, agricultural, or conservation use districts.

Boundaries are established by the commission for each with consideration given to county master plans.

Any proposed changes in boundaries are: submitted to a county planning commission; subject to a hearing; approved by six votes if the petitioner proves the land is usable for a new use and that conditions have changed to make new classification reasonable. (This section was "tougher" prior to a 1963 amendment.)

Except in conservation districts, counties do the zoning.

There are use restrictions and lot-size restrictions in agricultural and rural districts.

There are use-related assessments.

There is "dedicated" land (like contracts) in all of the districts, including urban.

Pennsylvania (eminent domain): Covenants - 5 year (like contracts)  
Acquisition by state and counties when the property designated as open space is approved by the state planning board or the county planning commission. (Tied to planning)

Florida is similar to Pennsylvania in that it has some acquisition and some contracts. It is like California in that there is no land-use/planning tie, it is voluntary, and there is no eminent domain.

Connecticut has a preferential assessment for open space. There are no controls. Condemnation is allowed in regard to purchase of open space.

Maryland is like Connecticut and is voluntary, like most states.

New Jersey has preferential assessment and deferred taxes.

Oregon has elements of preferred assessment, deferred taxation, and restricted-use assessment.

Regulations are limited to agricultural land. Zone is the only restriction. If land is in a "farm use zone" it is eligible for special assessment. Agricultural land outside the farm use zone also may be eligible (with the deferred tax procedure). When land is converted, the owner pays accrued deferral plus 6% interest.

On zoned land when conversion takes place, no deferred taxes exist and there is no penalty.

There are some ties to local land-use planning through zoning.

Indiana gives preferential assessment for timber land. There is some tax deferral payment when conversion takes place.

Arizona, Utah, Texas, New Mexico all give preferential assessment for agricultural lands.

California: California Land Conservation Act of 1965 (Williamson Act).

Prior to 1965 all land assessed on basis of full cash value and highest and best use, thereby imputing speculative values to land, particularly near urban development--mostly agricultural land. In many cases taxes approached or exceeded net profits. Resulting pattern: premature land use conversion, discontinuous development, sprawl.

One purpose of the Williamson Act was to eliminate these pressures by removing certain land from speculative land market. This offered the owner an alternative to compulsory land speculation.

Legislature authorized counties to enter into contracts with owners of qualified land which so restricted the use of the land that potential purchasers would not be willing to pay high prices. Twofold effect: (1) Assess land on basis of agricultural value. (2) Keep land in agricultural use. Contracts restrict the use of land to agriculture for ten years with automatic one-year extensions on anniversary date. Either owner or county can file "notice of non-renewal", restriction expiring over ten-year period with fixed termination date, and is assessed accordingly. There is no penalty or pay-back of deferred taxes. On an emergency basis, when no further public interest is involved, "cancellation" is permitted, immediately. Cancellation grounds are prescribed in the Act. Mutual assent is not enough. Sale of land does not affect restriction and is not grounds for cancellation. When cancellation is approved, the owner must pay the cancellation fee of 50% of the new (unrestricted) assessed value.

The contract would reduce the assessed value (hence the taxes) if it reduced the market value of the restricted land, because in 1965 all property had to be assessed at fair market value.

In 1966 people voted a State Constitution change adding Article XXVIII which allows the Legislature to lower the assessment on open space land.

In 1967 the Legislature implemented Article 28 by passage of AB2011. The Legislature decided that land under the Williamson Act contracts should be assessed on the basis of its agricultural value whether sales prices lower or not. Therefore the assessor could not use sales data in the valuation process for tax assessment.

Counties have an option. About 1/3 of California counties have used this option. Over two million acres have been restricted. This is a voluntary program.

The Williamson Act has two parts: (1) Contract--prime land only. (2) Agreement--all land.

Land, in order to qualify, must be within an "Agricultural Preserve" which is designated by the county after public hearings. Such Agricultural Preserves are consistent with county general plans. The must consist of at least 100 acres. Non-contract lands within an agricultural Preserve must be agricultural or compatible use.

Provision for State to pay counties \$1.00 per acre for land under contract (but not agreement) is not used very often. Most are under agreement.

There is little State involvement in the administration of the program. There are mainly county-owner relationships. Counties report to the State Board of Equalization.

All agricultural land, regardless of quality, is eligible for inclusion.

In 1959 the Legislature enacted Sections 6950-54 of the Government Code authorizing cities and counties to acquire open space easements with restrictions as to improvements and use. These have at least twenty year terms.

In 1969 amendments to the Williamson Act redefined the types of land to be included to change the emphasis from preservation of prime agricultural land to preservation of open space. These amendments extended the definition of compatible uses to broader open space definitions. Contracts expanded to all qualified land (not just prime land) and agreements were dropped. All compensation provisions (which had not been used)

were dropped.

In 1970 recreational uses were added.

In 1971 there was the addition of some state payments to counties for acreage under the program.

The California Land Conservation Act and Open Space Legislation has so far not really accomplished the purpose of preserving agricultural land near urban areas. The tendency is to preserve non-prime agricultural land away from urban areas (93.6% are outside a three-mile radius of a city), but recreational and open space lands--particularly on the coastline--have not been protected. Voluntary provisions of the Act are ineffective as a land use or land planning tool. Tax reduction is ineffective as an incentive to offset money realized from development.

Cry California (Winter 1971/72), article by John Blayney: "In 1970, the total decrease in tax revenue resulting from Williamson contracts was \$22.3 million, and the figure is still climbing rapidly each year. The public would be better off if these millions were being spent to buy open space at critical locations."

A state open space policy is needed; also rigid zoning, use of state police powers (eg: Lake Tahoe and BDCD) to control land use in high priority areas, selective land purchase, and fees for zoning changes sufficient to fund environmental impact studies on re-zoning.



# BACKGROUND INFORMATION: TRANSPORTATION

## WILLAMETTE VALLEY HIGHWAY PROJECTIONS<sup>4</sup>

TABLE A

ESTIMATED MILEAGE AND RIGHT-OF-WAY ACRES FOR TEN WILLAMETTE VALLEY COUNTIES  
(Roads not graded or surfaced not included)

	Interstate	Other Princ. Arterial	Minor Arterial	Collector	Local	Total
YEAR 1970						
TOTALS Length-Miles	189	903	2,072	3,063	17,601	23,828
Area-Acres	7,304	12,485	19,401	23,381	119,785	182,356
YEAR 1980						
TOTALS Length-Miles	216	1,002	2,209	3,618	20,000	27,145
Area-Acres	7,900	14,842	22,315	27,796	138,991	211,844
YEAR 2000						
TOTALS Length-Miles	230	1,202	2,487	4,728	25,107	33,754
Area-Acres	9,092	19,550	28,145	36,629	177,399	270,815

TABLE B

MILEAGE, VEHICLE MILES AND ACREAGE BY CATEGORY

	1970	1980	2000
<b>URBAN</b>			
Total Miles	5,014	6,073	8,142
Total Vehicle-Miles	13,656,000	20,964,000	44,781,000
Total Acres	38,106	48,385	65,130
Arterial/Hwy. Miles	991	1,202	1,836
Arterial/Hwy. Veh.-Miles	10,455,000	17,015,000	38,584,000
Arterial/Hwy. Acres	8,860	13,758	19,291
Local & Collector Miles	4,023	4,783	6,306
Local & Collector Veh.-Miles	3,201,000	3,949,000	45,845
Local & Collector Acres	121,980	137,657	175,138
Total Valley Miles	23,828	27,145	33,754
Total Valley Veh.-Miles	22,604,000	32,340,000	62,407,000
Total Valley Acreage	182,400	211,800	270,800

<sup>4</sup> State Highway Department

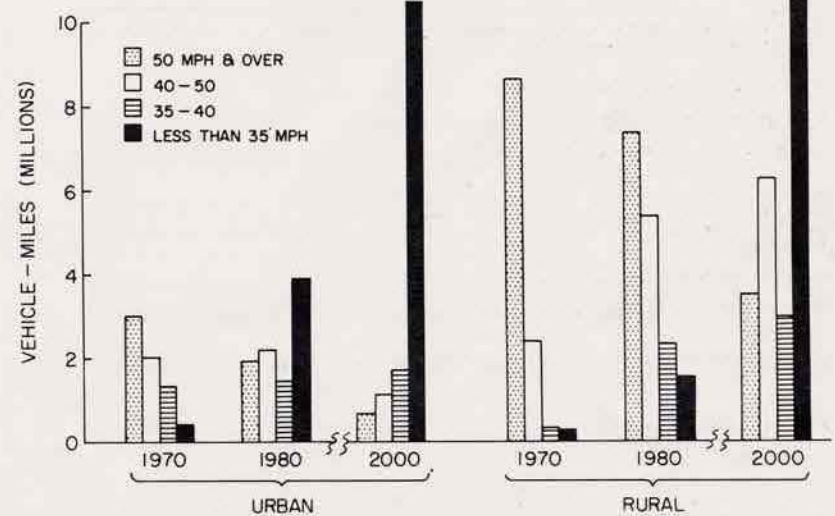
TABLE C

MILEAGE AND TRAVEL FOR TEN WILLAMETTE VALLEY COUNTIES

	Interstate Miles of Road	1,000 Daily Veh. Miles	Princ. Arterial Miles of Road	1,000 Daily Veh. Miles	Minor Arterial Miles of Road	1,000 Daily Veh. Miles
<b>1970</b>						
Urbanized Area	50	1,938	270	4,368	526	3,321
Urban 5,000-50,000	3	41	41	354	102	442
Rural	136	2,221	592	2,361	1,444	2,498
Total	189	4,200	903	7,074	2,072	6,261
<b>1980</b>						
Urbanized Area	86	4,056	325	6,694	727	5,003
Urban 5,000-50,000	5	109	52	585	97	568
Rural	125	2,723	625	3,640	1,385	2,848
Total	216	6,888	1,002	10,919	2,209	8,419
<b>1990</b>						
Urbanized Area	86	6,731	581	10,810	927	7,175
Urban 5,000-50,000	5	147	61	1,046	93	691
Rural	125	4,211	660	4,772	1,328	3,365
Total	216	11,089	1,102	16,628	2,348	11,231
<b>2000</b>						
Urbanized Area	105	8,012	437	17,670	1,130	10,366
Urban 5,000-50,000	5	202	70	1,553	89	781
Rural	120	5,616	695	5,849	1,268	3,326
Total	230	13,830	1,202	23,072	2,487	14,473

TABLE D

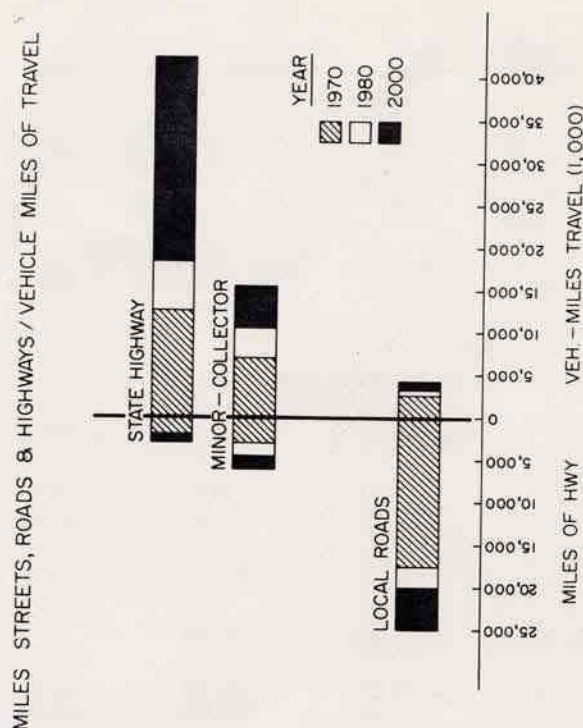
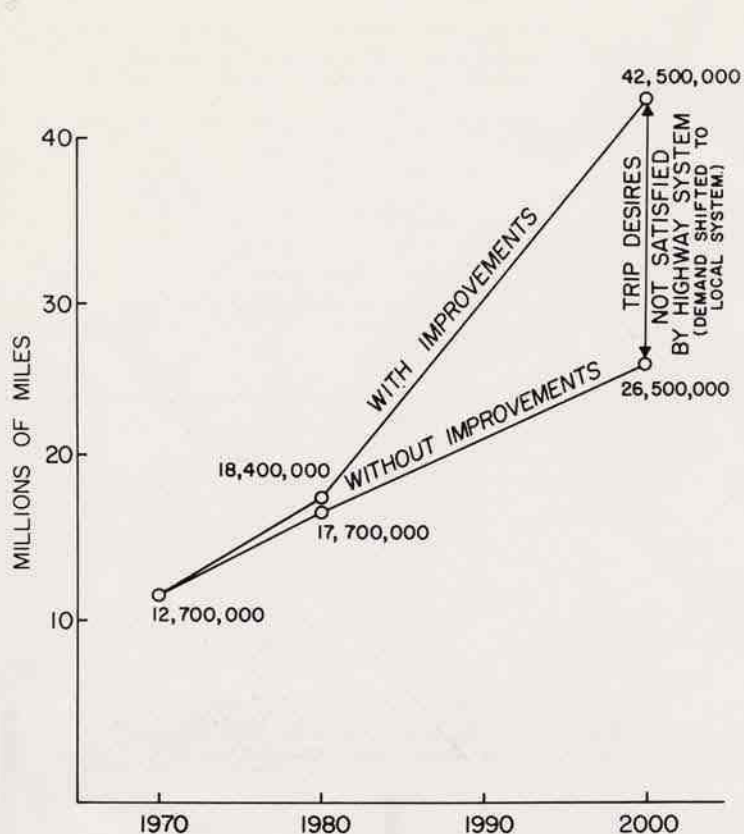
	Collector Miles of Road	1,000 Daily Veh. Miles	Local Miles of Road	1,000 Daily Veh. Miles	Total Miles of Road	1,000 Daily Veh. Miles
<b>1970</b>						
Urbanized Area	302	1,055	3,133	1,825	4,280	12,507
Urban 5,000-50,000	69	122	519	199	734	1,149
Rural	2,692	1,024	13,949	844	18,814	8,948
Total	3,063	2,201	17,601	2,868	23,828	22,604
<b>1980</b>						
Urbanized Area	412	1,436	3,739	2,179	5,288	19,368
Urban 5,000-50,000	74	125	560	209	787	1,596
Rural	3,132	1,216	15,801	949	21,070	11,376
Total	3,618	2,777	20,100	3,337	27,145	32,340
<b>1990</b>						
Urbanized Area	521	1,951	4,356	2,542	6,265	29,209
Urban 5,000-50,000	77	148	598	215	835	2,247
Rural	3,575	1,439	17,655	1,050	23,342	14,846
Total	4,173	3,538	22,603	3,816	30,442	46,302
<b>2000</b>						
Urbanized Area	628	2,832	4,962	3,009	7,262	41,889
Urban 5,000-50,000	80	146	636	210	880	2,892
Rural	4,020	1,697	19,509	1,138	25,612	17,626
Total	4,728	4,675	25,107	4,357	33,754	62,407

VEHICLE-MILES BY OPERATIONAL SPEED  
URBAN & RURAL STATE HIGHWAY SYSTEM  
WITHOUT ANY ADDITIONAL IMPROVEMENTS<sup>5</sup>

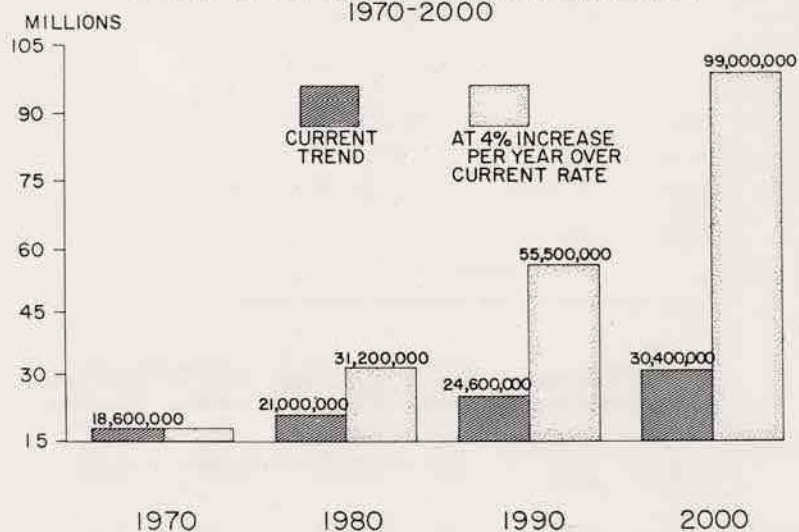


# BACKGROUND INFORMATION: TRANSPORTATION

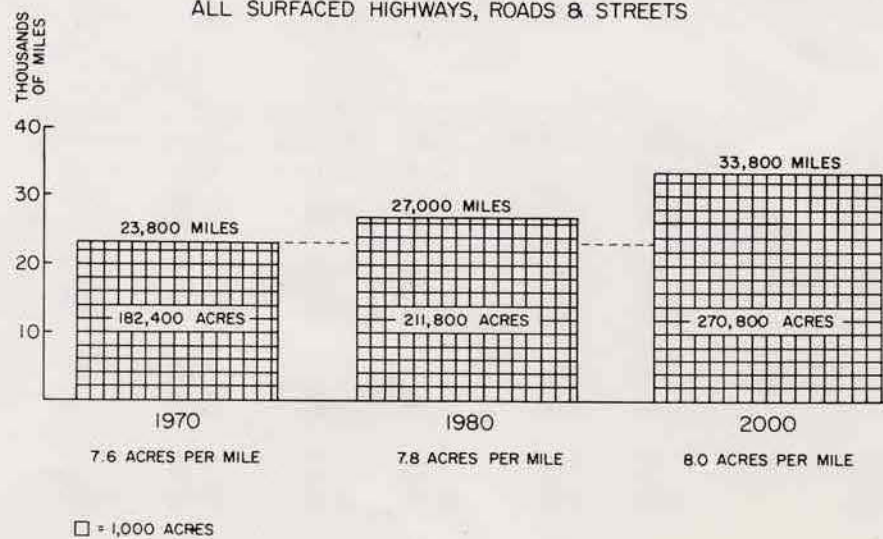
DAILY VEHICLE-MILES OF TRAVEL ON STATE HIGHWAY SYSTEM IN WILLAMETTE VALLEY



VALLEY URBANIZED AREAS  
URBAN MASS TRANSIT - ANNUAL RIDERSHIP  
1970-2000



WILLAMETTE VALLEY  
ESTIMATED MILEAGE AND ACRES OF RIGHT OF WAY  
ALL SURFACED HIGHWAYS, ROADS & STREETS





# BACKGROUND INFORMATION: OPEN SPACE AND RECREATION

## DEFINITION OF CLASSES OF PARK LANDS

Class I - High density recreation areas usually located within or near urban centers, primarily for intensive day use, but including specialized overnight facilities.

Class II-A - Generally developed recreation areas within 25 miles of communities of 10,000 or more; Regional; for less intensive day, overnight and weekend use.

Class II-BC, III and IV - Class II areas more than 25 miles from population centers of 10,000 or more, areas in large natural environment with minimum development and areas in outstanding natural areas.

TABLE A<sup>5</sup>

PARK ACREAGE REQUIRED TO MAINTAIN  
1970 RATIO OF ACRES/1000 POPULATION (SCENARIO I)

	1970	1980	1990	2000
<b>Class I</b> - No. of acres	4,550	5,370	6,430	7,735
- Additional required over 1970 acres	--	+820	+1,880	+3,185
<b>Class II-A</b>				
- No. of acres	6,395	7,535	9,075	10,955
- Additional required over 1970 acres	--	+1,140	+2,680	+4,560
<b>Classes II-BC, III and IV</b>				
- No. of acres	29,740	35,445	41,830	49,835
- Additional required over 1970 acres	--	+5,705	+12,090	+20,095
<b>Total</b> - No. of acres	40,685	48,350	57,335	68,525
- Additional required over 1970 acres	--	+7,665	+16,650	+27,840

<sup>5</sup> Project Foresight, First Phase Report, December 9, 1971

TABLE B<sup>5</sup>

PARK ACRES PER 1000 POPULATION  
IF NO INCREASE IN ACREAGE FROM 1970 AMOUNT (SCENARIO I)

	Acres/1000 Population			
	1970	1980	1990	2000
Class I	3.1	2.6	2.2	1.8
Class II-A	4.3	3.7	3.1	2.5
Classes II-BC, III, IV	20.2	17.2	14.3	11.8
All Classes	27.6	23.5	19.5	16.2

TABLE C<sup>5</sup>

POPULATION PER PARK ACRE  
IF NO INCREASE IN ACREAGE FROM 1970 AMOUNT (SCENARIO I)

	Population/Park Acre			
	1970	1980	1990	2000
Class I	325	381	458	552
Class II-A	231	271	326	393
Classes II-BC, III, IV	50	58	70	85
All Classes	36	43	51	62

<sup>5</sup> Project Foresight, First Phase Report, December 9, 1971.

## FISH AND GAME PROJECTIONS

TABLE D<sup>6</sup>

Willamette Basin Licensed Angler Projections  
and Possible Recreation Days

	1970	1980	1990	2000
<b>Anglers</b> <sup>7</sup>	260,778	410,500	612,100	881,700
<b>Recreation</b> <sup>10</sup> <b>Days</b>	2,347,000	3,694,000	5,508,000	7,935,000

TABLE E<sup>7</sup>

Additional Sport Fishery Needs

According to estimated human population growth and growth rate of licensed anglers, insufficient numbers of fish will be produced in the Basin to satisfy angler demand.

	Needs		
	1980	1990	2000
<b>Fish</b>			
Anadromous	171,000	269,000	378,000
Trout	844,000	902,000	2,014,000
Warm-Water Game Fish	342,000	519,000	696,000
<b>TOTAL</b>	1,357,000	1,690,000	3,088,000
<b>Angler-Days</b>			
Anadromous	990,000	1,557,000	2,189,000
Trout	337,000	361,000	806,000
Warm-Water Game Fish	114,000	173,000	232,000
<b>TOTAL</b>	441,000	1,091,000	3,227,000

The recreation listed in the above table can more nearly be realized by developing alternative fish production as listed beginning of page IV-2, Appendix-D, Willamette Basin Study. Also, much of the additional trout recreation will depend upon hatchery fingerling and legal production.

TABLE F<sup>7</sup>

Willamette Basin Sport Catch Demand,  
Supply, and Unsatisfied Catch Demand  
(Thousands)

	Year		
	1980	1990	2000
<b>Fish Type</b>			
<b>Demand - Fish</b>			
Anadromous	380	530	694
Trout	2,744	2,802	3,914
Warm-Water Game Fish	882	1,059	1,236
<b>Supply - Fish</b>			
Anadromous	209	261	316
Trout	1,900	1,900	1,900
Warm-Water Game Fish	540	540	540
<b>Unsatisfied Demand - Fish</b>			
Anadromous	171	269	378
Trout	844	902	2,014
Warm-Water Game Fish	342	519	696

TABLE G<sup>8</sup>

Willamette Basin Angler Days on Projected  
Catch Demand and Fish Supply  
(Thousands)

	Year		
	1980	1990	2000
<b>Fish Type</b>			
<b>Demand Angler-Days</b>			
Anadromous	2,200	3,068	4,018
Trout	1,097	1,121	1,566
Warm-Water Game Fish		353	412
<b>Supply Angler-Days</b>			
Anadromous	1,210	1,511	1,829
Trout	760	760	760
Warm-Water Game Fish	180	180	180
<b>Unsatisfied Angler-Days</b>			
Anadromous	990	1,557	2,189
Trout	337	361	806
Warm-Water Game Fish	114	173	232

<sup>6</sup> Oregon State Game Commission, October, 1971

<sup>7</sup> In Willamette Basin, 18 percent of population was licensed in 1970. This is increased by 5.7 percent per 10-year period to coincide with statewide growth rate of anglers.

<sup>8</sup> The average resident angler fished nine days per year according to the 1965 survey.



# BACKGROUND INFORMATION: OPEN SPACE AND RECREATION

TABLE H  
PROJECTED WILDLIFE USE  
WILLAMETTE BASIN

	1970	1980	1990	2000
<b>WILLAMETTE BASIN HUNTER POPULATION</b>				
Human Population	1,475,384	1,732,998	2,082,732	2,512,031
Hunting License Holders	222,840	262,950	304,280	359,050
No. Hunters Using Basin	132,311	154,500	175,000	202,000
<b>DEMAND</b>				
Hunter-Day Demand	2,054,584	2,424,400	2,805,500	3,310,500
Hunter-Day Supplies	1,226,868	1,424,300	1,613,200	1,862,100
<b>DEER</b>				
Hunters	28,953	60,000	63,600	67,400
Hunter-Days	170,581	300,000	381,600	404,500
Harvest	8,880	30,000	30,000	30,000
<b>ELK</b>				
Hunters	2,391	3,300	4,950	6,600
Hunter-Days	12,296	18,000	27,000	36,000
Harvest	325	500	750	1,000
<b>BEAR</b>				
Hunters	2,000	4,000	6,000	8,500
Hunter-Days	11,740	24,000	42,000	68,000
Harvest	500	750	1,000	1,200
<b>PHEASANTS</b>				
Hunters	31,680	31,500	30,000	30,000
Hunter-Days	139,930	140,000	145,000	148,000
Harvest	60,370	57,352	54,485	52,000
<b>QUAIL</b>				
Hunters	7,510	8,000	10,000	12,000
Hunter-Days	35,770	40,000	40,000	48,000
Harvest	25,810	30,000	35,000	40,000
<b>GROUSE</b>				
Hunters	6,200	8,000	10,000	15,000
Hunter-Days	23,330	25,000	28,000	31,000
Harvest	17,770	18,000	20,000	24,000
<b>GRAY SQUIRRELS</b>				
Hunters	1,610	2,000	4,000	6,000
Hunter-Days	9,710	16,000	32,000	48,000
Harvest	6,780	8,000	9,000	10,000
<b>MOURNING DOVES</b>				
Hunters	8,720	10,000	15,000	20,000
Hunter-Days	39,770	50,000	90,000	120,000
Harvest	81,110	84,000	86,000	90,000
<b>BAND-TAILED PIGEONS</b>				
Hunters	6,140	8,000	9,000	10,000
Hunter-Days	27,390	32,000	36,000	40,000
Harvest	41,510	44,000	47,000	50,000
<b>WATERFOWL</b>				
Hunters	68,597	70,000	71,000	73,000
Hunter-Days	726,351	728,000	740,000	750,000
Harvest	823,220	825,000	830,000	830,000
<b>MISC. OTHER SPECIES</b>				
Hunter Days	30,000	51,300	52,200	168,600
<b>NON-CONSUMPTIVE</b>				
Viewer-Days	1,300,000	2,000,000	3,000,000	4,500,000

RECREATIONAL FACILITIES REQUIRED  
BASED UPON "1985 STANDARD"<sup>9</sup>

ACTIVITY	STAND./1000	1970	1980	1990	2000
Picnicking	9 sites	13,275	15,600	18,740	22,605
Camping	17 sites	25,080	29,460	35,395	42,705
Golfing	0.06 courses	90	105	125	151
Boating	0.2 launch	295	348	417	503
Beach Area	0.3 acres	441	520	624	754
Water Surface	65 acres	95,905	112,640	135,340	163,275
Trails	2 miles	2,950	3,465	4,160	5,030
Winter Sports	3.8 acres	5,605	6,580	7,910	9,540
Scenic Roads	2.5 miles	3,695	4,335	5,210	6,280

<sup>9</sup> Standard based on national standards modified to supply of, and demand for, recreation land in Oregon by State Highway Department, Recreation Division.

TABLE J  
PARK ACREAGE REQUIRED TO ACHIEVE  
"1985 STANDARD"<sup>9</sup> RATIO OF ACRES/1000 POPULATION

	1970	1980	1990	2000
<b>Class I</b> - No. of acres required	16,135	22,510	31,170	42,560
- Additional required over 1970 actual acres	+ 11,585	+ 17,960	+ 26,620	+ 38,010
<b>Class II-A</b> - No. of acres required	19,545	26,475	35,925	48,300
- Additional required over 1970 actual acres	+ 13,150	+ 20,080	+ 29,530	+ 49,905
<b>Classes II-BC, III and IV</b> - No. of acres required	73,775	102,250	141,580	193,425
- Additional required over 1970 actual acres	+ 44,035	+ 72,510	+ 111,840	+ 163,685
<b>Total</b> - No. of acres required	109,455	151,235	208,675	284,285
- Additional required over 1970 actual acres	+ 68,770	+ 110,550	+ 167,990	+ 243,600

<sup>9</sup> Standard based on national standard modified to supply of, and demand for, recreation land in Oregon by State Highway Department, Recreation Division.



## BACKGROUND INFORMATION: EMPLOYMENT AND INCOME

WILLAMETTE VALLEY DISPOSABLE PERSONAL INCOME - SCENARIO 1

TABLE A

<u>Disposable Personal Income</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
Total*	4,919	9,049	16,878	32,116
Per Capita	3,335	5,156	8,056	12,971
<u>Real Disposable Personal Income**</u>				
Total*	4,320	6,382	9,767	15,250
Per Capita	2,868	3,636	4,662	6,159

WILLAMETTE VALLEY PERSONAL INCOME PROJECTIONS - SCENARIO 1<sup>1</sup>

TABLE B

<u>Personal Income</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
Total*	5,720	10,684	20,238	39,118
Per Capita	3,877	6,086	9,661	15,800
<u>Real Personal Income**</u>				
Total*	4,920	7,535	11,712	18,575
Per Capita	3,335	4,293	5,591	7,502

WILLAMETTE VALLEY POPULATION + EMPLOYMENT PROJECTIONS - SCENARIO 1<sup>1</sup>

TABLE C

	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
I Basic Employment	170,257	201,570	238,830	286,330
- Manufacturing	124,480	157,280	193,200	237,590
- Mining	900	900	920	940
- Federal Govt.	15,612	18,480	22,520	27,730
- Agriculture	29,265	24,910	22,190	20,070
II Multiplier	3.67	3.75	3.82	3.90
III Total Employment	625,180	755,880	912,340	1,116,700
IV LFPR	.446	.431	.436	.451
V Population	1,475,384	1,755,351	2,094,750	2,475,924
VI Personal Income*	5,720	10,685	20,283	39,118
Per Capita	3,877	6,086	9,661	15,800
VII Real PI*	4,920	7,535	11,712	18,575
Per Capita	3,335	4,293	5,591	7,500

\* Millions dollars  
\*\* 1967 dollars



# BACKGROUND INFORMATION: POLLUTION

PROJECTED EMISSIONS FOR THE WILLAMETTE VALLEY<sup>5</sup>  
Particulate Emissions in tons/year

TABLE A

Source Category	1970	1980	1990	2000
Residential Fuel Cmb	954	1145	1374	1649
Commercial Fuel Cmb	1124	1349	1619	1943
Industrial Fuel Cmb	10187	6573	7888	9466
<b>Total Fuel Cmb</b>	<b>12265</b>	<b>9067</b>	<b>10880</b>	<b>13056</b>
Chemical Industry	131	33	40	48
Food/Agric. Industry	3615	1202	1442	1730
Metallurgical Industry	2196	1092	1310	1572
Mineral Prod. Industry	3475	2255	2706	3247
Petrochemical Industry	559	384	461	553
Wood Processing Industry	39657	6310	7572	9086
Other Industries	239	221	265	318
<b>Total Process Loss</b>	<b>49872</b>	<b>11497</b>	<b>13796</b>	<b>16555</b>
Incineration	316	93	112	134
Open Burning	3367	1416	1699	2039
Wigwam Burners	3982	0	0	0
<b>Total Solid Waste</b>	<b>7665</b>	<b>1509</b>	<b>1811</b>	<b>2173</b>
<b>Motor Vehicles</b>	<b>3195</b>	<b>4569</b>	<b>6534</b>	<b>9344</b>
<b>Total Transportation</b>	<b>4719</b>	<b>6398</b>	<b>8729</b>	<b>11978</b>
Field Burning	8200	2800	2800	2800
Forest Fires	773	773	773	773
Slash Burning	3871	4645	5574	6689
<b>Total Miscellaneous</b>	<b>13666</b>	<b>8218</b>	<b>9147</b>	<b>10262</b>
<b>Total Valley</b>	<b>88187</b>	<b>36689</b>	<b>44363</b>	<b>54024</b>

<sup>5</sup> Project Foresight, First Phase Report, December 9, 1971

PROJECTED EMISSIONS FOR THE WILLAMETTE VALLEY<sup>5</sup>  
Organic Gases Emissions in tons/year

TABLE C

Source Category	1970	1980	1990	2000
Residential Fuel Cmb	551	661	793	952
Commercial Fuel Cmb	343	412	494	593
Industrial Fuel Cmb	3258	3910	4692	5630
<b>Total Fuel Cmb</b>	<b>4152</b>	<b>4982</b>	<b>5978</b>	<b>7174</b>
Chemical Industry	3944	4746	5695	6834
Food/Agric. Industry	65	78	94	113
Metallurgical Industry	14	17	20	24
Mineral Prod. Industry	126	151	181	217
Petrochemical Industry	73	88	106	127
Wood Processing Industry	1428	1714	2057	2468
Other Industries	30099	36119	43343	52012
<b>Total Process Loss</b>	<b>35760</b>	<b>42912</b>	<b>51494</b>	<b>61793</b>
Incineration	189	56	67	80
Open Burning	4259	1791	2149	2579
Wigwam Burners	836	0	0	0
<b>Total Solid Waste</b>	<b>5284</b>	<b>1847</b>	<b>2216</b>	<b>2659</b>
<b>Motor Vehicles</b>	<b>166400</b>	<b>20611</b>	<b>21032</b>	<b>15776</b>
<b>Total Transportation</b>	<b>171227</b>	<b>26463</b>	<b>18054</b>	<b>24202</b>
Field Burning	6150	615	615	615
Forest Fires	1031	1031	1031	1031
Slash Burning	5154	6185	7422	8906
<b>Total Miscellaneous</b>	<b>12335</b>	<b>7831</b>	<b>9068</b>	<b>10552</b>
<b>Total Valley</b>	<b>228758</b>	<b>84035</b>	<b>86810</b>	<b>106380</b>

<sup>5</sup> Project Foresight, First Phase Report, December 9, 1971

PROJECTED EMISSIONS FOR THE WILLAMETTE VALLEY<sup>5</sup>  
Carbon Monoxide Emissions in tons/year

TABLE B

Source Category	1970	1980	1990	2000
Residential Fuel Cmb	558	670	804	965
Commercial Fuel Cmb	181	217	260	312
Industrial Fuel Cmb	1582	1898	2278	2734
<b>Total Fuel Cmb</b>	<b>2321</b>	<b>2785</b>	<b>3342</b>	<b>4010</b>
Chemical Industry	114	137	164	197
Food/Agric. Industry	69	83	100	120
Metallurgical Industry	4034	4841	5809	6971
Mineral Prod. Industry	24	29	35	42
Petrochemical Industry	0	0	0	0
Wood Processing Industry	0	0	0	0
Other Industries	505	606	727	872
<b>Total Process Loss</b>	<b>4746</b>	<b>5696</b>	<b>6835</b>	<b>8202</b>
Incineration	439	129	155	186
Open Burning	13333	5607	6728	8074
Wigwam Burners	13097	0	0	0
<b>Total Solid Waste</b>	<b>26869</b>	<b>5736</b>	<b>6883</b>	<b>8260</b>
<b>Motor Vehicles</b>	<b>816565</b>	<b>137738</b>	<b>65805</b>	<b>94102</b>
<b>Total Transportation</b>	<b>824664</b>	<b>147457</b>	<b>77468</b>	<b>108098</b>
Field Burning	51772	5177	5177	5177
Forest Fires	5497	5497	5497	5497
Slash Burning	27532	33038	39646	47575
<b>Total Miscellaneous</b>	<b>85937</b>	<b>43712</b>	<b>50320</b>	<b>58249</b>
<b>Total Valley</b>	<b>944537</b>	<b>205386</b>	<b>144848</b>	<b>186819</b>

<sup>5</sup> Project Foresight, First Phase Report, December 9, 1971

PROJECTED EMISSIONS FOR THE WILLAMETTE VALLEY<sup>5</sup>  
Nitrogen Oxides Emissions in tons/year

TABLE D

Source Category	1970	1980	1990	2000
Residential Fuel Cmb	1356	1627	1952	2342
Commercial Fuel Cmb	3047	3656	4387	5264
Industrial Fuel Cmb	15219	18263	21916	26299
<b>Total Fuel Cmb</b>	<b>19622</b>	<b>23546</b>	<b>28255</b>	<b>33905</b>
Chemical Industry	0	0	0	0
Food/Agric. Industry	0	0	0	0
Metallurgical Industry	290	348	418	502
Mineral Prod. Industry	849	1019	1223	1468
Petrochemical Industry	84	101	121	145
Wood Processing Industry	98	118	142	170
Other Industries	25	30	36	43
<b>Total Process Loss</b>	<b>1346</b>	<b>1616</b>	<b>1940</b>	<b>2328</b>
Incineration	83	24	29	35
Open Burning	815	342	410	492
Wigwam Burners	140	0	0	0
<b>Total Solid Waste</b>	<b>1038</b>	<b>366</b>	<b>439</b>	<b>527</b>
<b>Motor Vehicles</b>	<b>36000</b>	<b>19185</b>	<b>7742</b>	<b>11071</b>
<b>Total Transportation</b>	<b>47164</b>	<b>32582</b>	<b>23818</b>	<b>30362</b>
Field Burning	1025	510	510	510
Forest Fires	172	172	172	172
Slash Burning	859	1031	1237	1484
<b>Total Miscellaneous</b>	<b>2094</b>	<b>1713</b>	<b>1919</b>	<b>2166</b>
<b>Total Valley</b>	<b>71264</b>	<b>59823</b>	<b>56371</b>	<b>69288</b>

<sup>5</sup> Project Foresight, First Phase Report, December 9, 1971



## BACKGROUND INFORMATION: POLLUTION

PROJECTED EMISSIONS FOR THE WILLAMETTE VALLEY <sup>5</sup>

Sulfur Oxides Emissions in tons/year

TABLE E

Source Category	1970	1980	1990	2000
Residential Fuel Cmb	3030	3636	4363	5236
Commercial Fuel Cmb	4656	5587	6704	8045
Industrial Fuel Cmb	6017	7220	8664	10397
<b>Total Fuel Cmb</b>	<b>13703</b>	<b>16444</b>	<b>19733</b>	<b>23680</b>
Chemical Industry	0	0	0	0
Food/Agric. Industry	0	0	0	0
Metallurgical Industry	1450	1740	2088	2506
Mineral Prod. Industry	104	125	150	180
Petrochemical Industry	70	84	101	121
Wood Processing Industry	5481	2115	2538	3046
Other Industries	0	0	0	0
<b>Total Process Loss</b>	<b>7105</b>	<b>4064</b>	<b>4877</b>	<b>5853</b>
Incineration	39	13	16	19
Open Burning	47	16	19	23
Wigwam Burners	14	0	0	0
<b>Total Solid Waste</b>	<b>100</b>	<b>29</b>	<b>35</b>	<b>42</b>
Motor Vehicles	2703	3865	5527	7904
<b>Total Transportation</b>	<b>4201</b>	<b>5663</b>	<b>7685</b>	<b>10494</b>
Field Burning	0	0	0	0
Forest Fires	0	0	0	0
Slash Burning	0	0	0	0
<b>Total Miscellaneous</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Valley</b>	<b>25109</b>	<b>26200</b>	<b>32330</b>	<b>40069</b>

<sup>5</sup> Project Foresight, First Phase Report, December 9, 1971

WILLAMETTE VALLEY SOLID WASTE PROJECTIONS

TABLE A <sup>5</sup>

SOLID WASTE GENERATION

	1970	1980	1990	2000
Domestic - Commercial Lb/Cap./Day	4.0	4.5	5.0	6.0
Industrial Lb/Cap./Day	1.3	1.5	1.7	2.0
<b>Total Daily Tonnage</b>	<b>3,900</b>	<b>5,200</b>	<b>7,000</b>	<b>10,000</b>

DISPOSAL REQUIREMENTS

TABLE B

	1970	1980	1990	2000
Landfill Required Acre-Feet/Year	2,600	3,500	4,700	6,600
Accumulated Acreage in Landfill (10 ft. average depth)	--	3,050	7,150	12,800

WILLAMETTE VALLEY WATER SUPPLY PROJECTIONS

TABLE C

ANNUAL DIVERSION IN 1000 ACRE - FEET

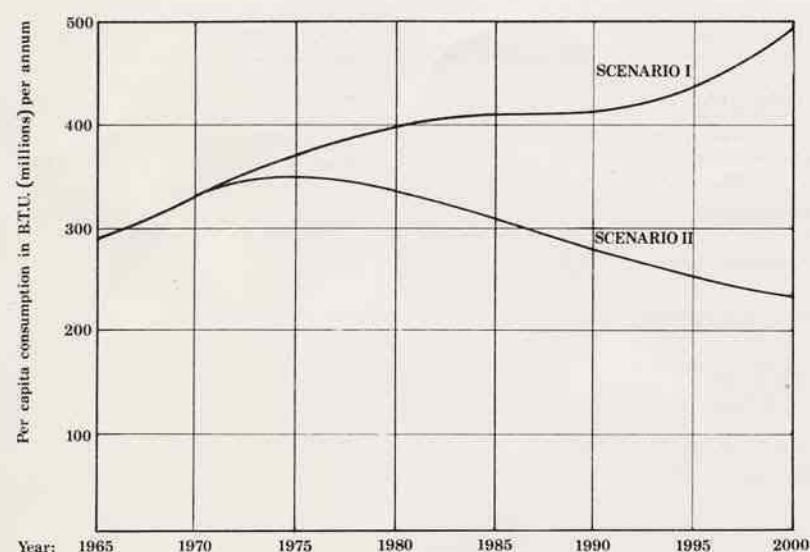
	Current			1980		
	Surface	Ground	Total	Surface	Ground	Total
Municipal	193	69	262	297	107	404
Industrial	115	108	223	133	126	259
Domestic	---	21	21	---	26	26
Irrigation	330	239	569*	873	285	1,158
<b>Total</b>	<b>638</b>	<b>437</b>	<b>1,075</b>	<b>1,303</b>	<b>544</b>	<b>1,847</b>

<sup>5</sup> Project Foresight, First Phase Report, December 1971

\* Based on 1965 data

## BACKGROUND INFORMATION: ENERGY AND POWER

PER CAPITA ENERGY USE



PER CAPITA ENERGY USE



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TITLE : Willamette Valley - Choices for the Future.  
 AUTHOR : Lawrence Halprin and Associates  
 Executive Department, State of Oregon  
 SUBJECT : Willamette Valley scenarios for the year 2002  
 DATE : October, 1972  
 LOCAL PLANNING  
 AGENCY : Executive Department, State of Oregon  
 SOURCE OF  
 COPIES : Executive Department, State of Oregon (limited)  
 HUD PROJECT NO. : CPA-OR-10-1006  
 SERIES NO. : WVEPDPC-2  
 NO. OF PAGES : 118  
 ABSTRACT : The report, entitled The Willamette Valley - Choices for  
 the Future, is an environmental primer for Valley residents.  
 It sets forth basic principles showing how men's actions  
 cause future consequences in the environment. The report  
 has eight elements: (1) "Guide to the Future," a digest of  
 how environmental changes affect each other. (2) "How to  
 Use This Book." (3) "How This Book Came About." (4) "How  
 the Valley Developed Until 1972." (5) "Scenario I," showing  
 how the Valley will be in the year 2002 if people continue  
 making decisions based on current trends. (6) "Scenario  
 II," showing the Valley in 2002 based on changed assumptions  
 about more density of urban development and that development  
 decisions will be made largely in favor of environmental  
 concerns. (7) "How to Make Your Own Scenarios." (8) "Back-  
 ground Information." Seven impact areas in the environment  
 are analyzed: land use, transportation, open space and  
 recreation, employment and income, pollution, energy and  
 power, and governmental interrelationships.

Acknowledgments: For historical photos in "How the Willamette  
 Valley Developed Until 1972", Oregon Blue Book; industry-car  
 pollution cycle diagram in Transportation Scenario I from Natural  
 History Magazine; "Dennis the Menace" cartoon in Open Space &  
 Recreation Scenario I by Hank Ketcham; in Transportation Scenario  
 II: mini-car system from Architecture 2000, by Charles Jencks,  
 Praeger Publishers, 1971 - Speedway System from Architectural  
 Design Magazine - transportation development plan from Playing  
 Urban Games; 1 press, Boston, 1972; recycling cartoon in Pollu-  
 tion Scenario II from Playing Urban Games; in Land Use Scenario  
 I photo essay, serials of Santa Clara from California Tomorrow;  
 in Land Use/Transportation/Open Space Scenario II photo essay:  
 condominium and residential commons photos by Morley Baer - Audi-  
 torium Forecourt photo by Paul Ryan - alternate transit methods  
 from Architectural Design Magazine - 19th-Century moving side-  
 walk from L'Illustration, April 1874.

All other photographs, sketches, maps, and plans by Lawrence  
 Halprin & Associates.



JE

To Thos Jefferson Esq. his obdt ser<sup>vt</sup>  
M. Lewis: Captain: detached:

Sir:

Having in mind your repeated commands in this matter,  
And the worst half of it done, and the streams mapped,  
And we here on the back of this beach beholding the  
Other ocean — two years gone and the cold  
Breaking with rain for the third spring since St. Louis,  
The Crows at the fishbones on the frozen dunes,  
The first cranes going over from south north,  
And the river down by a mark of the pole since the morning,  
And time near to return, and a Ship (Spanish)  
Lying in for the salmon: and fearing chance or the  
Drought or the Sioux should deprive you of these discoveries —  
Therefore we send by sea in this writing.

Above the  
Platte there were long plains and a clay country:  
Rim of the sky far off, grass under it,  
Dung for the cook-fires by the sulphur licks.  
After that there were low hills and the sycamores,  
And we poled up by the Great Bend in the skiffs:  
The honey bees left us by the Osage River.  
The wind was west in the evenings, and no dew and the  
Morning star larger & whiter than usual —  
The winter rattling in the brittle haws.  
The second year there was sage and the quail calling.  
All that valley is good land by the river:  
Three thousand miles and the clay cliffs and  
Rue and beargrass by the water banks  
And many birds and the brant going over and tracks of  
Bear, elk, wolves, marten: the buffalo  
Numberless so that the cloud of their dust covers them:  
The antelope fording the fall creeks, and the mountains  
Grazing lands and the meadow lands and the ground  
Sweet and open and well drained.

We advise you to  
Settle troops at the forks and to issue licences:  
Many men will have living on these lands,  
There is wealth in the earth for them all & the wood standing  
And wild birds on the water where they sleep.  
There is stone in the hills for the towns of a great people.....

ARCHIBALD MACLEISH



# THE WILLAMETTE VALLEY CHOICES FOR THE FUTURE

ILLUSTRATED SCENARIOS SHOWING CONSEQUENCES OF ALTERNATIVE APPROACHES TO DEVELOPMENT IN THE VALLEY FOR THE NEXT THIRTY YEARS

AUTUMN

