GUIDELINES FOR THE FUTURE

A STATEMENT OF DEVELOPMENT GOALS

FOR THE

CENTRAL PUGET SOUND REGION

PUGET SOUND GOVERNMENTAL CONFERENCE
AND
PUGET SOUND REGIONAL PLANNING COUNCIL

JANUARY 1962
This document is a statement of development goals prepared under the direction of the Planning Directors Committee for review and subsequent adoption by the Puget Sound Regional Planning Council and Puget Sound Governmental Conference and local county and city planning and legislative bodies in the four counties of King, Kitsap, Pierce and Snohomish.

PLANNING DIRECTORS COMMITTEE

L. O. Barrett - Snoqualmie National Forest Service
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Edward B. Sand - King County Planning Department
John Spaeth - Seattle City Planning Commission
Fred Utevsky - Puget Sound Regional Transportation Study
Myer R. Wolfe - University of Washington

Committee Staff - Thomas J. Norton

REGIONAL STAFF

Robert R. McAbee, Director

Thomas J. Norton* - Principal Planner
Rosemary Horwood - Principal Planner

Einar M. Syvertsen - Executive Assistant
Gerald P. Herman - Cartographer-Planner
Regis I. Packer - Secretary

*Resigned
PREFACE

The setting of goals for the future development of a complex and rapidly changing area such as the Central Puget Sound Region is a difficult task. Not only are there many variations in the natural environment in this area, there are also a number of widely divergent kinds of man-made environment. Goals, by their very nature are forward looking, but at the same time, are strongly conditioned by past experience. Planning for the physical development of an area must also recognize the existing situation as being both a limitation and an incentive to more effective efforts to create a more desirable environment in the future. The initial question to be dealt with then is, what kind of an environment is desired by the residents of the Puget Sound Region? A definitive answer to this question is, of course, impracticable of attainment. The following summary of a portion of a statement entitled Planning Goals and Public Policies Relating to the General Development of the Puget Sound Region, prepared by the Planning Directors Committee of the Puget Sound Regional Planning Council, sets forth some of the goals which this Committee believes are important objectives to be sought in planning for the future development of the Region.

INTRODUCTION

The following statement of planning goals relating to the future development of the Puget Sound Region is divided into two major groups: (1) Goals relating to the natural environment and (2) Goals relating to the man-made environment. Within these two major groups a number of different subjects are covered, most of which were singled out because of their particular functional importance. The other principal means utilized in organizing this effort was to distinguish between goals of a utility nature and those which could be described as amenity goals.

Utility goals are those dealing with the basic necessities of urban life. Included in this general category are goals relating to health, safety, convenience and economy.

Amenity goals are those which relate to the pleasantness of the environment which includes a number of different qualities. However, for the purposes of this discussion, amenity was construed to result primarily from the visual quality of the total environment. Other amenity attributes of the environment such as pure water and fresh air, for example, were dealt with in the utility category. The following outline shows the major structure of a more voluminous report from which this summary of planning goals for the future development of the Puget Sound Region was evolved.
Planning Goals Relating to the General Development of the Puget Sound Region

Section 1: Planning Goals Relating to Amenity

I. The Conservation and Use of the Natural Environment
II. The Conservation and Improvement of the Man-Made Environment

Section 2: Planning Goals Relating to Utility

I. The General Workability of the Arrangement of the Uses of Land
II. The Efficiency of Movement
III. The Adequacy of Public Services

Section 3: Regional Design Implications

(A number of design possibilities delineated by sketch plans which reflect differing combinations of major goals.)

The above outline relates goals to planning design implications for the Puget Sound Region. The means of attaining these goals are to a considerable extent dependent upon the adoption of appropriate public policies in all jurisdictions of the Puget Sound Region. The success of these public policies will depend, in turn, to some extent upon the solution of certain related governmental problems. Matters of direct concern to the ultimate accomplishment of developmental goals include, among others, the adoption of complementary local effectuation measures and the resolving of other public policy matters having a bearing upon the guidance of the physical development of the Region. Of particular importance in this regard is the location and timing of the various public facilities and the capital improvements programs which bear directly upon the above consideration.

Related governmental problems, recommended public policies, and the local effectuation measures necessary to achieve the broad goals outlined here will be considered in a subsequent report. Before decisions are made regarding policies to guide the physical development of the Puget Sound Region it is necessary that a consensus
of opinion regarding the kind of environment desired be arrived at by the many jurisdictions of the Region. The following general statement of planning goals for the future development of the Puget Sound Region is proposed as a basis from which a consensus might be developed. If the goals are worthy of attainment, the means whereby they may be achieved will be found.
Section I: Planning Goals Relating to Amenity

The following enumeration of planning goals relating to amenity is divided into two major categories: amenity goals relating to the natural environment and amenity goals relating to the man-made environment. Both of these broad categories are in turn examined from the standpoint of a number of functional attributes in an effort to identify amenity values deriving from them. Many of the goals identified have a bearing upon how the natural and the man-made portions of the environment can be most meaningfully related to each other in the interest of providing the desired Regional environment.

Part I The Conservation and Use of the Natural Environment

The Puget Sound Region enjoys a number of natural advantages which contribute to making this Region a pleasant place to live. Among these are:

(1) The inland waters of Puget Sound and Hood Canal, and the lakes, rivers and streams in the urban or potentially urban lowlands.
(2) The National Park and National Forest preserves in the Cascade and Olympic Mountains.
(3) The natural year-round greenness.
(4) The general feeling of "openness" in areas surrounding the existing urban centers.
(5) The scenic views afforded by the irregular topography.
(6) The relative freedom from air pollution enjoyed by this Region.

Natural amenity advantages are playing an increasingly important role in determining the locations selected by certain types of industries. Thus we are confronted with the dilemma of increasing population resulting in part from higher levels of economic activity. As the population increases, the pressures on the amenity qualities of the environment increase. If the natural advantages enjoyed by the Region are to survive, it is necessary that we spell out clearly the kind of Region we want and then take effective steps to see that our Regional goals are realized.

Goals relating to the inland waters of Puget Sound, Hood Canal and the lakes, rivers and streams in the urban or potentially urban lowlands.
1. That sufficient and suitable waterfront land be acquired or be available for future acquisition to meet the projected requirements of the Region for public recreation and enjoyment.

2. That the useability of these bodies of water for recreation and other purposes not be impaired by avoidable hazards such as pollution, congestion and inappropriate uses of land along shorelines.

-B- Goals relating to the National Park and National Forest preserves in the Cascade and Olympia Mountains.

1. That the access to and utilization of our National Park and Forest lands be such that the value of these areas for all forms of outdoor recreational activities is preserved.

2. That the natural beauty of these areas be maintained even though the pressures to utilize them in ways inimical to this goal may be expected to increase in the future.

-C- Goals relating to the natural year-round greenness of the Region and the general feeling of openness in areas surrounding the existing urban centers.

1. That the value of openness, including that provided by physically productive farm lands, be recognized as a major consideration in guiding the future development of the region.

2. That the impairment of the natural character of the region be minimized as urbanization progresses.

-D- Goals relating to the scenic views afforded by the irregular topography.

1. That the scenic values along major highways throughout the Region be considered in making decisions concerning highway alignment, roadside controls and the uses of National Forest land within view of the highways.

2. That the aesthetic values inherent in property viewing the mountains and the lakes and Sound waters be preserved.

-E- Goals relating to the maintenance of clean air throughout the Region.

1. That appropriate steps be taken to assure that the many natural amenities of the Region not be impaired by the adverse effects of air and water pollution.
Part II Goals Relating to the Conservation and Improvement of the Man-Made Environment

This segment of the proposed goal structure relating to the physical development of the Puget Sound Region is concerned with the amenity aspects of the man-made environment. Since utility is often contrasted with or distinguished from beauty, the following goals will be concerned primarily with the visual characteristics of the man-made environment. At the regional level a primary concern is with the image which this Region imparts to the viewer. The image, as the word is employed here, is the impression which the physical environment both man-made and natural makes upon the viewer.

-A- Goals relating to the conservation of visual amenity qualities in the man-made environment.

1. The visual quality of urban development in the Puget Sound Region should be a major source of amenity as well as a means of strengthening the Regional image.

2. A basic goal relating to visual amenity as well as utility is that blight should be eliminated throughout the Region.

3. Public as well as private urban open space of a desirable character should be preserved.

4. A selective program for preserving structures and areas of architectural and historical significance should be undertaken in order to strengthen the sense of continuity in the development of the Regional image.

5. The amenity value of visually attractive elements of the circulation system should be protected from impairment.

-B- Goals relating to the improvement of visual amenity qualities in the man-made environment.

1. The residents of the Region must be encouraged to become more sensitive to the values inherent in an attractive urban environment.

2. Future urban development and re-development should be integrated to the maximum extent possible with the natural environment in the interest of furthering the following amenity goals:

   a. The physical relationship of urban development to the various bodies of water in the Region should be one calculated to utilize fully the amenity provided by this resource.
b. The year-round greenness which typifies the non-urban portions of the Region should be cultivated to the maximum extent feasible within and around urbanized areas.

c. The irregular topography which is characteristic of many areas in the Region should be utilized by future urban development and re-development as a means of providing visual access to the many pleasant views of water, mountains, forests and urban development.

d. The "openness" which has been identified as an important natural amenity attribute of the Region should be protected by an economical use of land as urban development progresses.

e. The regional circulation system should be located and designed in such a way that it complements the amenity attributes of the areas through which it passes.
Section 2: Planning Goals Relating to Utility

This segment of the Planning Directors Committee effort to identify planning goals relating to the general development of the Puget Sound Region is concerned with goals derived from utilitarian values. The word utility as it is employed here relates to usefulness in the context of a number of specific attributes. Among these are: health, safety, convenience, and economy. Other considerations were also explored and, due to the diverse nature of the subject matter being considered, even the above enumerated basic factors were not uniformly applicable to all functional categories of utility goals.

The formulation of utility goals for the physical development of the Puget Sound Region has been organized into three functional categories. Because of the direct relationship between these goals and public policy the emphasis of this effort was upon the public interest aspects of the three functional categories enumerated below:

1. The workability of the arrangement of the uses of land,
2. The efficiency of movement,
3. The adequacy of public services.

Part I The General Workability of the Arrangement of the Uses of Land

The arrangement of the uses of land in urban areas is one of the most important elements influencing the utility character of the man-made environment. Many functional attributes of the environment, such as health, safety, convenience and economy are dependent in large measure upon the way in which the various land using areas relate to each other and to the elements of the transportation system which serve them. The following enumeration of goals is concerned with some of the utilitarian values which should be sought in planning the future pattern of the uses of land in the Region.

-A- Goals relating to safety as a function of the arrangement of the uses of land.

1. The relationship of major traffic generating concentration of land use to residential areas should be one calculated to minimize the hazards resulting from transportation facilities of all kinds.
2. The safety and health of residents of the Region should not be jeopardized in the future due to the air traffic generated by major airports.

3. Hazards to life and property resulting from floods and unstable soil conditions should be eliminated by avoiding the utilization of areas subject to such hazards.

4. Decisions relating to the arrangement of the uses of land in the Region should be conditioned by the potential ability of the land use system to minimize the destructive effects of a nuclear attack.

5. The safety of residents of the Region should not be jeopardized by the inappropriate location of hazardous uses of land.

-B- Goals relating to health as a function of the workability of the arrangement of the uses of land.

1. The arrangement of the uses of land throughout the Puget Sound Region should be such that the effects of air, water and soil pollution are minimized.

2. The arrangement of the uses of land throughout the Puget Sound Region should reflect the concern of each jurisdiction with the health of its residents as well as that of the residents of adjoining jurisdictions.

-C- Goals relating to convenience as a function of the arrangement of the uses of land.

1. The minimizing of distance between major destinations within the Region through the guidance of urban growth is a basic goal having desirable economic as well as convenience connotations.

   a. Residential areas should be located as near the principal concentrations of employment as possible without jeopardizing major goals relating to health, safety, and amenity.

   b. Future development in the Region should be guided along lines which will result in the distribution of major employment areas in a manner calculated to reduce the congestion of the circulation facilities serving these areas.
c. Convenient access to the major Regional centers of business and cultural activities should be assured.

d. Residential areas should be conveniently located with reference to a wide variety of outdoor recreation facilities and areas as well as open green spaces.

-D- Goals relating to economy as a function of the workability of the arrangement of the uses of land.

1. Urban development throughout the Region should be guided in a manner which will seek to maximize the benefits of an economical use of land.

   a. Urban development should be encouraged along lines which will result in compact rather than scattered growth.

2. Flexibility in the arrangement of land uses should be fostered to the maximum extent feasible without jeopardizing other major goals.

Part II Goals Relating to the Efficiency of Movement

Goals relating to the efficiency of movement are concerned with certain functional qualities of the various means of moving people and goods in the Region. Among these functional qualities which have a bearing upon efficiency are: safety, convenience and economy.

The systems of movement which serve the Region are important elements in determining the forms of the Region of the future. Thus goals relating to the efficiency of movement are of particular importance and must be thought of both as ends as well as being means of achieving other goals of a utility and an amenity nature. Due to the unusual configuration of land and water areas in the Puget Sound Region there is a particularly strong possibility of utilizing the provision of access as a major means of guiding development along desirable lines. The achievement of goals set forth here and elsewhere in this report will depend in part upon the effective utilization of the Regional transportation system as one means of furthering progress toward their realization.

-A- Goals relating to safety as a function of the efficiency of movement.

1. The location and design of transportation facilities throughout the Puget Sound Region should be such that user and non-user safety is maximized.

2. Regional transportation facilities should be located and designed so that the disruption of functional land use entities is minimized.
-B- Goals relating to convenience as a function of the efficiency of movement.

1. Major elements of the Regional transportation system must be designed to standards which will permit free flowing and reasonably rapid movement of peak anticipated volumes of traffic.

2. Convenient access to the central city and interconnections with other principal cities of the Puget Sound Region must be assured by the provision of a balanced system of transportation including highways, public transit on both land and water and appropriate terminal facilities.

3. Adequate vehicular access should be provided from the urban areas in the Region to the major Regional recreation areas outside the urban area.

-C- Goals relating to economy as a function of the efficiency of movement.

1. A basic goal underlying all economic considerations having relevance to the transportation system is that the total economic well-being of the Region depends in part upon the existence of an adequate and efficient system of transport.

2. Plans for the location and design of the future transportation system should avoid creating premature obsolescence in existing land use patterns.

3. Some forms of rapid mass transportation facilities should be provided in the interest of maximizing the economic well-being of the Region.

4. The circulation system must be planned as an integral component of the urban development it serves and, at the same time, be utilized as a means of encouraging that development toward the realization of Regional Goals.

   a. Future transportation facilities in the Puget Sound Region should be designed and located for maximum usefulness during the planned life of the segments of the system in question.

   b. The Regional circulation system should be safeguarded from the congesting effects of inappropriately or overdeveloped land uses.
Part III The Adequacy of Public Services and Facilities

Goals having relevance to the general question of the adequacy of public services and facilities are important aspects of the broader goal of attaining a desirable Regional environment. They are not, however, major goals in the primary sense that goals pertaining to the natural environment and to the land use and transportation elements of the man-made environment are. In the broader context of goals, objectives relating to the adequacy of public services and facilities are means of achieving the more fundamental goals.

-A- Goals relating to the flexibility of urban form.

1. The quality of flexibility (with respect to timing, location and extent) which characterizes public facilities systems should be fully exploited in the interest of attaining the desired Regional environment.

   a. Public facilities systems should be planned and programmed in a manner which will augment other efforts to realize Regional developmental goals.

-B- Goals relating to the adequacy of specific public facilities and services systems.

1. The utilization of water resources in the Region should be undertaken in a manner calculated to maximize economies of scale and to assure the provision of abundant supplies to all existing and future areas within the Region.

2. Adequate supplies of electrical energy should be available to service existing and future demand in the Region.

3. All urban and urbanizing areas in the Region should be provided with adequate sewage disposal systems geared to serve the population densities anticipated at full development.

4. Those components of the public services and facilities system characterized by private ownership should be integrated, for purposes of comprehensive planning, with the other elements of the systems.

-C- Goals relating to the adequacy of the protective aspects of public facilities and services systems.

1. It is essential in the interest of safety that adequate access be provided to every point in the urbanized portions of the Region.
a. It should be possible to quickly locate any point in the Region by reference to a street address.

2. While striving to reduce the need for police and fire protection services, it is necessary that the existing and future need for these services throughout the Puget Sound Region be adequately met.

3. An emphasis on positive and continuing values should be encouraged in all civil defense activities which manifest themselves in the form of facilities.

4. At all levels of government a primary concern should be with the creation of an environment which will tend to minimize the need for public health and welfare services.

-D- Goals relating to schools, libraries, hospitals and other public services which are characterized by large investments in structures and sites.

1. Schools, churches, libraries and similar public facilities should be fully integrated with the land use and transportation systems.

2. Effective regionally coordinated comprehensive planning should be fostered in the interest of assuring the integration of these facilities with the land use and transportation systems.

-E- Goals relating to the establishment of standards.

1. Region-wide standards for public facilities and services should be established and effectively implemented in the interest of assuring adequate levels of service.

   a. Such standards should be based upon adequate comprehensive planning programs together with coordination of planning activity at the Regional level.
Introduction:

This segment of the Planning Directors Committee effort to identify planning goals relating to the general development of the Puget Sound Region is concerned with goals derived from utilitarian values. Goals stemming from amenity values have been discussed in a prior section of this report.

A major purpose in instituting this effort to identify planning goals for the development of the Puget Sound Region is to stimulate goal oriented thinking on the part of the residents of the Region. It is hoped that the goal structure which will ultimately be synthesized from this discussion will elicit from the residents of the Region meaningful reactions which will enable the elected officials of the Region to better direct their efforts toward the achievement of the kind of environment desired by the people. There are many groups seeking realization of a wide range of goals having a bearing on the future development of the Region. The system of integrated major regional development goals to be proposed here will provide a basis for evaluating the relationship of values and goals which are being articulated by various groups to plans for the development of the Regional community.

Thus the purpose of this effort can be described as being both coordinative and educative. It is hoped that a system of broad goals relating to planning for the development of the Puget Sound Region can be agreed to by the members of the Puget Sound Regional Planning Council and the Puget Sound Governmental Conference. While widely held values will be recognized in the formulation of the goal structure the ultimate decision as to what goals should be incorporated into plans for the future development of the Region must be made by the elected representatives of the people. Planning alternatives incorporating agreed upon goals will provide insight for rational decision making through the medium of the
planning process.

The formulation of utility goals with reference to the development of the Puget Sound Region has been divided into three functional categories for the purposes of this discussion. These are:

1. The workability of the arrangement of the uses of land.
2. The efficiency of movement.
3. The adequacy of public services.

The word utility as it is employed here relates to usefulness in the context of a number of specific attributes. Among these are: health, safety, convenience and economy. Other considerations will also be explored and, due to the diverse nature of the subject matter to be considered, even the above enumerated basic factors will not be uniformly applicable to the three functional categories of utility goals. The emphasis of this effort to identify utility goals is upon the public interest aspect. This approach was dictated by the overall structuring of the report as shown in the general outline which has been tentatively agreed to by the Committee. ¹

Ⅰ. THE GENERAL WORKABILITY OF THE ARRANGEMENT OF THE USES OF LAND

Fundamental to this effort to identify utility goals having a bearing on the arrangement of land uses is the recognition of how the proposed goals relate to existing development. Existing land use patterns have

¹ It is interesting to note that a radically different approach was employed by Kevin Lynch in a recent article. Professor Lynch writing in Daedalus, Journal of the American Academy of Arts and Sciences, Winter, 1961, "The Pattern of the Metropolis", attempted to relate the form the metropolis might conceivably take to goals. The major goals which he identified were: choice, interaction, cost, comfort, participation, growth and adaptability, continuity and imageability.
resulted from the influences of the natural environment upon a number of dynamic forces which determine the uses made of land.

A concise and understandable explanation of these determinants of land use have been formulated by F. Stuart Chapin, Jr.1 Chapin identifies three major dynamic systems which are operative in determining the uses made of urban land. These forces are: economic determinants of land use, socially rooted determinants and the public interest as a determinant of land use. Economic and socially rooted determinants of land use are widely recognized as exerting powerful influences on the kind, location and extent of urban land use.

The relationship of public policy to socially and economically rooted determinants of land use is one of gradual evolvement. As the scope of public interest in matters related to the physical development of the Region is clarified through the identification of major developmental goals some social and economic determinants of land use will be incorporated into the area of direct governmental concern. Because the major emphasis of this report is upon the identification of planning goals as they are ultimately related to public policy, the specific economic and social content of the goals identified will not be treated as distinct elements in the goal structure evolved.

A. Goals relating to safety as a function of the workability of the arrangement of the uses of land.

Safety as a consideration in formulating utility goals for the arrangement of land uses is in part a function of the relationship of land use to the transportation system. The relationship of major transportation facilities to residential areas throughout the region should be

such that the hazards created by moving vehicles are minimized. This
goal can be furthered by encouraging the development of integrated
residential areas of neighborhoods which are bounded by major trans-
portation facilities. The interior of the neighborhood should be free
of land uses which generate more than a minimal amount of vehicular
traffic.

Similarly, major traffic generating concentration of land use
such as industrial areas, business and commercial areas should be
separated from residential areas by open space or other acceptable
buffering. The relationship of major traffic generating concentrations
of land use to residential areas should be one calculated to minimize
the hazards resulting from transportation facilities of all kinds.

Another safety goal relating to the transportation aspects of land
use arrangements concerns the location of major airports relative to
other land uses in the Region. With constantly increasing volumes of
air traffic of all kinds the location of major airports has become a
matter of Region-wide concern. Major airports should be located beyond
the outer-most extent of anticipated urban development in the interest
of safety and health. Convenience considerations in this regard are of
secondary importance. The rapidly developing technology of air trans-
portation gives promise of solving the problem of transportation to and
from major air terminals from points within the urban region.

Areas which because of their vulnerability to flooding or to slides
due to unstable soil conditions should not be developed in urban uses.
This goal is dictated not only out of considerations of safety but also to
preclude the possibility of loss of public improvements in areas subject
to such hazards.

One of the most fundamental of utility goals is survival. It seems
incongruous that such a primitive consideration must be incorporated into
a goal structure for the development of the Puget Sound Region. However,
the possibility of nuclear war cannot be safely ignored. The fact that about 50% of our Federal budget is devoted to defense spending would seem to confirm that a considerable risk of nuclear war does exist. The potentially most important safety consideration relating to the arrangements of the uses of land is the ability of the land use system of the Region to minimize the destructive effects of an atomic attack.

It is not suggested that the possibility of nuclear war should condition all planning goals for the development of the Puget Sound Region. However, to the extent which current apathy permits, goals for future development should be sensitive to this possibility. Goals relating to density and open space as well as the dispersal of some political, industrial, service and cultural facilities should be geared to a plan for survival.

B. Goals relating to health as a function of the workability of the arrangement of the uses of land.

A basic factor which must be considered in formulating goals bearing upon utility is the importance of safeguarding public health. The arrangement of the uses of land throughout the Puget Sound Region should reflect the concern of each jurisdiction with the health of its residents as well as that of the residents of adjoining jurisdictions. Modern medical knowledge and more particularly modern public health practice has greatly reduced communicable disease hazards which were formerly associated with the high density development of cities. Urban planning has also made a substantial contribution in this regard through the medium of zoning and subdivision regulations. There are, however, a number of public health problems which remain to be satisfactorily resolved and which can be mitigated through the urban planning process.

The arrangements of land uses throughout the Puget Sound Region should be one which minimizes the effects of air, water, and soil pollution. Land use considerations are only one facet of the complex pollution problem but they are particularly important because of their relative inflexibility.
Pollution problems stemming from locational inadequacies are not readily alleviated.

Industrial activities characterized by an objectionable level of air pollution should be located on sites sufficiently removed from concentrations of population to prevent their exerting an unfavorable influence on health and amenity. Sites for such industries should be chosen after careful consideration of prevailing winds and other pertinent data.

Water and soil pollution are less directly related to land use arrangements than is air pollution. The intensity of development, in the absence of adequate sewage disposal facilities, should not be allowed to jeopardize public health anywhere in the Region.

C. Goals relating to convenience as a function of the workability of the arrangements of the uses of land.

Convenience in the context of the workability of the arrangement of uses of land is a function of the locational relationships between major land use areas and the system of transportation which serves them. Convenience is a function of time as well as distance but with improvements in transportation technology time is assuming a more controlling role than it formerly held. Overcoming distance in and between urban areas is a very costly endeavor. The minimizing of distance between major destinations within the Region through the guidance of urban growth is a basic goal having desirable economic as well as convenience connotations.

Residential areas should be located as near the principal concentrations of employment as possible without jeopardizing major goals relating to health, safety and amenity. This goal is dictated by the cyclical nature of home to work and work to home movements which are confined to a relatively short time span and, generally, constitute the peak demand for transportation capacity.
It is desirable that this peak demand for capacity be distributed both in time and locationally in the interest of convenience and economy. Future Development in the Region should be guided along lines which will result in the distribution of major employment areas in a manner calculated to reduce the congestion of the circulation facilities serving these areas.

The convenience aspects of the spatial relationships of other functional land use areas is also important. Convenient access to the major Regional centers of business and cultural activities should be assured. Seattle, as the dominant city of the Puget Sound Region, serves a function which cannot be duplicated by any immediately foreseeable adjustment of the arrangement of land uses. That function is the complex one of providing a concentration of specialized economic and cultural activities which depends upon a regional market for its survival. Conversely, the Region's economic and cultural well being depends to a considerable extent upon the fate of this metropolitan center. The same considerations apply, but to a lesser extent, to the smaller cities in the Region.

Residential Areas should be conveniently located with reference to a wide variety of outdoor recreation facilities and areas as well as open green spaces. The anticipated increases in population in the Region coupled with the probable expansion of leisure will result in greatly increased demand for conveniently located outdoor recreation areas. Future urban development should be guided along lines which will assure convenient access to such areas.

D. Goals relating to economy as a function of the workability of the arrangement of the uses of land.

One of the most valuable of all natural resources is land. With rapidly increasing population in the Puget Sound Region and a technology which tends toward an extensive rather than intensive use of land for industrial, residential and transportation purposes this resource is being used at an unprecedented rate. The prosperity enjoyed by the Region during the past two decades has also contributed to the more generous use of land in the newly developing portions of the Region. Urban Development
throughout the Region should be guided in a manner which will seek to maximize the benefits of an economical use of land.

Urban development should be encouraged along lines which will result in compact rather than scattered growth. The by-passing of land suitable for urban uses, in the absence of an open space plan, results in an uneconomic development of the urban area. Distances between major destinations are extended without compensating health, safety, economy or amenity benefits. Compact growth makes possible a more economic solution to the problems of providing public services and utilities.

Flexibility in the arrangement of land uses should be fostered to the maximum extent feasible without jeopardizing other major goals. Problems resulting from premature obsolescence of the land use arrangements can have adverse economic effects of great magnitude. Technology is moving at such a rapid pace it is impossible to anticipate the extent and kind of dislocations which the urban environment may be subject to in the future. An economic use of land in exploiting the benefits of our present technology will better enable adjustments to be made to new technological developments in the future.

2. THE EFFICIENCY OF MOVEMENT

Introduction:

Goals relating to the efficiency of movement, for the purposes of this discussion, will be concerned with the major functional attributes of the various means of moving goods and people in the region. These functional considerations are:

a. safety
b. convenience
c. economy
d. impact

The above considerations are self-explanatory with the exception of (d), impact. The word impact as it is used here refers to the gross aspects of the influence of the transportation system upon the balance of the environment.

The systems of movement which serve the Region are important elements in
determining the form of the region of the future. Thus goals relating to the

efficiency of movement are of particular importance and must be thought of both as
ends as well as being means of achieving other goals of a utility and an amenity
nature. Due to the unusual configuration of land and water areas in the Puget Sound
Region, there is a particularly strong possibility of utilizing the provision of
access as a major means of guiding development along desirable lines. The achievement
of goals set forth here and elsewhere in this report will depend in part upon the
effective utilization of the Regional transportation system as one means of furthering
progress toward their realization.

The importance of community goals to successful transportation planning has
been stated by J. Douglas Carroll, Jr., in the following words: "...the locational
planning of new transport facilities can only approach an optimum pattern if the
land use plan and community goals are known and if the effects of new transport
routes on land use change and community structure can be accurately estimated.

This matter of clarity of objectives has been mentioned before. This is probably
the greatest single hazard to sound, purposeful planning."

a. Goals relating to safety as a function of the efficiency of
movement.

The principal concerns of a regional scope relating to safety as a function
of the efficiency of movement are with the location and capacity of transportation
facilities. Capacity is a function of design primarily but is also affected by
traffic conditions and the character of nearby and abutting land uses where access
is not limited or is only partially limited. The location and design of transportation
facilities throughout the Puget Sound Region should be such that user safety is
maximized and the safety of non-users is adequately provided for.

Certain areas should be reserved for the exclusive use of pedestrians in the
interest of safety. Among these are the major concentrations of retail activity in

1 J. Douglas Carroll, Jr., "Highways and the Future Demand and Supply of Metropolitan
the larger cities of the region, the interior of the urban parks and the areas immediately adjacent to elementary and secondary schools.

Other areas should be accessible to both vehicular and pedestrian traffic but in a manner which will minimize the possibility of conflict between the two. The interior of residential areas should be provided with vehicular access which will accommodate emergency, service and passenger vehicles but which will not encourage through traffic. The provision of pedestrian walkways along rear lot lines or otherwise isolated from traffic ways should be encouraged as a means of minimizing conflict between vehicle and pedestrian in residential areas. Grade separation of pedestrian from vehicular traffic should be offered whenever feasible.

Major regional transportation facilities should be located whenever possible along the periphery of existing and planned functional land use areas. Similarly, access facilities such as major interchanges should be located at points where the presence of large volumes of traffic will not constitute a hazard to pedestrians and slower moving local vehicular traffic.

Small communities in the Puget Sound Region should be regarded as functional land use entities in themselves. Regional transportation facilities should be located and designed in such a way that the disruption of such functional land use entities is minimized.

Each of the above locational considerations is relevant to the general goal of maximizing safety as a function of the efficiency of movement. Particularly acute locational problems are occurring and will continue to occur in the highly urbanized portion of the Region. It is difficult if not impossible to find locations for major highway facilities which are appropriate from the standpoint of maximizing safety, convenience and economy while minimizing the adverse aspects of impact. Various degrees of compromise are necessary with reference to each of these functional characteristics in the planning of the regional transportation system. User and non-user safety should receive the highest priority in determining the location and design of transportation facilities of all kinds.

b. Goals relating to convenience as a function of the efficiency of
Convenience is a valued attribute which is sought in the planning and design of elements of the Regional transportation system. Convenience is directly related to the location and capacity of transportation facilities as they interact with the various land using areas which these facilities serve. The characteristics of convenience of the Regional transportation system are for the most part, dependent upon travel time between and among the major traffic generating areas in the Region. Thus location, while an important element in providing a convenient system of travel, is less critical than is the operational quality of the system as it relates to travel time between major destinations. Major elements of the Regional transportation system must be designed to standards which will permit free flowing and reasonably rapid movement of peak anticipated volumes of traffic.

The above convenience goal can be realized only as a result of planning the Regional transportation needs of the present and foreseeable future as an integrated system. Important components of this system are the terminal facilities the location and capacity of which are of the greatest importance to the convenient functioning of the system. The problem of providing adequate terminal facilities for the automobile has had a profound effect on the character of the newer retail shopping and service areas in the Region. The inability of the metropolitan center of the Region, Seattle, to provide adequate terminal facilities for the increasing number of automobiles seeking to end trips in or near the central business district must be accommodated in plans for the Regional transportation system. Increasing the quality of highway access to the central city without making provision for parking the additional vehicles which will inevitably be attracted will result in the impairment of the convenience aspects of the Regional circulation system. Convenient access to the central city of the Puget Sound Region must be assured by the provision of a balanced system of transportation including highways, public transit on both land and water and appropriate terminal facilities.

A major goal relating to convenience as it affects the Regional transportation system is that adequate vehicular access be provided from the urban areas in the Region to the numerous Regional recreation areas. Travel for recreation purposes is dominated by the motor vehicle and the amount of such travel is destined to
increase significantly in the future. Increasing population accompanied by more leisure time and a continued high standard of living will result in a more intensive use of our recreation resources. It is possible that peak leisure travel loads may rival peak journey to work traffic on some segments of the Regional circulation system. Certain traffic generating recreational areas will require, in the interest of convenience, the provision of adequate parking facilities. Ski areas, for example, may be expected to create a problem of increasing magnitude in this regard.

c. Goals relating to economy as a function of the efficiency of movement.

Goals relating to economy as a desired attribute of the transportation system serving the Region can only be stated in terms of extreme generality at this time. This is to because the state of our knowledge regarding the total economic significance of improvements in the system of transport is rather limited. At the same time, to the extent that transport improvements represent a substantial percentage of total public expenditures for goods and services, it is necessary to clarify economic considerations and establish goals relating to the economic aspects of the Regional transportation system.

A basic goal underlying all economic consideration having relevance to the transportation system is that the total economic well-being of the Region depends in part upon the existence of an adequate and efficient system of transport. The problem of ascertaining what constitutes an adequate and efficient transportation system for a Region has only recently been given serious thought by those concerned with the planning and building of such systems. The demand for highway facilities which has been increasing constantly at an accelerating rate has tended, until recently, to overshadow all other aspects of the transportation problem. Fortunately it is not too late to appraise the overall consequences of differing alternative transportation systems incorporating the various goals which have been identified in this study in planning for the future transportation needs of the Puget Sound Region.

The total costs as compared with the total benefits is perhaps the key element in attempting to establish goals relative to the economic aspects of the Regional
transportation system. A cost-benefit approach in evaluating regional transportation alternatives is beset with problems stemming from the inadequateness of our knowledge of these factors. The dollar costs of constructing a series of highway improvements, for example, really comprehends only a fragment of the real costs. The "social costs" resulting from the necessity of uprooting people, disturbing established land use arrangements, the economic costs of the unplanned consequences of new transportation facilities, the increased demand for terminal facilities in high traffic generating areas, the preemption of urban land for transport needs--all of these and many other considerations are not reflected in the dollar costs of new highway facilities. Similarly the benefits to user as well as non-user are numerous and difficult to allocate in terms of percentage of total benefits accruing to any particular affected group or segment of the Regional community. Getting in ahead of the highway or trying to anticipate where major interchanges will be is much the same sort of activity that getting in ahead of the railroad was 75 years ago. The economic effects of highway improvements on land values are more diffused than were these of the railroad but the analogy is still a reasonably valid one.

Improvements in the Regional transportation system may, depending on the character of the system being contemplated, tend to impair the economic well-being of the metropolitan center while fostering the development of better highway access to a wider area of suburban development. Conversely the system, if not properly balanced, may be uneconomic because it favors the needs of the central city disproportionately. Plans for the future Regional transportation system must seek to avoid the encouragement of premature obsolescence in the existing land use pattern. This goal has basic economic ramifications for the central city as well as the older sub-metropolitan communities in the Region. Serious economic dislocations can result from the failure to accommodate these older urban areas in plans for reducing the frictions of time and distance in the Region.

The central city and to a lesser extent the other older cities in the Region are ill adapted to the needs of the automobile. With the emphasis on highway building programs and an ever-increasing reliance upon the motor vehicle the utilization of public transportation has become less and less economically feasible.
Technological advances in the field of public mass transit has been limited, in part, because of the continuing emphasis on highway transportation by all levels of government. By contrast, motor vehicles have become increasingly more sophisticated in design. A similarly subsidized effort to improve the technology of mass transportation should be encouraged. The reapplication of present mass transit technology to the radically altered form of the metropolis of today does not have the potential it should have of providing a means of retarding obsolescence in the larger and older central cities. As was pointed out previously the economic well being of the entire region depends in part upon the ability of the metropolitan center, Seattle, to maintain a high level of productivity. The accommodation of the central city's transportation needs in future plans for the Region can go far toward assuring the continued economic health of the city as well as the Region. Some forms of rapid mass transit must be provided in the interest of the continued economic well being of the Region.

At the same time that the specialized transportation needs of the central city are recognized and provided for it is necessary to provide for the automobile culture in the evergrowing suburban portions of the Region as well as for interurban components of the system. The current availability of funds to meet the needs for these components of the Regional transportation system makes imperative the early formulation of plans for the entire system. Once decisions have been acted upon in the form of costly highway facilities the range of remaining alternatives is drastically narrowed. The future economic health of the Region depends to no small extent upon the skillful integration of new highway facilities with the existing and anticipated urban development in the Region. The economic implications of the projected highway program of the Federal government alone are of far reaching and long-range nature. The developing Regional circulation system is in effect the skeletal structure of the urban body of the future. The circulation system must be planned as an integral component of the urban development it serves and at the same time, be utilized as a means of encouraging that development toward the realization of Regional Goals.

The economic value inherent in an integrated regionally planned circulation
system stems from the ability of such a system to better anticipate future needs in terms of location quality and capacity. The following goals relating to economic aspects of the Regional circulation system are indicative of some of the considerations which are encompassed by the Regional planning approach. **Future transportation facilities in the Puget Sound Region should be designed and located in a manner which will result in the maximizing of the usefulness of the facilities for the planned life of the segments of the system in question.** The possibility of premature obsolescence of public facilities generally can be minimized by comprehensive long-range planning. This is particularly true in the case of the Regional circulation system.

The efficiency of regional circulation facilities can be seriously impaired by the failure to relate in a meaningful way the components of the system to the functional land use areas which they serve and through which they pass. Congestion is a prime source of economic loss stemming from the above consideration. Speed is one of the basic attributes of efficiency in the context of regional transportation facilities. Goals relating to the protection of land uses from the adverse effects of transportation facilities on amenity and safety have been identified in other sections of this report. **The regional circulation system should, at the same time, be safeguarded from the congesting effects of inappropriately located land uses.**

Land use planning and transportation planning must complement each other in all important respects in the interest of economy. This unified approach holds forth the only presently discernable hope of maximizing the benefits from public expenditures for transportation facilities.

d. **Goals relating to the impact of/regional transportation system on the Regional environment.**

A number of goals relating to the interrelationship between land using activities and the transportation system have been identified elsewhere in this report. Since the total effect of the interrelationship of these two major components of the man-made environment constitutes a major influence on the Regional environment it is necessary to consider goals derived from the broader implications of this interrelationship.
Serious thought must be given to the future allocation of resources as they relate to regional transportation needs. The overall consequences of an all out commitment to meeting the demand for highway facilities, for example, must be carefully weighed in terms of the affect of such a program upon the many goals which have been set forth in both the amenity and the utility sections of this report. One of the probable consequences of the above hypothesized course of action would be the conversion of a majority of the central business district land to parking and other circulation system uses. The impact of committing ourselves too extensively to the concept of personal transportation as represented by the automobile can be appraised by looking at what has happened in the Los Angeles area. The Los Angeles example is, of course, an extreme case having grown up after the onset of the automobile age and being therefore more completely adapted in terms of land use arrangements and transportation facilities to the needs of the automobile than are other urban regions.

Anticipated population growth in the Puget Sound Region will result in the doubling of population by the year 2000. Assuming that the population of the Region does approximately double in the next forty years it is also reasonable to assume that the demand for highway facilities as reflected by anticipated increases in automobile registration, will be considerably more than doubled. If the present low density pattern of development continues the number of vehicle miles driven may be increased by as much as 150% \(^1\). The demand for highway facilities will, in the absence of a concerted effort to tamper that demand through land use planning and the provision of complementary public transit facilities, destroy many of the amenities of the Region as we know it today and may alter radically some of the current concepts of utility. Adjustments to the rapidly developing automobile culture must be made in a manner which will provide the best utilization of our total Regional resources both natural and man-made.

\(^1\)ibid.
It can be seen from the foregoing that the manner in which the demand for transportation service is met will exert a major influence on the character of the Puget Sound Region of the future. The total impact of various alternative plans for the regional transportation system must be assessed in terms of the total goal structure for regional development consisting of both utility and amenity goals. The establishment of a continuing means of effectively relating developmental goals to the dynamic process of transport planning is necessary if the environment of the Puget Sound Region is to maintain its existing desirable characteristics and improve in the future.