

STATE GUIDE PLAN OVERVIEW

STATE GUIDE PLAN ELEMENT 010



JUNE 1984

Rhode Island Statewide Planning Program

265 Melrose Street

Providence, Rhode Island 02907

IN APPRECIATION

Dr. Clarence M. Tarzwell was a public member of the State Planning Council from April, 1978, to April, 1982. He quickly singled out the State Guide Plan as an effective way to address complex and interrelated land use, environmental, and economic issues in the comprehensive manner that they demand. He was the first to suggest that all elements of the State Guide Plan be brought together in a single volume, thereby enhancing its usefulness. He continued to advocate this kind of document as he saw more opportunities to apply the State Guide Plan and the planning process to new problems. This Overview is a long overdue response to his proposal.

Dr. Tarzwell is now actively retired, and lives in South Kingstown. A native of Michigan, he came to Rhode Island to create and direct the United States Environmental Protection Agency's National Marine Water Quality Laboratory in Narragansett. This advanced scientific facility is devoted to research that improves our understanding of pollutants in salt water and protection of marine biota through the bioassay method—an approach pioneered by Doctor Tarzwell, and one which he describes as "slow and expensive, but it's also the only way of establishing a logical basis for enforcing the law and reducing pollution."

He began his outstanding career as an aquatic biologist in 1930, and earned his doctorate in 1936 at the University of Michigan. He has worked with the U.S. Public Health Service, the Tennessee Valley Authority, the U.S. Forest Service, the Michigan Conservation Department, and the Robert A. Taft Sanitary Engineering Center in Cincinnati, and has authored numerous professional publications. He also served as Senior Research Adviser to EPA's National Environmental Research Center in Corvallis, Oregon. He received the EPA Distinguished Career Award in 1973.

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The Rhode Island Statewide Planning Program is established by Chapter 42-11 of the General Laws as the central planning agency for state government. The work of the Program is guided by the State Planning Council, comprised of state, local, and public representatives and federal and other advisors. The Office of State Planning, a division of the Department of Administration, is the staff component of the Program.

The objectives of the Program are to plan for the physical, economic, and social development of the state; to coordinate the activities of governmental agencies and private individuals and groups within this framework of plans and programs; and to provide planning assistance to the Governor, the General Assembly, and the agencies of state government. The Program prepares and maintains the State Guide Plan as the principal means of accomplishing these objectives. The State Guide Plan is comprised of a series of functional elements which deal with physical development and environmental concerns, the economy, and human services.

Program activities are supported by state appropriations and federal grants. Preparation of this report was financed in part by funds from the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, under the provisions of the Coastal Zone Management Act of 1972, as amended, administered by the Governor's Office, State of Rhode Island. The contents of this report reflect the views of the Statewide Planning Program, which is responsible for the accuracy of the facts and data presented herein. This publication is based upon publicly-supported research and may not be copyrighted. It may be reprinted, in part or in full, with the customary crediting of the source.

Report Number 48

STATE GUIDE PLAN OVERVIEW

June, 1984

State Guide Plan Element 010

RHODE ISLAND STATEWIDE PLANNING PROGRAM
265 Melrose Street
Providence, Rhode Island 02907

ABSTRACT

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ABSTRACT: This document summarizes adopted elements of the State Guide Plan. This overview will be used (1) in conjunction with the revised Coastal Resources Management Program (adopted June 28, 1983) so as to present the full scope of state goals, policies, and plans in effect in the coastal region; (2) as a reference document for governmental agencies and the general public in determining how the State Guide Plan relates to other plans or projects; and (3) as a guide to the staff in reviewing a variety of proposals for consistency with the Plan.

THE STATE OF RHODE ISLAND

AND

PROVIDENCE PLANTATIONS

J. Joseph Garrahy, Governor

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PREFACE

At the state level, a comprehensive planning process has been deemed necessary by the legislature to ensure the orderly development of the state. The Rhode Island Department of Administration has the responsibility, under law, to administer a statewide planning program, including assistance to state departments and agencies. A state planning council is mandated. The purposes of the state planning council are to provide representation of a broad range of interests and viewpoints in the state planning process, to guide the statewide planning program staff in coordinating planning and development activities of governmental agencies at all levels and the private sector, and to approve all statements of goals and policies and all elements of a state guide plan.

A state guide plan is also mandated as a means for centralizing and integrating long-range goals, policies, and plans with short-range project plans; and implementing programs prepared on a decentralized basis by the agency or agencies responsible in each functional area.

This document summarizes adopted elements of the State Guide Plan. This overview will be used (1) in conjunction with the revised Coastal Resources Management Program (adopted June 28, 1983) so as to present the full scope of state goals, policies, and plans in effect in the coastal region; (2) as a reference document for governmental agencies and the general public in determining how the State Guide Plan relates to other plans or projects; and (3) as a guide to the staff in reviewing a variety of proposals for consistency with the State Guide Plan.

The overview of the State Guide Plan is based on those elements and amendments which were adopted by the State Planning Council as of June 30, 1984. The overview does not identify those goals, policies and recommendations which were achieved or carried out since the respective element's adoption. Specific information regarding the above can be obtained from the Office of State Planning or other state departments directly concerned with implementing the specific plan. It should also be noted, that any dollar amounts referred to in the overview reflect dollar values as of the date each element was prepared and are not inflated to 1984 values or referenced to any standard year.

The document consists of two parts. Part 010-01 presents background information on the Statewide Planning Program briefly covering its history, structure, and the State Guide Plan. Part 010-02 presents a summary of each State Guide Plan element in a standardized format.

Report Organization

This document has been organized to assure flexibility in-revision while maintaining the integrity of each element of the State Guide Plan. Maintenance of the document itself can best be accomplished through the use of a loose leaf binder. All amendments or changes to the document will be transmitted with a dated cover letter to insure that the user has the most current edition.

The report is divided into Parts, Chapters, and Sections, each with a number designation. For example, Part 1, Chapter 2, Section 1 is headed: 01-02-01.

Each Part is page-numbered separately to make updating easier. Page numbers appear at the bottom of each page, the part number first, a decimal point, then page number. For example, the second page of Part 1 is numbered 01.2.

The number that precedes each Part corresponds to elements of the State Guide Plan which are identified within major categories as follows:

- 000 General
- 100 Resources management and utilization
- 200 Economic development
- 300 Environmental programs
- 400 Human services
- 500 (Reserved)
- 600 Transportation systems
- 700 Utility systems
- 800 (Reserved)
- 900 State facilities

The State Guide Plan Overview falls within the 000 general category, and is thus numbered 010. This number appears before each Part number (e.g. 010-01), and as part of each Table and Figure number (e.g. Figure 010-01(2)) for the second Figure in Part 01

Acknowledgements

This overview was prepared by William M. Davies, Senior Planner and Patrick J. Fingliss, Supervising Planner of the Program staff. The overview was formatted by Patrick J. Fingliss and edited by Daniel W. Varin, Chief Other Statewide Planning Program staff members involved in the preparation of this overview were:

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* Included in the Rhode Island Coastal Management Program
 ** Only Goal 6 of Economic Development is included
 *** Only Goals 2, 3, 4, 5, 6, and 7 of Facilities and Services is included.

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010-01 BACKGROUND

01-01 HISTORY

The Statewide Planning Program was created by an inter-agency agreement executed in May 1964, by the then Rhode Island Development Council and the Rhode Island Department of Public Works. The agreement provided for the two agencies to jointly undertake, under the auspices of the "Rhode Island Statewide Comprehensive Transportation and Land Use Planning Program", a comprehensive development program for the state to serve as a guide for future development policy by the state agencies, their federal funding sponsors, and other official agencies and instrumentalities in the planning area. The Rhode Island Public Transit Authority and the Rhode Island Department of Business Regulation became parties to this agreement in 1965. The agreement was modified in 1968 by General Assembly passage of legislation creating the Department of Community Affairs which absorbed the functions of the former Development Council.

The General Assembly amended section 42-11-2 of the General Laws in 1970 to include, among the enumerated powers and duties of the Department of Administration, the responsibility "to administer a statewide planning program including planning assistance to state departments and agencies." The legislation further provided that, effective April 30, 1970, the planning functions of the Statewide Comprehensive Transportation and Land Use Planning Program were transferred to the Department of Administration.

Executive Order Number 10, issued by former Governor Frank Licht on June 22, 1970, clarified the Program's relationship to the state governmental structure by charging it to be the principal staff agency of the executive branch for coordinating plans for the comprehensive development of the state's human, economic and physical resources. It also established (and prescribed the membership of) the State Planning Council for the purpose of providing policy advice and guidance in state planning activities. The composition of the Council was broadened by Executive Order Number 23, February 7, 1975, to include ten public members representing statewide citizen interests.

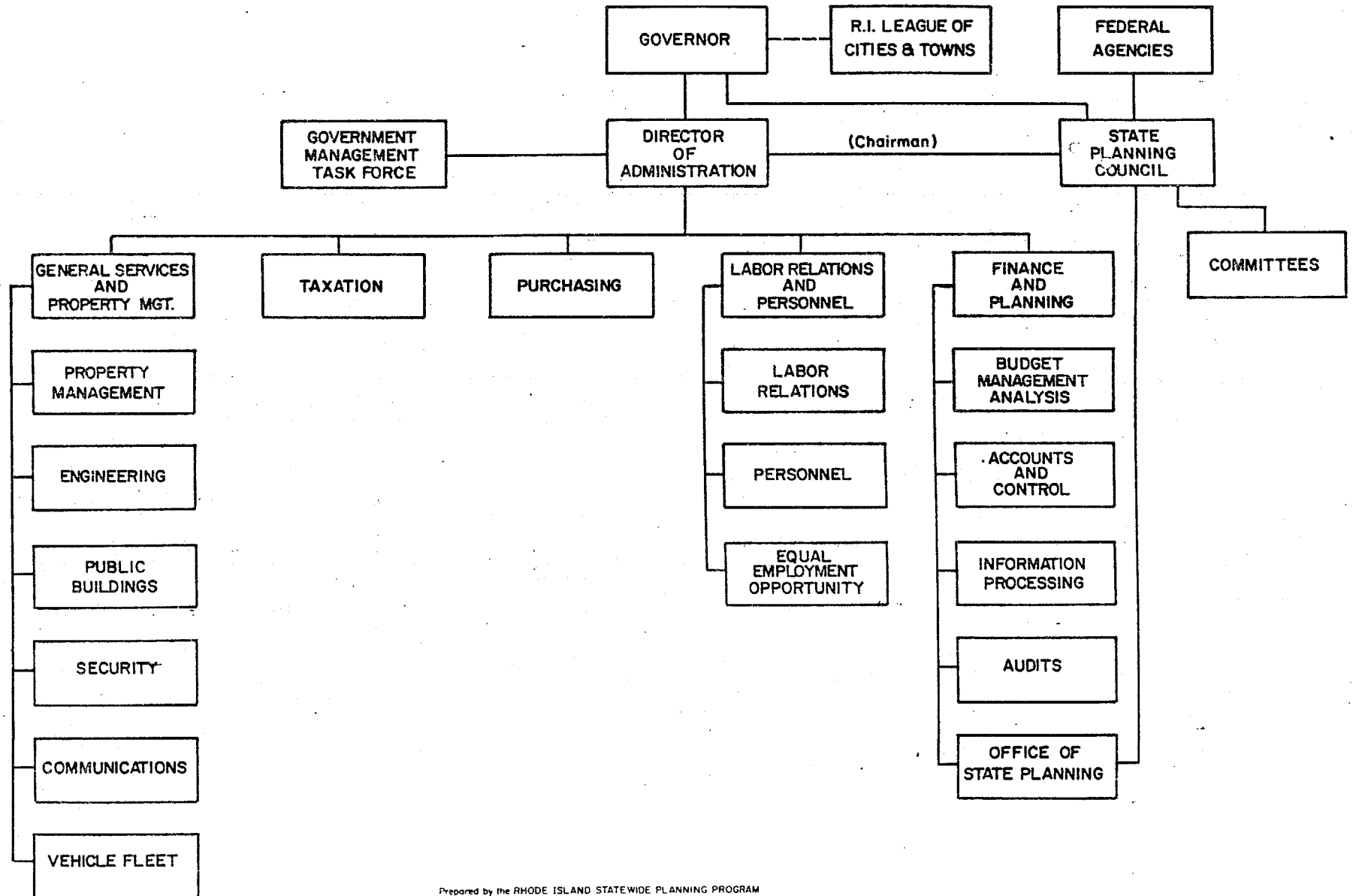
Legislation enacted in 1978 further amended Chapter 42-11 of the General Laws by defining the functions of state planning and the structure and duties of the agencies involved. The 1978 amendments are discussed in greater detail in the following two chapters.

01-02 STATEWIDE PLANNING PROGRAM STRUCTURE

The components of the Statewide Planning Program are the State Planning Council and the Office of State Planning. The Council has authority to establish committees and subcommittees as necessary.

In accordance with the legislation, centralized state planning activities are conducted by a committee structure and a staff agency established within the executive branch. The entities involved in this apparatus include the State Planning Council, technical committees and subcommittees; and the staff agency, the Office of State Planning. The Statewide Planning Program staff (the Office of State Planning) is part of the "Finance and Planning" area of the Department of Administration. This arrangement facilitates cooperation and coordination of those agencies most directly involved in executive management. This structure is shown in Figure 010-01(1).

FIGURE 010-01(I)
STATEWIDE PLANNING PROGRAM-STRUCTURE



01.02

01-02-01 State Planning Council

The State Planning Council is comprised of the Director of Administration, as Chairman, and nine other heads of state departments and agencies; five officials of local government (mayors, managers, administrators, or council presidents); ten public members; and representatives of federal agencies, invited to serve by the Governor or the Council, who are non-voting members. The Council provides representation of a broad range of interests and viewpoints in the state planning process. It assists the Office of State Planning in coordinating planning and development activities of governmental agencies at all levels and the private sector. All statements of goals and policies and all elements of the State Guide Plan must be approved by the Council.

01-02-02 Committees

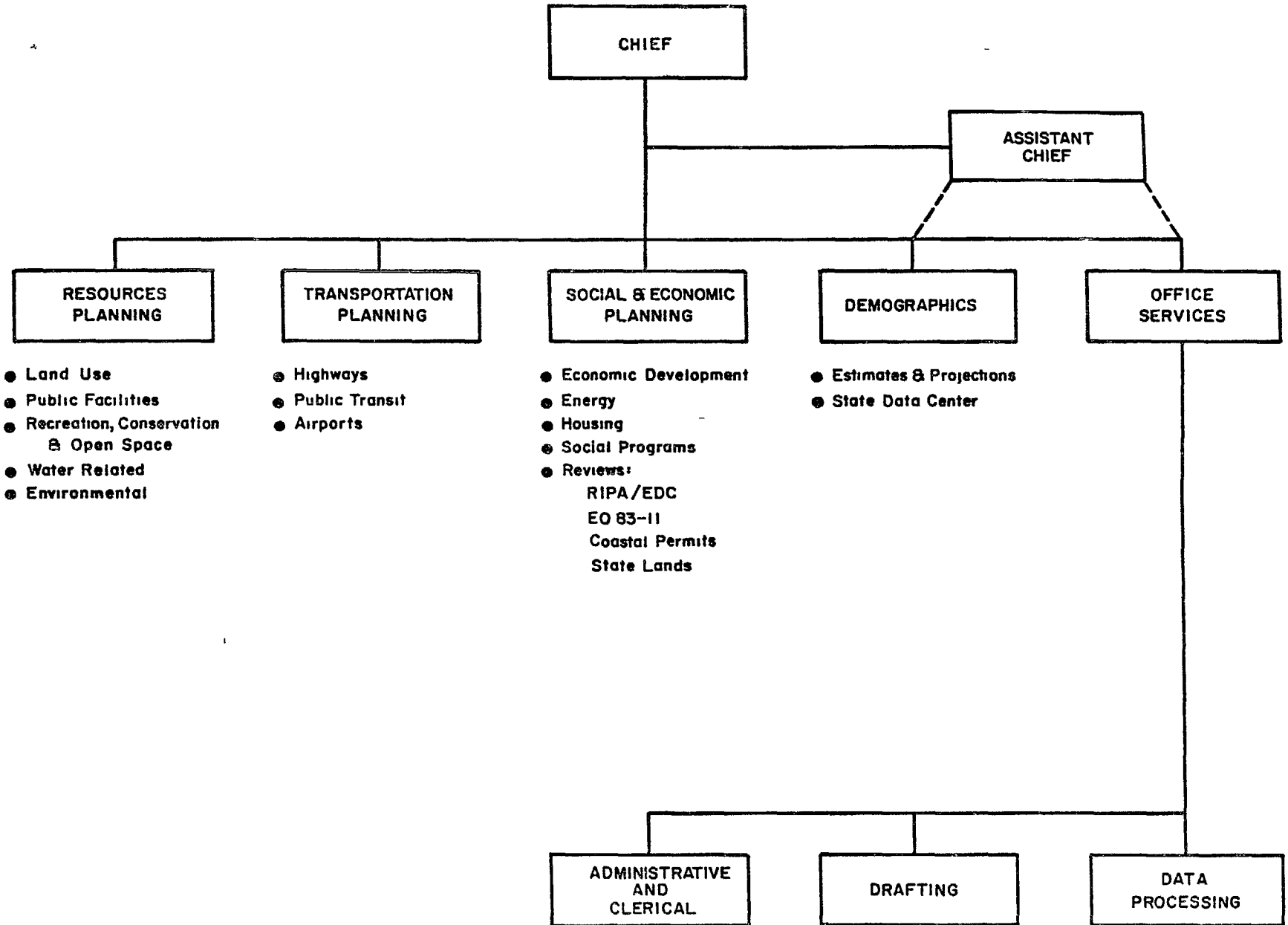
The committee structure which assists the Council to perform state planning activities is comprised of standing committees and special committees. The standing committees include a Technical Committee, a Human Services Review Committee, and a Physical Resources Review Committee. They provide a permanent and continuous mechanism for review of projects, programs and activities of both the staff and other related agencies. Special committees are appointed by the Council as required to assist the Council, standing committees, or staff in a specific functional or operational area, and usually for a limited period of time. The Physical Resources and Human Services Review Committees have been established pursuant to Presidential Executive Order 12372 to assist in the administration of the Rhode Island Intergovernmental Review Process (formerly called A-95).

01-02-03 Office of State Planning

The Office of State Planning, the staff component of the Statewide Planning Program, is a division of the Department of Administration. All of the divisions of this department report to the Director of Administration, and all operate in a basically similar manner. That is, each division performs its basic functions for all of the departments and agencies of state government. The Department of Administration also houses those agencies which most frequently perform staff services for the Governor.

The organization of the Office of State Planning is shown on Figure 010-01(2).

OFFICE OF STATE PLANNING ORGANIZATION CHART
(JANUARY 1, 1984)



0104

01-03 STATE GUIDE PLAN

Section 42-11-10 of the General Laws, enacted in 1978, establishes the State Guide Plan as the repository of goals and policies adopted by the State Planning Council for the growth and development of the state. The 1978 legislation defines the content and purposes of the State Guide Plan as:

... functional elements or plans dealing with land use; physical development and environmental concerns; economic development; human services; and other factors necessary to accomplish the objective of this section. The state guide plan shall be a means for centralizing and integrating long range goals, policies and plans. State agencies concerned with specific subject areas, local governments, and the public shall participate in the state guide planning process, which shall be closely coordinated with the budgeting process. Short range and project plans and implementing programs shall in general be prepared on a decentralized basis by the agency or agencies responsible in each functional area, and shall be consistent with the framework of goals, policies, and plans established by the state guide plans.

01-03-01 Statutory Authority

Section 42-11-10 of the General Laws of Rhode Island directs that the Statewide Planning Program shall prepare, adopt, and amend a state guide plan, including goals and policies and long range or system plans for the comprehensive development of the state's human, economic and physical resources. Section 42-11-10(b) and (d) establishes a state planning council to provide policy advice and guidance to state planning activities.

A. ESTABLISHMENT, POWERS, AND DUTIES

42-11-2. Powers and duties of department. — The department of administration shall have the following powers and duties:

* * *

(w) to administer a statewide planning program including planning assistance to the state departments and agencies;

* * *

42-11-10. Statewide planning program. — (a) Findings. — The general assembly finds that the people of this state have a fundamental interest in the orderly development of the state; the state has a positive interest and demonstrated need for establishment of a comprehensive state planning process and the preparation, maintenance and implementation of long-range plans for the physical, economic, and social development of the state; the continued growth and development of the state presents problems that cannot be met by the cities and towns individually and that require effective planning by the state; and state and local plans and programs must be properly coordinated with the planning requirements and programs of the federal government.

(b) Establishment of Statewide Planning Program. — A statewide planning program is hereby established to prepare, adopt, and amend a state guide plan, including goals and policies and long range or system plans for the physical, economic, and social development of the state and to recommend these to the governor, the general assembly,

and all others concerned. The statewide planning program shall consist of a state planning council and an office of state planning. The office of state planning shall be a division within the department of administration.

(c) **The State Guide Plan** — The state guide plan shall be comprised of functional elements or plans dealing with land use; physical development and environmental concerns, economic development; human services, and other factors necessary to accomplish the objective of this section. The state guide plan shall be a means for centralizing and integrating long range goals, policies, and plans. State agencies concerned with specific subject areas, local governments, and the public shall participate in the state guide planning process, which shall be closely coordinated with the budgeting process. Short range and project plans and implementing programs shall in general be prepared on a decentralized basis by the agency or agencies responsible in each functional area, and shall be consistent with the framework of goals, policies, and plans established by the state guide plan.

(d) **Membership of State Planning Council.** — The state planning council shall consist of:

(1) the director of the department of administration as chairman and not more than nine (9) heads of state departments and agencies who shall be appointed by the governor to serve at his pleasure during their term of office,

(2) not more than five (5) officials of local government, who shall be appointed by the governor from a list of not less than ten (10) submitted by the Rhode Island league of cities and towns, and

(3) not more than ten (10) public members from different geographic areas of the state, representing major areawide citizen interest and perspectives, and having a special knowledge or authority to speak for the areawide interest or perspective that they represent, who shall be appointed by the governor for terms of three (3) years.

(e) **Powers and Duties of State Planning Council** — The state planning council shall have the following powers and duties:

(1) to adopt goals and policies for the growth and development of the state, and the long-range state guide plan, and to modify and amend any of these, following the procedures for notification and public hearing set forth in § 42-35-3 as amended, and to recommend and encourage implementation of these goals, the general assembly, state and federal agencies, and other public and private bodies,

(2) to coordinate the planning and development activities of all state agencies, local governments, and other public and private bodies, with the assistance of the office of state planning;

(3) to review and comment on the proposed annual work program of the office of state planning,

(4) to adopt rules and issue (orders) concerning any matters within its jurisdiction established by this section and amendments thereto, and

(5) to establish technical committees and subcommittees and appoint members representing diverse interests and viewpoints as required in the state planning process.

(f) Office of State Planning. — The office of state planning shall be the principal staff agency of the executive branch for preparing and/or coordinating plans for the comprehensive management of the state's human, economic, and physical resources. The office of state planning shall prepare, continuously evaluate, and revise the state guide plan. The office of state planning shall also recommend to the state planning council specific guidelines, standards and programs to be adopted to implement the state guide plan and shall undertake any other duties established by this section and amendments thereto.

The office of state planning shall maintain records (which shall consist of files of complete copies) of all plans, recommendations, rules, and modifications or amendments thereto adopted or issued by the statewide planning program under this section. Such records shall be open to the public.

D. ADDITIONAL RESPONSIBILITIES RELATIVE TO OTHER AGENCIES AND PROGRAMS

1. Chapter 37-18 Narragansett Indian Land Management Corporation

37-18-10. Land use plan. — (a) All real property owned and held by the Corporation shall be subject to a land use plan prepared by the Division of Statewide Planning within the Department of Administration. No less than seventy-five percent (75%) of the land owned by the Corporation, exclusive of the real property described in § 37-18-7, shall not be improved and developed and shall be held in perpetuity for conservation purposes, and said real property to be held in perpetuity for conservation purposes shall be delineated in the land use plan. Said land use plan shall be mutually acceptable to the Corporation and the Town. Acceptance by the Town of the plan shall not be unreasonably withheld. Upon acceptance of the plan by the Town, the Town shall amend its zoning ordinance adopted pursuant to chapter 24 of title 45 so as to conform to said plan. The zoning ordinance as amended shall govern the land use of real property owned by the Corporation and said ordinance shall not be further amended in a manner inconsistent with said plan without the consent of the Corporation; provided, however, that said ordinance shall not be amended in any manner affecting the land designated in the land use plan for conservation purposes.

(b) The Corporation shall not be entitled to use any portion of the real property to be owned and held by the Corporation until such time as the land use plan is adopted by the Corporation and accepted by the Town.

2. Chapter 42-64 The Rhode Island Port Authority and Economic Development Corporation

42-64-14. Relations with state agencies. — (a) In planning and carrying out projects, the corporation shall conform to the applicable provisions of the state guide plan as the same may from time to time be altered or amended. In determining whether its proposed projects are in conformity with the state guide plan, the corporation and all persons dealing with it shall be entitled to rely upon a written statement signed by its chairman or vice-chairman of the state planning council to the effect that the proposed project conforms to the state guide plan. If the corporation shall submit to the state planning council a written request for such a determination accompanied by a general description of a proposed project describing in reasonable detail its location, nature and size, and the state planning council shall not within forty-five (45) days after the receipt thereof issue its written statement to the effect that the proposed project conforms or does not conform to the state guide plan as the case may be, then conformity of the proposed

project with the state guide plan shall be conclusively presumed. A written statement issued by the state planning council to the effect that a proposed project does not conform to the state guide plan shall state the respects in which such conformity is lacking.

3 Chapter 46-15.2 Rhode Island Water Facilities Assistance Program

46-15.2-4. Program Established. — There is hereby established in the water resources board a Rhode Island water facilities assistance program

* * *

(c) Only projects reviewed and approved by the water resources board, the division of public utilities and carriers and the state planning council may be funded. Each project supported by this program must be consistent with a plan adopted and kept current by the water resources board in accordance with section 46-15-6 of the general laws and with applicable elements of the state guide plan as adopted and kept current by the state planning council in accordance with section 42-11-10 (c) of the general laws.

* * *

46-15.2-5. Procedures. — (a) Applicants shall submit projects proposed for assistance under this program to the water resources board.

* * *

(f) The state planning council shall review all proposed projects to determine whether they are consistent with all relevant elements of the state guide plan. Upon determination that a project is consistent with all relevant elements of the state guide plan, the state planning council shall render its approval. Upon a determination that the project is not consistent with all relevant elements of the state guide plan, the council shall disapprove the project. The state planning council will provide the policy framework necessary to guide this program through the state guide plan.

46-15.2-6. Decision on application and financing. — (a) A project cannot be approved by the water resources board unless the project has been approved by the division of public utilities and carriers, as set forth in section 5(e), and by the state planning council, as set forth in section 5(f).

C FUNCTIONS CREATED OR IMPLIED BY STATUTES PERTAINING TO OTHER AGENCIES

1 Chapter 23-19 Solid Waste Management Corporation

23-19-11 Planning requirements. — Planning responsibilities of the corporation shall include but not be limited to

(1) The preparation of a statewide resource recovery system development plan which will indicate the location, type, and size of solid waste management facilities, including without limitation transfer stations, processing facilities, resource recovery facilities, and ultimate disposal facilities which may be required to serve the future needs of the state and its municipalities through the development of an integrated statewide resource recovery system for the effective management of solid waste;

(2) Said plan shall be in conformity with the applicable provisions of the state guide plan;

* * *

2. Chapter 42-13: Department of Transportation

42-13-2. Organization and functions of the department. — The department shall be organized into such divisions as are described in this section and such other divisions, subdivisions, and agencies as the director shall find are necessary to carry out the responsibilities of the department.

* * *

2. **Planning Division** — This division shall be headed by a chief of transportation planning. This division shall assist the agency responsible for state planning to prepare transportation elements of the long-range state guide plan. The division will prepare functional and area plans, project plans, improvement programs, and implementation programs which are consistent with the long-range state guide plan. The division will undertake corridor, route location, feasibility, facility needs, and other studies as required to support the work of the department. The division shall collect and analyze statistical and other data on all types of transportation needs and facilities. (Emphasis added.)

3. Chapter 46-23: Coastal Resources Management Council

46-23-6. Powers and duties. — In order to properly manage coastal resources the council shall have the following powers and duties:

A. **Planning and Management.** The primary responsibility of the council shall be the continuing planning for and management of the resources of the state's coastal region. The council shall be able to make any studies of conditions, activities, or problems of the state's coastal region needed to carry out its responsibilities.

* * *

Planning and management programs shall be formulated in terms of the characteristics and needs of each resource or group of related resources. However, all plans and programs shall be developed around basic standards and criteria including:

* * *

g) Consistency with the state guide plan.

(Emphasis added.)

46-23-17. Annual progress report on rights of way. — Within ninety (90) days after the end of each fiscal year, the council shall submit a written progress report on the development of public rights of way to the state planning council, the department of environmental management, and the joint committee on the environment, for review, evaluation and recommendation of the program's suitability, relevance to the recreation element of the state guide plan and impact on the natural resources of the state. The report shall also provide detailed records of expenditures and a proposed schedule of future projects. (Emphasis added.)

D MUNICIPAL PLANS

1 Chapter 45-22: Local Planning Board or Commission

45-22-1. Establishment of a planning board or commission — Home rule charter exempt. — All cities and towns shall, by ordinance, establish a planning board or commission under the provisions of this chapter. Any city or town operating under a home rule charter which provides for the establishment of a planning board or commission may continue under the provisions of said chapter except that the provisions of 45-22-6 and 45-22-7 governing the formulation and adoption of a comprehensive plan and the duties of a planning board or commission shall apply to all cities and towns.

45-22-6. Comprehensive plan — Formulation and adoption. — A planning board or commission shall prepare a comprehensive plan for the development of the city or town. Such a plan, shall, among other things, show the general arrangement of and goals, objectives and standards for land use, transportation routes and facilities, public facilities and services, renewal or rehabilitation programs, housing programs, conservation areas, historic preservation areas and environmental protection programs, together with a recommended program of actions and improvements deemed necessary to implement the features of said plan. The planning board or commission may, at its discretion, hold public hearings on the comprehensive plan or any elements of the comprehensive plan. The comprehensive plan and all elements thereof shall be in general conformity with the goals, objectives, policies and general arrangements contained in applicable state plan or element thereof.

The planning board or commission shall adopt said comprehensive plan or elements thereof and shall, upon adoption, use said plan or elements thereof as a guide to its actions in areas relating to the adopted plan or elements. At intervals of no greater than five (5) years, the board or commission shall review said comprehensive plan or elements thereof and make any modifications, amendments or additions deemed necessary in the light of current and projected community development trends and needs. (Emphasis added)

E OTHERS

The Governor has designated the Statewide Planning Program as the responsible state agency for several other tasks. The Program is the recipient of notification of grant awards from the federal government which it tabulates and reports upon periodically. Coordination of the National Flood Insurance Program within the state is also the responsibility of the Program. The Program is the "208" agency for the state also, as such it performed the initial planning effort and after approval of the "208" Plan by the Governor and the United States Environmental Protection Agency has become the lead agency in the management phase of the "208" effort. The Program also acts as the Overall Economic Development Program Committee and as that, formulates a priority program of projects for proposed Economic Development Administration funding assistance each year. The Program is also the lead agency of the State Data Center which has been formed in order to disseminate 1980 Census and other related information.

Metropolitan Planning Organization Functions

The Statewide Planning Program has been designated by the Governor as the only Metropolitan Planning Organization (MPO) within the state. This designation has several implications pertaining to agency mandates. As the MPO the Statewide Planning Program is responsible for performing the various aspects of the Continuing Transportation Planning Process, and transportation forecasting model system as well as formulating the annual Transportation Improvement Program.

Review Functions

The Statewide Planning Program has also been designated by the Governor as the single point of contact for reviews performed under Presidential Executive Order (EO) 12372. State EO 83-11 was put into place on September 29, 1983 and establishes procedures for handling Presidential EO 12372.

The Program is also involved in various other review functions including the following: Reviewing many proposed transactions for the State Properties Committee. Reviewing all permit applications which are submitted to the Coastal Resources Management Council. Reviewing all projects proposed by the Rhode Island Port Authority and Economic Development Corporation and its subsidiary corporations.

01-03-02 Procedural Requirements

The State Planning Council has adopted, pursuant to Chapter 42-35 and Section 42-11-10 (3)(4) of the General Laws of Rhode Island, Rules of Procedure. These were most recently amended effective March 1, 1984. The following excerpts apply directly to adoption of elements of the State Guide Plan and to the findings of proposals consistency with the State Guide Plan.

Rule I-3: Definitions

3 03

The term "State Guide Plan" means all statements of goals and policies and plans or plan elements adopted by the State Planning Council in accordance with Section 42-11-10(e) of the General Laws of Rhode Island, together with all statements of goals and policies and plans or plan elements adopted by its predecessor body, the Policy committee of the Rhode Island Statewide Comprehensive Transportation and Land Use Planning Program, as established by Section 3 of the Inter-agency agreement between the Rhode Island Development Council and Department of Public Works dated May 27, 1964, as amended on March 25, 1965 (Rhode Island Public Transit Authority) and on July 12, 1965 (Department of Business Regulation). Elements of the State Guide Plan shall remain in effect until amended or repealed by the State Planning Council.

3 06

The term "consistent with" when used in reference to a finding of agreement with the State Guide Plan means that the proposed document or action is fully in accord with or compatible with every applicable element of the Plan in terms of the objectives sought and the results anticipated. Differences in procedure or detail which do not modify the Plan objectives or results will not necessarily cause a finding of inconsistency. The term "conformity with" and similar terms requiring agreement with the Plan shall be considered synonymous with the term "consistent with" for purposes of these rules.

Rule I-12: Procedures for Council Action

12 01: The State Guide Plan

12 01 01

A draft of a plan or plan amendment proposed for adoption as an element of the State Guide Plan (see Rule 3 03) or a proposal to modify or repeal any element thereof shall be submitted to the Secretary of the Council no later than 15 days before a regular meeting of the Council in order to be considered for review at that meeting.

12 01 02

The Secretary shall place the draft plan, amendment, or proposal on the agenda of the next regular or special meeting. The Secretary shall notify each member of the Council in writing, of the receipt of the draft no later than 10 days before the meeting at which the draft is to be reviewed. The notice shall contain a brief description of the plan. Copies of the complete written plan shall be furnished to each member. The Secretary will notify the applicant (if other than the Program staff) and participating agencies and interested parties of the date of the Council meeting at which the draft will be presented.

12.01.03

The preliminary draft shall be presented to the Council at the scheduled meeting by the applicant or the Secretary, together with the recommendation of the Technical Committee thereon (if any). The Council may vote to receive the preliminary draft for further review, or refer it to the Technical Committee if not previously considered by that body. Revised drafts shall be reviewed by the Council and/or the Technical Committee as necessary.

12.01.04

The Council may appoint a special committee or assign a standing committee to review and assist in the preparation or review of the plan draft.

12.01.05

As part of the review process, copies of the draft shall be released for review by the Council and summaries of the report may be sent to municipal, state, regional and federal agencies, major interest groups, libraries, the public, and the information media as directed by the Council.

12.01.06

All revisions resulting from the review process shall be compiled, reviewed, and approved by the review committee (if any) and the Technical Committee and incorporated into the draft or into an addendum to the draft.

12.01.07

The revised draft shall be submitted to the Council. The Council may vote to receive the draft for the purpose of holding a public hearing, or for further consideration prior to authorizing a public hearing thereon.

12.01.08

One or more public hearings shall be held on each proposed plan element, amendment, or repeal of an element prior to adoption thereof.

12.01.09

A revised draft of the State Guide Plan element which incorporates such modifications as are derived from the public hearing and other review of the draft shall be mailed to the Council members. At the next Council meeting, following discussion, the Council shall vote to adopt, reject, modify and adopt, or defer action on the plan element or amendment under consideration.

12.01.10

Elements of the State Guide Plan which are adopted, amendments thereto, or actions repealing any element of part thereof, shall be filed with the Secretary of State by the Secretary.

12.04.04

The Secretary shall review each proposal received for consistency as established in its citation. Those projects which are required to be consistent with the State Guide Plan will be found to be consistent only when it is clearly in accordance with all of the applicable provisions of the State Guide Plan.

12.04.05

The Secretary shall present the project proposal to the Council with an advisory report and recommendation on the project. Following discussion, the Council shall move to approve, reject, modify and approve, or defer action on the proposed finding.

12.04.06

If the Council approves the proposal the Secretary shall notify the applicant in writing.

12.04.07

If the Council finds that a proposal is not consistent as required, the Secretary shall prepare a report describing the respects in which the proposal was found to be deficient. A copy of this report shall be sent to the applicant.

12.04.08

The determination of the Council on a proposal shall be in writing and stated in the record. Each determination of the Council shall be accompanied by a concise and explicit statement of the principal reasons for the determination reached by the Council.

12.04.09

The Council may adopt additional or different procedures for the review of specified types of proposals. Such procedures shall be adopted by rule and shall replace or supplement the procedures set forth herein.

Rule I-14: Public Hearings

14.01

Public hearings shall be conducted in accordance with the Administrative Procedures Act and the Rules for Public Hearings adopted by the Council, and shall be held before the Council adopts, amends, or repeals:

- (a) Statements of goals and policies for the future development of the state.
- (b) Elements of the long range State Guide Plan.
- (c) Council Rules of Procedure.

14.02

The Secretary shall serve as a Council member for the purpose of conducting public hearings.

14.03

Public hearings may be scheduled as part of regular or special Council meetings or at other times as directed by the Council. When appropriate, a public hearing shall be held in the general area particularly affected by the action or document under consideration.

01-03-03 Implementation of the Plan

Legislation prescribing the functions and powers of the Statewide Planning Program direct that plans and management programs developed by the Coastal Resources Management Council be consistent with the State Guide Plan (Title 46, Chapter 23, Section 6A); state that the Solid Waste Management Corporation's plan for the State must be consistent with the State Guide Plan (Title 23, Chapter 19, Section 11), and require that projects of the Port Authority and Economic Development Corporation conform to the State Guide Plan (Title 42, Chapter 46, Section 14) The Federal Highway Program Manual (Vol. 7, Chapter 9, Paragraph 6(B)) requires that the Council determine whether the transportation plan and program is consistent with the state's approved Air Quality Implementation Plan Similar findings may be required in the future by other legislation or administrative regulations

The directive to implement the State Guide Plan is repeated three times in the law It is addressed to the State Planning Council, to the Office of State Planning, and to programs of state agencies How implementation is to occur is not detailed, except for the following instructions:

- 1) that the Office of State Planning is to suggest ways to implement the guide plan to the State Planning Council (42-11-10(f)),
- 2) that the State Planning Council is to recommend and encourage implementation to public and private officials (42-11-10(e)), and
- 3) that the programs of state functional agencies are to be consistent with the State Guide Plan (42-11-10(c))

The implication of this legislation is that bringing to fruition the goals, policies, and plans of the State Guide Plan shall take place in one of two general ways

- 1) implementation-by-coordination, and
- 2) implementation by specific recommendations of the State Planning Council to the Governor, the General Assembly, state agencies, local government, or other public or private bodies

The first involves a process of collaboration among state and local agencies having planning and development functions, and a determination of consistency of other agencies' plans and programs with applicable provisions of the State Guide Plan Collaboration is addressed in the act in the membership of the State Planning Council and the injunction that "State agencies concerned with specific subject areas, local governments, and the public shall participate in the state guide planning process, which shall be closely coordinated with the budgeting process " Public hearings are required prior to adoption of guide plan goals and policies Nowhere is the requirement for consistency connected to an enforcement mechanism, nor is consistency defined

The second states that a function of the State Planning Council is to advocate for and recommend implementation of its adopted goals, policies, and plans for the growth and development of the state These recommendations can take the form of guidelines, standards, or programs, and may be made to the Governor, the General Assembly, or to public or private agencies

The only direct discussion of a review process in connection with determining conformance of the actions of agencies with the State Guide Plan is contained within legislation establishing the Rhode Island Port Authority and Economic Development Corporation. The law states:

In determining whether its proposed projects are in conformity with the State Guide Plan, the Corporation and all persons dealing with it shall be entitled to rely upon a written statement signed by its chairman or vice-chairman of the State Planning Council to the effect that the proposed project conforms to the State Guide Plan...A written statement issued by the State Planning Council to the effect that a proposed project does not conform to the State Guide Plan shall state the respects in which such conformity is lacking.

If no written statement is received from the Council within 45 days, conformance of the proposed project to the guide plan is automatically presumed. The Corporation is required to provide the Council with necessary information about the proposed project.

Implementation of the requirement of general conformity of local comprehensive plans to the state guide plan is blurred somewhat by court decisions concerning what constitutes a comprehensive plan and the extent to which the zoning ordinance of a community must comply with the comprehensive plan. Where there is no document clearly labeled a "comprehensive plan", the community's "scheme or formula of zoning" is its comprehensive plan, according to the Rhode Island Supreme Court in the 1976 case of Camara v. City of Warwick. The same year, in the case of Sweetman v. Town of Cumberland, the Court ruled that a zoning ordinance amendment must conform to the "comprehensive plan of zoning in effect in the community and need not conform with the master plan adopted by the planning board".

The legally-established authority of the State Guide Plan, based on the foregoing, is far-ranging in terms of the breadth of its sphere of intended influence and in terms of the implementing activities envisioned for the State Planning Council. This influence is generally exercised in an advisory and cooperative manner. Its effectiveness in actually guiding state growth and development is, to a large extent, dependent on the vigor with which the State Planning Council exercises its legislated prerogatives and on the receptiveness of state and local officials.

010-02 SUMMARY OF STATE GUIDE PLAN ELEMENTS

02-01 INTRODUCTION

Each element of the State Guide Plan that has been adopted by the State Planning Council and that is currently in effect is summarized in this Part. The summary of each element utilizes a standard format:

- 1) Introduction — presents the title, number, dates of approval and amendment, and purpose of the element summarized.
- 2) Issues Addressed — presents the problems the element addresses.
- 3) Objectives — presents the goals and policies established by the element.
- 4) Strategies — presents the recommended actions, programs and financing to implement the element.

Section numbering in this part of the Overview varies from the method used in Part 010-01. Each element of the State Guide Plan has a unique identifying number. These are assigned by category, as described in the Preface. These identifying numbers are used to establish a secure relationship between each element and the summary of that element that appears in this Part. For example, the Plan for Recreation, Conservation and Open Space is designated as Element 151. In this Overview, the summary of this element forms Chapter 010-02-151. The four sections of this summary are identified as follows:

02-151-01 Introduction

02-151-02 Issues Addressed

02-151-03 Objectives

02-151-04 Strategies

The summaries appear in this Overview in numerical order by identifying number. Continuing the example above, the summary of Element 151 is followed by the summary of Element 161, since this is the next element in numerical order in effect at this time.

As additional elements of the State Guide Plan are prepared and are adopted by the State Planning Council, a summary will also be prepared and incorporated into this overview. These additions will also be inserted in numerical order. Referring to the example above, if a future element is given the identifying number 154, a summary thereof will be added to this Overview, and inserted between the summaries of Elements 151 and 161. To facilitate the addition of summaries of future State Guide Plan elements, the pages in this Part are numbered by Section, rather than by the entire part. For example, the first page in Section 010-02-151 is numbered 02.151.01.

02-110 GOALS AND POLICIES

02-110-01 Introduction

State Guide Plan Element 110, Goals and Policies, was approved by the State Planning Council on November 13, 1974.

The element presents a statement of goals and policies for the physical, economic, and social development of Rhode Island. The purpose of this statement is to establish a framework of fundamental objectives to guide the formulation of plans and implementation of programs.

02-110-02 Issues Addressed

Setting goals in a dynamic society is a complex problem. Establishing goals involves making decisions about the future. There is an understandable tendency on the part of all governments formed by free societies to deal with problems as they arise and to make decisions when they are required. This inclination is strengthened when the continuous struggle with daily problems leaves little time and money for consideration of future directions, except in the most implicit manner.

Goal-setting is further complicated by the problems of timing and priorities. The goals of any diverse community will change rapidly over time, and their priorities, or the relative importance of various goals, will change from day to day. Any statement of goals is, therefore, subject to sudden and drastic revision.

Worthwhile goals are frequently in conflict. The need for open space and recreation areas conflicts with the need to accommodate new urban growth, or to increase the property tax base. The need for industrial development to meet employment objectives may conflict with pollution control objectives.

Finally, knowledge of the real goals of any community is always incomplete, since goals are seldom explicitly stated, except in the most general terms, and tend to become more controversial as they become more specific. The goals of a democratic society cannot be laid down by fiat, but must be derived from that society. They must express the community's concept of its present condition and future development in sufficiently definitive terms to constitute a framework for formulating and testing plans and proposals.

These problems point up the essential characteristics of a statement of goals and policies which is useful in guiding the future development of the state's environment. Development goals and policies must set criteria for dealing with real problems and provide a stable basis for decision-making, which can continuously adjust to changing conditions and needs. Goals which are of real value in raising horizons and improving conditions must reflect ideals in abstract terms; they are values to be sought, rather than ends to be achieved. But they must be more than vague statements of basic values or promotional rhetoric. To provide meaningful guidance in decision-making, the goals set at any point in time must be statements of intermediate rather than final purpose. Useful goals must be expressed as standards, rather than as concrete destinations which can be reached in a stated period of time by application of a specified quantity of resources. The statement of goals and policies presented in Section 02-110-03 attempts to incorporate these characteristics.

02-110-03 Goals and Policies

The development goals established in this element are grouped into four broad categories: human resources, economic development, physical development, and facilities and services. Each goal is followed by a summary list of policies which can be followed and actions which can be taken in pursuit of that goal.

A. Human Resource Goals and Policies

GOAL 1: EXPANSION OF OPPORTUNITIES FOR PERSONAL DEVELOPMENT

1. Vigorous enforcement of anti-discrimination laws and other affirmative measures to promote equal opportunity for all people in employment, housing, education and social organizations.
2. Expand day care and other programs for the physical and social rehabilitation of the physically, mentally, and culturally handicapped.
3. Encourage the expansion and improvement of private and public pension plans with particular reference to flexible retirement ages.
4. Expand the opportunities for greater citizen participation in state and community affairs.
5. Intensify a revalidation system for determining eligibility for welfare payments to assure that the fullest possible assistance can be given to those in need.
6. Intensify efforts to make more effective use of the talents of those senior citizens and youthful citizens who desire to make this contribution to an improvement of our society.
7. Establish geriatric day care centers to eliminate the need for many elderly to enter institutions or other long-term facilities.
8. Expand the state's youth program planning capabilities.
9. Expand adoption placement and foster parent programs to meet growing needs.

GOAL 2: STRIVE FOR A LIVING ENVIRONMENT WHICH FOSTERS A GREATER SENSE OF IDENTITY AND INDIVIDUALITY

1. Rehabilitate or rebuild obsolescent and deteriorating urban areas with emphasis on the continued occupation of such areas by the indigenous population.
2. Maintain a diversity of income, racial, ethnic and employment groups in residential communities.
3. Provide greater opportunities for economic, geographic and cultural mobility and prevent further concentration of the poor and disadvantaged.
4. Focus social and physical renewal programs on the same area at the same time.

5. Develop improved mechanisms for soliciting input from the residents in planning for the development of facilities and services.

GOAL 3: CONTINUOUS IMPROVEMENT IN THE STRUCTURE AND OPERATIONS OF GOVERNMENTS AND OF THEIR RESPONSIVENESS TO THE CITIZENRY

1. Acquire adequate revenues to support governmental functions drawn from flexible sources and equitably assessed.
2. Develop improved mechanisms for communications between the citizen and his government and between the government and the citizens.
3. Prevent conflicts and duplication between different levels of government.
4. Broaden consumer protection services and programs.
5. Make greater use of analytical tools for programming expenditures in terms of goals to be achieved and for simulating and evaluating potential results of alternative decisions.

GOAL 4: EXPANSION AND EQUALIZATION OF OPPORTUNITIES IN EDUCATIONAL AND CULTURAL PURSUITS

1. Expand existing and develop additional non-formal, non-school cultural and educational opportunities as those represented in libraries, museums and the arts.
2. Expand adult education resources and encourage broader participation in adult education programs.
3. Improve the educational quality of the schools by improving curricula, expanding programs for the gifted and the slow learners, instituting additional experimental programs, and reducing student-teacher ratios.
4. Develop improved methods of training teachers to better meet the changing needs in education and the individual needs of their students.
5. Expand the opportunities for female students to participate more fully in scholastic athletic programs on both the primary and secondary levels.
6. Foster the increased development of neighborhood cultural activities and programs.
7. Expand the grant-in-aid program to individual artists.

GOAL 5: REDUCE THE NUMBER OF FAMILIES WITH INCOMES BELOW THE POVERTY LEVEL, AND INCREASE MINIMUM INCOME LEVELS

1. Through the congressional delegation, support legislation to increase the minimum wage level.
2. Eliminate racial, religious, ethnic sex barriers to employment and job advancement.

Goals and Policies

- 3 Develop need surveys and studies in an effort to more accurately delineate target groups for special services
- 4 Expand day care center programs to permit more people to enter the labor force and thus decrease the welfare roles
- 5 Reduce transportation barriers to employment primarily through expansion and reorientation of public transportation systems
6. Improve the retainability of potential employees from disadvantaged groups through sensitivity training programs for job supervisors
7. Increase property tax exemption for the aged and the handicapped

B Economic Development Goals and Policies

GOAL 1: MAINTENANCE OF ECONOMIC GROWTH AT A RATE ADEQUATE TO SUPPORT THE STATE'S POPULATION IN A MANNER CONSISTENT WITH THE STATE'S CHARACTERISTICS, CAPABILITIES, AND ENVIRONMENTAL OBJECTIVES

1. Attract more service type entities into the state, such as regional and corporate headquarters, and more ocean and marine oriented industries
2. Increase the supply of venture capital through various mechanisms so as to assist existing firms in expanding their facilities, and to attract new firms into the state
- 3 Provide for required infrastructural facilities in conjunction with the selection of potential industrial sites and commercial centers
4. Expand the markets for the state's products and services through improved communications and transportation facilities.
5. Stimulate greater cooperation between the state, private industry and the academic community, in industrial research and development activities
6. Consider regional needs and opportunities in planning for the future economic development of the state.
- 7 Improve the coordination of federal, regional, state and local economic development policies, programs and projects
- 8 Expand the resources available for promotion of the state's tourist attractions

GOAL 2: REDUCTION OF UNEMPLOYMENT AND UNDER-EMPLOYMENT

1. Provide more jobs for Rhode Island workers through increased industrial development
2. Minimize cyclical and seasonal effects on employment through greater diversification of the employment base
- 3 Provide more employability development services to assist unemployed work-

ers in obtaining and holding meaningful jobs.

4. Encourage industry to revise job specifications, where possible, so as to meet changing labor force standards.
5. Encourage private industry to make greater use of the state Job-Bank.

GOAL 3: FULLER AND MORE EFFECTIVE USE OF MANPOWER DEVELOPMENT RESOURCES

1. Motive young people to go into vocational training fields.
2. Achieve greater coordination of the efforts of public and private manpower development programs.
3. Make vocational education more readily available to more people throughout their productive lives.
4. Continually reorient vocational training programs to meet changing occupational requirements and new growth opportunities.
5. Strengthen resources for self study facilities for people wanting to start new careers or improve their knowledge and skills of their present jobs.
6. Make better use of occupational and industrial data for development of training programs and community manpower planning programs.
7. Improve the system for providing information services to high school counselors about the labor market of the future.
8. Amplify counseling services geared to a continuous motivation of individuals to complete the programs.

GOAL 4: SUSTAIN INDUSTRIAL DEVELOPMENT AT A RATE CONSISTENT WITH REGIONAL RESOURCES AND CAPABLE OF PROVIDING A BROAD RANGE OF EMPLOYMENT OPPORTUNITIES FOR AN EXPANDING LABOR FORCE.

1. Reserve a sufficient number of desirable sites for industrial development through protective regulation or acquisition by the state.
2. Relate the location of industrial concentrations to residential development and transportation patterns in order to minimize conflicts and insure accessibility.
3. Select industrial locations which can provide a wide range of parcel sizes and essential utility and transportation services.
4. Conserve and improve existing industrial development by removing non-related and conflicting activities and land uses, wherever possible.

GOAL 5: PROVISION OF COMMERCIAL SERVICES AND FACILITIES NEEDED TO SERVE AN EXPANDING POPULATION

1. Stabilize and enhance older commercial core areas.

Goals and Policies

2. Develop plans which allocate adequate areas to commercial use in varied sizes suitable for neighborhood, community, and regional retail centers
3. Minimize the conflict between commercial areas and other urban functions through appropriate spatial arrangements and development controls
4. Improve public transportation facilities between residential areas and commercial centers

GOAL 6 MAINTAIN AND UPGRADE RESOURCES ESSENTIAL TO THE COMMERCIAL AND SPORT FISHING INDUSTRIES

1. Reduce pollution in the state's water bodies.
2. Protect and preserve tidal marshes and shellfish beds
3. Improve harbors, anchorages, channels and docks for commercial and pleasure boating.
4. Investigate additional uses for marine life products and by-products
5. Encourage development of related industries in conjunction with fishing ports

C Physical Development Goals and Policies

GOAL 1 CONSIDERATION OF ENERGY REQUIREMENTS IN PLANNING FOR LAND USE

1. Develop land use plans that promote conservation of energy required to serve future residential, industrial and commercial development
2. Develop and employ adequate location and siting criteria for power generating plants.
3. Minimize the adverse impact of power generation and transmission facilities on the environment by careful planning and by capitalizing on potential compatible uses to the greatest extent possible
4. Consider land use implications of new alternative energy sources

GOAL 2 ACHIEVEMENT OF A HARMONIOUS RELATIONSHIP BETWEEN POPULATION AND THE NATURAL ENVIRONMENT

1. Relate state land use policies to a population ceiling approximating 15 million.
2. Develop land use plans which accommodate patterns of urbanization and economic development in a manner which considers environmental capacity and offers a range of alternative locations consistent with wise and balanced uses of natural resources.
3. Educate the total citizenry regarding environmental planning needs, limitations and opportunities.

4. Intensify program efforts to reduce pressures for development created by assessment and taxation policies.
5. Apply available technology to the problem of accommodating a rapidly shrinking living space and resource base to the needs of the present and future residents.
6. Provide a broad range of choice among good living environments: urban, suburban, and rural.

GOAL 3: THE PRESERVATION AND PROTECTION OF OPEN SPACE

1. Consider open space requirements in terms of complete ecological systems.
2. Protect and enhance scenic values.
3. Retain selected natural areas in their present condition indefinitely, in order to provide a land reserve for long range future needs and to protect rural areas.
4. Adopt tax policies favoring continued agricultural or forest use in selected areas.
5. Acquire development easements permitting continued farming operations.
6. Preserve, through acquisition, those rail corridors which are to be abandoned, for use as utility corridors or for recreational purposes.

GOAL 4: PROTECTION OF THE COASTAL REGION

1. Preserve, develop, and where possible, restore the resources of the coastal region in order to maximize the benefits from its variety of assets.
2. Enhance the quality of the marine environment by reducing pollution and protecting endangered marine life.
3. Prevent overdevelopment of the coastal region.
4. Protect against the deterioration of existing development.
5. Reduce conflicts in the coastal region between uses and government jurisdictions.
6. Prevent the filling in of coastal waters and wetlands except where absolutely required for the health and welfare of the people.
7. Extend the jurisdiction of the state over offshore waters to the greatest extent possible.
8. Expand the anadromous fish restoration program.

GOAL 5: REVITALIZATION OF OLDER CENTRAL CITIES

1. Stimulate greater industrial and commercial interest in central cities through

promotion, financial assistance and provision of public facilities.

2. Emphasize the role of central cities as cultural, entertainment, and communications centers.
3. Protect stable neighborhoods and extend their useful life through continuous upgrading and modernization.
4. Utilize urban renewal programs to ameliorate land use conflicts, convert areas from inappropriate to appropriate land uses, and correct deficiencies in circulation patterns.

GOAL 6: CONTROL OF URBAN SPRAWL AND DISPERSION

1. Develop plans which foster a more compact growth thus reducing the cost of urban services.
2. Strive for a greater coordination of the development plans and activities of the municipalities within the metropolitan area.
3. Develop new and more effective concepts in zoning and land development control.
4. Reduce mandatory travel time between home and work by relating housing and places of employment, spatially.
5. Foster the application of new, environmentally sound development patterns which promote compact growth while providing more pleasing visual aspects by avoiding a uniform grain of development.

GOAL 7: PROTECTION AGAINST LOSS OF LIFE AND PROPERTY DAMAGE CAUSED BY FLOODING OR EXTREME TIDAL ACTION

1. Limit the intensity of development in unprotected shoreline areas and in flood plain areas, through flood plain zoning and other controls.
2. Prevent further blockage or restriction of natural drainage channels.
3. Improve the maintenance and design of flood control reservoirs.
4. Replace obsolete or inadequate dams and flow control facilities.
5. Reduce the effect of shoreline erosion through erosion prevention structures, plant materials, and control of the frequency and intensity of use.

GOAL 8: ALLEVIATION OF WATER POLLUTION PROBLEMS

1. Improve the coordination of local water pollution control management plans and programs and seek regional solutions to the greatest extent possible.
2. Continue the close coordination of the state's water pollution control planning activities with those concerned with water resource development and land use development.

3. Assure that all proposals for water pollution control management facilities and systems are fully analyzed and evaluated in terms of their impact on the social, economic and physical environment.
4. Limit intensive development to areas served by public sewer systems which can provide for the adequate collection and treatment of the liquid wastes generated.
5. Require pre-treatment of sewage by industrial operations, where appropriate.
6. Upgrade treatment in municipal or other treatment plant facilities, where appropriate.
7. Support and encourage efforts to prevent and control spills of oil or contaminants.
8. Encourage research to better determine potential effects of thermal pollution on the marine environment.
9. Support efforts to maintain and strengthen the state's regulatory activities for water pollution control.

GOAL 9: ALLEVIATION OF AIR POLLUTION PROBLEMS

1. Support efforts to maintain and strengthen the state's regulatory activities for air pollution control.
2. Achieve stronger coordination of air pollution control planning activities with state and local land use planning activities.
3. Strengthen controls over the use of pesticides and other toxic agents.
4. Extend requirements for prior approval of plans for activities with air pollution potential, to cover new facilities which have a large amount of associated automobile activity.

GOAL 10: ALLEVIATION OF SOLID WASTE PROBLEMS

1. Support efforts to maintain and strengthen the state's regulatory activities.
2. Implement a disposal facility licensing program.
3. Reduce the number of disposal facilities through regionalization and reduction of the amount of solid waste to be landfilled.
4. Implement a statewide resource recovery program.
5. Develop an overall state program which effectively integrates all elements of the solid waste problem and provides for the coordination of the required planning, regulatory, and management functions with other related state, local and private sector activities.

GOAL 11: PROTECTION AND ENHANCEMENT OF HISTORIC VALUES

1. Support efforts to maintain and strengthen state and local programs for preservation of significant historic places through identification, acquisition and rehabilitation.
2. Encourage more widespread use of historic district zoning.
3. Achieve greater coordination among state agencies, in preservation matters.
4. Utilize historical survey and planning programs to emphasize and preserve the identity of historic neighborhoods and communities.

D. Facilities and Services

GOAL 1: IMPROVEMENT OF THE QUALITY OF PUBLIC EDUCATIONAL FACILITIES AT ALL LEVELS

1. Expand the use of modern teaching equipment and provide up-to-date school buildings and facilities.
2. Expand the resources and use of educational television.
3. Increase the financial resources to be used in the construction, equipment, and maintenance of school buildings and facilities.
4. Regionalize at least the specialized facilities and services to gain operating efficiencies and broaden the service base.
5. Improve the physical training programs and facilities, especially in the case of female students.
6. Improve the natural science laboratory facilities, particularly on the elementary level.

GOAL 2: COORDINATED DEVELOPMENT AND USE OF THE STATE'S PUBLIC WATER RESOURCES

1. Base priority for development of water resources on all factors associated with both the sources and the contemplated uses.
2. Assure that those surface and groundwater sources which have been identified as good potential sources for future development receive the required degree of protection and management.
3. Coordinate development of local systems and coordinate planning for future water resource development with other elements of the state guide plan.
4. Encourage the development of unified municipal-wide, or regional systems to serve those communities now served by several small systems or by special districts.
5. Maximize the re-use of water required for industrial processing.

6. Reduce water pollution and upgrade water quality to its eventual use.
7. Consider the multiple use potential for all water resource development projects.
8. Consider ways to reduce demand and use of public water, including reorganization of existing price structures.

GOAL 3: A BALANCED AND INTEGRATED MULTI-MODAL INTRASTATE TRANSPORTATION SYSTEM WHICH PROVIDES EFFICIENT AND ECONOMICAL IMPROVEMENT BETWEEN COMPONENT PARTS OF THE STATE AND OFFERS MIXIMUM POSSIBLE MOBILITY TO ALL ELEMENTS OF OUR SOCIETY

1. Provide a variety of transportation modes designed to meet the differing needs of different people, activities, and purposes of travel.
2. Evaluate all transportation system and corridor proposals in terms of the cause and effect relationship of those proposals upon social, economic, cultural and natural elements of the total environment.
3. Foster, in concert with all levels of government and the private sector, equitable financing for all modes of transportation consistent with needs and requirements of our society.
4. Reduce conflicts between transportation systems and other functions by locating transportation facilities at the edges of functional areas.
5. Consider transportation requirements in determining the spatial arrangements of land uses; attempt to minimize the need for transportation, consistent with other objectives.
6. Obtain a high aesthetic quality in transportation system design by visually relating design and location of facilities to the natural and cultural landscape.
7. Enact and enforce appropriate transportation safety measures.
8. Alleviate traffic congestion and reduce travel time between major centers.
9. Improve the peak period public transit services to better serve the suburban commuters.

GOAL 4: AN IMPROVED INTERSTATE TRANSPORTATION CAPABILITY

1. Insure that the total transportation needs of the state are considered at the national and state levels, for capital improvements, in the light of environmental and energy source limitations.
2. Improve high speed rail transportation to Boston, New York, and Washington.
3. Expand commercial air service for direct intermediate distance travel.
4. Maintain and improve rail freight service to support industrial development.

GOAL 5 IMPROVED TRANSPORTATION TERMINAL FACILITIES

1. Maximize the interface between transportation modes by combining terminal and automobile parking facilities
2. Extend the hinterland of the Port of Providence through improved transportation facilities and reduced ground transportation charges
3. Diversify the products shipped through the Port of Providence, emphasizing package cargo

GOAL 6: ADEQUATE AND DIVERSE RECREATIONAL OPPORTUNITIES AND FACILITIES TO MET THE NEEDS OF THE STATE'S CITIZENS AND TO ATTRACT AND SERVE TOURISTS

- 1 Insure that the needs and recreational interests of people of all social and age groups and abilities in all areas of the state, are considered to the fullest extent possible in developing state recreational facility plans
2. Relate the type and size of recreational facilities to the pertinent characteristics of the service area.
- 3 Base acquisition and development programs and priorities on frequent studies of demand and usage.
4. Improve access to all types of recreation facilities
- 5 Insure that local governments have adequate statutory authority to meet their responsibilities, including the power to acquire property through eminent domain proceedings authorized by the General Assembly, and to protect and preserve open space through regulation of land use
- 6 Provide state financial and technical assistance, and guidance, where needed to stimulate capital investment and improvement
- 7 Encourage private investment in recreational facilities and areas
8. Promote recreational activity among the population as a means of improving their health and general welfare
- 9 Develop complete management plans for state owned recreation lands with consideration of zoning for compatible uses by an optimum number of users
- 10 Acquire revenues needed for acquisition and development of recreation areas through increased hunting and fishing license fees and increased parking fees at state beaches
- 11 Expand conservation education and forest fire prevention programs

GOAL 7 GREATER OPPORTUNITIES FOR WATER-ORIENTED RECREATION

- 1 Reduce pollution of water bodies
- 2 Maintain an active program for acquisition of sites or providing access to

salt and fresh water bodies

3. Obtain easements and fishing rights along stream courses.
4. Make maximum use of water bodies and watersheds for recreation and other purposes wherever possible, in a manner consistent with the characteristics and uses of the water bodies themselves and with the standards governing water supplies established by the Rhode Island Water Resources Board.

GOAL 8- ACHIEVEMENT OF THE HIGHEST POSSIBLE STANDARDS OF PUBLIC HEALTH AND SAFETY IN PUBLIC FACILITIES AND SERVICES

- 1 Strengthen the system of medical care delivery throughout the state so as to meet the needs of an expanding, aging population.
- 2 Operate health care facilities in a manner designed to minimize cost increases
- 3 Extend employee health benefits and health insurance coverage
- 4 Locate facilities so as to properly serve present and future population distributions.
5. Concentrate facilities to maximize joint use of specialized facilities and equipment, staff specialists, and teaching programs
- 6 Improve the physical resources of the state health laboratories
- 7 Train more medical people and make greater use of qualified para-medics as "field" medical officers

GOAL 9 AN EFFECTIVE PROGRAM TO IMPROVE THE QUALITY AND BROADEN THE CHOICE OF HOUSING

- 1 Encourage programs which directly assist low income families to acquire adequate housing, rather than programs of indirect assistance which benefit intermediaries at public expense while aiding low income families only indirectly if not at all
- 2 Promote research and improve design and construction techniques to reduce housing costs
- 3 Strengthen the enforcement of building and housing codes, and make requirements more flexible by using performance standards where appropriate
- 4 Encourage zoning and subdivision laws which eliminate involuntary housing ghettos
5. Provide housing in locations convenient to other activities and existing facilities
- 6 Replace obsolete and dilapidated housing

7. Provide a broad range of choice among housing types, designs, and costs to meet diverse individual and family needs
8. Promote the establishment of higher residential densities and smaller lot frontages in urban and suburban areas where public water, sewer, transit and other facilities and services exist or are likely to be provided in the near future, and promote lower densities and larger frontages where public utilities are unlikely to be provided.
9. Assist communities in the planning and provision of low and moderate-income, and elderly public and publicly assisted housing in the state according to housing needs
10. Encourage implementation of a fair housing program whereby municipalities in a designated market area would more equitably share the responsibility for providing the area's low and moderate income housing needs, and would pool their resources to this end.
11. Make greater use of a "scattered site" approach when developing public or assisted housing, as an alternative to large multi-family single-site construction

GOAL 10: IMPROVED LAW ENFORCEMENT AND CORRECTION SERVICES AND FACILITIES

1. Improve the quality of the law enforcement agencies in the state through increased manpower, raising the qualifications for law-enforcement officers and improved facilities and equipment
2. Broaden the training of law enforcement officers to include courses in social science and community relations
3. Increase the representation of minority groups in the state's law enforcement agencies
4. Improve the quality of the state's correction institutions through improved facilities and equipment, improved training for staff personnel and improved job and skill training programs and facilities for the inmates
5. Improve and expand probation and ex-convict counseling programs
6. Expand the scope of outside placement and work and education release programs as an alternative to incarceration

02-110-04 Strategies

There is consensus on the general goals to which the state is committed

This element presents the consensus statement of goals and policies for the physical, economic, and social development of Rhode Island. The purpose of this statement is to establish a framework of fundamental objectives (goals) to guide the formulation of plans and implementation of programs.

These fundamental objectives (goals) are contained in this element and within the

various other elements of the State Guide Plan. As established by state law the guide plan centralizes and integrates those long-range goals, policies and plans with which short-range plans and implementing programs of all state agencies must be consistent.

An important way in which a framework of goals can guide development is its use as a yardstick against which agency programs and proposed public or publicly subsidized private actions affecting development can be measured. A drawback in using the State Guide Plan as such a yardstick is that the goals and policies are dispersed among a dozen functional plans written over a time span of more than a decade. The result: sometimes ambiguous or potentially self-contradictory goals and policies.

Since its first element was adopted in 1969, at least one element of Rhode Island's State Guide Plan has been adopted by the State Planning Council each year. Each of these elements is a distinct plan dealing in depth with a development function. The subject matter of the elements range from water supply to economic development, and include recreation, housing, land use, and all aspects of transportation. Together they make up the state's official guide plan to promote its orderly growth and development.

A fundamental philosophy of the guide plan is to orient development to complement the state's existing natural and man-made resources. To fulfill its function, the State Guide Plan should indeed be able to guide decisions and actions that affect Rhode Island development. The crucial yet elusive path between plan and implementation is at the crux of the use of these goals and policies.

02-112 RESOURCES MANAGEMENT IN THE REUSE OF SURPLUS NAVY LANDS

02-112-01 Introduction

State Guide Plan Element 112, Policy Statement: Resources Management in the Reuse of Surplus Navy Lands, was approved by the State Planning Council on April 12, 1979.

The statute establishing the Port Authority and Economic Development Corporation (PA&EDC) requires that projects undertaken by that body first be reviewed by the State Planning Council for conformity with the State Guide Plan (Section 42-64-14 (a) of the General Laws). This element is intended to implement this provision in a manner that will promote effective utilization of the economic development opportunity offered by Navy surplus lands.

02-112-02 Issues Addressed

The development plan adopted by the PA&EDC for the Quonset/Davisville area allocates 790 acres for general industrial or commercial development and 523 acres for petroleum-related industrial development in the Newport and Melville areas. This area of about 1,500 acres exceeds the total area classified as "prime" in the analysis of vacant land zoned for industry in 1977 (disregarding the fact that some former Navy lands will be reused for commercial development with less demanding site requirements than that for industrial reuse).

It is therefore essential that those former Navy lands that are suitable for industrial reuse and are so identified in the State Guide Plan be employed in the most effective manner possible in meeting the state's need for prime industrial sites.

If the full potential of former Navy lands to contribute to the state's economy is to be realized, the resources available to support development of these areas must be conserved and carefully allocated. Failure to do so can result in development of a small part of the available area by an operation which consumes so much of the resource base as to seriously limit or preclude optimum development of the remaining area.

02-112-03 Objectives

The objectives of this element are to:

1. realize the full economic potential of the former Navy lands at Quonset Point, Davisville, Newport and Melville with the capacities of area's natural resources; and
2. establish a procedure for review of Port Authority and Economic Development proposals in the area affected.

02-112-04 Strategy

This element establishes procedures for the review of all Port Authority and Economic Development Corporation proposals for the reuse of the former navy land referenced in the policy statement. The procedures are as follows:

1. Identify the resource base that is available to support the entire area in which the specific project under review may be located.

Surplus Navy Lands

- a. In most instances this area will be either the Quonset-Davisville area or the Newport-Melville area.
 - b. The Resources to be inventoried are those necessary to evaluate the effect of a proposed project on the following:
 - 1) Social factors: labor force, housing, retail sales and services, health facilities and services, recreation, historic preservation.
 - 2) The economy: wage levels, disposable income, tax revenues.
 - 3) The environment: water supply, water quality, air quality, noise, odor, solid waste disposal, special or hazardous waste management, fish and wildlife.
 - 4) Energy: production, distribution, peak loads.
 - 5) Land use: growth patterns, soils, agriculture, wetlands, minerals extraction, flood hazards, vegetation.
 - 6) Transportation: highway (automobile, public transit, truck), air, marine, terminal facilities.
 - c. Both existing and planned resources will be considered, and will be separately identified.
2. Estimate the amount or proportion of each resource that will be consumed or impacted by the proposal. This estimate will be derived primarily from the Environmental Review Form and Sections 4 and 5 of the Socio-Economic Review Form prepared for each proposal under the agreement between the Rhode Island Port Authority and Economic Development Corporation, the Department of Environmental Management, the Coastal Resources Management Council, and the State Planning Council.
 3. Appraise the adequacy of the resource base to support the proposal under consideration, development of the area that has already occurred or is committed, planned or probable development of the area, and other demands likely to be made on the resource base by development outside of the area.
 4. Make a finding as to the suitability of the proposed project in terms of its impact upon resources available.

The results of this analysis is reported to the State Planning Council as provided by Section 3.04 of the procedures for review.

02-120 STATE LAND USE POLICIES AND PLAN

02-120-01 Introduction

State Guide Plan Element 120, State Land Use Policies and Plan, was approved by the State Planning Council on June 5, 1975, and is scheduled to be updated in the second quarter of calendar year 1986.

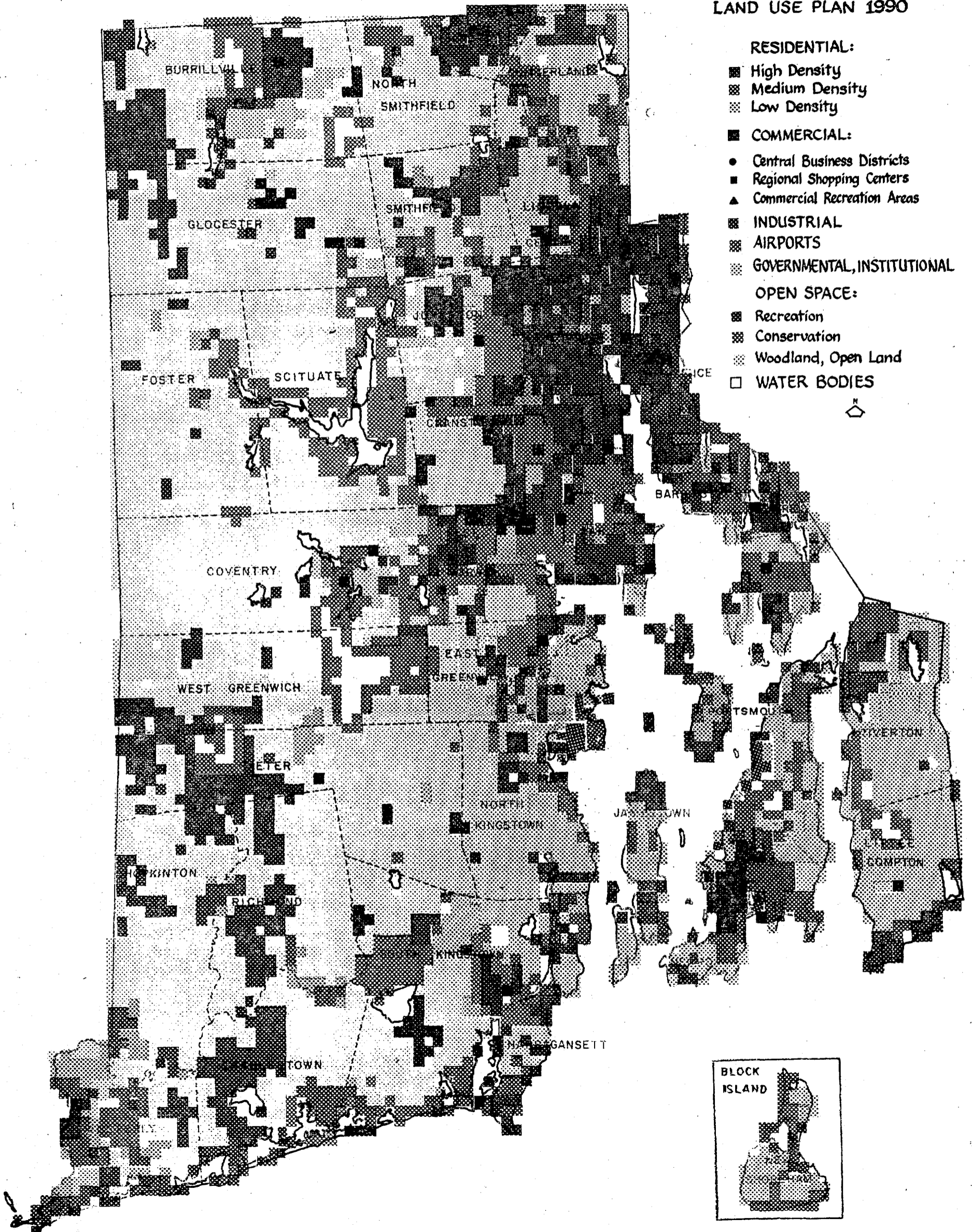
This element sets forth a statewide land use policy and plan for Rhode Island for a twenty year time period — to 1990. The purpose of the element is to guide future land use and development by recommending policies and allocations of areas to various uses. The element is based on an analysis of alternative development patterns and of factors which influence development, and contains four major parts: (1) discussion of land use goals, (2) explanation of the land use plan — methodology, categories, and relation to other plans, (3) a statement of land use policies, and (4) proposals for implementing the policies and plan.

The 1990 state land use plan allocates areas in the state to different categories of activities which occupy land, shown in generalized form by 92-acre grid squares (see Figure 010-120(1)). The plan is intended to illustrate application of the policies, not to allocate uses definitively to specific areas.

The plan is based on consideration of:

- background data and projections of population, income, employment and labor force, and transportation
- possible alternative future land use patterns: continuation of past trends, industrial "ring" development around the metropolitan core, outlying communities development, shore region development, and radial corridor development
- evaluation of factors which influence development, such as limiting physical conditions, water service, sewer service, highway access, water quality, and others
- analysis of the development potential of non-urban land
- overall planning goals, such as efficient provisions of public services, communities with a strong identity, governmental ability to control growth, support of urban renewal programs, balanced transportation systems, and preservation of air quality
- community land use plans
- elements of the State Guide Plan (water supply, sewer service, transit, highway, airport, recreation, historic preservation) and other plans
- studies of housing problems and needs, industrial land use problems, recreation needs, and open space resources

FIGURE 010-120(I)
 State of Rhode Island
 LAND USE PLAN 1990



02-120-02 Issues Addressed

The issues this element addresses are found throughout the report. The following listing highlights the most significant problems:

- A. Relating urbanization to land capability: Nearly all land in the state is zoned for some form of urban use, regardless of whether it is suitable for development in terms of soil characteristics and other factors.
- B. Relating the level of development to the level of public services: Intensive development often occurs without adequate public facilities and services; or very low-density development makes inefficient use of services which are available.
- C. Recognizing areawide aspects of development decisions: Some major development decisions which affect several communities, or the whole state, are made by a single locality.
- D. Protecting valuable natural resources and areas: Many of the 200-300 significant natural areas in the state are threatened by urban development, lacking protection under present laws.
- E. Retaining open space to balance urban development: The state is urbanizing in a sprawl pattern which would leave few large areas of open space in the state by 1990.
- F. Reserving adequate areas for economic development: The state's high unemployment rate and growing labor force makes it critical to provide new employment opportunities, yet only about five percent of the state's industrially zoned land is actually prime industrial sites.
- G. Providing housing for all residents: Many income and age groups in the state have little housing choice, and most land is zoned so as to exclude moderate-income and multi-family housing.
- H. Producing a visually pleasant environment: Much development shows a need for better design.

02-120-03 Goals and PoliciesA. Goals

The goals are divided into groups: overall land use goals, and goals for specific geographic or policy areas. Each goal in the full report is followed by a discussion of its importance, in general, and for the state in part in particular. This goal discussion can be found on pages 4 to 22 of this element. The material that follows briefly states each goal.

1. Overall Land Use Goalsa. Population Growth

Goal: RELATE STATE LAND USE POLICIES TO A POPULATION CEILING OF 1.5 MILLION.

1. Planning for the Environment

Goal: MAKE EFFICIENT USE OF AVAILABLE LAND AND WATER, PRODUCING A VISUALLY PLEASING, COHERENT, AND WORKABLE ENVIRONMENT

- 1) Conserve and protect desirable existing residential, commercial, industrial, and agricultural areas, renew obsolete and deteriorating areas
- 2) Preserve and develop communities with distinctive individual character, based on physical conditions, historical factors, and local desires
- 3) Apply available technology and natural resource planning concepts to the problem of accommodating a rapidly shrinking living space and resource base to the needs of present and future residents
- 4) Provide a broad range of choice among good living environments urban, suburban, and rural
- 5) Reduce air and water pollution, protect air and water resources which are presently polluted, and provide for adequate water supply
- 6) Recycle waste materials to the maximum extent possible, utilizing regional resource recovery systems; beyond that, provide acceptable solid waste disposal methods

2. Planning for Economic Development

Goal SUSTAIN ECONOMIC GROWTH AT A RATE ADEQUATE TO SUPPORT THE STATE'S POPULATION, IN A MANNER CONSISTENT WITH THE STATE'S CHARACTERISTICS, CAPABILITIES, AND ENVIRONMENTAL OBJECTIVES

- 1) Conserve desirable existing industrial and commercial development
- 2) Allocate adequate areas to commercial use, and provide desirable sites for industrial development
- 3) Recognize different size, location, and facilities needs of various types of industrial and commercial activities
- 4) Relate industrial and commercial development properly to residential and transportation patterns, in order to minimize conflicts and to insure accessibility

3. Governmental Action

Goal CONTINUOUSLY IMPROVE THE STRUCTURE AND OPERATIONS OF GOVERNMENTS AND THEIR RESPONSIVENESS TO THEIR CITIZENS IN THE AREA OF LAND USE PLANNING AND MANAGEMENT

- 1) Prevent conflicts and duplication between different levels of government, and take into account needs and desires at all levels
- 2) Give each level of government the authority and capability to deal with land use problems at its own level

- 3) Provide for adequate revenues to support governmental functions, drawn from flexible sources and equitably assessed.
- 4) Develop more direct methods of communication between the citizen and his government.

2. Goals for Specific Geographic or Policy Areas

a. Urban Growth

Goal: CONTROL URBAN SPRAWL AND DISPERSION

- 1) Protect existing urban areas, thus extending their useful lives and encouraging present inhabitants to remain.
- 2) Preserve historic places and archaeological sites surviving in growth areas.
- 3) Develop distinctive communities rather than scattered small subdivisions, with concentrations of commercial and cultural facilities serving all major residential areas; use existing centers as nuclei where appropriate.
- 4) Foster more compact urban growth, making more efficient and aesthetic use of land.
- 5) Develop commercial areas which are compactly grouped, attractive, and compatible with neighboring uses.
- 6) Reduce the cost of urban services.

b. Open Space

Goal: PRESERVE AND PROTECT OPEN SPACE, INCLUDING RECREATION AND CONSERVATION AREAS, RURAL AND OPEN LAND, AND SELECTED AGRICULTURAL AND FOREST AREAS, SO AS TO ENHANCE THE TOTAL QUALITY OF THE ENVIRONMENT.

- 1) Insure the sound use and development of the natural resource base.
- 2) Consider open space requirement in terms of complete ecological systems.
- 3) Protect and enhance scenic values.
- 4) Retain some open space or natural areas in their present condition indefinitely, in order to provide a land reserve for long-term future needs and to protect rural areas which provide a wildlife habitat or which give shape and order to urban growth.
- 5) Preserve selected land areas in agricultural and forest use in order to provide a limited agricultural base, to provide a long-term land reserve, and to protect rural areas.
- 6) Provide adequate and diverse recreational opportunities, which meet the needs of all age and income groups in all parts of the state and which relate the type and size of facilities to the pertinent characteristics of the service area.

c. Older Central Cities

Goal: REVITALIZE OLDER CENTRAL CITIES, SETTING TARGET POPULATION LEVELS WHICH REFLECT STABILITY.

- 1) Reduce urban blight and deterioration.
- 2) Provide for adequate and diversified housing and improve the quality of the existing housing stock.
- 3) Find ways to rehabilitate historic buildings and neighborhoods.
- 4) Maintain a diversity of income, racial, ethnic, and employment groups.
- 5) Offer opportunities for economic, social, and geographic mobility.
- 6) Maximize opportunities for diversity in employment and use of leisure time.
- 7) Emphasize the role of central cities as cultural, entertainment, and communications centers.

d. Shore Region

Goal: PRESERVE, DEVELOP, AND WHERE POSSIBLE, RESTORE THE RESOURCES OF THE COASTAL REGION IN ORDER TO BENEFIT FROM ITS VARIETY OF ASSETS.

- 1) Reduce pollution, protect marine life, and enhance the natural qualities of the marine environment, as coastal resources are preserved or developed.
- 2) Prevent deterioration of the shoreline.
- 3) Improve harbors, anchorages, and docks.
- 4) Reduce the potential loss of life, health hazard, and property damage caused by flooding and extreme tidal action.
- 5) Provide employment opportunities in the coastal region, consistent with other goals.
- 6) Increase and enhance recreational opportunities in the coastal region.
- 7) Reduce conflicts in the coastal region between different uses and between government jurisdictions.

e. Transportation

Goal: DEVELOP A BALANCED, INTEGRATED TRANSPORTATION SYSTEM WHICH PROVIDES SAFE, EFFICIENT, AND ECONOMICAL MOVEMENT BETWEEN THE COMPONENT PARTS OF THE STATE; IMPROVE INTERSTATE TRANSPORTATION.

- 1) Provide a variety of transportation modes designed to meet the differing needs of different people, activities, and purposes of travel.
- 2) Coordinate transportation planning to assure that the strength of each mode is realized and that each complements the other.
- 3) Consider regional transportation requirements and coordinate with other states to assure compatible planning and execution of transportation projects.
- 4) Reduce travel time and alleviate congestion.
- 5) Obtain a high aesthetic quality in the transportation system.
- 6) Minimize the impact of transportation systems on the environment, and reduce conflicts with other functions.
- 7) Minimize the need for transportation, consistent with other goals.

f. Energy

Goal: INCORPORATE ENERGY REQUIREMENTS IN PLANNING FOR LAND USE.

- 1) Arrange land use patterns so as to promote conservation of energy.
- 2) Recognize locational requirements of power generating plants.
- 3) Minimize the impact of power generation and transmission facilities on the environment; reduce conflicts with other activities and capitalize on potential compatible uses.
- 4) Take account of the land use implications of new alternative energy sources.

B. Policies

A series of policy statements are presented in Part Three of the element. Specific policies are recommended to achieve the goals highlighted above. The policies are proposed under nine categories and are reproduced here verbatim.

1. Planning for the Environment

Policy #1:

PREPARE AND MAINTAIN A LAND USE POLICY AND PLAN FOR THE STATE TO SERVE AS A GUIDE FOR PLANNING AND DEVELOPMENT DECISIONS RECOGNIZING THAT LAND IS A NATURAL RESOURCE DIFFICULT TO RENEW AND THAT DEVELOPMENT SHOULD BE GUIDED TO LOCATIONS WHERE IT IS CAPABLE OF BEING SUSTAINED BY THE LAND WITHOUT ECOLOGICAL DAMAGE.

- Analyze land in terms of suitability for development and constraints to development, as a basis for planning and development decisions.

- Establish the most appropriate functions of various areas and place them in perspective with other state development goals, recognizing that the total area available for development is fixed.
- Allocate areas to activities so as to balance social, physical, and economic needs in a compatible spatial arrangement.

Policy #2:

COORDINATE PLANNING OF AND INVESTMENT IN PUBLIC AND PUBLICLY AIDED FACILITIES SO AS TO GUIDE DEVELOPMENT IN ACCORDANCE WITH THE STATE LAND USE POLICY AND PLAN.

- Integrate the capital improvement programming system at the state level with the State Guide Plan.
- Review federal and state aided plans and projects in terms of land use objectives.

Policy #3:

PROVIDE FOR CONFORMITY OF PRIVATE DEVELOPMENT WITH THE RECOMMENDATIONS OF THE STATE LAND USE POLICY AND PLAN BY IMPLEMENTING A STATE MANAGEMENT PROGRAM.

Policy #4:

FOSTER A SENSE OF IDENTITY AND INDIVIDUALITY IN COMMUNITIES.

- Utilize the physical setting: water bodies, topography, and symbolic identity.
- Capitalize on local features and distinctions such as natural resources and ecologically sensitive areas, historical relationships and associations, social characteristics, monuments, major buildings, educational and other institutions, parks and open spaces and place names.
- Promote identification with a neighborhood-community-city or town hierarchy.
- Avoid a uniform "grain" of development.

Policy #5:

STRENGTHEN PROGRAMS FOR PRESERVATION OF SIGNIFICANT HISTORIC PLACES.

- Establish a state register of historic places, with protective measures.
- Encourage greater use of historic district zoning.
- Incorporate results of historical surveys in other planning and development programs.

Policy #6:

PLAN FOR AND DEVELOP WATER RESOURCES IN A COORDINATED AND EFFICIENT MANNER, ON A STATE AND REGIONAL LEVEL.

- Secure or protect high-quality sources of ground and surface water adequate to meet future needs.
- Encourage the organization of combined regional water supply and water pollution control functions.
- Support measures which encourage more efficient use of water.

Policy #7:

TAKE NECESSARY ACTIONS TO REDUCE WATER POLLUTION TO LEVELS SET IN THE STATE'S WATER QUALITY CLASSIFICATION PLAN.

- Provide public sewer systems and treatment facilities in all intensively developed areas in ways that do not stimulate unnecessary or undesirable growth.
- Explore alternatives to present treatment systems including land disposal methods.
- Provide at least secondary-level treatment; provide tertiary-level treatment where required to bring water quality to the standards set forth in the state water quality plan.
- Regionalize treatment facilities.
- Limit intensive development to areas served by public sewer systems providing adequate treatment.
- Require that:
 - 1) Industrial development causing other than domestic waste discharges occur only in areas served by public sewer systems except where adequate treatment is provided at the site and in a limited number of situations.
 - 2) Recycling of industrial wastes be undertaken whenever possible to conserve resources and reduce treatment problems.
 - 3) Pretreatment of industrial wastes be accomplished before discharge to a public sewer system wherever necessary.

Policy #8:

SEEK TO REDUCE AIR POLLUTION BY APPROPRIATE LAND USE PLANNING AND MANAGEMENT.

- Locate major sources of pollution so as to provide maximum air quality, by enforcing Department of Health "permit system" regulations for new sources.

Land Use

- Consider air pollution implications of highway construction, and encourage improved highway design which reduces air pollution concentrations by more thoroughly investigating the effects of emissions on adjacent areas under different operational and climatic conditions.
- Support the enforcement of upgraded emission control standards for mobile pollution sources.
- Consider air quality demands of adjacent states in preparing land use plans, in order to facilitate coordination within the Interstate Air Quality Control Region.
- Continuously seek to strengthen enforcement procedures governing emission control.
- Utilize Air Quality Display Model (AQDM) maps, air quality maintenance plans and other data prepared by the Department of Health in analyzing existing air pollution levels as they relate to the development of land use plans.
- Prevent significant deterioration of high-quality air.

Policy #9:

MANAGE SOLID WASTE DISPOSAL EFFICIENTLY AND ON A REGIONAL BASIS.

- Improve or replace landfills which are environmentally unacceptable.
- Reduce the volume of waste material, the number of disposal facilities, and the amount of land used for this purpose, by means of a statewide resource recovery program.

Policy #10:

CONSIDER THE OVERALL DESIGN OR VISUAL APPEARANCE OF THE RHODE ISLAND LANDSCAPE IN PUBLIC DEVELOPMENT PROJECTS AND PRIVATE DEVELOPMENT DECISIONS, AND EXPLORE METHODS OF DEALING WITH THIS ISSUE IN DEVELOPMENT GENERALLY.

2. Planning for Economic Development

Policy #1:

CONTRIBUTE TO THE STABILIZATION AND REDEVELOPMENT OF DOWNTOWN NEWPORT, PAWTUCKET, PROVIDENCE, WESTERLY, AND WOONSOCKET AS CENTRAL BUSINESS DISTRICTS.

- Assist community development programs.
- Improve access and encourage the provision of supporting services such as public transportation, off-street loading areas, utilities, and police and fire protection.
- Attempt to maintain the retail base of central business districts while strengthening their other functions.

- Find viable adaptive uses for historic buildings and recognize their value as tourist attractions.

Policy #2:

CONSERVE EXISTING REGIONAL SHOPPING CENTERS, COMMERCIAL RECREATION AREAS, AND GENERAL COMMERCIAL AREAS, SO AS TO CAPITALIZE ON THEIR IDENTITY AND POTENTIAL.

- Encourage the provision of supporting services.
- Improve the visual quality of these areas.

Policy #3:

CONSERVE DESIRABLE EXISTING INDUSTRIAL AREAS BY ENCOURAGING THE PROVISION OF SUPPORTING SERVICES SUCH AS OFF-STREET PARKING AND LOADING AREAS, TRANSPORTATION AND UTILITIES.

Policy #4:

RESERVE PRIME INDUSTRIAL SITES THROUGH PROTECTIVE REGULATION OR ACQUISITION, RECOGNIZING THE IMPORTANCE OF SUCH FACTORS AS TOPOGRAPHY AND SOIL CHARACTERISTICS, AVAILABILITY OF PUBLIC UTILITIES (PARTICULARLY WATER AND SEWER SERVICE), ACCESS TO TRANSPORTATION FACILITIES (HIGHWAY, RAIL, AIR, AND PORT), PROXIMITY TO EASILY-POLLUTED WATER BODIES, EXTENT OF NEIGHBORING INCOMPATIBLE USES, AVAILABILITY OF LABOR, AND OTHERS.

Policy #5:

MAKE AVAILABLE FOR INDUSTRIAL AND COMMERCIAL DEVELOPMENT SUITABLE SURPLUS GOVERNMENT LAND WHICH WILL NOT BE NEEDED FOR FUTURE PUBLIC USE.

Policy #6:

PLAN FOR AND ENCOURAGE FIRMS TO LOCATE IN MEDIUM-SIZED INDUSTRIAL PARKS AND AREAS, OF AT LEAST 50 ACRES AND AVERAGING 200 TO 300 ACRES, IN ORDER TO RESPOND TO THE NEEDS OF INDUSTRY FOR LARGE PARCELS, TO FACILITATE MORE EFFICIENT AND ECONOMICAL DEVELOPMENT, TO SUPPORT MASS TRANSIT, TO REDUCE CONFLICTS WITH NEIGHBORING USES, AND TO PROVIDE OPEN SPACE AS A BUFFER OR RESERVE FOR THE FUTURE.

Policy #7:

PROMOTE AND ASSIST THOSE TYPES OF INDUSTRY WHICH ARE MOST SUITABLE FOR, AND POTENTIALLY MOST BENEFICIAL TO, THE STATE IN TERMS OF EMPLOYMENT NEEDS, NEEDS OF FIRMS, AND OTHER DEVELOPMENT GOALS OF THE STATE. THESE INCLUDE "TRADITIONAL" INDUSTRIES (TEXTILES, JEWELRY), "GROWTH" INDUSTRIES (PRINTING, INSTRUMENTS, ELECTRICAL AND NON-ELECTRICAL MACHINERY), "NON-POLLUTING" INDUSTRIES (CORPORATE HEAD-QUARTERS, CERTAIN LIGHT MANUFACTURING, ASSEMBLY, RESEARCH AND ENGINEERING), INDUSTRIES WHICH TAKE ADVANTAGE OF RHODE ISLAND'S UNIQUE ASSETS (OCEANOGRAPHIC RESEARCH, COMMERCIAL FISHING, TOURISM,

TRANSPORTATION), INDUSTRIES WHICH SUPPORT THE ABOVE INDUSTRIES, AND OTHER INDUSTRIES WHICH DIVERSIFY THE STATE'S ECONOMIC BASE.

Policy #8:

PROMOTE DEVELOPMENT CONTROLS AND PERFORMANCE STANDARDS FOR COMMERCIAL AND INDUSTRIAL DEVELOPMENT, SO AS TO IMPROVE DESIGN OF INDUSTRIAL PLANTS AND AREAS AND COMMERCIAL BUILDINGS AND DISTRICTS AND SO AS TO REDUCE CONFLICTS WITH OTHER LAND USES AND ACTIVITIES.

Policy #9:

PROVIDE AREAS ALLOCATED TO INDUSTRIAL USE IN THE PLAN WITH TWO BASIC SERVICES: TRANSPORTATION SYSTEMS AND UTILITIES.

Policy #10:

MAINTAIN AND UPGRADE NECESSARY NATURAL RESOURCES FOR SELECTED INDUSTRIES, SUCH AS TIDAL MARSHES FOR THE COMMERCIAL FISHING INDUSTRY.

Policy #11:

INTENSIFY RESEARCH ACTIVITIES RELATED TO THE STATE'S ECONOMIC DEVELOPMENT.

Policy #12:

MAKE FULL AND EFFECTIVE USE OF MANPOWER DEVELOPMENT RESOURCES.

3. Governmental Action

Policy #1:

COORDINATE FEDERAL, REGIONAL, STATE, AND LOCAL DEVELOPMENTAL POLICIES, PLANS, PROGRAMS, AND PROJECTS WITH EACH OTHER AND WITH THE STATE LAND USE POLICY AND PLAN.

- Coordinate the actions of different state agencies which relate to land use.
- Cooperate with other states and the federal government in formulating and implementing land use policies, plans, and programs.

Policy #2:

GIVE STATE GOVERNMENT THE ABILITY TO DEAL WITH LAND USE ISSUES OF STATEWIDE INTEREST, SUCH AS THE BROAD PATTERN OF DEVELOPMENT WHICH IS EMERGING IN THE STATE (E.G., THE EXTENT OF URBANIZATION) AND THE DEVELOPMENT OF AREAS OF CRITICAL INTEREST TO THE STATE IN TERMS OF PUBLIC INVESTMENT OR VALUABLE NATURAL RESOURCES.

Policy #3:

ENCOURAGE AND ASSIST LOCAL GOVERNMENTS TO GUIDE, CONTROL, AND PROVIDE FOR URBAN GROWTH, UTILIZING NEW REGULATORY TECHNIQUES WHERE DESIRABLE, WITHIN THE FRAMEWORK OF THE STATE GUIDE PLAN.

Policy #4:

STUDY, ENCOURAGE, AND IMPLEMENT FISCAL REFORMS, INCLUDING REDUCED RELIANCE ON THE LOCAL PROPERTY TAX, WHICH COMPLEMENT THE STATE'S LAND USE POLICY AND PLAN.

Policy #5

PROVIDE FOR MEANINGFUL CITIZEN PARTICIPATION IN LAND USE PLANNING AND MANAGEMENT PROGRAMS.

4. Urban Growth

Policy #1:

ENCOURAGE AND ASSIST PROGRAMS TO UPGRADE, MODERNIZE, OR RESTORE EXISTING URBAN AREAS WHICH ARE STABLE OR CAN BE STABILIZED.

Policy #2:

ENCOURAGE AND, WHERE POSSIBLE, COORDINATE CONSTRUCTION OF NEW HOUSING IN PATTERNS CONSISTENT WITH THE STATE LAND USE PLAN: NEAR EXISTING CONCENTRATIONS OF HOUSING, IN CORRIDORS OF URBAN DEVELOPMENT RADIATING FROM THE PROVIDENCE CORE, AND CLOSE TO OUTLYING SMALL COMMUNITIES SURROUNDED BY OPEN SPACE.

Policy #3:

IN PLANNING AND SHAPING DEVELOPMENT, ATTEMPT TO RELATE LOCATIONS OF HOUSING AND PLACES OF EMPLOYMENT SO AS TO REDUCE TRAVEL TIME BETWEEN HOME AND WORK; AND ATTEMPT TO ARRANGE AND CLUSTER DEVELOPMENT SO AS TO REDUCE TRAVEL DEMAND.

Policy #4:

UTILIZE OPEN SPACE AND ENVIRONMENTAL CONSTRAINTS SUCH AS FLOOD PRONE AREAS, WATERSHEDS, AND PARKS TO CONTROL AND SHAPE URBAN GROWTH IN PATTERNS SHOWN IN THE STATE LAND USE PLAN.

Policy #5:

LOCATE PUBLIC WATER AND SEWER FACILITIES SO AS TO SHAPE DEVELOPMENT IN ACCORDANCE WITH THE STATE LAND USE PLAN.

Policy #6:

SUPPORT EFFORTS TO PROVIDE A RANGE OF HOUSING CHOICE THROUGHOUT THE STATE, SO THAT COMMUNITIES OFFER A VARIETY IN TERMS OF HOUSING COST, SIZE, TYPE, SITE ARRANGEMENT, AND DESIGN.

Policy #7:

ASSIST COMMUNITIES IN THE PLANNING AND PROVISION OF LOW-INCOME, MODERATE-INCOME, AND ELDERLY PUBLIC AND PUBLICLY ASSISTED HOUSING IN THE STATE ACCORDING TO HOUSING NEEDS.

Policy #8

PROMOTE CLUSTER ZONING, DEDICATION OF OPEN SPACE AND OTHER PUBLIC AREAS, PLANNED UNIT DEVELOPMENTS, MODIFIED "NEW COMMUNITIES" USING EXISTING CENTERS AS NUCLEI, AND OTHER COMPACT, LARGE-SCALE, AND INNOVATIVE PLANNED DEVELOPMENT PATTERNS IN PROJECTS WHICH BUILD ON EXISTING CENTERS, PROMOTE UNDERSTANDING OF OLDER DEVELOPMENT PATTERNS SO THAT THEIR HISTORIC CHARACTER WILL NOT BE SUBMERGED.

Policy #9

PROMOTE THE ESTABLISHMENT OF HIGHER RESIDENTIAL DENSITIES AND SMALLER LOT FRONTAGES IN URBAN AND SUBURBAN AREAS WHERE PUBLIC WATER AND SEWER SERVICE IS PRESENT OR LIKELY TO BE PROVIDED, PROMOTE LOWER DENSITIES AND LARGER FRONTAGES WHERE PUBLIC UTILITIES ARE UNLIKELY TO BE PROVIDED.

Policy #10:

IN DEVELOPMENTS WHICH ARE OF AN INTENSITY TO SUPPORT PUBLIC WATER AND SEWER FACILITIES, COORDINATE DEVELOPMENT WITH PROVISION OF FACILITIES SO AS TO ASSURE AVAILABILITY OF THESE ACTIVITIES AT THE TIME THE AREA IS DEVELOPED.

Policy #11:

INTEGRATE THE PLANNING, INSTALLATION, AND OPERATION OF PUBLIC WATER AND SEWER SYSTEMS

Policy #12

MINIMIZE EXTENSIONS OF WATER AND SEWER SYSTEMS, CONSISTENT WITH GOALS TO REDUCE EXISTING POLLUTION, IN ORDER TO DISCOURAGE "URBAN SPRAWL "

Policy #13

UTILIZE HISTORICAL SURVEY AND PLANNING PROGRAMS TO EMPHASIZE AND PRESERVE THE IDENTITY OF HISTORIC NEIGHBORHOODS AND COMMUNITIES

Policy #14

ENCOURAGE BETTER PLANNING AND CONTROL OF COMMERCIAL DEVELOPMENT, AIMED AT LIMITING SPRAWL, IMPROVING DESIGN, REDUCING CONFLICT WITH OTHER USES, AND ELIMINATING TRAFFIC HAZARDS

Policy #15

PROMOTE CONCENTRATIONS OF HIGH-DENSITY HOUSING (APARTMENTS AND TOWN HOUSES) NEAR LOCATIONS OF PROPOSED RAPID TRANSIT STATIONS

5. Open Space

Policy #1

PLAN FOR RECREATION, CONSERVATION, AND OPEN SPACE "WITHIN THE FRAMEWORK OF COMPREHENSIVE PLANNING FOR THE ENTIRE STATE "

Policy #2:

UTILIZE OPEN SPACE TO SHAPE URBAN GROWTH IN ACCORDANCE WITH THE STATE LAND USE PLAN, ACQUIRING AREAS IN FEE OR THROUGH EASEMENTS AROUND CONCENTRATIONS OF DEVELOPMENT (BOTH THE METROPOLITAN AREA AND OUTLYING CENTERS), IN CORRIDORS RADIATING FROM THE URBAN CORE, THROUGHOUT THE COASTAL REGION, AND IN MUCH OF THE WESTERN PART OF THE STATE.

Policy #3:

ACQUIRE AND DEVELOP REGIONAL PUBLIC RECREATIONAL AREAS IN A VARIETY OF LOCATIONS THROUGHOUT THE STATE, IN ORDER TO IMPROVE ACCESS AND TO PLACE A BALANCED LOAD ON THE TRANSPORTATION SYSTEM.

Policy #4:

CONDUCT FREQUENT STUDIES OF RECREATION DEMAND AND USAGE ON WHICH TO BASE ACQUISITION AND DEVELOPMENT PROGRAMS AND PRIORITIES.

Policy #5:

ENHANCE THE NATURAL QUALITIES OF PUBLIC RECREATION, CONSERVATION, AND OPEN SPACE AREAS BY PROPER PLANNING, DEVELOPMENT, MAINTENANCE, AND POLICING.

Policy #6:

MAKE PUBLIC OPEN SPACE ACCESSIBLE TO THE PUBLIC IN DEGREES APPROPRIATE TO ITS PURPOSE AND ITS TOLERANCE FOR USE.

Policy #7:

IMPROVE ACCESS TO ALL TYPES OF RECREATION FACILITIES.

Policy #8:

ACQUIRE ADDITIONAL SITES ON (OR EASEMENTS, RIGHTS, OR ACCESS TO) SALT AND FRESH WATER BODIES, FOR FISHING, BOAT LAUNCHING, SWIMMING, SURFING, AND OTHER RECREATIONAL USES.

Policy #9:

LIMIT OWNERS' LIABILITY, SO AS TO ENCOURAGE OPENING PRIVATE LANDS TO PUBLIC AND CONSERVATION USE.

Policy #10:

MAKE MULTIPLE USE OF WATER BODIES AND WATERSHEDS FOR RECREATION AND OTHER PURPOSES WHEREVER POSSIBLE, CONSISTENT WITH OTHER GOALS AND NEEDS.

Policy #11:

DEVELOP URBAN GREENBELTS AND INTENSIVE-USE RECREATION FACILITIES AND PROGRAMS IN LOCATIONS AROUND THE METROPOLITAN AREA.

Policy #12:

ACQUIRE AND DEVELOP "MAJOR REGIONAL MULTI-USE ACTIVE AND PASSIVE RECREATION AREAS" AND "EXTENSIVE-USE MANAGEMENT AREAS" TO COMPLEMENT LOCAL FACILITIES.

Policy #13:

AUGMENT THE SYSTEM OF RECREATIONAL TRAILS, BY ACQUISITION OF FEE OR EASEMENTS.

Policy #14:

CAPITALIZE ON SCENIC VALUES IN THE DESIGN OF HIGHWAYS, ALTHOUGH RECOGNIZING THAT HIGHWAYS SHOULD NOT BE PROVIDED SOLELY TO ENCOURAGE PLEASURE DRIVING.

Policy #15:

"TAKE ACTION TO PROTECT AND MAINTAIN THE BEST OF (THE STATE'S) NATURAL FEATURES, SUCH AS UPLAND WETLANDS, COASTAL MARSHLANDS, DISTINCTIVE TOPOGRAPHIC FEATURES, FLOOD PLAINS", SAND DUNES AND BLUFFS, SAND BEACHES, IMPORTANT WILDLIFE HABITATS, AND OTHER UNIQUE OR SIGNIFICANT NATURAL AREAS.

Policy #16:

DEVELOP PROGRAMS FOR PROTECTION OF ARCHAEOLOGICAL SITES.

Policy #17:

INTENSIFY RESEARCH ACTIVITIES RELATED TO THE STATE'S NATURAL RESOURCES.

Policy #18:

CONTROL PLANT AND WILDLIFE DISEASE.

Policy #19:

MONITOR AND GUIDE THE USE OF PESTICIDES AND HERBICIDES, SO THAT PLANT AND WILDLIFE DISEASE IS CONTROLLED WITHOUT EXCESSIVE UNDESIRABLE SIDE EFFECTS.

Policy #20:

IDENTIFY AND PROTECT THE STATE'S HIGHEST-QUALITY OPEN SPACE AREAS CONSIDERING ALL THE VALUES OF OPEN SPACE: FOR RECREATION, CONSERVATION, AGRICULTURE AND RURAL LAND PRESERVATION.

Policy #21:

ACQUIRE DEVELOPMENT EASEMENTS PERMITTING CONTINUED OR REVIVED AGRICULTURAL, FOREST, AND OPEN SPACE USES.

Policy #22:

ADOPT OR AMEND TAX POLICIES FAVORING CONTINUED AGRICULTURAL, FOREST, AND OPEN SPACE USES, SUCH AS PAYMENTS TO MUNICIPALITIES IN LIEU OF PROPERTY TAXES. UTILIZE THE SAME TECHNIQUES IN PROTECTING AREAS OF HISTORIC INTEREST.

Policy #23:

STRENGTHEN RURAL AND LOW-DENSITY ZONING PROCEDURES.

Policy #24:

UTILIZE HISTORICAL SURVEYS AND PROGRAMS TO PROTECT OPEN SPACE AREAS DERIVED FROM EARLY PATTERNS OF FARMLAND AND COMPLEXES OF FARM BUILDINGS.

6. Older Central Cities

Policy #1:

STIMULATE INDUSTRIAL AND COMMERCIAL INTEREST IN CENTRAL CITIES, THROUGH PROMOTION, FINANCIAL ASSISTANCE, AND PROVISION AND RENEWAL OF PUBLIC FACILITIES.

Policy #2:

ENCOURAGE AND ASSIST REDEVELOPMENT, REHABILITATION, AND CONSERVATION PROGRAMS WHICH:

1. Incorporate both social and physical renewal;
2. Prevent further concentration or segregation of the poor and the disadvantaged;
3. Correctly assess the inherent quality of historic areas; and
4. Ameliorate land use conflicts and convert areas from inappropriate to appropriate land uses.

Policy #3:

SUPPORT EFFECTIVE PROGRAMS TO IMPROVE THE QUALITY AND BROADEN THE CHOICE OF HOUSING FOR LOW AND MODERATE INCOME FAMILIES.

- Encourage programs which directly assist low-income families to support adequate housing through income maintenance, rather than programs of indirect assistance which benefit intermediaries at public expense while aiding low-income families at third or fourth-hand or not at all.
- Promote research and improved design and construction techniques to reduce housing costs.
- Strengthen the enforcement of building and housing codes, and make requirements more flexible by using performance standards where appropriate.

- Encourage zoning and subdivision laws which eliminate involuntary housing ghettos.
- Plan housing locations convenient to other activities and facilities

Policy #4:

ASSIST CENTRAL CITIES TO DEVELOP AS CULTURAL, ENTERTAINMENT, AND COMMUNICATIONS CENTERS, BY ENHANCING SUPPORTING SERVICES

7. Shore Region

Policy #1:

"DEVELOP RESOURCE MANAGEMENT PLANS" FOR THE SHORE REGION WHICH ARE "COMPATIBLE WITH THE NEEDS OF THE PEOPLE OF RHODE ISLAND, WHILE PRESERVING AND ENHANCING AS FAR AS POSSIBLE THE NATURAL QUALITIES OF THE MARINE ENVIRONMENT."

Policy #2:

EXAMINE PROPOSALS FOR CHANGES IN THE COASTAL REGION "IN TERMS OF THEIR ECONOMIC, RECREATIONAL, AESTHETIC AND ENVIRONMENTAL IMPORTANCE TO ALL OF THE PEOPLE OF THE STATE" IN COMMON RATHER THAN TO INDIVIDUAL COMMUNITIES OR "SMALL, SPECIAL INTEREST GROUPS "

- Require applicants for changes or special privileges to consider
 - "1. The effects that their proposed activities will have on the marine environment.
 2. The effects that their proposed activities will have on other important activities.
 3. The compatibility of their proposed activities with the existing state and local management plans and, as far as can be reasonable forecast, with contemplated future management plans."
- "Emphasize those values of the coastal region which enhance the total quality of life to our citizens."
- Encourage programs and proposals for management and use of our coastal resources which provide for activities such as
 - "1. Increased public access to the shore
 2. Increased public use of water bodies for a wide variety of purposes
 3. Preservation of those areas essential to fish and wildlife propagation, and other open spaces needed to provide variety to the landscape.
 4. Residential and recreational development in a form which makes the best use of scarce shorelines, which does not interfere with the public right of access to the shore, and which does not damage important natural areas or scenic vistas.

5. Pleasure boating facilities which do not destroy important natural areas or contribute to pollution of water bodies.
 6. Attractive tourist accommodations and related facilities which fit into the natural environment and do not degrade the coastal region."
- Recognize "the values of the coastal region for commercial development, and the need for expanded and improved sources of employment for our citizens."
 - Give "full consideration" to those "forms of commercial activity, such as port terminals, commercial fishing," tourism, oceanographic research, and others which "are obviously appropriate uses of the coastal region."
 - "In general, . . . give priority to those types of commercial development which are primarily oriented to the coastal region or which have special characteristics requiring a site in this region."

Policy #3:

SUPPORT "PROGRAMS TO ABATE POLLUTION" AND "EXAMINE ALL PROPOSALS FOR USE OF THE STATE'S MARINE RESOURCES IN RELATION TO THE DEGREE OF POLLUTION WHICH MAY RESULT."

- "Support and encourage efforts to prevent and control oil spills and other accidental spills of contaminants and cooperate in development of emergency alert, containment and cleanup programs together with monitoring programs to assess short-term and long-range effects of accidental spills on the marine environment."
- Support efforts to maintain and improve the state's current water quality standards and, "beyond this goal, to achieve a minimum quality of SB (seawater suitable for bathing, recreation, marine life, shellfish consumption after depuration, and good aesthetic value) in any coastal waters."
- Encourage "studies to determine potential effects" of "thermal changes in the state's salt water areas caused by power generating plants, both fossil fuel and nuclear, . . . before the fact rather than after changes occur," for existing plants and any which may be approved in the future.
- "Require continued monitoring (of existing power plants and any which may be approved in the future) to detect and minimize damage to marine life; . . . require the utilities to take corrective action when necessary; (and require) . . . that expenses involved . . . be met by the applicant."
- Develop methods to reduce visual pollution.

Policy #4:

"ENCOURAGE DEVELOPMENT OF BOTH SPORT AND COMMERCIAL FISHERIES BOTH INSHORE AND OFFSHORE UP TO LEVELS OF MAXIMUM SUSTAINABLE YIELD PROVIDING SUCH DEVELOPMENT DOES NOT CURTAIL OTHER MORE IMPORTANT USES."

Policy #5

PREVENT FILLING OF COASTAL WATERS AND WETLANDS EXCEPT WHEN NECESSARY TO THE HEALTH OR WELFARE OF THE PEOPLE OF THE STATE, AND THERE IS NO OTHER ALTERNATIVE

Policy #6

PROTECT SELECTED AREAS FROM THE EFFECTS OF FLOODING AND EXTREME TIDAL ACTION; LIMIT THE INTENSITY OF DEVELOPMENT OF UNPROTECTED AREAS.

- Carefully control development of areas subject to flooding.
- Prevent blockage or restriction of natural drainage channels by public or private construction.
- Reduce the effects of shoreline erosion through structures, plant materials, and control of the frequency and intensity of use.
- Assist communities to establish and continue eligibility for the National Flood Insurance Program.

Policy #7

"COOPERATE WITH LOCAL GOVERNMENTS IN ALL MATTERS OF MUTUAL INTERESTS AND . . . ENCOURAGE MUNICIPALITIES TO MAKE FULL USE OF THE JURISDICTION AVAILABLE TO THEM "

- Recognize the direct relationship between coastal land uses and management of coastal resources.
- "Involve local governments in . . . studies and plans before these are completed and adopted and solicit and consider the opinion of local officials on any matter which significantly affects any community "
- "Consult the local government concerned" in a coastal management matter, and consider "all information made available by that local government before making a decision "

Policy #8

EXTEND "THE JURISDICTION OF THE STATE OVER OFFSHORE WATERS TO THE MAXIMUM EXTENT POSSIBLE AND (WORK) . . . CLOSELY WITH THE FEDERAL GOVERNMENT TO INSURE THAT FEDERAL AGENCIES EXERCISE THEIR AUTHORITY IN A MANNER CONSISTENT WITH THE INTEREST OF RHODE ISLAND "

- "Urge all agencies of state, local, and federal government to employ the powers available to them in ways which are consistent with the (state's) . . . adopted policies and positions."
- "Play an active role in coordinating the activities of all governmental agencies as they affect coastal waters and . . . work with adjacent states and regional groups on problems requiring inter-state action "

- "In cases where problems arise in areas clearly outside the State's seaward boundaries but which involve the economic well being of Rhode Islanders who earn their living in these areas, such as the offshore commercial fishing industry, . . . intercede as an 'interested party'."

8 Transportation

Policy #1:

UPGRADE EXISTING TRANSPORTATION FACILITIES WHICH ARE SUBSTANDARD.

Policy #2:

IMPROVE TRANSPORTATION TERMINAL FACILITIES

- Maximize the interface between transportation modes by combining terminal and parking facilities and by improving access to terminals via a variety of modes.
- Expand the hinterland of the port of Providence through improved transportation facilities and reduced ground transportation charges.
- Support efforts to diversify the products shipped through the port of Providence, emphasizing package cargo.

Policy #3

ENACT AND ENFORCE NECESSARY SAFETY MEASURES.

Policy #4

SEPARATE MOVEMENTS BY FUNCTIONAL TYPES (SUCH AS LOCAL PASSENGER-CAR TRAFFIC FROM INTERSTATE TRUCKING TRAFFIC)

Policy #5

PLAN TRANSPORTATION FACILITIES AS CONTRIBUTING PARTS OF AN OVERALL STATEWIDE MULTI-MODAL TRANSPORTATION SYSTEM WITHIN A REGIONAL SETTING, RATHER THAN AS SEPARATE ENTITIES

Policy #6

PLAN TRANSPORTATION SYSTEMS SO AS TO SHAPE AND SERVE DEVELOPMENT IN ACCORDANCE WITH THE STATE LAND USE PLAN, RATHER THAN MERELY TO ACCOMMODATE GROWTH, RECOGNIZING IN TURN THAT TRANSPORTATION REQUIREMENTS SHOULD BE CONSIDERED IN DETERMINING THE SPATIAL ARRANGEMENTS OF LAND USES.

Policy #7

UTILIZE PUBLIC MASS TRANSIT SYSTEMS TO REDUCE TRANSPORTATION BARRIERS TO EMPLOYMENT

Policy #8:

CONSIDER PROPOSALS FOR LARGE-SCALE PLANNED-UNIT DEVELOPMENTS IN TERMS OF REQUIREMENTS AND POTENTIALS FOR TRANSPORTATION SYSTEMS.

Policy #9:

RELATE THE DESIGN AND LOCATION OF TRANSPORTATION FACILITIES VISUALLY TO THE NATURAL AND CULTURAL LANDSCAPE.

Policy #10:

PROMOTE AND SUPPORT HIGHWAY BEAUTIFICATION PROGRAMS, INCLUDING LANDSCAPING, CLEAN-UPS, SIGN CONTROL, AND SCREENING OF JUNKYARDS AND OTHER OBJECTIONABLE USES.

Policy #11:

IMPROVE ZONING LAWS AND DEVELOP STUDIES AND PROGRAMS, IN COOPERATION WITH THE MUNICIPALITIES INVOLVED, TO DEAL WITH NOISE POLLUTION, AIR POLLUTION, AND OTHER ENVIRONMENTAL PROBLEMS NEAR TRANSPORTATION FACILITIES.

Policy #12:

ACQUIRE TRANSPORTATION-RIGHTS-OF-WAY IN ADVANCE OF CONSTRUCTION OR SE, AS THEY BECOME AVAILABLE; PROVIDE FOR MULTIPLE USE OF RIGHTS-OF-WAY WHERE FEASIBLE.

Policy #13:

PROMOTE GREATER USE OF MASS AND RAPID TRANSIT IN HEAVY TRAVEL CORRIDORS BY MAKING EXISTING SERVICE MORE COMPETITIVE AND BY INTRODUCING NEW TYPES OF SERVICE.

Policy #14:

EXPAND AND IMPROVE PUBLIC TRANSPORTATION SERVICES, INCLUDING HIGH-SPEED RAIL TRANSPORTATION, BETWEEN METROPOLITAN AREAS IN THE NORTHEAST CORRIDOR.

Policy #15:

MAINTAIN AND IMPROVE RAIL FREIGHT SERVICE TO SUPPORT INDUSTRIAL DEVELOPMENT.

Policy #16:

COMPLETE THE BASIC HIGHWAY NETWORK RECOMMENDED IN THE HIGHWAY ELEMENT OF THE STATE GUIDE PLAN.

Policy #17:

SPACE HIGHWAY INTERCHANGES PROPERLY IN BUILT-UP AREAS SO AS TO REDUCE CONGESTION YET IMPROVE ACCESS.

Policy #18

CONTROL DEVELOPMENT AT HIGHWAY INTERCHANGES SO AS NOT TO INTERFERE WITH TRAFFIC FLOW

9 Energy

Policy #1:

ESTABLISH LOCATIONAL CRITERIA FOR POWER GENERATION PLANTS, AND IDENTIFY THE MOST SUITABLE SITES BASED ON THESE CRITERIA, WITHIN THE FRAMEWORK OF REGIONAL CONSIDERATIONS.

Policy #2:

UTILIZE GUIDELINES FOR POWER FACILITY DESIGN AND CONSTRUCTION WHICH SEEK TO MINIMIZE ADVERSE ENVIRONMENTAL EFFECTS AND LAND USE CONFLICTS.

Policy #3

CAPITALIZE ON THE POTENTIAL FOR COMBINING POWER FACILITIES IN A BENEFICIAL WAY WITH OTHER LAND AND WATER USES

Policy #4

RECOGNIZE THE DEMANDS FOR ENERGY ASSOCIATED WITH DIFFERENT LAND USE PATTERNS, AND ENCOURAGE PATTERNS WHICH TEND TO REDUCE THE NEED FOR ENERGY

Policy #5:

PROMOTE PLANNED NEW DEVELOPMENT WHICH INTEGRATES POWER GENERATION AND DISTRIBUTION WITH OTHER ACTIVITIES AND WHICH AIMS AT AESTHETICALLY PLEASING AND ECONOMIC PROVISION OF SERVICES

02-120-04 Strategies

This element describes a number of measures that are proposed for use, refinement or development in the implementation of the state land use policies and plan. The material presented in sub-sections A. and B. is intended to only highlight these mechanisms. The full text for each mechanism can be found in Part Four on pages 171 to 238 of the element.

A Existing Laws and Programs

The plan describes many existing state laws and programs which can be utilized to guide development.

- 1 state acquisition of land
- 2 health regulations and pollution control
- 3 public utilities regulation
4. wetlands, coastal resources, and other resources programs
- 5 historic areas controls

6. economic development, highway beautification, public rights-of-way programs
7. capital improvement programming
8. review of federal projects
9. enabling legislation for local development controls (zoning, subdivision, official map, housing and redevelopment, airport zoning, historic area zoning, building codes, planning boards)

B. Laws and Programs Currently Being Developed and Proposed New Ideas

The laws and programs proposed as a part of implementation strategy are as follows:

1. property tax reform, to reduce reliance on local property tax
2. a state land management program to overlay but not replace local zoning, based on:
 - adoption of land use policies by the Governor or General Assembly
 - establishment of general standards for all land use and specific standards for critical areas and development of regional impact
 - implementation through a locally operated permit system, with state review of local programs
 - consolidation of state and local land management programs, incorporating all existing local development control enabling legislation, with revisions
3. other land use control techniques
 - coordination of existing state controls
 - changes in taxation of open space land
 - state official map
 - open space development rights and easements
 - modified new communities program
4. future planning activities, detailing or related to the above proposals

02-151 PLAN FOR RECREATION, CONSERVATION AND OPEN SPACE

02-151-01 Introduction

State Guide Plan Element 151, Plan for Recreation, Conservation and Open Space, as amended, was approved by the State Planning Council on April 14, 1983, and is scheduled to be updated in the third quarter of calendar year 1984.

The purpose of the element is to establish a framework for comprehensive recreation planning in the state. It furnishes facts, analyses, and recommendations that will guide the state and its local governments and the private sector in their efforts to provide adequate recreation, conservation, and open space opportunities for all citizens.

Elements of the outdoor recreation, conservation and open space facilities and areas inventory are presented in a variety of graphic and tabular forms in this element. The Environmental Inventory's computer — mapping capability was utilized to prepare Figure 010-151(1) which is a small scale map of the entire state which provides an overview of the areal extent and geographic distribution of outdoor recreation areas and facilities in Rhode Island.

Because of the significance of the state's coastal environment in the provision of outdoor recreational opportunities, this element establishes a high degree of coordination with the management of coastal resources. This was accomplished via reflection of pertinent data and recommended recreational priorities of the 1976 Recreation Guide Plan in the Coastal Resources Management Program. All entries in the inventory of outdoor recreation, conservation and open space areas within the coastal zone were included in the Coastal Resources Management Program and major state-owned facilities and areas were identified as "Areas For Preservation and Restoration". In addition, the findings, policies and recommendations of the Coastal Resources Management Program's section on "Culture and Recreation" largely echo and reinforce the findings and recommendations of the Recreation Guide Plan as it relates to the coastal zone.

02-151-02 Issues Addressed

The issues are presented in Part 151.3, Overview of State Outdoor Recreation, Conservation and Open Space Issues: Goals, Policies and Recommendations for Action. These issues and the discussion of each follow verbatim.

A. Expanding and Improving Public Access and Use Opportunities for Water-Based Recreational Activities

This issue responds to the significant public preference documented in the Recreation Guide Plan for water-based and water-enhanced recreational opportunities. Of the 18 activities assessed in the demand survey, the two most popular in-state activities - salt and fresh water swimming, and the fastest growing activity - boating, are directly dependent upon the availability of accessible and aesthetically-desirable water bodies. The demand distribution characteristics of two other extremely popular activities - picnicking and sightseeing - indicate that the presence of coastal or inland water bodies associated with supply enhances the quality or enjoyment of these recreational experiences and is a factor in the attraction of demand. The issue also recognizes the paramount importance of Rhode Island's most cherished natural resource - Narragansett Bay - and the relationship of its welfare to both the quantity and quality of present and future recreational opportunities afforded to the citizens of the state and to visitors. Because Rhode Island is blessed with 421 miles of coastline and numerous inland water

bodies, the aggregate supply of water-based facilities or areas appears adequate in most instances (fresh water swimming is a major exception) for the near-term future. However, the Recreation Guide Plan does point to the need for additional action relative to the quality, distribution and accessibility of this supply and to the overriding need to protect and preserve the quality of the state's water resources for the utilization and enjoyment of future generations.

B. Preserving Open Space and Protecting Natural Diversity

While both the Recreation Guide Plan and the State Land Use Policies and Plan recognize the many values of open space and the need for its protection; expanding development, unguided growth and population shifts to rural areas continue to impact the remaining quantity of open land, agricultural land, forests and wetlands in the state. Despite the fact that the state's population actually declined between 1970 and 1975, the quantity of land devoted to residential and other "developed" uses grew by seven percent during this period. While future growth is both unavoidable and desirable, an effective means of guiding or directing the development which occurs must be established if the most significant or sensitive open space resources are to be preserved. Areas in particular need of protection include: wetlands; prime agricultural lands; flood hazard areas; productive forest lands and wildlife habitats; and water supply aquifers and watersheds. While some of these areas have been afforded a degree of protection through public acquisition or via a regulatory process, additional efforts are needed. Land management legislation considered by the General Assembly would foster recognition of open space in local development decisions and provide an improved legislative framework in which localities could better guide future growth.

Identification of elements of natural diversity through the Natural Heritage Program is providing an additional data base for defining habitats and open areas of high significance which should be preserved. Absence of this vital information in the past has permitted rare or unique plants, animals and geologic features to be disturbed or destroyed without regard to their rarity or ecologic importance. Protection priorities must now be developed and a protection strategy encompassing a variety of techniques devised.

C. The Continuing Need to Improve the Accessibility Characteristics of Recreational Resources to Reflect the Disparate Mobility and Participation Abilities of the Population Served

This issue cuts to the core of societal equity and equality of opportunity as far as the availability of recreational opportunities are concerned. The Recreation Guide Plan commits the State of Rhode Island to a goal of providing "adequate and diverse recreational opportunities" to "meet the needs and recreational interests of people of all social, economic and age groups and all abilities" (emphasis added). Findings and data of the plan regarding the current accessibility of recreational opportunities indicate that attainment of this goal remains elusive for a sizeable segment of the state's population, particularly for those citizens whose economic status, age, or physical abilities impose constraints on their mobility and participation. A number of opportunities exist for legitimate public-sector action to mitigate the effects of these constraints on individual or group participation which should be pursued. Both capital development and programing initiatives will be necessary if existing barriers to participation are to be removed and the recreational needs of the entire citizenry adequately addressed in the future.

D. Expanding Recreational Opportunities Available to Urban and Metropolitan Area Residents

This issue represents a recurring and unifying theme of many of the Recreation Guide Plan's most significant findings. Major conclusions of the demand data indicate for most, if not all, of the more popular activities a proclivity to recreate as close-to-home as possible given the availability of resources and facilities necessary to sustain the activity. Similarly, findings concerning the deterministic importance of income to recreation participation levels lend further urgency to the need to enhance the recreational facilities, services and areas which can best accommodate the needs of lower-income residents concentrated within the urban area. Moreover, provision of recreational opportunities in or near centers of population will simultaneously support state and national energy conservation goals by reducing vehicular travel to more distant recreation areas.

Concerted state and local action will be necessary to satisfactorily address this important issue within the time frame envisioned in this plan. Major capital development initiatives are needed to provide adequate uses and support facilities at state-owned parks which ring the metropolitan area. In addition, continued local attention to the quantity and quality of community and neighborhood-based facilities will be necessary if quality recreational experiences are to be provided to urban-area residents.

E. Improving and Expanding Trail-Based Recreational Opportunities

Recent national outdoor recreation surveys indicate a surge of public interest and participation in trail-based recreational activities ranging from off-road vehicle usage to cross-country skiing. This trend is also occurring in Rhode Island as attested to by the interest and involvement of trail users organizations represented on the Trail Advisory Committee. While the trail-based activities measured in the demand survey - hiking, bicycling and horseback riding - did not evidence high levels of activity, the demand data (collected in 1974-75) are likely understating current interest and demand due to the design of many of the questions and the survey's failure to encompass all trail activities.

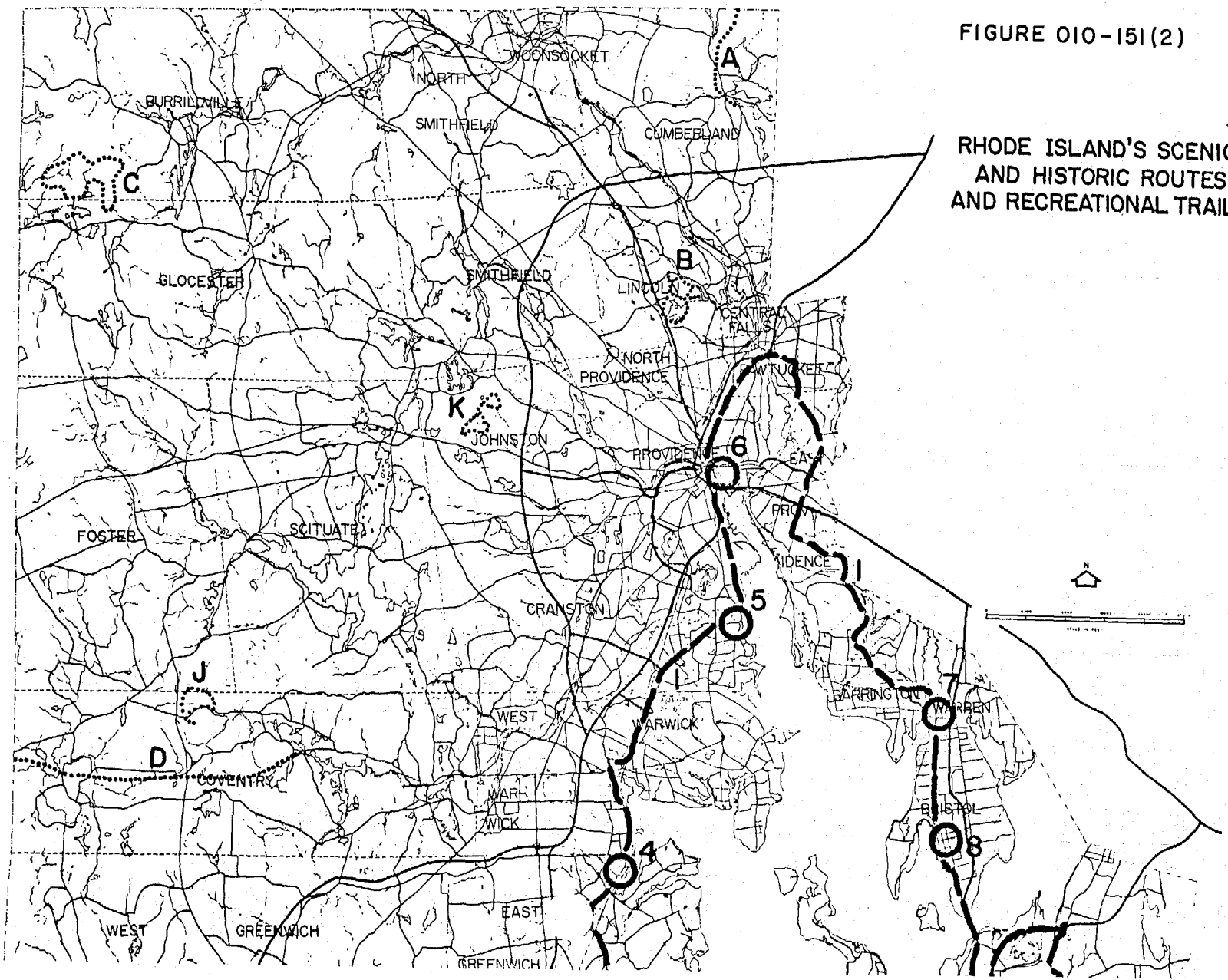
A survey of established routes and trails of scenic, historic, or recreational significance is presented in the form of a composite map (see Figure 010-151(2)) accompanied by a brief description of each of the various routes and trails in Rhode Island. They have been categorized as 1) Recreational Trails, and 2) Scenic and Historic Routes.

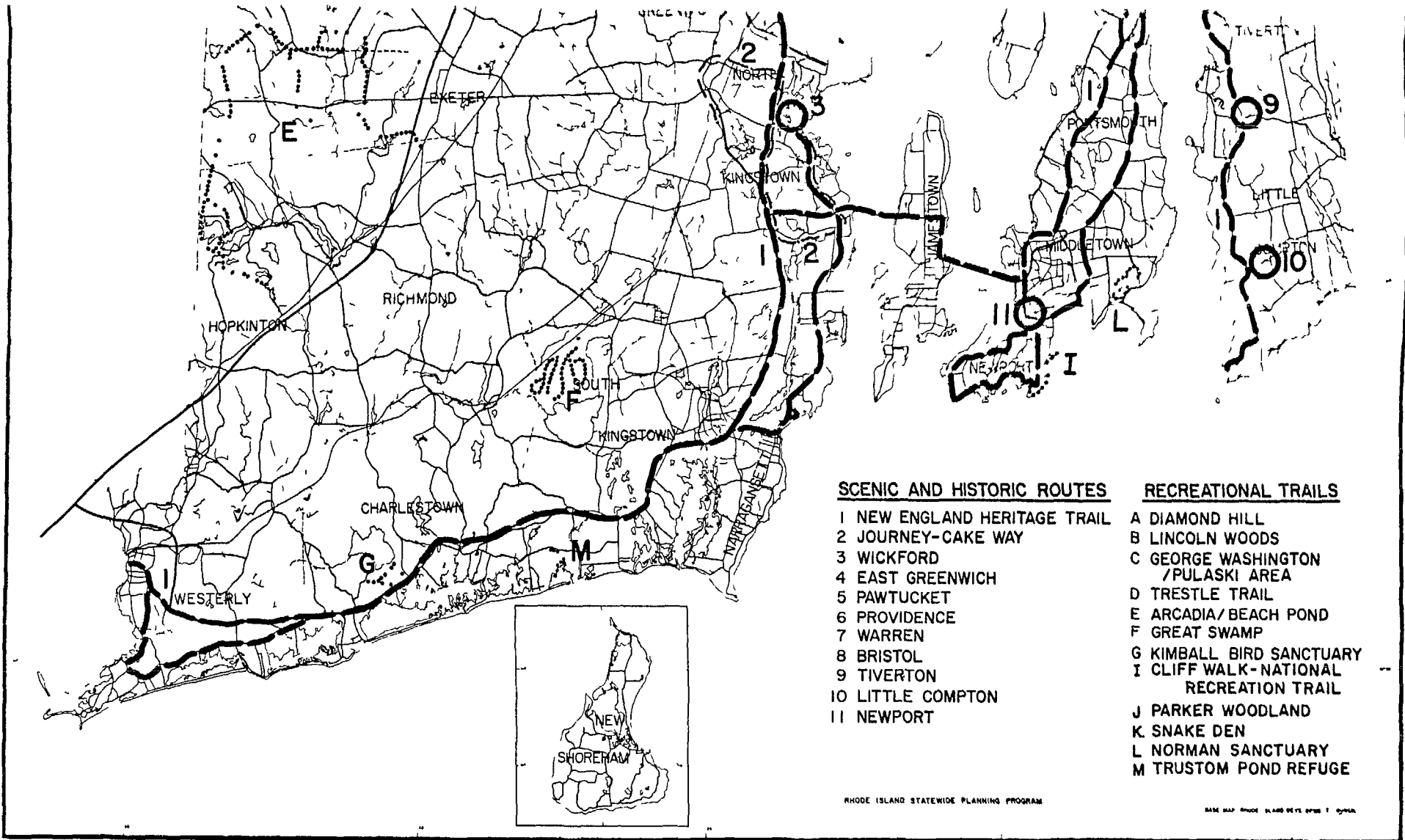
Several special studies have focused on trail-problems in Rhode Island or the identification of opportunities for new trail development and have called for specific actions to improve conditions of trail availability and usage. While some recommendations have been acted upon, a great deal of work remains in order to insure the continuing adequacy of trail opportunities available to Rhode Island's citizens. Major trail problems and issues which must be addressed or which require additional attention include: the legal liability associated with trail usage on privately-owned land; pre-emption of existing trails by new development; the need for additional trail segments and systems; potential conflicts between competing trail uses and users and adjoining property owners; and maintenance and marking of trails in order to preserve a quality recreational experience. Many of these questions must be addressed through State-initiated actions developed with the approval and support of the Trail Advisory Committee.

The growing popularity and special characteristics of motorized trail-based recreational activities such as trail-bike, four-wheel-drive and other off-road vehicle (ORV)

FIGURE 010-151(2)

RHODE ISLAND'S SCENIC AND HISTORIC ROUTES AND RECREATIONAL TRAILS





RHODE ISLAND STATEWIDE PLANNING PROGRAM

BASE MAP RHODE ISLAND DEPT. OF TRANSPORTATION

usage mandate that increased attention be paid to these activities in state and local recreation planning and programming. Motorized trail activities were not included in the 1974-75 Demand Survey because of the need to limit costs and focus on the "traditionally" more popular activities. However, recent data compiled for the latest Nationwide Outdoor Recreation Plan point towards significantly increased popularity of all forms of ORV recreational usage. Motorized recreationists, the survey indicates, now account for 25 percent of the population, with some 43.6 million Americans indicating that they participated in some form of ORV activity in 1977 including snowmobiling. While comparable data are not available for Rhode Island, it is clear that this growing national popularity is being mirrored to some extent within the state. Estimates provided by the Motorcycle Industry Council indicate that there were approximately 9,000 trail bikes in Rhode Island in 1980 and that the state has the highest ratio of motorcycles per 100 population of any New England state. Data for four-wheel drive vehicles and snowmobiles are not readily available; however it is known that their sales and usage have also increased in recent years (particularly in the wake of the 1978 blizzard).

Expanded ORV usage of all forms has brought with it a number of issues and problems, some particular to ORV usage; others common, in one form or another, to most types of trail-usage. Of particular concern to public land managers and to private landowners is the magnitude of environmental damage which unmanaged ORV usage can inflict. Other issues which need to be addressed include conflicts with and disruption of the "recreational experiences" of other (non-motorized) trail users, the difficulty of enforcing restrictions on ORV usage given the speed and mobility of ORV's and the limited enforcement resources of public agencies, evaluation of existing state "recreational vehicles" legislation to insure its continuing adequacy, and the need to explore liability questions associated with ORV usage on private and public properties. These problems can be solved or at least mitigated if they are properly addressed through the cooperative efforts of public agencies, private landowners, and responsible ORV trail-users organizations such as the New England Trail Riders Association and the Ocean State 4X4 Club. In this regard the initial critical need is the full definition of the parameters and problems associated with this new and expanding form of outdoor recreation.

F. Improving Efficiency and Coordination in Recreation Planning and Service Delivery

The timely accomplishment of the objectives and recommendations contained in this plan will rely to a significant extent on the level of efficiency with which recreation planning, programming and development is carried out. Given the limited fiscal and natural resource base available to support outdoor recreation, clearly the efficiency in which new or improved outdoor recreation facilities and services can be delivered will be deterministically related to the both the quantity and quality of the product or service ultimately provided. "Efficiency" in the context of this issue can be maximized by reliance upon a recreation planning process which both informs and involves the public, produces sound recommendations based upon reliable data and accurate assessments, and directs investment decisions in accordance with a determined priority hierarchy. "Efficiency" also requires that the institutional mechanisms which direct plan implementation maximize public benefits by allocating limited resources in a systematic and open manner which meets highest priority needs, and avoids waste or duplication of effort. Modifications to the current recreation planning and implementation process which should be effected to better achieve the goal of efficiency include expanding opportunities for public involvement, especially at early stages of the planning process; providing more assistance and guidance for local planning and implementation activities, and instituting a structured system for soliciting, evaluating and selecting capital initiatives.

One of the surest means for improving efficiency is to insure that adequate and on-going coordination is occurring among the various actors and interests (both within and outside the public sector) who play a definable role in the recreation planning or service delivery process or are involved in activities which impinge upon or interact with the recreation field. The existing formal and informal coordination mechanisms described in this plan represent a sound foundation for this coordination. However experience has indicated some need for additional mechanisms or inter-agency relationships.

02-151-03 Goals and Policies

The goals and policies are related to each of the issue discussions just presented in section 02-151-02. The issue and the related goals and policies follow.

A. Expanding and Improving Public Access and Use Opportunities for Water-Based Recreational Activities

GOAL: RECOGNIZE THAT NARRAGANSETT BAY IS THE STATE'S MOST IMPORTANT NATURAL FEATURE AND RECREATIONAL RESOURCE.

- Use Narragansett Bay primarily, but not exclusively, to provide active and passive recreational opportunities. Evaluate all potential uses of water and contiguous land areas in a manner which will achieve a balance of uses in accordance with the capability of lands and waters.
- Conserve and protect the Bay as an open space resource which is essential to maintenance of a natural environment, particularly in and near the state's major urban communities
- Emphasize the preservation of natural areas which are important components of the Bay ecosystem in wildlife, marine life, or vegetative habitat, prevention of erosion and sedimentation, protection from flooding, and other concerns.
- Protect the cultural heritage of the state which has grown up around the Bay and which demonstrates its original habitation, colonial settlement, and development through revolutionary, agricultural-commercial, manufacturing, and other activities

GOAL: INSURE THE SOUND USE AND DEVELOPMENT OF APPROPRIATE LAND AND WATER RESOURCES IN RHODE ISLAND FOR RECREATIONAL PURPOSES

- Improve opportunities for water-oriented recreation by insuring the public's right to use various water bodies and by providing additional access to salt and fresh water through acquisition, lease, or easement.
- Make multiple use of water bodies and realize the multiple use potential of all water resources development projects for recreation and other purposes to the extent consistent with water quality objectives.
- Reduce conflicts in the coastal region between different uses and between government jurisdictions.
- While maintaining the quality of the water-oriented recreational experience, provide for adequate supervision of water bodies to insure public safety.

GOAL: IMPROVE OPPORTUNITIES FOR WATER-ORIENTED RECREATION BY REDUCING POLLUTION AND MANAGING WATER QUALITY IN RHODE ISLAND'S WATER BODIES.

- Preserve existing tidal marshes and shellfish beds, and improve harbors and anchorages to foster growth in the fishing industry and in recreational fishing.
- Secure and manage for multiple purposes sources of water adequate to meet future needs.
- Intensify research activities designed to improve the propagation of marine life, including determination of the potential effects of thermal pollution and development of innovations in the control of oil spills.
- Continue to aggressively pursue water quality management and pollution control actions recommended in the "208" Water Quality Management Plan in order to maintain existing high quality waters and, where possible, restore fishable-swimmable water quality.
- Achieve close coordination between water pollution control facility planning and recreation facility planning in order to identify and capture opportunities for multiple usage, joint development and adaptive reuse.

B. Preserving Open Space and Protecting Natural Diversity

GOAL: PRESERVE AND PROTECT OPEN SPACE SO AS TO ENHANCE THE TOTAL QUALITY OF THE ENVIRONMENT.

- Consider open space requirements in terms of complete ecological systems.
- Protect and enhance valuable scenic areas.
- Retain some areas in their natural state in order to maintain a land reserve for future needs or simply to preserve their rural character when desirable.
- Preserve and, where possible, restore the resources of the coastal region in order to benefit from its variety of assets.
- Discourage over-utilization of ecologically fragile natural resources.
- Adopt tax policies and planning concepts favoring the preservation of valuable private open space, forest, and conservation areas. Where development of public open space is necessary it should be in accordance with the needs of the service area.

GOAL: PRESERVE AND PROTECT THE STATE'S NATURAL HERITAGE RESOURCES IN ORDER TO INSURE A CONTINUING LEGACY OF ENVIRONMENTAL AND BIOLOGIC DIVERSITY.

- Protect the best remaining examples of ecosystems and habitats.
- Protect rare and endangered plants, animals and unique geologic or other natural features.

- Provide information on the occurrence and significance of elements of natural diversity to local governments and the private sector (where consistent with protection) and encourage consideration of natural heritage resources in future development planning.
- Support private actions which foster preservation of natural diversity and encourage private landowners to cooperate with and support protection efforts.

C. The Continuing Need to Improve the Accessibility Characteristics of Recreational Resources to Reflect the Disparate Mobility and Participation Abilities of the Population Served

GOAL: PROVIDE FOR ADEQUATE AND DIVERSE RECREATIONAL OPPORTUNITIES AND FACILITIES PRIMARILY TO MET THE NEEDS OF THE STATE'S RESIDENTS WHILE ALSO ATTRACTING AND SERVING VISITORS.

- Meet the needs and recreational interests of people of all social, economic and age groups and all abilities.
- Improve access to recreation facilities and, where feasible, consider a re-distribution of utilization in order to maximize recreational opportunities.
- Provide outdoor recreational opportunities which are accessible to and usable by handicapped and disabled citizens.
- Encourage the inclusion of neighborhood recreation facilities as integral parts of community development plans under other applicable federal programs.

D. Expanding Recreational Opportunities Available to Urban and Metropolitan Area Residents

GOAL: PROVIDE CLOSE-TO-HOME RECREATIONAL AREAS AND FACILITIES, GIVING PARTICULAR ATTENTION TO URBAN NEEDS, IN ORDER TO ENCOURAGE PARTICIPATION WHILE CONSERVING ENERGY RESOURCES.

- Encourage the rehabilitation and reuse of deteriorated neighborhood facilities in order to restore and expand utilization potential and improve user comfort and security.
- Concentrate on the intensive development of urban park areas to more adequately serve the needs of recreationally disadvantaged groups in the metropolitan area.
- Stress provision of local recreational facilities and areas designed to best meet neighborhood needs and conditions.
- Promote non-energy intensive, high exercise-value activities such as walking, swimming, running, bicycling, etc. in order to minimize energy consumption and maximize public health benefits from outdoor recreation.

E. Improving and Expanding Trail-Based Recreational Opportunities

GOAL: INSURE THE SOUND USE AND DEVELOPMENT OF APPROPRIATE LAND AND WATER RESOURCES IN RHODE ISLAND FOR RECREATIONAL PURPOSES.

- Encourage opening private lands to public use by limiting land owner's liability.
- Utilize abandoned rail corridors suitable for recreational purposes.
- Provide for access to and the use of utility corridors for recreation.
- Encourage the development of linear parks, and wherever possible, utilize them to tie together various recreation sites and to link related land uses.

F. Improving Efficiency and Coordination in Recreation Planning and Service Delivery

GOAL: IMPROVE THE CAPABILITY OF BOTH PUBLIC AND PRIVATE SECTORS TO RESPOND TO RECREATIONAL NEEDS AT BOTH THE COMMUNITY AND REGIONAL LEVELS WITHIN THE STATE.

- Provide technical assistance to responsible recreation concerns for planning purposes as required.
- Achieve greater coordination among state agencies in preservation matters as they affect recreational opportunities and facility development.
- Insure that local governments have adequate statutory authority to meet their recreation, conservation and open space responsibilities through state enabling legislation for regulation of land use.
- Relate the type and size of facilities provided to the pertinent characteristics of the service area.
- Assign priorities for acquisition and development programs based on periodic studies of demand and usage.
- Allocate available federal and state matching funds in an equitable and open manner and in a fashion which insures utilization of limited resources to best meet priority recreational needs.

GOAL: UTILIZE, TO THE GREATEST EXTENT POSSIBLE, THE CAPABILITIES OF THE PRIVATE SECTOR IN THE OUTDOOR RECREATIONAL AREA.

- Encourage investment by the private sector in certain recreational facilities usually appealing to specific segments of the population.
- Promote coordination between the public and private sector by assisting local governments to establish regulatory guidelines for private recreation development which serve the best interests of the community.
- Minimize public sector involvement in specific recreation facilities that can be adequately supplied by the private sector.

- Where existing recreational facilities or services provided by public agencies parallel those of private enterprise, rate structures or user fees should be competitive.

02-151-04 Strategies

The implementation strategies for this element also follow each issue discussion and identify specific actions, program modifications, and initiatives which, if accomplished, will help to address or resolve the concerns recognized in the issue overview. The recommendations are presented in three categories with Category I, the highest priority.

The recommendations by issue follow and are the foundation of the Action Program. The Action Program typically covers two federal fiscal years and can be found in Chapter 7 2 of the element beginning on page 7 25.

A Expanding and Improving Public Access and Use Opportunities for Water-Based Recreational Activities

CATEGORY I

Provide fresh water swimming principally in the west and east metropolitan regions, not only to meet supply deficiencies but also as a substitute for salt water swimming.

Complete a feasibility study for the establishment of a scenic and recreational river system in the state and draft river protection legislation.

CATEGORY II

Redistribute use of salt water beaches to obtain a more uniform utilization.

Continue facility and program development at units of the Bay Islands Park System in accordance with the completed management plan and institute ferry service between the Bay Islands Park and mainland population centers. Figure 010-151(03) illustrates the current Bay Island Park system holdings.

Provide safe and accessible ice skating areas in the metropolitan park system which are not in conflict with the efforts of the private sector.

CATEGORY III

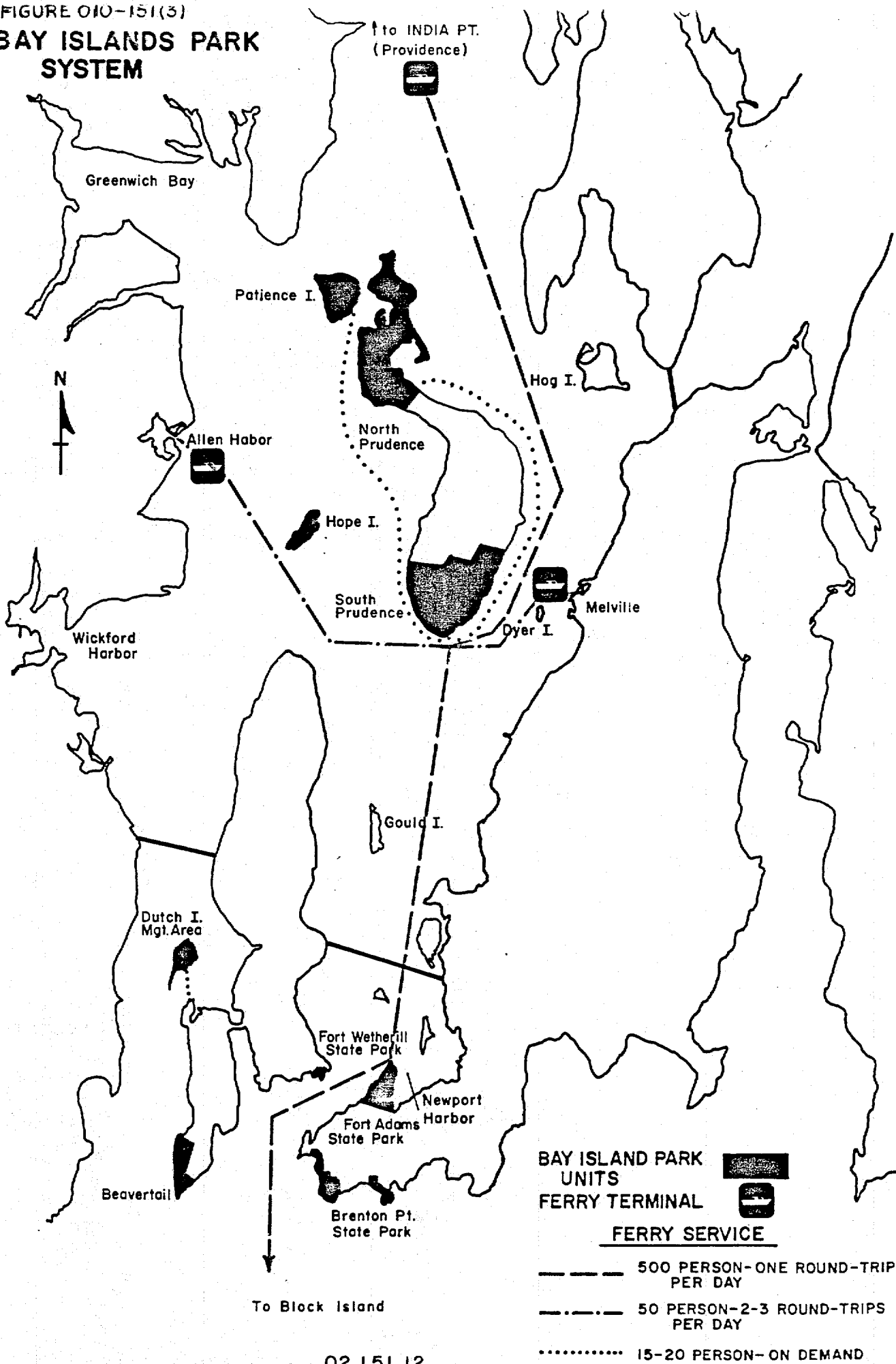
Improve public access to the shore to maximize the opportunities for salt water fishing and other related activities.



A definitive study that generates reliable technical data should be accomplished to determine the degree of impact of various recreation activities upon water quality.

Provide for more balanced fresh water fishing activity through an expanded stocking and public information program.

Investigate legal provisions which create conflicts between private ownership and recreational use of the state's navigable waterways. Clarify public regulations for recreational use of navigable waterways.

FIGURE O10-151(3)
THE BAY ISLANDS PARK SYSTEM



**BAY ISLAND PARK
 UNITS**
FERRY TERMINAL 
FERRY SERVICE 

- 500 PERSON-ONE ROUND-TRIP PER DAY
- . - . - . 50 PERSON-2-3 ROUND-TRIPS PER DAY
- 15-20 PERSON- ON DEMAND

Plan for the development of new state and local facilities to provide expanded public access and use of Upper Narragansett Bay as water quality improvements are realized in order to provide close-to-home, water-based recreational experiences for the urban population.

B. Preserving Open Space and Protecting Natural Diversity

CATEGORY I

Develop a comprehensive method for the systematic evaluation of the state's wetland resources.

Mitigate, through preferential tax assessment or other means, the pressure exerted by the property tax for conversion of open space to more intensive uses.

Develop alternative techniques for supporting the preservation of prime and productive agricultural lands.

Enact state land management legislation to enable localities to adequately accommodate future growth while preserving open space and valuable natural resources.

Define protection priorities for threatened natural heritage resources and develop a multi-faceted protection strategy stressing optimum public sector/private sector cooperation.

CATEGORY II

Maintain and expand the Natural Heritage Inventory system in order to provide a current data base for assessing the impacts of new development proposals on natural heritage resources and for determining threatened or endangered elements of natural diversity.

Continue coordination of the National Flood Insurance Program and utilize available acquisition and relocation programs to reduce risks in flood hazard areas.

Publish a flood plain management manual to assist localities in controlling inappropriate uses in flood hazard areas.

CATEGORY III

Identify, publicize and protect areas of scenic, historical, and cultural interest for the large sightseeing population.

Foster increased environmental awareness on the part of the general public through interpretative programs, public information and through the use and study of appropriate natural areas as part of the educational curriculum in schools.

C. The Continuing Need to Improve the Accessibility Characteristics of Recreational Resources to Reflect the Disparate Mobility and Participation Abilities of the Population Served

CATEGORY I

Support transportation and other programs to improve accessibility of the population to existing salt water beaches.

Improve public transportation to recreation sites, particularly in and around urban areas.

Improve the accessibility of outdoor recreation programs to the handicapped by insuring that all new or substantially-improved facilities are accessible and usable, and by modifying, to the extent feasible, selected existing state facilities.

Improve the accessibility of the elderly to recreation sites and increase their participation by modification of existing programs and provision of special needs programs as required.

CATEGORY II

Activity in many recreation pursuits should be stimulated by government through the provision of accessible facilities and through the promotion of those recreational pursuits that exhibit multi-season durability.

CATEGORY III

Improve public access to the shore to maximize the opportunities for salt water fishing and other related activities.

Provide increased access to state parks and management areas for use by various voluntary or special interest groups and assist in the coordination of their activities with local and state programs.

D. Expanding Recreational Opportunities Available to Urban and Metropolitan Area Residents

CATEGORY I

Improve use opportunities at existing urban and metropolitan parks, and develop additional neighborhood recreation areas in accordance with the policies of the State Guide Plan.

Improve public transportation to recreation sites particularly in and around urban areas.

Provide fresh water swimming principally in the West and East Metropolitan regions, not only to meet supply deficiencies, but also as a substitute for salt water swimming.

CATEGORY II

Meet statewide supply deficiencies in tennis. These are most acute in the West Metropolitan and Northeast regions.

Provide safe and accessible ice skating areas in the metropolitan park system which are not in conflict with the efforts of the private sector.

Continue facility and program development at units of the Bay Islands Park System in accordance with the completed management plan and institute ferry service between the Bay Islands Park and mainland population centers.

The State of Rhode Island, in cooperation with the State of Massachusetts and affected local governments, should begin implementation of a linear recreational and heritage system along the Blackstone River and Canal in accordance with the concepts established in the feasibility study and in a manner which is not in conflict with previously defined priorities.

Meet picnicking deficiencies in all regions, and particularly, the West Metropolitan and Northeast regions.

The Departments of Transportation and Environmental Management and local governments should cooperate in the implementation of bicycle routes recommended in the Metropolitan Bikeway Study through incorporation of bicycle facilities into programmed highway improvement projects where possible, and/or separate bikeway development projects.

E. Improving and Expanding Trail-Based Recreational Opportunities

CATEGORY I

Complete a feasibility study for the establishment of a scenic and recreational river system in the state.

Continue support for the Trail Advisory Committee's investigation of trail needs, issues and problems in the state.

Assess off-road vehicle/motorized trail-based recreational usage in the state addressing current and future demands, facility needs, multiple use conflicts, environmental concerns, landowner-user conflicts, and regulatory needs. This assessment should be conducted by the R.I. Trail Advisory Committee with cooperation and support from the Departments of Environmental Management and Transportation, the Office of State Planning and the various ORV users organizations.

CATEGORY II

Develop a statewide system of trails following the recommendations proposed in the Trail Advisory Committee Report, giving special emphasis to establishing recreational and commuter bikeways.

The State of Rhode Island, in cooperation with the State of Massachusetts and affected local governments, should begin implementation of a linear recreational and heritage system along the Blackstone River and Canal in accordance with the concepts established in the feasibility study and in a manner which is not in conflict with previously defined priorities.

The Departments of Transportation and Environmental Management and local governments should cooperate in the implementation of bicycle routes recommended in the Metropolitan Bikeway Study through incorporation of bicycle facilities into programmed highway improvement projects where possible, and/or separate bikeway development projects.

The Department of Environmental Management should initiate development of the North-South Trail as proposed in the feasibility study, giving initial emphasis to securing a feasible, interconnected trail through the use of existing state-owned trails and minimum-maintenance town-owned roads.

CATEGORY III

Investigate legal provisions which create conflicts between private ownership and the recreational use of the state's navigable waterways. Clarify public regulations for recreational use of navigable waterways.

F. Improving Efficiency and Coordination in Recreation Planning and Service Delivery

CATEGORY I

The Congress should consider alternative funding arrangements for the Land and Water Conservation Fund such as programmatic entitlement (block grant) and other approaches which could minimize administrative requirements and expenses.

Reorganize the existing Recreation Resources Review Committee and charge the Committee with determining the priorities for selection of Land and Water Conservation Fund-assisted projects based upon consistency with applicable state and local Recreation, Conservation and Open Space Plans.

The State should meet immediate short-term recreational needs first. If additional state funds become available, lower priority land acquisition should be made in anticipation of long-term needs.

Because of Rhode Island's climatic conditions, appropriate changes in the Land and Water Conservation Fund Act should be made to enable funding of special facilities that are either adaptable to year round use by seasonal enclosure, or are permanently enclosed, so that the regional demand for certain recreational activities can be better satisfied.

Establish a community outreach and technical assistance program in order to encourage development and submission of local Land and Water Conservation Fund project proposals which best meet community needs.

CATEGORY II

Re-structure the present user-fee system to make it more comprehensive for providing financial assistance for the recreational development program.

Continue on-going coordination between the Rhode Island Historical Preservation commission and the Department of Environmental Management for the purpose of facilitating the orderly development of areas that have both historic and recreational significance.

Acquire surplus federal lands that are suitable for satisfying recreational needs of all regions of the state.

Achieve close coordination between water pollution control facility planning and recreation facility planning in order to identify and capture opportunities for multiple usage, joint development and adaptive reuse.

CATEGORY III

Encourage the Rhode Island Department of Transportation to include recreational considerations in their transportation activities as part of the planning process for new proposals and also as part of any major modifications to existing facilities.

Recreation

Minimize, and eventually eliminate, any competitive situations between the public and private sector in providing recreation facilities when the private sector can adequately meet the need

Assist the private sector with market information so that both the recreation industry and the state's population will receive maximum benefits

02-161 FOREST RESOURCES MANAGEMENT PLAN

02-161-01 Introduction

State Guide Plan Element 161, Rhode Island Forest Resources Management Plan, was approved by the State Planning Council on June 14, 1984.

The purposes of Rhode Island's Forest Resources Management Plan are to:

1. Inventory and assess the state's forest resources;
2. Identify the key planning issues;
3. Develop specific goals and policies;
4. Make specific recommendations to improve forest resources management; and,
5. Develop a detailed work program for the Division of Forest Environment to facilitate the implementation of the plan.

The intent of this element is to serve as an administrative tool for the Governor and the Director of Environmental Management, a legislative aid for the General Assembly, an information and education source for the public, and ultimately, a management guide for the Division of Forest Environment and all forest land owners.

02-161-02 Issues Addressed

Eight broad based planning issues are addressed in this element. They were established by the State Forestry Planning Committee using the results of three surveys conducted by the Audubon Society of Rhode Island and the Division of Forest Environment between the summer of 1978 and January 1981.

The eight issues and the pages on which the discussion may be found are:

1.	Forest Resource Planning	3.3, 3.4
2.	Forest Resources Management	3.4, 3.5
3.	Forest Resources Education	3.6, 3.7
4.	Wildfire Control	3.9
5.	Legislation	3.10, 3.11
6.	Forest Products Marketing	3.12
7.	Insect and Disease Protection	3.12, 3.13
8.	Soil Management	3.15

02-161-03 Goal and Policies

A. Goal

The single all encompassing goal of Rhode Island Forest Resources Management Plan is to:

"Protect and Manage the Forest Resources of Rhode Island to Meet the Demands for Recreation, Water Supply, Wildlife Habitat, Forest Products, and a High Quality Environment".

This goal is substantiated with more specific policy statements for each of the planning issues presented in Section 02-161-02. The issue and the related policies follow.

B. Policies

1. Planning Policies

- a) Develop and implement a comprehensive statewide forest plan to anticipate and minimize conflicts for the use of Rhode Island's forest resources.
- b) Maintain and implement a comprehensive planning process for state owned and managed forest lands.
- c) Coordinate planning efforts with all agencies and organizations that have an impact on forest resources management.

2. Management Policies

- a) Utilize good forest resource management practices on state owned forest lands to provide an optimum mix of products and amenities.
- b) Encourage good forest resource management practices on privately owned forest lands.
- c) Identify valuable, unique, and ecologically sensitive forest lands so that they may be protected.
- d) Develop incentives for forest land owners to increase the benefits for actively managing their forest lands.
- e) Develop and maintain an accessible forest resources data bank.
- f) Protect and conserve sufficient forest lands in Rhode Island to meet the present and future needs of its citizens.

3. Information and Education Policies

- a) Educate the public to help make them aware of all the values of Rhode Island's forest resources.
- b) Encourage research to provide better information for forest resources management.

4. Wildland Fire Policy

Develop and maintain a rural fire defense to protect against the possible loss of lives, homes, and forest resources.

5. Legislation Policy

Encourage and support legislative efforts to protect and maintain forest land.

6. Marketing Policy

Demonstrate and optimize the economic values of all forest resources in Rhode Island.

7. Insect and Disease Protection Policy

Develop and implement an insect and disease control program to effectively protect the state's forest resources

8 Soil Management Policy

Require the use of acceptable soil erosion control measures for all state, local, and private forestry operations

02-161-04 Strategies

The plan contains over 55 recommendations to enhance the management of the state's forests. In very general terms, the major thrusts of these recommendations are:

The plan should be used by DEM to establish priorities for forest resources management.

The multiple resource management of the state's forests needs to be improved

Additional information and education programs are necessary to broaden the public's awareness of all forest resources values.

Stronger legislation should be sought to maintain and protect forests against the conversion to other uses.

A coordinated wildfire control program must be maintained to protect forest resources, homes, and lives

Markets could be expanded to optimize the economic values of all forest resources

A comprehensive insect and disease control program must be developed and maintained.

The use of proper soil management practices to control soil erosion should be required for all cutting operations.

The full text of the recommendations can be found in Part 161 03 of this guide plan element.

02-211 ECONOMIC DEVELOPMENT STRATEGY FOR RHODE ISLAND

02-211-01 Introduction

State Guide Plan Element 211, Economic Development Strategy for Rhode Island, was approved by the State Planning Council on January 10, 1980, and is scheduled to be updated in the first quarter of calendar year 1985.

This element is a generic strategy and consists of a review of identified issues and consensus goals, an economic profile of the state, and concrete actions to be taken which can stimulate the vitality and job opportunities of the state. It is divided into two main parts in order to highlight economic development issues in Rhode Island that deserve attention and to separate them from the body of the paper which discusses an ongoing economic development strategy for the state and contains supportive data.

The purpose of the first part (Sections 01-03) of this element is to make a foundation for a comprehensive economic development planning process in Rhode Island. Section 02 includes an economic profile of the state and an analysis of underlying assumptions and goals for economic development here. It presents suggestions for economic development planning consistent with the intent of recent federal legislation.

The purpose of the second part (Section 04) of this element is to suggest immediate actions to stimulate the overall economy of the state. The issues given special emphasis were chosen from a desire to keep this report concise and readable while focusing on vital economic concerns that have good development and spinoff potential.

02-211-02 Issues Addressed

A. The Issues

Everyone is for economic growth. More industry and more jobs are like 'Mom and apple pie'. But just as mom's role in American society is in a period of flux, and the apple pie no longer likely to be the homemade variety, striving simply for more — for increased employment, expanded industry and commerce — is no longer a truism. "There is now considerable question both about the certainty and the desirability of certain forms of economic growth."

Growth and economic development are not synonymous. Growth defined narrowly is simply numerical increase. Development implies fulfilling economic potential in the most effective climate for achievement. It implies a prior notion of what kind of economic being will result from development efforts. Economic development is both tool and target and beyond, it is our commitment to specific goals. It is our intention to use the right tools to perform the right tasks that will help us determine the shape of our state's economy.

While the economic development of a state is a dynamic process, it does tend to assume certain characteristics that may remain fairly consistent over a period of time. These periods of stability are bases to plan from.

An underlying premise of recent federal legislation is that state-level planning for economic development should be an integral and major part of a comprehensive planning process for overall resource management in the state. The legislation reflects growing recognition that economic development affects a wide variety of resources and that these resources are finite.

More industry and more jobs may mean more prosperity for a community. They also may mean more environmental pollution, unwanted in-migration, or low-skill positions what go unfilled. The kinds of industry, the kinds of jobs, the kind or quality of life to be strived for — these are among the many questions which must be addressed first by any economic development process. Secondly, the outcomes sought must be consistent with those answers. Economic development planning cannot begin with the assumption that economic growth, however defined, is an end in itself.

B. Areas of Current Concern

1. Growth Industries

A major study by the consulting firm of Harbridge House, Inc. on the subject of marketability of the surplus naval properties in Rhode Island also focuses on overall issues of attracting new industry and development to the state. This 1976 report is being utilized, in large part, as the basis for current development activity in the state. It speaks of attracting the "proper industries" — those with "the greatest surplus social benefits over social costs."

The goal of the industry study was to find a set of industries whose growth in Rhode Island would maximize Rhode Island's future employment and income.

Target Industries for Rhode Island

<u>SIC</u>	<u>INDUSTRY</u>	<u>SIC</u>	<u>INDUSTRY</u>
2831	Biological Products	3823	Instruments for Measurement, Display and Control of Process Variables
2833	Medicinal Chemicals	3825	Instruments for Measuring & Testing of Electricity & Electric Signals
2834	Pharmaceutical Preparations	3811	Laboratory, Scientific & Research Instruments
3511	Small & Medium Turbines	3843	Dental Equipment
3662	Two-Way Communications Equipment		
3693	Medical Electronics		

An underlying assumption of the study is that the existing mix of industry in the state (i.e. heavy orientation towards manufacturing, and within the manufacturing sector, undue reliance on declining industries like textiles and leather products) has resulted in Rhode Island lagging significantly behind national growth. This assumption is called into question in a recent technical paper by a Federal Reserve Bank of Boston economist. Entitled "The Impact of Industry Mix on New England's Economic Growth Since 1970," the conclusion of the paper is that while Rhode Island was the slowest growing of the New England states in terms of employment during the period studied, and while industry mix does appear to have contributed to the state's slow growth, in both periods studied industry mix for Rhode Island and for the region "was not the sole or even most important determinant (of slow growth): the unexplained residual or 'regional factor' was at least as large."

2. Business climate

In analyzing the factors which contribute to or inhibit the likelihood of attracting the target industries, Harbridge House cites labor availability, wage rates, taxation and financial aid policies, and — most importantly — energetic recruitment efforts. Re

ardless of the actual situation, reality is what each person or firm perceives it to be, therefore, the perceived business climate of a state is of foremost importance.

The 'good business climate' means a government which does not make pollution requirements stricter than required by Federal legislation, one that does not prevent or make seven-day operations difficult, one that is even-handed with business by not favoring labor to the extent that strikers are extended unemployment benefits thus making industry pay their workers to cause work stoppages. Most important it implies a state that cares enough about industry to actively and aggressively contact business with relevant information.

The issue of unemployment insurance payments to striking workers in Rhode Island is a much-discussed and emotional one. Whatever the merits, the actual percentage of time lost to strikes in Rhode Island from 1967-1972 is less than in either Connecticut or Vermont and about the same as in Massachusetts — all states which do not have such benefits. Harbridge House stresses that despite its apparently benign impact on overall time lost, "the availability of unemployment benefits to strikers is perceived as conducive to long strikes "

From its survey of target industries, Harbridge House found that Rhode Island generally had a pro-union image, or no image at all (Yet, the report also mentions that the northeast region as a whole is considered to be a union-dominated area) While Rhode Island has a good program of incentive financing for industry, tax abatements, and the like, many other states have comparable programs. Their absence would be a deterrent to attracting industry but their presence is generally considered unlikely to be a deciding factor in industrial location decisions

In 1974 the Rhode Island General Assembly enacted an eight-point business tax reform measure A 1977 study by a private, non-profit business group in Rhode Island found that those reforms "have indeed improved Rhode Island's competitive business tax position ." and that "for an allegedly labor-dominated state, Rhode Island is in truth taking a very positive stance, particularly among New England states, toward shaping its tax policies to attract industry."

Most crucial, according to the consulting firm, is dispelling negative images (of the industrial climate) and creating a positive one through a major marketing program Such a marketing program is estimated to involve a commitment of at least one-to-one-and-a-half million dollars a year, for a minimum of three years, over-and-above the state Department of Economic Development's current operating budget level (nearly \$2 million in general revenue funds for fiscal year 1980.) Together with focusing on the target industries, Harbridge House recommends attention to Rhode Island firms to help assure that those planning expansion will expand in-state. The key to the future vitality of the Rhode Island economy, say the consultants, is aggressive self-promotion.

3. Transportation/tourism

Transportation — both people and product movement — is critical to Rhode Island's economic development efforts The basic federal interstate highway system is in place here However, there are two interstate (substitution) routes currently in various stages of planning which are highly controversial The actual concrete-and-earth-carving of road construction brings to noisy prominence many of the economic development/quality of life issues that paper discussions seldom generate.

A proposed southern Rhode Island interstate highway corridor, Route 895, has been discarded. It is likely, however, that some new arterial roads will be built and some existing arterial routes will be substantially improved in the southern sector of the state. Construction plans for an interstate connector to Hartford, Connecticut — proposed route I-84 — have also been dropped. The Rhode Island Transportation Plan - 1990 states that converting the present Route 6 between Providence and Hartford to a limited access status is a key to maximizing the economic development potential of the Providence metropolitan area, especially in terms of the service industries, and at the same time conforming to land use plan objectives of maintaining generally low-intensity development in the highway corridor and rural conditions throughout most of the western section of the state. An improved connection between state route 146 and the Massachusetts Turnpike (I-90) near Worcester is also essential.

Railroad revitalization in the state is of particular importance in serving industry. The three major areas of the rail system which have a specific impact on economic development in Rhode Island are:

- a. branch lines which are not part of the proposed Conrail system but which are viewed as crucial to the ability of Rhode Island to attract new industry;
- b. upgrading Providence Union Station and the northeast corridor passenger services; and
- c. improvement of freight service to the west and south.

Ports and the general movement of goods by sea are of increasing importance to the overall transportation system in Rhode Island. The Port of Providence is the major marine terminal and harbor facility in the state. The Providence River channel has been dredged by the U. S. Army Corps of Engineers to a depth of approximately 40 feet. Improvements to buildings and other land facilities at the Port are being undertaken to upgrade the facility. However, further dredging of the channel is needed to accommodate the increasingly larger tankers. The problem of an acceptable way in which to safely dispose of the dredged material is unresolved.

Improvements to Theodore F. Green State Airport are needed in order to make efficient use of the medium-size air carrier aircraft currently in use and to meet minimum requirements for wide-body aircraft in the near future. Facilities for ticketing, baggage handling, parking, and related functions must also be enlarged.

With regard to tourism, deficiencies such as the lack of a complete resort facility in the state, the absence of a rating system for public accommodations and restaurants, and the need for current promotional films to advertise the vacation potential of areas, are cited. Competing interests of tourist versus certain indigenous maritime, fishing, conservation, recreation, and local entrepreneur interests suggest a need to sort out priorities for the various sections of the state and to target promotion efforts in keeping with those priorities.

4. Energy

There are several aspects to the energy issue in Rhode Island including (1) the disproportionate cost of energy for business and private households alike; (2) the issue of exploration in the Outer Continental Shelf off Rhode Island and the development of

support facilities here; and (3) the question of energy supply. The three issues are related, but separate; if significant oil or gas resources are discovered nearby, energy may or may not be cheaper in Rhode Island and, conversely, energy costs here may be made more compatible with the rest of the nation irrespective of OCS drilling success or failure. Further, even the most optimistic guesses about the quantity of oil that may be found in the OCS will not be sufficient to change the overall oil supply problems for the nation.

The cost of energy in Rhode Island has consistently been higher than in the nation as a whole. This situation in the past put the state's business and industry at a small competitive disadvantage at a time when fuel and energy costs were a smaller part of total production costs. The rise in the price of oil and general fuel cost increases have impacted the state's economy significantly and to a greater extent than the average for the nation. Because it appears there is little Rhode Island alone can do to enhance its competitiveness regarding cost of traditional fuel supplies, the state has joined with the five other New England states to establish a rational energy policy to draw national attention to our region's needs...and to push for policies that do not discriminate against our region.

While the Harbridge House report urges that construction of an oil refinery in Rhode Island be included in the state's development scheme (either in conjunction with Outer Continental Shelf drilling activities or based on contracts for foreign deliveries), an earlier consultant's report states that the possibility of a refinery locating in Rhode Island — aside from political and environmental concerns — is unlikely. Existing domestic and Caribbean refineries are thought to have sufficient excess capacity and "If there is a need for additional refinery capacity, it will likely be met more by expansion of existing facilities than by new 'grass root' installation."

The 1975 Arthur D. Little Inc. study also states that "The development of an indigenous production/and, or refining industry in New England...would have little relevance to total prices charged to the New England consumer." Oil, if found on Georges Bank in the OCS, would probably be sent to middle Atlantic refineries for distribution on a national scale. "On the other hand, Outer Continental Shelf natural gas, if discovered... will most likely enter New England." The New England Regional Commission advocates that the region "keep its natural gas infrastructure for storage and distribution intact in anticipation of possible natural gas fuels in the OCS."

02-211-03 Goals

Economic development activities in most states, the U. S. Economic Development Administration (EDA) finds:

are generally restricted to industrial promotion and location, the objectives of both being the relatively immediate generation of jobs and tax revenues. States have chosen not to assume a responsibility for establishing and pursuing State economic and social goals, but rather have maintained their role as a conduit for Federal programs...Whether such efforts are cost-effective over the long-run seldom surfaces as an issue, since the economic accounts are kept separately from the social accounts and neither is subjected to rigorous long-term analysis.

The 1974 Section 302(a) amendment of the Public Works and Economic Development Act of 1965 is intended to move states away from the situation in which the federal agency designs programs and formulates detailed guidelines for implementation (forcing states to 'take it or leave it') and into a posture of recognizing the need to develop a

planning process in which economic development is related to overall physical and social resource management. An initial step in such a process is the establishment of broad goals and strategies to guide the determination of public investment priorities which are economically and socially cost-effective in the long term. An economic planner with EDA writes that an underlying premise of the 302 legislation is "that economic and social goals cannot be pursued independently and that continued improvement in the nation's socio-economic welfare henceforth will depend upon the more productive use of our total resources.

There appears to be agreement on macro-level economic goals for development in Rhode Island. The ten economic development goals for the state that have been expressed repeatedly in written documents and reports, over time, can be summarized as follows:

A Economic Growth and Continued Industrial Development:

To stimulate economic growth and industrial development sufficient to meet the need for jobs in the state, rather than growth as an end in itself. Focus on manufacturing and, within this category, attempt to replace dependence on non-durable goods with an increase in productivity of durable goods.

B Diversified Industrial Base:

Lessen dependence on a particular type of industry or a few major employers. Capitalize on the wide range of the state's resources to build an industrial base capable of withstanding fluctuations in the national economy or in particular industries

Attract "Desirable" Growth Industries

Seek to attract industries characterized as low energy consuming, high technology, and low or non-polluting, which based on past performance and foreseeable trends, are likely to grow at a faster rate than the general economy.

D Maintain Existing Firms

Highlight the needs of indigenous industry. Recent studies indicate that the Northeast's economic doldrums are caused not by outmigration of industry but by the failure of existing industry to thrive there

E "Urban Industry".

Relate industrial development to overall land use, including distinguishing between urban and non urban areas, revitalization of central cities; planned industrial parks, minimizing journey-to work, and general industrial development in accord with sound land use policy.

F Improve Planning and Coordination to Maximize Efficiency and Improve Human Services Delivery

Coordinate planning for human services, including private and public sector activities, as well as coordination of social services with economic development programs.

G Improve Employment Opportunities: Reduce Unemployment and Underemployment

Create employment opportunities which mesh with the skills or interests of the majority of the unemployed, provide appropriate training programs, reduce the high unemployment and upgrade the quality and diversity of jobs available

H. Improve Manpower Development Resource:

Develop labor force data, focus industrial recruitment on local labor resources, provide training and education programs to locate individuals in favorable occupations, and provide employment support services to labor force participants. This relates to the previous goal but is concerned with workforce rather than industrial demand.

I. Increase Incomes:

Rhode Island personal income is both below national average and increasing slower than national and regional averages. Performance of this state in the area of personal income requires that increasing incomes be a major goal of state economic development efforts.

J. Provide Optimal Infrastructure:

"Infrastructure" includes both tangible needs, i.e., transportation, utilities, goods, water, energy, and waste processing and intangible needs of commerce and industry — the "business climate" of the state; including the business tax structure and labor relations.

02-211-04 Strategies

The implementation strategies are discussed in Part 211-04 of this element. The material that follows highlights the strategies (called action agenda items) outlined in the element. The following listing identifies the nine strategies and the pages on which the detailed discussion may be found.

	<u>Pages</u>
1. Target Industries	04-02.1 to 04-02.5
2. Energy	04-03.1 to 04-03.4
3. Employment Information	04-04.1 to 04-04.2
4. Unemployment Compensation	04-05.1 to 04-05.13
5. Public/Private Investment	04-06.1 to 04-06.8
6. Industrial Site and Space Information	04-07.1 to 04-07.3
7. 200 Mile Fishing Limit	04-08.1 to 04-08.4
8. Demographic Trends	04-09.1 to 04-09.11
9. Waste Disposal	04-10.1 to 04-10.3

A. Action Agenda Items Related to Target Industries:

- building upon the information of Harbridge House, Inc., examine the specific needs of each of the proposed target industries to determine those which can currently be met in the state, those that require modifications to meet, and those not likely to be met in the near future. That is, examine site requirements and available industrial land, labor requirements and available labor pool, energy and financing requirements and availability, etc. Draw up a detailed marketing strategy directed towards the identified industries.
- add to the consultant's list of those types of industry targeted for priority attention those engaged in alternate energy research and development.
- analyze moderate-growth industries which may have potential for moving or expanding here which are compatible with the overall economic development goals of the state.

CONSENSUS ECONOMIC DEVELOPMENT GOALS FOR RHODE ISLAND

<u>Goals</u>	<u>Sources*</u>									
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
a Economic growth and continued industrial development	X	X	X		X	X		X	X	X
b diversified industrial base	X	X	X	X	X	X		X		X
c. attract "desirable" ¹ growth industries			X	X	X	X	X	X		
d. maintain existing firms	X		X	X	X	X		X		X
e. 'urban industry' ²	X		X	X	X		X	X		
f. improve planning and coordination to maximize efficiency and improve human services delivery			X		X			X	X	X
g. improve employment opportunities, reduce unemployment and under-employment	X		X	X	X	X		X	X	X
h improve manpower development resources	X		X	X	X			X		
i increase incomes	X		X		X			X		
j provide optimal ³ infrastructure	X		X	X	X	X	X	X	X	X

*LEGEND.

A = SPP Goals & Policies - 1969/1974 OEDP
 B = DED legislation
 C = State Land Use Policies & Plan
 D = Governor's Message 1976
 E = Policy '76

F = Harbridge-House report, 1976
 G = CRC draft
 H = NERCOM
 I = Governor's Message, 1977
 J = R I Port Auth

- 1 Low energy-consuming, high technology commerce and industry, those providing the greatest surplus social and environmental benefits over social and environmental costs (CRC, HH) Growth industries = those growing at a faster rate than the general economy.
- 2 Compact industrial development in accord with sound land use policy; revitalized central cities and large industrial parks; minimize journey-to-work
- 3 Both tangible - transportation and utilities — and intangible - business tax structure, work week, etc

- design a separate but related support strategy for the retention and/or expansion of appropriate in-state industry.
- establish an evaluation procedure for determining the effectiveness of the target industries marketing program.

B. Action Agenda Items Related to Energy:

- the attraction of and assistance to industries involved in the development, production, and research of alternative energy sources should be the stated, publicized, and actual priority of the state's economic promotion and activities for the immediate future. The Department of Economic Development should contact and aggressively recruit such firms, as well as encourage firms already located here interested in branching out into this activity. Support of existing alternative energy firms in the state is also essential.
- strenuous efforts should be made to secure federal grant funds for research in this area, particularly in connection with the state's colleges and universities and the Coastal Resources Center. The Energy Office, Department of Economic Development, Public Utilities Commission, or some other agency should coordinate and support this effort. Non-profit and other private groups should be assisted in developing grant proposals for federal monies to fund energy research and development efforts. Funds should be sought by the Department of Education for vocational education programs in this subject area. Manpower programs related to the above should be implemented.
- the state's major cities should be involved from the start, as should the Coastal Resources Management Council, conservation groups, the Solid Waste Management Council, education institutions, and the State Energy Office.
- to get momentum going, a statewide conference on the subject of alternative energy sources and development should be arranged, with major national figures in the field invited. Widest possible publicity should be sought, including national media.
- a study should be immediately undertaken (hopefully with federal funding assistance) to: (a) pinpoint specific firms that conform to the priority classification both outside and inside the state that are likely prospects for setting up operation or expanding in Rhode Island; (b) analyze the specific requirements of such firms and the kind of inducements that can be reasonably offered by this state; and (c) initiate a directed marketing program.
- industries manufacturing materials or equipment related to energy production, distribution, and especially conservation should be encouraged, assuming they are not associated with deleterious environmental discharges.
- a legislative package establishing loans, tax credits, and tax exemptions for home owners and businessmen installing solar energy systems or purchasing insulation materials should be drafted and submitted to the General Assembly.
- support facilities for underwater oil and natural gas drilling should be enthusiastically but cautiously welcomed. This should be a staged activity, relating to actual offshore developments. The interim time should be used to prepare detailed alternative plans for on-shore development.

C. Action Agenda Items Related to Employment Information:

- provide support to DES to enable expansion of employment service functions of the department. The importance of an effective and credible state placement service should be emphasized.
- seek ways to strengthen linkages between DES and: the business community, the Division of Job Development and Training of DED, the Department of Education, and the other job bank services in the state.
- facilitate coordination between Rhode Island's DES job bank and those of neighboring states (Massachusetts and Connecticut).

D. Action Agenda Items Related to Private/Public Investment:

- amend Chapter 37-14 of the General Laws to require conformance to the State Guide Plan of projects financed by the Public Buildings Authority.
- amend Chapter 42-34 of the General Laws to permit the Industrial Building Authority to guarantee loans for industrial plant rehabilitation.
- establish a Small Business Section within the state's Department of Economic Development, to promote in-state business growth, to bridge the capital investment skills and information gaps, and encourage the pooling of investment capital for resource-related industrial development.
- initiate and support efforts to create a New England Region Product Development Corporation to carry out activities similar to those currently supported by the Connecticut Product Development Corporation.
- determine the most feasible approach to establishing the three debt and equity capital mechanisms suggested by a recent DED report: (1) development credit corporation, (2) equity capital corporation, and (3) umbrella revenue bonding. (Whenever possible, existing groups should be built upon.) DED has proposed that a small task force be convened for this purpose.
- pose, research and answer the question: "Do public investment projects siphon needed capital from private investment projects?" A short period should be required for study. This study should result in a statement of state policy regarding public capital investment.

E. Action Agenda Items Related to Industrial Sites and Space:

- continue refinement of the information gathering and updating process for the computer inventory of industrial sites and space to assure comprehensiveness and accuracy; publicize its availability to local government and business organizations.
- set up an industrial sites information requests file by SIC code.
- utilize information contained in the inventory to analyze such questions as the actual versus assigned use and potential of land, long-term vacant industrial space for which reuse or demolition should be sought, etc.

- expand the education effort begun in a recent workshop on industrial zoning for local officials to further awareness of both the need for suitable industrial sites and the factors to be considered in designating land for industrial use.
- utilize procedures contained in the proposed state land management bill regarding land development capability and related considerations to be taken into account in determining appropriate industrial sites. Land management procedures regarding developments of regional impact should be utilized for large scale industrial and commercial projects.
- the special problems of central city industrial development must be explored. This should be a joint state/city effort.

F. Action Agenda Items Related to the 200-Mile Fishing Limit:

- foster the growth of the Rhode Island fishing industry both directly (by providing needed docking space, special loans and tax provisions, etc.) and indirectly (by giving strong consideration to the needs of this industry when dealing with potential conflicts, such as: underwater oil, gas, and minerals exploration and mining; dumping of wastes into the ocean; provision of port facilities; and regulation of sport fishing and pleasure boating).
- create a marketing campaign in conjunction with the other New England seashore states to encourage the consumption of fish and shellfish and to establish wider markets for these products.
- determine the types of fish processing plants that would be most suitable for development here, and seek ways to attract them to the state.
- consider expanding the services provided to commercial fishermen by the URI Marine Advisory Service in order to promote efficient and environmentally sound fishery practices.

G. Action Agenda Items Related to Demographic Trends:

- energetic industry recruitment efforts directed toward the target industries identified by Harbridge House, with further refinements, should combine with the favorable shift in the composition of the state's population to generate noticeable economic improvement.
- priority investment in job-related education, particularly directed toward non-white youths.
- government-supported demonstration projects to try out more part-time, job-sharing, and innovative schemes to allow more women and youths to become or remain wage earners while holding traditional housewife/student roles, and staying off the unemployment rolls. Also, develop high school work/study programs and encourage innovative work patterns in private industry.
- try to resolve the paradox of high unemployment while many low and semi-skilled jobs go begging. (Greater encouragement of handicapped and institutional populations to provide workforce for needed but low-skill occupations.)

Economic Development

- given the trend of industry to move away from central cities while high unemployment populations (youths and minorities) remain in central cities, emphasize state/business collaborative efforts to establish viable transportation-to-work programs.
- strict enforcement of anti-discrimination in housing and attention to encouraging industry to remain in or move to central city locations.
- state pressure for more federal funding of transit, education, and community services (such as day care for the aged) for dependent sectors of the population.
- ongoing collaborative efforts between state and university — affiliated demographers to maintain up-to-date, detailed state population projections and analyses to intelligently inform economic development planning.
- attempt to determine the impact of migration patterns on the state's work force composition: who migrates and why?
- attempt to evaluate the effect of retirement age on economic vitality and stability.

H. Action Agenda Items Related to Waste Disposal:

- Large industrial firms should locate in areas which have existing sewer service and public water.
- Rhode Island should continue to jointly pursue, with the other New England states, a regional approach to hazardous waste disposal. Meanwhile, possible sites within this state should be analyzed.
- State and local efforts to assist businesses in complying with pretreatment standards should continue and be expanded. Assisting business currently in Rhode Island should be of priority concern.
- The state's 208 plan has determined that in many Rhode Island communities user charges do not reflect the actual costs of operating and maintaining sewage treatment facilities. The result is often inadequate funding and poorly operated facilities. The 208 plan recommends enactment of a state law requiring establishment of separate accounts for operation and maintenance costs funded from user charges for all publicly-owned treatment facilities. This recommendation should be implemented.

02-421 STATE HOUSING PLAN

02-421-01 Introduction

State Guide Plan Element 421, State Housing Plan, was approved by the State Planning Council on March 8, 1979, and is scheduled to be updated in the fourth quarter of the calendar year 1984

The element establishes a set of state-level goals and policies for housing. It also analyzes the major housing problems in the state and recommends actions to all levels of government, and to public and private housing interests

The element is made up of five parts:

- Part 421.1 discusses federal, regional and local housing goals and policies, and sets forth housing goals and policies for the State of Rhode Island
- Part 421.2 presents a broad-ranging portrait of the context within which housing planning occurs in the state, including the planning structure, the state's geography, demography, socio-economic characteristics, and infrastructure. This part also profiles the state's six housing market areas.
- Part 421.3 discusses the nine major housing problems in the state, and presents recommendations for action to all levels of government and to public and private housing interests.
- Part 421.4 describes the two mechanisms by which progress toward housing goals and objectives will be monitored and evaluated: the state Intergovernmental Review Process established in accordance with Presidential Executive Order Number 12372 and the Governor's Executive Order 83-11 (formerly called the A-95 Review Process), and the proposed State Housing Information System.
- Part 421.5 sets forth preliminary criteria and a methodology for allocating federal and state housing assistance among the six housing market areas

02-421-02 Issues Addressed

The issues are presented in Part 421.3, Housing Problems and Recommendations for Action, of the element. Each issue is followed by a detailed discussion. The following listing identifies the nine issues and the pages on which the detailed discussion may be found

	<u>Pages</u>
1 Deteriorating neighborhoods, and substandard, deteriorating and abandoned housing	3 1 to 3 4
2. Involuntary concentration of black and other minority households	3.12 to 3 15
3 Rapid rise in home prices relative to income	3 21 to 3 24

		Housing I
4	Rapid rise in housing operating costs relative to income:	3.29 to 3 30
5.	Shortage of decent affordable housing for low- and moderate-income families with children:	3 36 to 3.40(a)
6.	Displacement of low- and moderate-income households:	3 45 to 3 49
7.	Inappropriate residential development patterns and laws	3 56 to 3 59(a)
8.	Current and anticipated housing problems related to demographic changes:	3 65 to 3 74
9.	Ineffective housing planning, housing problem-solving, and growth management:	3.79 to 3 81

02-421-03 Goals and Policies

Part 421.1 sets forth housing goals and policies for the state

A Goals

The housing goals listed below are discussed in detail on pages 1.9 to 1 25 They re derived from legislative findings contained in Rhode Island statutes dating from 1935 to 1976, two elements of the State Guide Plan (Element 110, Goals and Policies and Element 120, State Land Use Policies and Plan) and general housing goals declared by several Rhode Island municipalities. The goals follow

To MAXIMIZE, for all Rhode Island households, regardless of age, ethnic background, income, race, size, or sex of household head

- 1 The QUALITY of their residential structures and neighborhoods, in terms of comfort, health, safety, stability, and individuality of character;
- 2 The ACCESSIBILITY of their residential structures and neighborhoods to employment and commercial centers, and to community facilities and services, both public and private;
- 3 The VARIETY of housing cost, size, location, and design, to meet the broad range of needs and desires of homeowners and renters,
4. Their OPPORTUNITIES to obtain quality housing of the size, type, and location they choose;

WITHIN THE CAPACITIES of

- 5 The state's NATURAL RESOURCES of air, land, and water,
6. The state's ENERGY SUPPLIES,
7. The state's EXISTING HOUSING AND HISTORIC RESOURCES,

8. The FISCAL RESOURCES of state and local governments, including FEDERAL ASSISTANCE;
9. The PUBLIC FACILITIES AND SERVICES of state and local governments; and
10. The GENERAL ECONOMY, especially the HOUSING MARKET.

B. Policies

The policies presented below are discussed in detail on pages 126 to 134 of the element. The policies address the state's goals, highlighted in section 02-421-03A., in the context of state governments' abilities and responsibilities: its abilities to pass and enforce laws and to provide financial and technical assistance, and its responsibilities to evaluate and recommend actions by other levels of government and the private sector.

The policies are intimately related to each other. Each housing policy is viewed in the context of the others, and in the context of the state's housing goals. No one policy stands alone, nor is more important than the others.

Following the list of policies, each policy is discussed as to its intent and its relationship to the goals.

The Housing Policies of the State of Rhode Island are:

1. To foster a greater diversity of income, racial, ethnic and employment groups in the state's cities and towns; and to eliminate the involuntary concentration of these groups by vigorous and equitable enforcement of the State Fair Housing Practices Act, and by seeking other, positive, techniques;
2. To assure the safety, health, and comfort of residential structures by vigorous and equitable enforcement of the State Building Code, the State Housing Maintenance and Occupancy Code, the State Fire Safety Code, and related laws and ordinances;
3. To encourage and support the optimum use of the existing housing stock and existing neighborhoods in meeting housing needs;
4. To develop, encourage and support innovative techniques which make decent housing affordable for all low- and moderate-income households, while minimizing undesirable side effects in other segments of the housing market;
5. To encourage and support more efficient use of the state's natural, energy, fiscal and other resources, and public services and facilities in residential structures and in residential development patterns;
6. To encourage and support the optimum production of new housing and new neighborhoods in meeting housing needs;
7. To emphasize and preserve the identity of historic neighborhoods and communities;
8. To encourage and support the rehabilitation of deteriorating neighborhoods and areas, with the minimum disruption of the present population and the character of the area;

9. To encourage and support the optimum location of new housing in terms of its relationships to: (1) transportation, pollution control, water supply, education and other public facilities and services; (2) employment opportunities, and commercial and community services; (3) nearby land uses; and (4) the suitability of the specific site for other land uses, including open space;
10. To encourage and support the protection and improvement of stable neighborhoods and areas;
11. To seek the development, testing and implementation of new and more flexible and effective technologies, techniques, and legal, organizational and institutional structures for housing and neighborhood development, for growth, management, and for housing finance, marketing and maintenance.

02-421-04 Strategies

A strategy has been developed to address each of the nine issues outlined in the element. These strategies and specific recommendations for the federal, state and local governments; the finance, insurance and real estate industries; residential construction industry; community and neighborhood groups and individual citizens; and others are present in Part 421.3 on pages 3.1 and 3.85.

The following material presents each issues' strategy discussion.

A. Deteriorating Neighborhoods, and Substandard, Deteriorating and Abandoned Housing

The appropriate strategy to deal with the problem of deterioration appears to be to encourage public and private investment in deteriorating areas to rehabilitate them, and in declining and stable areas to prevent deterioration. Stability can also be improved through increased homeownership and owner-occupied rentals in these areas, and through increasing the range of income groups living in the urban core.

The deterioration problem also implies the need for better overall planning and coordination of housing and neighborhood development and investment, and improved enforcement of minimum housing codes and other controls in conjunction with increased investment, and improved maintenance by owners and tenants.

This strategy to encourage increased investment and prevent deterioration will be successful only if methods are also developed to remove obstacles to investment.

B. Involuntary Concentration of Black and Other Minority Households

Improving the range of residential choice available to minorities must be accomplished through actions which simultaneously address the social, attitudinal, and economic factors which inhibit choice. Exacting compliance with the spirit as well as the letter of existing civil rights and fair housing laws must become a major priority. In addition, attempts must be made to uncover and alter policies, programs, and practices which have the effect of restricting minority housing opportunities.

The success of all efforts to eliminate discrimination in housing and in other aspects of society, must ultimately hinge on altering public attitudes regarding the urgency and necessity for achieving equal opportunity goals in housing and in other areas. Accordingly an effective education program affecting public perceptions of fair housing issues must be a significant component of any strategy which aims to increase the residential

opportunities available to minorities. In addition to recommendations presented in this section, the recommendation for improving housing opportunities for low and moderate-income families (Section 3-5-4 of the element) are germane, given the overrepresentation of minorities within these income groups.

C. Rapid Rise in Home Prices Relative to Income

The approach needed to stabilize home prices, or at least slow down the increases to the general rate of inflation, appears to be a broad one, addressing all components of cost. Breadth is necessary because no single factor is causing the increase in new-home prices, although land costs seem to be leading the trend.

Reduced increases in new-home prices can be expected to reduce increases in existing-home prices. A "back-to-the-city" trend or a trend toward rehabilitated housing could push up existing-home prices in central cities. Nevertheless, one positive effect might be to take some pressure off suburban land prices. Emphasis on rehabilitation and adaptive reuse of existing non-residential buildings can also reduce pressure for price increases resulting from housing shortages, because reuse of existing structures can usually put housing units "on line" more quickly than new construction.

Housing produced by rapid, economical, more industrialized production processes and techniques can also bring units to the market quickly, and is usually less expensive than that built by conventional methods. However, manufactured housing, particularly the "mobile-home" type, is likely to meet continued resistance from buyers and municipalities.

Strategies oriented toward making housing more affordable for lower-income families, who are losing purchasing power through inflation, appear necessary and desirable. However, approaches which attempt to increase the ability of families to buy homes at present price levels may increase demand and thereby drive prices up further, unless total demand is somehow reduced. The housing market mechanism itself may reduce demand as rising prices force buyers to moderate their expectations for even larger and more convenient homes, although federal tax policies soften the price impact, particularly for higher-income buyers.

Given the complexity of the housing market, and the lack of detailed information at the state and local levels, further government intervention may only make things worse. In fact, existing government-induced distortions (income-tax effects, property-tax effects, subsidy effects, etc.) in the housing market must be assessed and corrected as soon as possible. Some study in this area has already been done by Aaron ((1)), Hartman ((16)), and others, but has yet had little impact on changing government policy.

D. Rapid Rise in Housing Operating Costs Relative to Income

By all estimates the price of energy will continue to escalate throughout the foreseeable future. Faced with this certainty, the strategy for stabilizing home heating and utility costs in Rhode Island must attempt to reduce the level of residential energy consumption by improving the energy efficiency of new and existing dwellings; and to promote, wherever feasible, the substitution of renewable energy sources which exhibit greater long-run cost stability. Overall, conservation is the quickest and lowest cost "source" of new energy. Improvements in home heating efficiency, in particular, can be made relatively rapidly, with small capital investments, and can produce virtually immediate energy savings of up to 25 percent (according to State Energy Office estimates). Moreover, as the price of energy continues to climb, pay-back periods will decrease, making investments in conservation increasingly attractive.

The phenomenal expansion of the solar heating and hot water industry, and the resurgence of interest in wood as an energy source are indicative of widespread consumer attempts to stabilize domestic energy costs by decreasing dependence on higher-priced traditional sources. This expanding demand for alternative energy sources and the rapid response of contractors and firms to develop this new market, demonstrate that the promise of alternative technology is not restricted to the distant future. Low technology systems utilizing renewable energy sources (e.g. sun, wood, wind, tides and dams, etc.) offer great potential for controlling spiralling home energy costs. Despite the low priority presently assigned to them by federal government energy development programs, energy sources of this type can be expected to significantly expand their contribution to the supply of residential energy during the next decade, thus helping to reduce housing operating costs.

Local property taxes are likely to continue to cause increases in housing operating costs in response to increasing costs of, and demand for local public services, unless the burden of financing these services is shifted to some other tax base. Such a shift may be desirable, but is not likely to occur soon. In the interim, efforts can concentrate on making the distribution of the tax burden more equitable.

Efforts to reduce maintenance and repair costs, and insurance costs are likely to have the most benefit if focused on lower-income homeowners, who are least likely to be able to afford even relatively modest cost increases.

E. Shortage of Decent Affordable Housing for Low- and Moderate-Income Families with Children

The strategies and recommendations in Sections 3-3 and 3-4 of this element can make housing more affordable for lower-income families with children as well as for the general population. Those of Sections 3-1 and 3-6 of this element can aid this group in obtaining and keeping decent housing and neighborhoods. In addition, a specific strategy for this group is outlined below.

There are enough large units to meet the needs of large families; the shortage is in the rental category. If large lower-income families could compete effectively in the housing market, then those who currently own their own homes could retain them, and those renters who are willing and able to own a home could buy one. Increased homeownership by large families would reduce the shortage of large rental-units somewhat (by reducing demand, rather than increasing supply). An increase in homeownership among this group would be desirable both from the families' point of view, and from that of the communities: the families would be more motivated to care about their homes and neighborhoods, and the communities would benefit from the resulting increase in stability and neighborhood quality.

This renter-to-owner conversion strategy cannot meet the full lower-income need, in part because many families with children are unwilling or unable to take on the responsibilities of homeownership.

If lower-income large families who continue to rent could compete effectively, the supply of decent, affordable large rental units would expand. This expansion could occur both by the reconversion of subdivided older homes to their original large-unit layouts, and by the construction of new rental-units.

The reconversion approach would have the desirable long-term effect of aiding in the restoration of many older neighborhoods to their original, less dense character, and

would reduce overcrowding. The reduction in the number of low-cost units, and the displacement of some families are disadvantages of this approach. Therefore, new construction is needed to offset these negative effects, and would also serve to expand housing opportunities in communities where lower-income workers are employed, but cannot now obtain housing. The obvious disadvantage of attempting to construct new low-cost units is that local government and resident resistance has been, and will probably continue to be, strong.

F. Displacement of Low- and Moderate-Income Households

Anti-displacement strategies must be carefully attuned to neighborhood conditions if they are to achieve the necessary balance between preserving housing opportunities for existing residents and encouraging the flow of new investment capital into stagnant or declining neighborhoods. A prerequisite to successful strategies will be a clearer understanding of and appreciation for the subtle perceptual forces which underlie the changeable fortunes of neighborhoods. Development of monitoring mechanisms sensitive to these "intangible" factors, such as market and resident confidence, and improvements in communication between local officials, market professionals, and neighborhood representatives will be essential if areas susceptible to "excess demand" are to be identified before a displacement problem is manifest.

Strategies to prevent displacement should be individualistic, localized, and flexible to reflect the variety and dynamism of neighborhood conditions. Approaches beneficial in one instance may prove counter-productive in other neighborhoods. Anti-displacement strategies should also stress anticipatory, rather than reactive, actions in order to preserve housing opportunities for low- and moderate-income residents before rising property values and rents drive them from their neighborhoods.

The goal of anti-displacement strategies should be, in general, to improve the ability of low- and moderate-income households to effectively compete in a housing sub-market in which costs are rapidly escalating. Rental assistance programs should be used to provide lower-income households with the additional economic leverage needed to compete with more affluent new-comers.

Assisting low- and moderate-income households to become homeowners should also be stressed as an important means of preventing displacement. Homeownership assistance may be the only option available to moderate income households whose incomes are just slightly above the cut-offs for rental assistance eligibility. In addition to preventing displacement, improving the ability of lower-income households to be homeowners has other benefits for the community, such as increasing the percentage of owner-occupancy. Programs of homeownership assistance should include education in household budgeting and home maintenance for first-time home buyers.

Attempts to mitigate the impact of excess demand may be advisable in some situations. Direct control of rent escalation (by requiring rent increases to be justified by increases in operating expenses or capital outlays for property improvements) should be studied as a means of preventing speculative increases in housing costs. However, if adopted, rent controls must be precisely and judiciously applied to avoid aggravating other housing problems.

Innovative approaches to the logistics of rehabilitation will also be required if existing tenants are to be accommodated while rehabilitation activities proceed. Extension of present statutory relocation assistance requirements to include privately-sponsored construction activities would provide a needed inducement for developers to accommodate existing residents during (and subsequent to) the rehabilitation process.

Displacement which is caused by property acquisition for a publicly sponsored or sanctioned project (such as highway construction or utility right-of-way acquisition) is unavoidable, provided the public need for the property is adequately demonstrated. Strategies in these cases should seek to insure that affected residents are afforded every opportunity to participate in the planning and decision-making processes which determine the need for and location of new public facilities, that they are accorded full protection of existing statutory procedures for land acquisition; and that they are adequately assisted in finding suitable replacement housing.

G Inappropriate Residential Development Patterns and Laws

Strategies to avoid inappropriate residential development must be integral components of a comprehensive, cooperative state, local, and private sector effort to encourage prudent resource-use and discourage inappropriate development of all types. This effort implies making improvements to the present procedures and processes which govern the siting and scheduling of development. An essential first step must be revision and modernization of the existing legal framework upon which development controls are based.

Local governments must continue to exercise primary responsibility for the vast majority of residential (and other) development decisions which are clearly of local concern. In order to effectively discharge this responsibility, their authority over local land use issues must be unequivocally and emphatically defined in the law. In addition, they must be given expanded powers and modern methods to achieve their development goals. State government, for its part, must assume an effective role in defining and responding to development issues which are of statewide concern.

Making development more reflective of natural features and land capability should be a major goal of redesigning development controls. Readily available information on land capability and physical characteristics should be incorporated into the process used for determining acceptable uses for various land areas. Use of marginal, hazardous, or fragile lands for residential development should be regarded as ill-advised and unnecessary given the adequate supply of suitable land.

The potential for inappropriate development may also be reduced through improving coordination between development planning and capital investment programming. The mutually supportive relationship between development and infrastructure (such as highways, public water and sewerage facilities, and mass transit service) must be recognized and utilized as a tool to achieve development goals while holding capital and service costs to a minimum.

Revision of present development regulations should also seek to provide developers with greater flexibility in meeting specified requirements. Development standards should emphasize controlling the impacts and effects of development, rather than rigidly prescribing the form and configuration development must take (emphasize effective performance rather than superficial conformance). Specific standards governing the land, energy and resource efficiency of development need to be developed and implemented.

H Current and Anticipated Housing Problems Related to Demographic Changes

In light of the prospect of a continued housing shortage into the 1980's and shifts in the types and sizes of units demanded, a coordinated and detailed housing planning and programming mechanism involving all levels of government and interested public and private organizations is necessary.

In particular, such a mechanism is needed to realize the housing production objectives presented in Table 421-3(6) of this element. In order to be consistent with the housing goals and policies, these objectives should be met by an optimum mix of rehabilitation of existing housing units, conversion/merging of existing units, adaptive reuse of existing non-residential structures, and new construction. Estimating this optimum mix will require a housing-planning information base, developed as the result of a major cooperative information-gathering and information-sharing effort between government and the private sector.

While market forces will clearly take the major role in determining how and where these units will be provided, early, open, and frequent communication and cooperation among the diverse interests involved in housing will improve the changes that the state's housing demand will be met as swiftly as possible, and in a way consistent with the maximum long-range well-being of all of Rhode Island's present and future residents.

Constant and open communication and cooperation among the various levels of government and public and private organizations is also necessary in the geographic and programmatic allocation of housing assistance. A more coordinated approach will greatly improve the chances that those segments of the population which are unable to effectively compete in the housing market will receive the housing assistance they need, where they need it, in the most timely, effective and equitable manner possible, consistent with long-range development goals and policies.

I. Ineffective Housing Planning, Housing Problem-Solving, and Growth Management

Improving the effectiveness of housing planning and problem-solving will require that the processes be redesigned to increase coordination among the various private market actors and public agencies which have an interest in housing. Improving communication between public officials and private housing developers will also be essential if the expeditious and economical production of housing is to be realized. Arresting the trends toward ever-changing federal program designs and ever more-complex program regulations would also be a significant step towards improving the effectiveness of planning and problem-solving efforts.

Obtaining the cooperation of local governments in determining a consistent and accurate assessment of housing needs, and the optimum allocation of housing assistance to effectively meet those needs, will also be a critical element in any strategy to improve the housing planning and problem-solving process.

Reductions in the complexity and duplication of the housing proposal review process and the permit approval process can be achieved by eliminating unnecessary procedures, by combining application processes, by consolidating required public participation procedures (meetings, hearings, etc.), and by providing technical assistance to developers in following procedures correctly.

02-610 RHODE ISLAND TRANSPORTATION PLAN - 1990

02-610-01 Introduction

State Guide Plan Element 610, Rhode Island Transportation Plan-1990, was originally approved by the State Planning Council on December 30, 1974 and amended on September 10, 1981 and June 14, 1984. This element will be updated in the form of the Ground Transportation Plan which is scheduled for completion in the fourth quarter of calendar year 1985.

This element is the state's long-range ground transportation plan. It presents a general description and discussion of recommended transportation systems and outlines the physical state, performance, capacities, and capital costs for all major transportation modes in the state that are:

1. publicly operated or financially supported;
2. anticipated to require public support to insure the future public service provided by the system; or
3. anticipated to have a public need or an important interaction with other publicly sponsored facilities.

02-610-02 Issues Addressed

Five transportation modes or facilities are presented in Parts II to VII of the element. Each of these issues has a standardized format which covers the following; introduction, design and level of service standards, low and non-capital programs, reasonability testing, development recommendations, and reference data. The five modes and the pages on which the detailed discussion may be found are:

	<u>Pages</u>
1. highways	II-1 to II-27
2. urban public transportation (bus, commuter rail, and other)	III-1 to III-20
3. marine terminals, waterways and harbors	V-1 to V-5
4. parking facilities	II-1 to II-6
5. intercity terminals and related facilities	VII-1 to VII-5

02-610-03 Goals and Policies

The objectives of this element are to:

- a. Bring together all elements of the State Guide Plan which are primarily concerned with transportation into a single plan which consolidates, updates, and summarizes all proposals for major components of the state's transportation systems through 1990.
- b. Quantify the state's existing and future planned transportation systems in terms of a set of consistent measures that correspond to nationwide measures.
- c. Provide the executive and legislative branches of state government with information upon which to base future state transportation policies and programs.

- d. Assure a maximum return for captial expenditures made by the state
- e. Contribute to the socio-economic base of the state
- f. Aid in developing appropriate recommendations regarding state matching funds for federal-aid program authorizations
- g. Evaluate alternate future transportation systems in terms of performance measures at the state and local levels
- h. Contribute to the improvement of the overall transportation planning process by encouraging the folowing activities
 - 1) The continued coordination of comprehensive multi-modal planning through the Statewide Planning Program and the State Planning Council.
 - 2) The development of short and long-range development plans and expenditure programs incorporating the higher priority elements of this plan.
 - 3) The development of systematic data management system for the continued recording and reporting of information on the state's transportation systems
 - 4) The improvement of the safety and convenience of the total transportation system of the state

02-610-04 Strategies

Tables 010-610(1) and 010-610(2) contain summaries of all the transportation development costs (Table 010-610(1)) and cost percentages (Table 010-610(2)) planned in this element in constant 1971 dollars

A Highways

The proposed highway developments account for about 88.6 percent of the total transportation costs. The federal-aid program supports about 53.1 percent and the private sector about 22.2 percent (75.3 percent total) of the total highway system. The state supports only about 16.5 percent of the total highway cost. The interstate system is programmed for a total of \$195.5 million (21.3 percent of the total highway costs) of which \$166.6 million is for new construction. This new construction will complete the state's interstate program (substitution projects for I-84 and I-895) as originally planned in 1965 and as deemed necessary to support the economy of the state. The other arterial and collector highway functional classifications costs (\$420.0 million) consist of the bulk of federal aid (\$294.3 million) and state matching funds (\$125.7 million) of the total highway costs. It should be noted that about 83.5 percent (\$350.5 million) of this cost is allocated to improving the existing system. The local street and road system accounts for the remaining 32.9 percent of the total highway cost. The municipalities are expected to provide 24.8 percent, and the private sector to provide 67.6 percent, for a total of 92.4 percent of the entire cost of this system.

The cost of the total highway system - 88.6 percent of the total transportation system - may appear to be disproportionate. However, it must be realized the highway system supports all of the intra-interstate auto, trucking, taxi and bus (including transit, arter, and school modes) and the change-of-mode traffic for the intra-interstate rail (including commuter rail transit) and all other modes of transportation.

TABLE 010-610(1)

SUMMARY - COST OF RECOMMENDED TRANSPORTATION DEVELOPMENTS (MILLIONS)
IN CONSTANT 1971 DOLLARS

TRANSPORTATION MODE AND TYPE IMPROVEMENTS	SHORT RANGE 1975-1980	LONG RANGE 1980-1990	TOTAL ESTIMATED COST SOURCE OF FUNDS				
			ESTIMATES	FEDERAL	STATE	MUNICIPAL	PRIVATE
<u>HIGHWAYS</u>	<u>\$312.4</u>	<u>\$605.3</u>	<u>\$917.7</u>	<u>\$487.0</u>	<u>\$151.4</u>	<u>\$75.0</u>	<u>\$204.3</u>
Interstate	65.1	130.4	195.5	175.9	19.6	0	0
Other arterials and collectors	140.8	279.2	420.0	294.3	125.7	0	0
Local streets and roads	106.5	195.7	302.2	16.8	6.1	75.0	204.3
<u>URBAN PUBLIC TRANSPORTATION.</u>	<u>22.6</u>	<u>23.7</u>	<u>46.3</u>	<u>36.5</u>	<u>9.8</u>	<u>0</u>	<u>0</u>
Bus transit	8.8	11.6	20.4	16.3	4.1	0	0
Commuter rail transit	8.4	12.1	20.5	16.4	4.1	0	0
Fringe parking	5.4	0	5.4	3.8	1.6	0	0
AIRPORTS*	12.2	9.4	21.6	8.6	9.0	0	4.0
MARINE FACILITIES	8.0	6.9	14.9	0	0	14.9	0
OFF-STREET CBD PARKING	0.2	0	0.2	0	0	0.1	0.1
INTERCITY BUS FACILITIES	0	0	0	0	0	0	0
INTERCITY RAIL FACILITIES	33.5	1.3	34.8	0.6	34.2	0	0
INTERCITY TRUCKING FACILITIES	0	0	0	0	0	0	0
TOTALS	\$388.9	\$646.6	\$1,035.5	\$532.7	\$204.4	\$90.0	\$208.4

*Note: Material dealing with airports was deleted from this plan by an amendment adopted on June 14, 1984.

TABLE 010-610(2)

SUMMARY - PERCENT OF COST AND SOURCE OF FUNDS FOR TRANSPORTATION DEVELOPMENTS

TRANSPORTATION MODE AND TYPE IMPROVEMENTS	SHORT RANGE 1975-1980	LONG RANGE 1980-1990	TOTAL COST ESTIMATES	ESTIMATED SOURCE OF FUNDS			
				FEDERAL	STATE	MUNICIPAL	PRIVATE
<u>HIGHWAYS</u>	<u>34.0%</u>	<u>66.0%</u>	<u>88.6%</u>	<u>53.1%</u>	<u>16.5%</u>	<u>8.2%</u>	<u>22.2%</u>
Interstate	20.8	21.6	21.3	36.1	13.0	0	0
Other arterials and collectors	45.1	46.1	45.8	60.4	83.0	0	0
Local streets and roads	34.1	32.3	32.9	3.5	4.0	100.0	100.0
<u>URBAN PUBLIC TRANSPORTATION:</u>	<u>48.8</u>	<u>51.2</u>	<u>4.5</u>	<u>78.8</u>	<u>21.2</u>	<u>0</u>	<u>0</u>
Bus transit	38.9	48.9	44.0	44.7	41.8	0	0
Commuter rail transit	37.2	51.1	44.3	44.9	41.8	0	0
Fringe parking	23.9	0	11.7	10.4	16.4	0	0
<u>AIRPORTS:*</u>	<u>56.5</u>	<u>43.5</u>	<u>2.1</u>	<u>39.8</u>	<u>41.7</u>	<u>0</u>	<u>18.5</u>
<u>MARINE FACILITIES:</u>	<u>53.7</u>	<u>46.3</u>	<u>1.4</u>	<u>0</u>	<u>0</u>	<u>100.0</u>	<u>0</u>
<u>OFF-STREET CBD PARKING:</u>	<u>100.0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>50.0</u>	<u>50.0</u>
<u>INTERCITY BUS FACILITIES:</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>INTERCITY RAIL FACILITIES:</u>	<u>96.3</u>	<u>3.7</u>	<u>3.4</u>	<u>1.7</u>	<u>98.3</u>	<u>0</u>	<u>0</u>
<u>INTERCITY TRUCKING FACILITIES:</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
TOTALS	37.6%	62.4%	100.0%	51.5%	19.7%	8.7%	20.1%

*Note: Material dealing with airports was deleted from this plan by an amendment adopted June 14, 1984.

B. Urban Public Transportation

The urban public transportation system planned in this element consists of the bus transit, including fringe parking facilities, and the commuter rail transit modes. It accounts for about 4.5 percent of total transportation development cost of which the federal and state governments share on a ratio of about 80 to 20 percent, respectively. These proposed costs are shared about equally - \$25.8 million for bus transit (including the fringe parking facilities) and \$20.5 million for the commuter rail transit modes. However, in comparing these development costs or percentages to the total transportation system or to any of the other transportation modes (especially highways), it must be realized that these costs represent a completely new commuter rail transit system and a 30 to 40 percent increase in the capital development of the bus transit system.

It is anticipated that the elderly and other special group transportation services currently being provided by the Rhode Island Departments of Mental Health, Retardation, and Hospitals and Community Affairs, Division of Aging (Department of Elderly Affairs), and other local agencies, will be incorporated into and operated by the Rhode Island Public Transit Authority (RIPTA).

C. Marine Terminals, Waterways and Harbors

The marine terminals, waterways, and harbor facilities costs represent only 1.4 percent of the total transportation costs and are supported entirely by the municipalities, principally by the City of Providence. This is considered to be a minimum development requirement. However, water transportation facilities and systems are not supported by federal-aid programs and the private sector or the local or state governments cannot afford to develop them to their full potential.

D. Parking Facilities

The parking facilities as outlined in this element represent less than 0.1 percent of the total transportation system development costs. However, except for the fringe parking discussed above, only CBD public off-street parking facilities are included in this part of the plan. The only publicly-supported facility recommended consists of a municipal facility (about 1,000 spaces) to be constructed within a proposed new I-95 CBD interchange.

E. Intercity Terminals and Related Facilities

The intercity terminals and related facilities recommended developments contained in the element involved only the intercity rail system. This cost accounts for only about 3.4 percent of the total transportation system costs. It consists principally of the acquisition of the Penn-Central Railroad mainline right-of-way, trackage, and CBD terminal facility.

The Federal Railroad Administration in May of 1981 completed the Final Environmental Impact Statement for the Providence, Rhode Island rail and highway improvements. This report recommends that the preferred action should be Alternative D, Rail Relocation and Construction of a new station plus Civic Center Interchange. This recommended action has been approved and relocation has become a reality, so that the present CBD terminal (existing Providence Union Station Complex) will no longer function as an intercity terminal. In addition, the concept of using the Providence Union Station Terminal as an inter-modal facility which has been recommended in previous guide plans is no longer a viable alternative. The justification for relocation and the benefits and

Disbenefits of using the Providence Union Station as an intermodal facility are discussed in the subject Environmental Impact Statement and in a series of technical papers published by the Office of State Planning.

F. Summary

It may appear at the first glance at Tables 010-610(1) and 010-610(2) and other parts of the element, that an integrated, intermodal transportation system has not been considered or recommended. However, this is not the case. The element emphasizes:

- a) Limitations of construction of highways or new locations to those few sections needed to complete an interconnected radial and circumferential system. The highway network proposed in the element is substantially reduced from that planned in 1965. In order to accomplish this objective, the recommended plan does call for the completion of the interstate system as revised in 1968, i.e. the completion of the links by-passing the Providence-Pawtucket-Warwick urbanized areas to the west (I-295) and to the south and east (alternate I-895) and the completion of the last remaining link to the west (I-84).
- b) Extensive improvement of the existing arterial and collector road networks in the state.
- c) An extensive development and improvement of the bus transit mode.
- d) The initiation of an entirely new commuter rail transit system.
- e) The acquisition and development of another general aviation airport to relieve the capacity limitations and aircraft mix problems of the existing system as forecasted.
- f) An expansion of the Port of Providence - (as limited by municipal funding) - and a proposed environmental clean-up of the Providence and Seekonk Rivers.
- g) The preservation of the Penn-Central Railroad right-of-way and trackage network for future transit and intercity passenger and freight traffic.

02-620 TRANSPORTATION SYSTEM MANAGEMENT PLAN

02-620-01 Introduction

State Guide Plan Element 620, Transportation System Management Plan, was originally approved on June 8, 1978 and amended last on September 15, 1983 by the State Planning Council. This element will also be updated by the Ground Transportation Plan, which is scheduled for completion in the fourth quarter of calendar year 1985.

This element presents the short-range, five to seven year, ground transportation development for the state. It emphasizes changes in the ground transportation network that will improve the efficiency of existing facilities, rather than on major capital investment in new facilities. The scope of planning includes highways, bus transit, para-transit and all other parts of the state's transportation system.

02-620-01 Issues Addressed

Like the Long-range Transportation Element (610) of the State Guide Plan, this element addresses various transportation modes in detail. These transportation modes follow and are discussed in Part Three of the element on pages 3-1 to 3-121: 1) Highways, 2) Bus Transit, 3) Para-Transit, 4) Commuter Rail Transit, 5) Terminals, and 6) Parking.

These transportation modes are discussed with the intention of

1. ensuring the efficient use of existing road space,
2. reducing vehicle use in congested areas,
3. improving transit service,
4. improving internal transit management efficiency.

02-620-03 Goals and Policies

Part Two of this element sets forth a broad statement of goals and policies to promote a balanced ground transportation system. They were derived from State Guide Plan Element 110, Goals and Policies and the process used therein. Element 110 is summarized in Chapter 02-110 of this document. These goals and policies follow:

GOAL A BALANCED AND INTEGRATED MULTI-MODAL INTRASTATE TRANSPORTATION SYSTEM WHICH PROVIDES EFFICIENT AND ECONOMICAL MOVEMENT BETWEEN COMPONENT PARTS OF THE STATE AND OFFERS MAXIMUM POSSIBLE MOBILITY TO ALL ELEMENTS OF OUR SOCIETY

Policies and Actions

- Provide a variety of transportation modes designed to meet the differing needs of different people, activities, and purposes of travel.
- Evaluate all transportation system and corridor proposals in terms of the cause and effect relationship of those proposals upon social, economic, cultural and natural environmental elements of the total environment.
- Foster, in concert with all levels of government and the private sector, equitable financing for all modes of transportation consistent with needs and requirements of our society.

Short Range Transportation

- Reduce conflicts between transportation systems and other functions by locating transportation facilities at the edges of functional areas.
- Consider transportation requirements in determining the spatial arrangements of land uses, attempt to minimize the need for transportation, consistent with other objectives.
- Obtain a high aesthetic quality in transportation system design by visually relating design and location of facilities to the natural and cultural landscape
- Enact and enforce appropriate transportation safety measures
- Alleviate traffic congestion and reduce travel time between major centers.
- Improve the peak period public transit services to better serve the suburban commuters

GOAL AN IMPROVED INTERSTATE TRANSPORTATION CAPABILITY

Policies and Actions

- Insure that the total transportation needs of the state are considered at the national and state levels, for capital improvements, in the light of environmental and energy source limitations
- Improve high speed rail transportation to Boston, New York, and Washington.
- Expand commercial air service for direct intermediate distance travel.
- Maintain and improve rail freight service to support industrial development

GOAL IMPROVED TRANSPORTATION TERMINAL FACILITIES

Policy and Action

- Maximize the interface between transportation modes by combining terminal and automobile parking facilities.

GOAL EXPANSION OF OPPORTUNITIES FOR PERSONAL DEVELOPMENT

Policy and Action

- Intensify efforts to make more effective use of the talents of those senior citizens and youthful citizens who desire to make this contribution to an improvement of our society.

GOAL: STRIVE FOR A LIVING ENVIRONMENT WHICH FOSTERS A GREATER SENSE OF IDENTITY AND INDIVIDUALITY

Policy and Action

-Provide greater opportunities for economic, geographic and cultural mobility and prevent further concentration of the poor and disadvantaged.

GOAL: REDUCE THE NUMBER OF FAMILIES WITH INCOMES BELOW THE POVERTY LEVEL, AND INCREASE MINIMUM INCOME LEVELS

Policy and Action

-Reduce transportation barriers to employment primarily through expansion and reorientation of public transportation systems.

GOAL: SUSTAIN ECONOMIC GROWTH AT A RATE ADEQUATE TO SUPPORT THE STATE'S POPULATION IN A MANNER CONSISTENT WITH THE STATE'S CHARACTERISTICS, CAPABILITIES, AND ENVIRONMENTAL OBJECTIVES

Policies and Actions

-Provide for required infrastructural facilities in conjunction with the selection of potential industrial sites and commercial centers.

-Expand the markets for the state's products and services through improved communications and transportation facilities.

02-620-04 Strategies

A summary of the recommendations appears in front of this element on pages S-1 to S-4 They are reproduced verbatim below

A Bus Transit

- a. As a minimum objective, maintain the present level of service
- b. Consolidate the Rhode Island Public Transit Authority Providence CBD services at or near a single focal point in order to make the RIPTA collection, distribution, and transfer functions more efficient.
- c. Expand the use of transit planning to analyze user needs, identify potential service areas, evaluate pricing statistics, and identify public transit links between concentrations of unemployed persons and the job market.
- d. Expand the use of transit marketing personnel to formulate marketing strategies which will promote greater transit usage.
- e. Provide interline tickets and transfers between the Rhode Island Public Transit Authority and private carriers, including the commuter rail operator.

Short Range Transportation

- f. Establish in accordance with Title I of the National Mass Transportation Assistance Act of 1974, a reporting system and an accounts and records system as prescribed by the U S Department of Transportation, Urban Mass Transportation Administration.
- g. Install a computerized routing control system and radio dispatch system to improve both fixed-route and demand-responsive operations efficiency, and to facilitate the meshing of the two operations with each other and with the commuter rail system.
- h. Continue to install bus shelters and improve bus stop signing to enhance the quality, comfort and visibility of the public transit system.
- i. Establish pricing policies and strategies for the Rhode Island Public Transit Authority to stimulate commuter and off-peak ridership within the suburban areas to other activity centers to reduce the costs of reverse haul trips for inner-city residents.
- j. Establish with UMTA aid a fare-free demonstration project for the Rhode Island Public Transit Authority, coordinated with the proposed Providence and Pawtucket auto restricted zones to measure the effects of a fare-free policy on transit revenues, ridership and deflected auto usage
- k. Study the feasibility, including affects on costs, operations and administration, of consolidation of all transit modes of operation within the state Department of Transportation
- l. Expand RIPTA bus maintenance facilities on Aquidneck Island to service the RIPTA fleet serving Newport and Washington counties

B. Commuter Rail Transit

- a. Inaugurate a feasibility study of the Providence-Davisville Commuter rail pilot project on the existing Shore Line to provide commuter service to the Providence CBD and reverse haul trips to the developing Quonset Point Technical Park where the Ocean State Manpower Training Center and General Dynamics Electric Boat Fabrication facilities are located
- b. Continue work toward implementing the proposed Providence-Bristol County commuter rail service on the existing rail line on the east shore of Narragansett Bay by initiating detailed planning studies.

C Para-Transit

- a. Consolidate the current fragmented demand responsive operations into one subsystem to provide service to the entire state and to serve as a feeder system to the fixed route users and comuter rail system.
- b. Continue to provide technical and financial assistance, where necessary, to private, non-profit, highly specialized transportation operators serving the needs of severely handicapped persons.
- c. Analyze the taxi industry in order to develop strategies to integrate the

service with the Public Transit Authority.

- d. Continue fringe and car pool parking lots within the major transportation corridors throughout the urbanized area to collect suburban commuters.

D. Parking

- a. Construct fringe and car pool parking lots within the major transportation corridors throughout the urbanized area to collect suburban commuters.

E. Other Non-Capital Intensive Programs

- a. Promote the establishment of a School Bus Pilot Project to study optimal school bus routing and scheduling within the state in an effort to reduce this transportation cost to the state.
- b. Coordinate the proposed Pawtucket ARZ with all transit systems, the Chamber of Commerce, and other interested parties and monitor its effect on the downtown area. Also, evaluate the feasibility of establishing ARZ's in other downtown areas.
- c. Establish, in cooperation with the City of Providence, an auto restricted zone in the downtown area to reduce pollution and traffic congestion.
- d. Establish coordination between RIPTA and the Public Safety Officer in the City of Providence in order to enforce parking and traffic circulation regulations to smooth the flow of traffic and to provide optimal mobility to buses and bus access to designed stops throughout the city.
- e. Study the feasibility of establishing staggered work hours and/or flex-time proposals to smooth peak period demands on all transportation systems in the downtown area.
- f. Continue to promote and improve carpooling and vanpooling programs to reduce transportation energy demand, air pollution and congestion.
- g. Continue to coordinate with the Trail Advisory Committee in the preparation of the proposed bikeway demonstration project for urban areas.
- h. Promote the use of preferential treatment for high occupancy vehicles in order to make more effective use of existing roadways .

F. Highway System

- a. Continue to repair and upgrade the existing state and local highway network to enhance auto and bus travel.
- b. Continue to monitor the highway network for necessary safety improvement requirements to reduce traffic safety hazards.
- c. Continue to monitor traffic flow to identify areas for improved signalization and traffic channelization to reduce auto energy consumption and

improve travel conditions.

- d Promote the implementation of the Local State Cooperative Highway Construction Program (now in the process of being revised) in order that local input into the priority decision-making process will be more fully utilized.

G. Transportation Improvement Program (TIP)

The TIP presents a six-year program of funding transportation projects for federal fiscal years 1984 through 1989. The first two years, 1984 and 1985, comprise the Biennial Element, in which projects must appear to receive individual funding authorization. Projects are listed by funding category. In each funding category, except Urban Mass Transportation, the projects are listed by their rank within the funding category.

For each project, a description and location are given. Also shown are the phase and cost for that phase, by year that the phase is anticipated to be authorized, and the total cost for the six-year period. The three phases are preliminary engineering or design ("P"), right-of-way acquisition ("R"), and construction ("C").

The complete list of over 200 projects can be found in the publication entitled Transportation Improvement Program for the State of Rhode Island (October 1, 1983 to September 30, 1989) approved as an amendment to this element by the State Planning Council on September 15, 1983.

02-640 STATE AIRPORT SYSTEM PLAN

02-640-01 Introduction

State Guide Plan Element 640, State Airport System Plan, was approved by the State Planning Council on June 14, 1984, and is scheduled to be updated no later than the second quarter of calendar year 1989.

The purpose of this element is to develop policies and recommendations for Rhode Island's state airport system for the next twenty years. The system includes six state-owned airports (the air carrier airport, T.F. Green and five general aviation airports) and a heliport (see Figure 010-640(1)).

02-640-02 Issues Addressed

The issues are presented in Parts 640.5, Airport Roles and 640.6, Analysis of Issues, of the element. These issues are:

1. roles of individual airports within the state system;
2. need for facilities, such as runways, aprons, and operations buildings;
3. financing of the airport system, including both operating and capital costs;
4. the extent of state involvement in airports; and
5. state policy regarding airport land.

The material that follows is a summary discussion of these issues. The full text for each issue can be found on pages 5.1 to 5.13 and 6.1 to 6.60 of the element.

A. Airport Roles

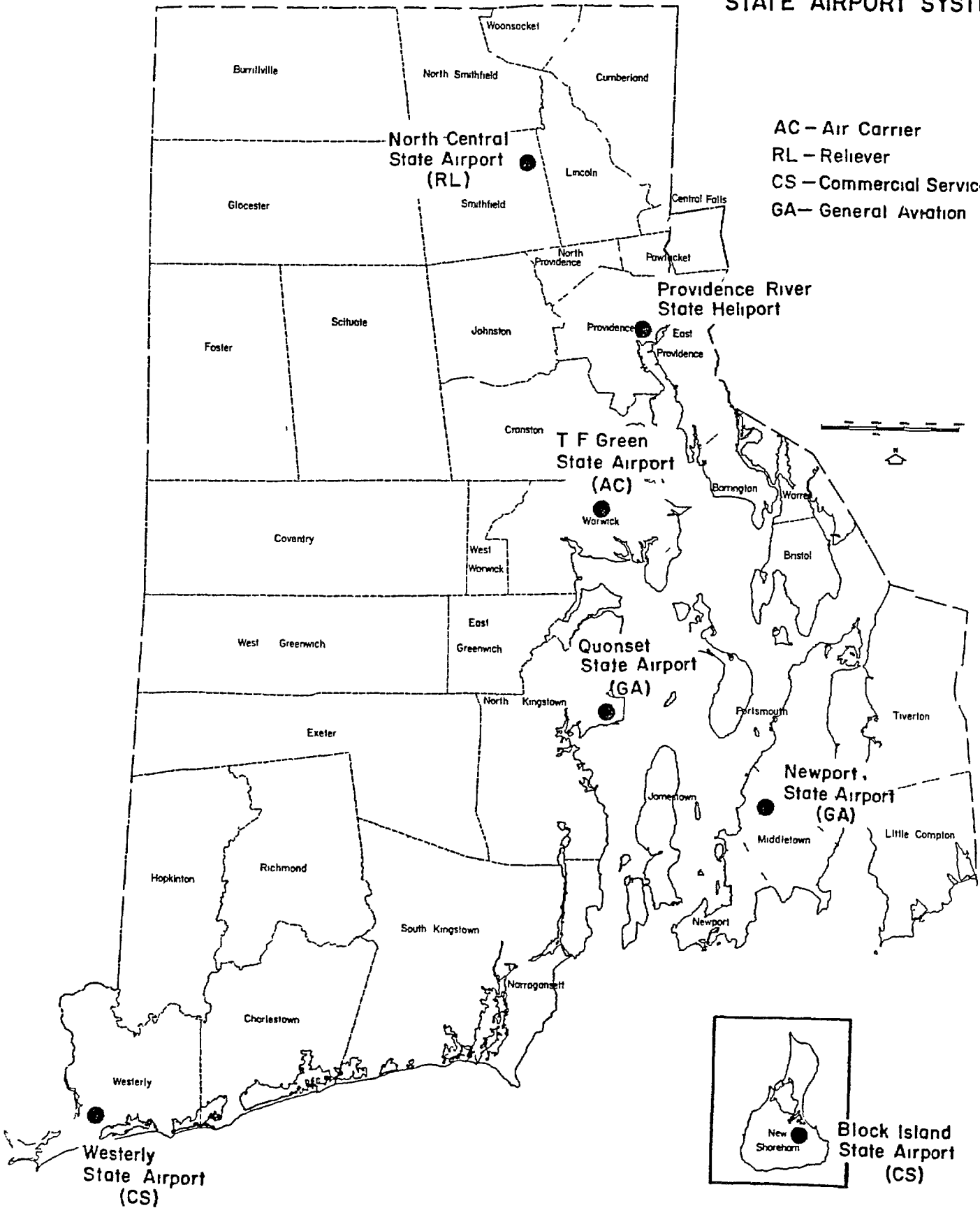
T.F. Green, the only air carrier airport, is classified by FAA as a "primary" (relatively busy) commercial service airport providing "medium range" (between 500 and 1,500 miles) service. Past studies done in Rhode Island justify the continuation of this role. T.F. Green has been found to have a strong market for medium and long range air carrier service.

General aviation service is provided by all of the state airports. At T.F. Green, general aviation operations actually far outnumber air carrier operations. The airfield is seen as being capable of handling forecasted operations until at least 1995. North Central now serves as a reliever for general aviation at T.F. Green. Quonset could become an additional reliever in the future. It is the next logical choice given its location and facilities; the 8,000-foot runway puts it in the transport design category. Quonset also has an important military role, as the base for two National Guard units.

The other three general aviation airports (Block Island, Newport, and Westerly) provide scheduled commercial service, although Newport's is too recent to be reflected in FAA's FY 1984 classifications. In terms of airport design category, Block Island and Newport are at the lowest level, basic utility. Westerly, like North Central, is in the general utility category, meaning that it can serve more types of airplanes, including those with faster landing speeds.

FIGURE OIO-640(1)

RHODE ISLAND
STATE AIRPORT SYSTEM



The brief analysis in the plan does not indicate an overwhelming case for upgrading the design category of any of the airports. This does not mean that no runway extensions or other modifications are needed; e.g., a new or a longer runway might be justified at Block Island for safety reasons. No new airports are needed to serve general aviation demand, however.

B. Facility Needs

Facility needs are reviewed in terms of the major kinds of facilities: runways (capacity, length, and orientation), taxiways, aprons and hangars, airport buildings (for operations and emergency vehicle garaging), airport circulation and parking, and airport access.

The only runway capacity problem, based on these forecasts, is the one mentioned above, for T.F. Green in the 1995-2005 time period. Block Island has a less than optimum runway orientation.

Taxiways need to be built or altered at most of the airports. Block Island and North Central seem to have the greatest needs.

All of the general aviation airports show a need for more hangar space, especially Quonset. Insufficient apron space appears to be a problem at North Central and Block Island.

Operations buildings and garages are a universal need at the airports. T.F. Green is slated for a terminal area study to address short-range and long-range requirements. Block Island, Newport, and Westerly have totally obsolete operations buildings. Those at North Central and Quonset need rehabilitation. Because of garage location and design, the emergency vehicles at Newport, North Central, and Westerly do not have easy access to the airfield.

Auto parking and circulation needs have been identified at Block Island, Westerly, and T.F. Green.

C. Financing

Financing is discussed in terms of both capital and operating costs. On the capital side, a federal funding program has been authorized through 1987, with money earmarked for various purposes. It is provided on a matching basis (ninety percent federal for many types of development). State bonds and appropriations are used as the match.

On the operating side, recent figures are shown for the state airports' costs and revenue collections. The ratio of revenue to expenditures has been falling. Revenue has been hurt by economic conditions, but the fee structure also needs to be examined. This is now being done through a new Airport Properties Committee within the Rhode Island Department of Transportation.

D. State Involvement

State involvement in the airport system has a long history. Four airports were developed by the state from the 1930s through the 1960s, and two airports (Quonset and Westerly) were turned over to the state after being developed by the Navy. Little municipal involvement has occurred.

Several alternatives are evaluated for the state's future involvement with airports. It is not immediately evident that the situation should change, either by having the state contract for more services, including operation of an entire airport, or by having the state close or sell any of the airports. Each airport has some significance in terms of air service provided, economic development potential, and past investment. T.F. Green has unique importance as an air carrier airport. Quonset has a special military role. Block Island is a critical transportation link and air ambulance base (connecting to Westerly). North Central provides important service as a reliever and a location for 120 based aircraft. Newport serves general aviation in that part of the state.

E. Airport Land

Airport land, its acquisition and disposal, is another policy issue for the state. The plan finds that most of the airports do not have excess land to dispose of. Quonset, especially, has little area for landside airport development. North Central and Westerly, over the years, have turned over substantial land for industrial development and now have little left for expansion or buffering.

Several airports may have land acquisition needs in the future. Block Island would need land if the runway were extended or a new one built. Block Island, T.F. Green, and Westerly could use land or easements off runway ends for prevention of obstructions. T.F. Green terminal and cargo area expansion could be hindered by present land limitations.

02-640-03 Objectives

The objectives of this element are set forth in Chapter 640.7 on page 7.1, in broad terms. The objectives of the state airport system are as follows:

- provision of air transportation facilities and services for the public, at a level needed to meet travel demand, to complement other modes of transportation, and to assure safe and convenient operations;
- operation in an efficient and cost-effective manner, considering limited state resources;
- operation in a manner that is environmentally acceptable and that is as compatible as possible with the surrounding community;
- contribution to the state's economy, in terms of facilitating goods movement, offering convenient service for business and tourist passenger travel by commercial or private aircraft, enhancing the attractiveness of industrial sites, and supporting the tourist industry; and
- provision of air transportation facilities and services for the Rhode Island National Guard.

02-640-04 Strategies

The material that follows is a summary discussion of the recommendations contained in this element of the State Guide Plan. The full text for each recommendation can be found in Chapters 7-2 to 7-8 on pages 7.1 to 7.20.

A. Airport Roles

Airport roles are recommended to continue as they are, except that Newport is projected to receive commercial-service status based on current activity and Quonset is projected to be needed as an additional reliever sometime after 1995, when T.F. Green approaches capacity. Steps are suggested to deal with this potential capacity problem by using reliever airports. The recommended roles and design categories are as follows:

Block Island:	commercial service, basic utility
T.F. Green:	primary commercial service, transport
Newport:	commercial service, basic utility
North Central:	reliever, general utility
Quonset:	general aviation (reliever after 1995), transport
Westerly:	commercial service, general utility

B. Facilities Development

Facilities development recommendations consist of a list of major needs for each airport which are summarized above in Subsection 02-640-02B., and a completed development program for the next twenty years, in three phases (see Table 010-640(1)). The program identifies projects and estimates their cost, by federal and state shares. The short-range (five year) program lists forty projects at all of the airports, totaling over \$17 million. It is intended as a realistic program, not a "needs list." A sizeable amount is for vehicle replacement.

C. Financing

Financing recommendations are among the most significant in the plan. One is to begin providing the state share of most development projects through the operating budget, at an annual appropriations level that would be in the range of \$500,000 - \$750,000. Another idea is to consider financing new operations buildings and garages through the Public Building Authority. The most important recommendation is to increase airport revenue collections so that they come closer to the amount spent for operating costs. One approach is to review and elevate the current fee structure; another is to develop new revenue sources such as an aviation fuel tax dedicated to airport purposes.

D. State Involvement

One recommendation is to study the merits of contractor or lessee-provided services as opposed to direct state-provided services at the airports. It is not recommended that any airports be sold or closed, but the relative importance of the airports is indicated as a guide in making investments and other decisions.

E. Airport Land

One policy is that the state should not dispose of any more airport land. Possible future needs for land acquisition are pointed out in Chapter 640.6-4.

F. Data Collection

The Division of Airports should:

1. continue to strengthen its data collection program, emphasizing the submission of regular activity reports by airport users; and

Table 010-640(1)

Development Program for the State Airport SystemSHORT-RANGE (FIVE-YEAR) PROGRAM, FY 1985-1989

Airport	Project	Estimated cost			
		Federal	State	Total	
T.F. Green	Fuel containment system	\$ 90,000	\$ 10,000	\$ 100,000	
	Security fencing	162,000	18,000	180,000	
	Landfill covering	450,000	50,000	500,000	
	Noise abatement measures: parallel taxiway to RW 5R, fillet at RW 5R-23L and 10-28, modification of RW 5L-23R, reverse thrust info. program	140,000	35,000	175,000	
	Field lighting and controls	270,000	30,000	300,000	
	Terminal expansion/renovation	2,000,000	3,000,000	5,000,000	
	Pavement strengthening	450,000	50,000	500,000	
	Terminal apron expansion	900,000	100,000	1,000,000	
	Radio communications and TV security equipment	90,000	10,000	100,000	
	Taxiway rehabilitation, signage, and circuitry	585,000	65,000	650,000	
	Perimeter security road (part)	162,000	18,000	180,000	
	Light twin aircraft	—	150,000	150,000	
	Vehicle replacement-100% state	—	500,000	500,000	
	Vehicle replacement-90% federal	2,160,000	240,000	2,400,000	
	Total		7,459,000	4,276,000	11,735,000
	N. Central	Taxiway, RW 23; taxiway signage	472,500	52,500	525,000
Sewerage, drainage work		—	140,000	140,000	
Safety area, RW 5-23		225,000	25,000	250,000	
Clearing and grubbing		22,500	2,500	25,000	
Taxiway and apron rehabilitation		180,000	20,000	200,000	
Vehicle replacement, 90% federal		247,500	27,500	275,000	
Total		1,147,500	267,500	1,415,000	
Quonset	Electrical system work	270,000	30,000	300,000	
	Visual/navigation aids (REILS, VASI, segmented circle)	—	85,000	85,000	
	RW 16-34 rehabilitation, overlay	405,000	45,000	450,000	
	Operations building-rehabilitation, heating	—	400,000	400,000	
	Garage building	180,000	20,000	200,000	
	Hangar rehabilitation, heating	—	300,000	300,000	
	Taxiway to RW 34-rehabilitation	90,000	10,000	100,000	
	Vehicle replacement, 90.% federal	315,000	35,000	350,000	
Total		1,260,000	925,000	2,185,000	

Airports

Block I.	Utilities (water, sewer, electric)	62,500	62,500	125,000
	Terminal expansion or replacement	25,000	75,000	100,000
	Garage building	90,000	10,000	100,000
	Field wiring	135,000	15,000	150,000
	Safety area RW 28-extension	90,000	10,000	100,000
	Vehicle replacement-90% federal	112,500	12,500	125,000
	Total	515,000	185,000	700,000
Newport	Field lighting and controls	180,000	20,000	200,000
	Drainage work; overlayment of runways and taxiway	360,000	40,000	400,000
	Vehicle replacement, 90% federal	360,000	40,000	400,000
	Total	900,000	100,000	1,000,000
Westerly	Electrical work	58,500	6,500	65,000
	Safety area/obstructions/easements	99,000	11,000	110,000
	Vehicle replacement-90% federal	112,500	12,500	125,000
Total	270,000	30,000	300,000	
Total-	Short-Range Program	\$11,551,500	\$5,783,500	\$ 17,335,000

MEDIUM-RANGE (TEN-YEAR) PROGRAM, FY 1990-1994

<u>Airport</u>	<u>Project</u>	<u>Estimated cost</u>		
		<u>Federal</u>	<u>State</u>	<u>Total</u>
T.F. Green	Perimeter security road (part)	\$ 162,000	\$ 18,000	\$ 180,000
	Conversion of RW 10-28 to taxiway and related projects: taxiway to RW 23L, abandoning taxiway 6 and RW 28 east of RW 23L	90,000	10,000	100,000
	Holding apron, RW 34	216,000	24,000	240,000
	Cargo apron	162,000	18,000	180,000
	Access improvement to cargo area	27,000	3,000	30,000
	Design noise barrier freight building	20,000	5,000	25,000
	Rewiring and overlayment, RW 5L-23R	225,000	25,000	250,000
	Ramp for diverted aircraft	324,000	36,000	360,000
	General aviation area improvements	270,000	30,000	300,000
	Garage building improvements	180,000	20,000	200,000
	Perimeter road and landscaping	90,000	10,000	100,000
	Vehicle replacement-100% state	—	500,000	500,000
	Vehicle replacement-90% federal	2,160,000	240,000	2,400,000
	Future projects to be determined			
Total		3,926,000	939,000	4,865,000

Airports

D. Central	Operations building	—	100,000	100,000
	Garage	90,000	10,000	100,000
	Taxiway, RW 15	225,000	25,000	250,000
	Paving of snow strips	135,000	15,000	150,000
	Future projects to be determined			
	Total	450,000	150,000	600,000
Quonset	Electrical system work	270,000	30,000	300,000
	Rehabilitation, RW 5-23	450,000	50,000	500,000
	Taxiway relocation/rehabilitation, signage	315,000	35,000	350,000
	Ramp repair	270,000	30,000	300,000
	Future projects to be determined			
	Total	1,305,000	145,000	1,450,000
Block I.	Taxiway, RW 28	180,000	20,000	200,000
	Taxiway and apron sealing, taxiway signage	63,000	7,000	70,000
	Apron expansion	90,000	10,000	100,000
	Future projects to be determined			
	Total	333,000	37,000	370,000
Newport	Garage building	135,000	15,000	150,000
	Operations/terminal building	50,000	150,000	200,000
	Taxiway to RW 16	135,000	15,000	150,000
	Taxiway lighting and signage	90,000	10,000	100,000
	Future projects to be determined			
	Total	410,000	190,000	600,000
Westerly	Operations/terminal building and utilities	50,000	150,000	200,000
	Garage building	135,000	15,000	150,000
	Taxiway to RW 25	225,000	25,000	250,000
	Taxiway lighting and signage	180,000	20,000	200,000
	Apron	135,000	15,000	150,000
	Future projects to be determined			
	Total	725,000	225,000	950,000
Total -	Medium-Range Program	\$7,149,000	\$1,686,000	\$8,835,000

LONG-RANGE (TWENTY-YEAR) PROGRAM, FY 1995-2004

<u>Airport</u>	<u>Project</u>	<u>Estimated cost</u>		
		<u>Federal</u>	<u>State</u>	<u>Total</u>
T.F. Green	Removal of Hangar Number 1	—	\$ 100,000	\$ 100,000
	Vehicle replacement-100% state	—	400,000	400,000
	Vehicle replacement-90% federal	\$2,025,000	225,000	2,250,000
	Future projects to be determined			
	Total	2,025,000	725,000	2,750,000
N. Central	Auto parking expansion	—	60,000	60,000
	Apron expansion	135,000	15,000	150,000
	Future projects to be determined			
	Total	135,000	75,000	210,000
Quonset	Seawall repair	—	1,000,000	1,000,000
	Future projects to be determined			
	Total	—	1,000,000	1,000,000
Block I.	Perimeter security fence	135,000	15,000	150,000
	Auto parking expansion	—	80,000	80,000
	Runway extension	180,000	20,000	200,000
	Taxiway, RW 10	180,000	20,000	200,000
	Future projects to be determined			
	Total	495,000	135,000	630,000
Newport	Perimeter security fencing	36,000	4,000	40,000
	Apron expansion	135,000	15,000	150,000
	Taxiway to RW 34	90,000	10,000	100,000
	Entrance road repair	—	25,000	25,000
	Future projects to be determined			
	Total	261,000	54,000	315,000
Westerly	Perimeter security fencing	90,000	10,000	100,000
	RW 14-32 and taxiways overlayment	135,000	15,000	150,000
	Auto parking expansion	—	25,000	25,000
	Apron expansion	270,000	30,000	300,000
	Taxiway lighting installation	180,000	20,000	200,000
	Future projects to be determined			
	Total	675,000	100,000	775,000
Total-	Long-Range Program	\$3,591,000	\$2,089,000	\$5,680,000

2. consider changing its data categories to match the simpler categories used by FAA: itinerant and local, with breakdowns for air carrier, air taxi/commuter, and military. In the air taxi/commuter category, it would be helpful to have a breakdown for scheduled commercial service.

G. Issues for Future Study

The analysis in this Guide Plan Element suggests several issues that deserve further study as part of the continuous airport system planning process. These include:

1. the question of whether airport services should be provided directly by the state or contracted out;
2. a more refined long-range capital development program, with a more rigorous priority-setting system and a more regular schedule for rehabilitation and replacement projects;
3. as more data and socio-economic projections become available, revision of aviation activity forecasts as needed;
4. if warranted by changed conditions, a review of the roles of the individual airports; and
5. continuing coordination of airport master plans, as they are prepared, with the state airport system plan.

02-691 TRANSPORTATION ELEMENT OF THE STATE IMPLEMENTATION PLAN FOR
AIR QUALITY

02-691-01 Introduction

State Guide Plan Element 691, Transportation Element of the State Implementation Plan for Air Quality, was approved by the State Planning Council on June 10, 1982.

This plan element analyzes the nature of the mobile source pollutants that are exceeding national goals, the reduction necessary to meet air quality standards, and the means for achieving emission limitations that will bring the state into attainment. Included in this analysis is an overview of Rhode Island travel characteristics, with emphasis on the mode of transportation used in the work trip.

After the extent of the pollution problem is addressed, the report assesses eighteen control measures deemed to be reasonably available under the Clean Air Act Amendments of 1977. Each measure is analyzed in terms of its feasibility and applicability in Rhode Island. Those measures that are feasible are further analyzed in terms of air quality and energy impacts, cost-effectiveness, advantages, disadvantages, and public acceptability. The recommendations on measures are grouped into three categories: those eliminated from further consideration, those recommended for inclusion in the State Guide Plan, and those measures specifically committed for inclusion in the State Implementation Plan (SIP).

02-691-02 Issues Addressed

Current air quality efforts are concerned with five major air pollutants: total suspended particulates (TSP), sulfur dioxide, carbon monoxide (CO), ozone, and nitrogen dioxide. The Rhode Island Department of Environmental Management (DEM) is responsible for designating areas of the state according to their status in meeting air quality standards for these pollutants. These designations are then submitted to the U. S. Environmental Protection Agency (EPA) for approval. The current designations are shown in Table 010-691(1). The state is classified a nonattainment for three of the pollutants: TSP, CO, and ozone. Current CO and TSP problems are most serious in the city of Providence. For CO, other areas cannot be classified at this time due to a lack of monitoring data. Ozone is a statewide problem, and the entire state is considered to be a nonattainment area.

Two problems, CO and Ozone, are discussed in detail, in Part 691.3, using a standardized format covering: 1) the nature of the pollutant; 2) the air quality standard; 3) reduction needed to meet the standard; and 4) approach for achieving reductions.

	<u>Pages</u>
CO Problem	3.1 to 3.3
Ozone Problem	3.6 to 3.12

02-691-03 Goals and Policies

The goals are presented in Part 691.2 of this element. This part is reproduced verbatim in sections 12-03-01 to 12-03-03.

TABLE 010-691(1)

ATTAINMENT STATUS DESIGNATIONS FOR STATE OF RHODE ISLAND

<u>Pollutant and Designated Area</u>	<u>Does Not Meet Primary Stds</u>	<u>Does Not Meet Secondary Stds</u>	<u>Cannot Be Classified</u>	<u>Better Than National Stds</u>
<u>TOTAL SUSPENDED PARTICULATES</u>				
Providence		X		
Remainder of State				X
<u>SULFUR DIOXIDE</u>				
Statewide				X
<u>CARBON MONOXIDE</u>				
Providence	X	X		
Remainder of State			X	
<u>OZONE</u>				
Statewide	X	X		
<u>NITROGEN DIOXIDE</u>				
Statewide				X
<u>LEAD</u>				
Statewide				X

SOURCE R. I Department of Environmental Management

02.691.02

A Overall Air Quality Goal

Reduce Air Pollution in Rhode Island to meet National Ambient Air Quality Standards and Maintain Air Quality Levels Better than these Standards.

This goal expresses the primary aim of air quality planning and is supported by several pieces of legislation. Amendment XXXVII of the Constitution of Rhode Island reads in part:

it shall be the duty of the general assembly to provide for the conservation of the air, land, water, plant, animal, mineral and other natural resources of the state, and to adopt all means necessary and proper by law to protect the natural environment of the people of the state ...

To fulfill the responsibility for conservation of the air, the general assembly has enacted and maintains the "Rhode Island Clean Air Act". This act sets the following policy for the state to follow:

It is hereby declared to be the public policy in the state of Rhode Island to preserve, protect, and improve the air resources of the state so as to protect the public health, welfare and safety, prevent injury or detriment to life, plant and animal life, physical property and other resources and to foster the comfort and convenience of the state's inhabitants.

In addition to state legislation, federal legislation also promotes air quality. The federal "Clean Air Act", as amended in August, 1978, promotes federal efforts at improving air quality throughout the nation. The major purposes of this title are

- (1) to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of the population;
- (2) to initiate and accelerate a national research and development program to achieve the prevention and control of pollution;
- (3) to provide technical and financial assistance to State and local governments in connection with the development and execution of air pollution and control programs, and
- (4) to encourage and assist the development and operation of regional air pollution control programs

At the time the state submitted its SIP to meet EPA's deadline of December 1982, the state claimed to be in attainment of national air quality standards. It approved the ozone part of the SIP, with its showing of attainment. Since that time, however, both ozone and CO violations have been recorded at air quality monitoring stations, so technically the state is not presently in attainment. Further monitoring and modeling must take place before the state can be shown to be in attainment again.

The legislation previously cited mandates that the residents of Rhode Island have clean air to breathe. Efforts must be continued to improve air quality within the state.

Transportation-Related Air Quality GoalEstablish a Statewide Transportation System that provides for Improved Air Quality.

Both transportation and stationary sources contribute to the air quality problem. When considering the transportation sector the more specific goal shown above is applicable. Nearly all transportation movements result in the emission of air pollutants. These emissions cannot be completely avoided. The transportation system is, however, inefficient in many areas, and emissions can be reduced.

In the past air quality and transportation planning have been separately pursued, sometimes coordinated, many times not. The federal Clean Air Act, as amended in August, 1977, promotes the merging of air quality planning with transportation efforts performed through the "continuing transportation planning process". As a result air quality is now considered along with other aspects in transportation planning. Efforts must focus on reducing air pollutant emissions by increasing the efficiency of the transportation system whenever such efforts are compatible with air quality goals.

C Other Goals

Transportation-related air quality efforts must also consider other factors. In the past planning efforts would strive to achieve only the particular goal of each effort. However, it becomes increasingly evident that a comprehensive approach must be taken. Programs aimed at achieving the goal of one effort may have negative effects on other programs. Therefore, all transportation planning goals must not be counter productive to the attainment and maintenance of air quality standards. Programs that support general transportation in addition to improving air quality should be pursued, and ideally, goals will be integrated to the extent that efforts to achieve certain objectives will complement efforts to meet other objectives as well. However, programs that may have a detrimental effect on one or more of these goals must be seriously considered before implementation.

1. Provide for safe, efficient passenger travel within Rhode Island

Most of the transportation system has been developed in order to allow for personal travel of the residents of the state. The system must be improved to meet demands of the public for more safe, efficient travel. Air quality programs must recognize this passenger travel goal for Rhode Island.

2. Support the efficient movement of goods to industries located within Rhode Island

It is essential to the economy of the state that industries have available safe, efficient methods for moving goods. Any effects on the movement of goods could cause large economic disruptions and declining attractiveness of the state for industrial location. Air quality programs must therefore recognize the need for the movement of goods for economic development.

3. Reduce energy consumption for transportation within Rhode Island

Rhode Island, along with the rest of the country, is facing an energy shortage that will probably last for many years, if not permanently. The public perceives the energy crisis as more of a threat than the air quality problem. However, there is a direct relationship between emission reductions and fuel

consumption and the energy consumed by the transportation system can be reduced to improve air quality. Efforts within the state must focus on shifting trips to more energy-efficient modes of travel, utilizing more energy-efficient vehicles, and reducing the number of vehicle trips

4. Relieve peak passenger vehicle pressure on the state's major highway network leading into the Providence Central Business District

Major routes leading into downtown Providence are presently operating at or near capacity during some periods, causing inefficient movements. This overloading results in higher energy consumption, increased air pollutant emissions, and increased travel time. Air quality programs must recognize efforts to reduce this congestion.

5. Allow for the orderly growth of travel demand within Rhode Island

The population of Rhode Island is expected to increase moderately in the future. Unless the requirement for personal travel can be reduced by improved communication modes, branch servicing, decentralized marketing and other means, an increase in travel demand can be expected proportional to population. This travel demand will have to be accommodated in some way by the transportation system. Air quality programs must allow for this increase.

6. Provide for the efficient use of limited available state fiscal resources

The amount of funds available to finance transportation and air quality programs is not unlimited, and other programs compete for the same funds. Even if federal funds are available, required state matching shares may be difficult to obtain. Air quality programs must therefore use funds efficiently. Programs that are not cost-effective or are extremely costly may have to be delayed or discarded in favor of other state programs not related to air quality.

7. Support other related elements of the State Guide Plan

The State Guide Plan is comprised of a series of functional plans or elements dealing with land use, utility services, transportation, recreation and open space, economic development, housing, historic preservation, and other areas. The Transportation Element of the State Implementation Plan is part of the transportation element of the State Guide Plan and therefore must be consistent with all other elements.

02-691-04 Strategies

Parts 691 4, Assessment of Control Strategies, and 691 5, Recommended Programs, discusses and presents the transportation strategies that were considered and adopted by the state to achieve the needed reductions in air pollution emissions.

Section 02-691-04A below presents a summary discussion of the control strategies that are most relevant to Rhode Island. The full text of each strategy can be found on pages 4 14 to 4 249. Section 02-691-04B below presents a summary of the recommended program. The full text can be found on pages 5.3 to 5 14.

. Assessment of Control Strategies

1. Federal Motor Vehicle Emissions Control Program (FMVECP)

This is a national program that requires new motor vehicles to meet certain air quality emission standards. Extensive emission reductions will occur in Rhode Island due to the FMVECP.

The FMVECP currently has a somewhat negative energy impact as emission controls reduce fuel efficiency, but federal fuel economy standards will negate this problem. The FMVECP also increase repair costs for the consumer. No state administrative costs or implementation efforts are required for the FMVECP.

2. Inspection/Maintenance (I/M)

Emissions from poorly maintained vehicles increase significantly. An automotive I/M program insures that further emission reductions can be obtained in the state. The Rhode Island I/M program is a state-administered, private garage-based program that is combined with Rhode Island's annual safety inspection program.

Since the I/M program assures the proper tuning of vehicles, fuel economy can be expected to increase. Cost-effectiveness in terms of air quality is good. The public generally accepts the need for the I/M program.

3. Fleet Vehicle Controls

Some of the major vehicle fleets in the state are the Rhode Island Public Transit Authority (RIPTA) and other bus fleets, taxicabs, Senior Citizens Transportation Inc. (SCT), other paratransit ("dial-a-ride" type systems), and the state government vehicle fleet. A survey was not made of commercial fleets.

The analysis focused on measuring the benefits of one control measures: a computerized program established to reduce fuel consumption by the 523-vehicle government fleet. This program has positive but small air quality benefits. It will reduce fuel consumption, is cost-effective, is publicly acceptable and has positive travel impacts.

4. Bus Transit Programs

The analysis described several programs by RIPTA: purchase of new buses, transit information and promotion programs, the "Red Token Program", expanding the number of bus shelters, pass systems and route improvements, and park-and-ride lots. By encouraging ridership through these programs, bus transit reduces auto travel and therefore has significant air quality benefits.

Bus transit is beneficial for conserving energy. Ease of implementation and cost-effectiveness are positive despite the high costs associated with developing and maintaining the RIPTA system. Public acceptability and impacts on the state's transportation system are both extremely positive.

5. Commuter Rail Service

The analysis considered the Boston and Maine commuter rail service formerly operated by the Massachusetts Bay Transportation Authority between Providence and Boston. (Amtrak service was omitted since it is not basically a commuter operation and is not subject to the state's control.)

By 1982, emissions of hydrocarbons and nitrogen oxides from the locomotives would slightly exceed those generated from motor vehicle travel that would occur without this commuter service. In other words, this is not a positive air quality measure.

The amount of fuel consumed by the locomotives exceeds that which would be generated by additional motor vehicle travel. The cost of the service was high, and other kinds of commuter service are available from Providence to Boston.

6. Long-Range Transit

The analysis considered two long-range plan recommendations: express bus service from commuter parking lots to downtown Providence, and commuter transit service through the East Bay Corridor. Express bus service has positive though small air quality benefits. In the East Bay Corridor, the most air quality benefits would come from expanding bus service on existing streets.

Cost-effectiveness and ease of implementation of both measures are good. Public acceptability would be favorable, and the impacts on the state's transportation system would be positive.

In assessing the value of these emission reductions, it is important to note that air quality benefits would not be fully achieved before the year 2000. Strategies to reduce air pollution for the TESIP must be completed by 1987 to be in compliance with national standards.

7. Carpool/Vanpool Programs

The analysis includes a program by the Rhode Island Department of Transportation (RIDOT) to revitalize a computerized carpool matching system and to promote employee vanpooling. Both are initially targeted to state employees and would be expanded to large private employers.

These programs have positive but small air quality benefits. Fuel consumption should be reduced. Ease of implementation and cost-effectiveness of the programs are positive although somewhat difficult to determine. Public acceptance and travel impacts are positive.

8. Commuter Parking

The analysis examined the benefits from increased carpooling generated by RIDOT commuter parking lots. (Increased use of bus transit was not included.) Carpool formation as a result of these parking areas does reduce air pollutant emissions, although the reductions are quite small.

The largest benefit of commuter parking is energy conservation. Ease of implementation and cost-effectiveness are very favorable, as are public acceptance and impacts on the state's transportation system.

9. Bicycle Programs

This analysis was primarily concerned with bicycle programs for commuters rather than for recreational riders. It assumed a daily increase in bicycle trips from about 3,900 in 1977 to more than 8,600 in 1987. Possible programs include bikeways, storage facilities, and safety improvements.

The analysis shows that bicycle programs can reduce air pollutant emissions by a small amount. Energy conservation is the largest benefit projected by the analysis. Ease of implementation can vary depending on the specific project. Cost-effectiveness of storage facilities is somewhat less favorable than for some other measures as far as air quality is concerned. Public acceptability and travel impacts are both very favorable.

10 Employer Programs

Employer programs include initiatives that employers in the private sectors can take to encourage ridesharing or the use of bus transit by employees. The analysis discussed carpool matching programs, preferential parking for vehicles with two or more passengers, economic incentives and penalties such as parking fees, carpool publicity programs, a variety of ways to encourage use of bus transit, and company vanpool fleets. The state government would be an ideal sponsor of large-scale employer programs.

Employer programs generally increase carpooling by less than five percent. Air quality benefits of employer programs are positive although small even under the most optimistic conditions. Energy savings are positive. Ease of implementation and cost-effectiveness are positive but can't be determined precisely until the number of employees participating is ascertained. Public acceptability is generally good, although program success involves employee participation rather than simply acceptance.

11 Variable Work Hours

Variable work hours is an alternative to standard work hours whereby employees have different scheduled work hours. The focus of the analysis was on "flextime," where employees choose hours within time spans specified by the company. Flextime spreads rush-hour traffic over longer time periods, thereby reducing traffic congestion, idling and resultant air pollution. Public transportation can also accommodate more riders when peak hours are spread out.

The air quality benefits of variable work hours are small but positive. The energy benefits are positive, since idling is reduced while carpooling tends to increase. Alleviating peak pressure on public transportation can enable the system to carry more commuters. Ease of implementation and cost-effectiveness are both extremely positive. Public acceptance is good.

12 On-Street Parking in Providence

On-street parking restrictions can improve traffic flow during peak-hour periods by making more space available for vehicle movement. These restrictions can also encourage more carpooling, vanpooling, or use of bus transit. The analysis considered the feasibility of placing restrictions on the remaining 366 unmetered and unassigned parking spaces in downtown Providence.

The most optimistic assessment of this measure results in very small air quality benefits. Energy savings are also small. Ease of implementation and cost-effectiveness are positive, since the measure would generate additional revenue for the City of Providence. Merchants and affected businesses might oppose the program. Travel impacts would be slight.

This measure is not very effective as an areawide air quality strategy because so few spaces remain unmetered or unassigned and because a large amount of off-street parking is available. Much greater effect could occur as the supply of off-street parking becomes tighter.

13. Auto Restricted Zones

Auto Restricted Zones (ARZ's) are portions of a city's Central Business District where automobiles are restricted or banned. The analysis considered the ARZ that is planned in Kennedy Plaza, Providence. Air quality may be improved as an ARZ encourages carpooling or the use of bus transit (areawide effects) or reduces congestion (localized effects).

The analysis found that there will be immediate air quality benefits within the ARZ itself, but overall emissions will increase slightly because of congestion in adjacent areas generated by traffic changes. The areawide longer-term outlook is positive in that bus ridership would be encouraged. In the long-range, the ARZ will conserve a small amount of energy. The ARZ should be cost-effective and improve the urban environment. Public acceptability and the long-range travel impacts should be favorable.

14. Traffic Flow Improvements

The use of a traffic control signal system (synchronizing signals) can result in reduced travel times, reduced delays and stops, increased average speed, decreased emissions and energy consumption, and greater safety. The analysis was a case study examining the benefits of a traffic control signal system along Route US-1 between East Greenwich and North Kingstown.

It was found that establishing a traffic control signal system would reduce emissions. Fuel savings would be also recognized. The range of savings, however, depend on the condition of the pre-existing system and on the actual signal improvements in a particular location. Ease of implementation and cost-effectiveness of a traffic control signal system are generally positive. Public acceptance of these projects would be favorable commensurate with the perceived improvements in the movement of traffic. Travel impacts are positive.

15. Other Measures

Four other measures were analyzed: cold start controls, idling controls and truck retrofits, preferential lanes for high occupancy vehicles, and preferential bridge tolls for high occupancy vehicles. These were found to have no positive affect on air pollution, or to be inapplicable in Rhode Island.

B. Recommended Program

Most of the eighteen transportation measures were found to have very small air quality benefits, although they might be important for other reasons such as providing mobility or saving fuel. The three categories of recommendations presented in this element are:

Category I: Measures Eliminated from Further Consideration as Action by the State

Six measures are recommended for elimination from further consideration or action by the state. These are cold start controls, truck retrofits, on-street parking in Providence, exclusive lanes for high-occupancy vehicles, and preferential tolls for high-occupancy vehicles. In general, these measures have small or negligible air quality benefits, difficult problems with implementation, and poor cost-effectiveness. They also have marginal or negative travel impacts and generally poor public acceptance. Some of the measures cannot be considered seriously because of a lack of information.

Category II: Measures for Inclusion in the State Guide Plan

Eight measures are recommended for inclusion in the State Guide Plan: long-range transit, commuter rail service, the Providence ARZ, fleet vehicle controls, bicycle storage facilities, commuter parking, and traffic control signal systems. Also included in the State Guide Plan recommendations are employer programs, variable work hours, and the state's carpool/vanpool program, all under the general heading of "ridesharing programs."

In general, these measures have positive but only small air quality benefits. They were found, however, to be positive in terms of energy savings and travel impacts and reasonable in terms of cost-effectiveness (with the exception of commuter rail). All have varying degrees of public support.

Category III: Measures for the State Implementation Plan

Four measures are recommended for inclusion in the SIP. The FMVECP and I/M are already included, and bus transit programs and a metropolitan bicycle commuter map would be added.

In general, these measures have significant air quality benefits, which can be measured and monitored with relative ease and low cost. The measures have favorable energy impacts, costs, cost-effectiveness in terms of air quality, travel impacts, and public acceptance.

02-710 WATER RESOURCES MANAGEMENT AND WATER QUALITY MANAGEMENT PLANS

02-710-01 Background

The Water Quality element of the State Guide Plan is comprised of several elements consisting of water quality management plans for various river drainage basins. The Water Quality element originally consisted of seven individual basin plans adopted by the State Planning Council between September 16, 1976 and January 12, 1978. Federal requirements have led to a reorganization of the original seven river drainage basin plan elements into, what eventually will become, a four plan water quality element. As the plans in the four drainage basin system are adopted as elements of the State Guide Plan, all, or those portions of, the original seven system plan which are included in the adopted four plan element are deleted.

Title III, Section 303(e) of the Federal Water Pollution Control Act Amendments of 1972 (PL92-500) requires all states to prepare plans, in two phases, to identify water quality problems and propose a management program to mitigate those problems. The Phase I plans, commonly referred to as basin plans, since the planning area boundaries closely coincided with river drainage basin boundaries, were established as the fundamental planning document to guide water quality management decisions in the basin and establish the framework for future water quality planning in the state. These plans were prepared by the Statewide Planning Program in close cooperation with the Division of Water Resources, Department of Environmental Management. Plans were prepared for seven drainage basins in the state including the Woonasquatucket, Moshassuck, Blackstone, Pawcatuck, Pawtuxet and Moosup Rivers in addition to the Narragansett Bay drainage basin (see Fig 010-710(1)).

The basin plans were adopted by the State Planning Council and constitute the state water quality management element of the State Guide Plan. The most important functions of these plans are to:

- (1) to identify and rank point sources of pollution;
- (2) to divide the river into segments according to water quality standards and to classify the segments as "water quality" or "effluent limited" on the basis of the degree of treatment required to achieve those standards;
- (3) to establish waste load allocations for water quality segments;
- (4) to determine municipal facilities needs and to establish priorities for the award of construction grants; and
- (5) to indicate the need for additional water quality planning, such as facilities planning and "208" planning.

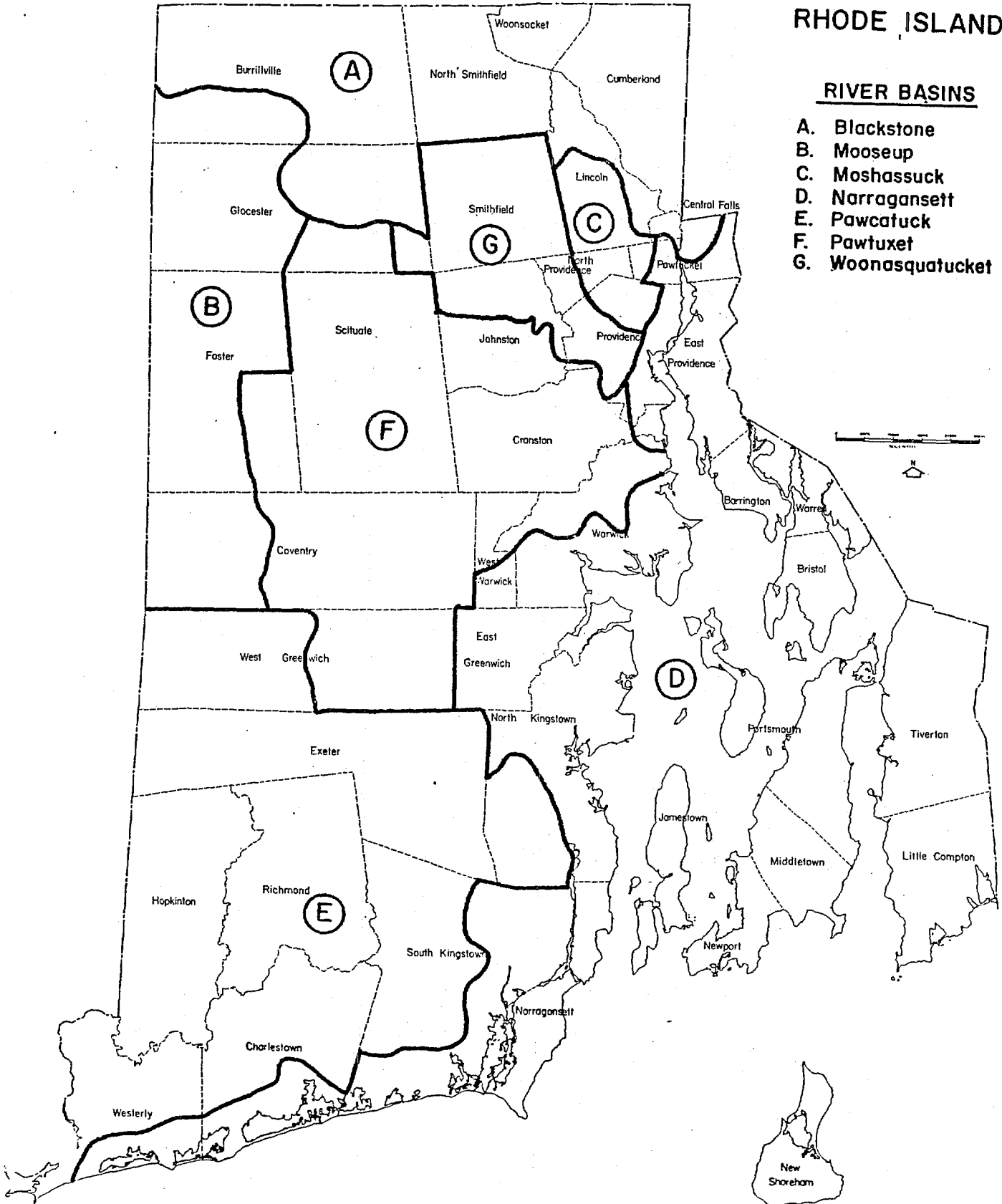
The Phase II basin plans, or water resources management plans, will substantially revise, augment, and replace the Phase I plans as the state water quality management plan. The Phase II water resources management plans will revise the Phase I basin plans in the following areas:

FIGURE 010-710 (1)
**PLANNING REGIONS FOR PHASE I
 WATER QUALITY MANAGEMENT PLANS**

RHODE ISLAND

RIVER BASINS

- A. Blackstone
- B. Mooseup
- C. Moshassuck
- D. Narragansett
- E. Pawcatuck
- F. Pawtuxet
- G. Woonasquatucket



Prepared by the RHODE ISLAND STATEWIDE PLANNING PROGRAM
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(1) Water Quality Standards and Classifications

Water quality standards and classifications will be updated to comply with the latest revisions adopted by the Department of Environmental Management. The possibility of meeting the 1983 goals of fishable-swimmable waters will be of prime consideration. The Phase II plans, however, do not attempt to achieve the primary goal of the Clean Water Act, to eliminate discharge of pollutants into navigable waters by 1985 (33 USC 1251(a)(1)).

(2) Segment Classifications

Segment classifications will be reviewed and revised, if necessary, in light of possible revisions to water quality standards and classifications. Changes in wastewater discharges will also be taken into consideration when revising these classifications.

(3) Sources of Pollution

Both point and non-point sources of pollution will be inventoried and ranked according to severity of pollution. The effect of non-point sources of pollution such as urban runoff, landfill leachate, sub-surface disposal systems, and erosion and sedimentation are discussed in detail. Waste load allocations will be revised, if necessary, to allow for contributions from non-point sources. Methods for abatement of this pollution will also be described.

(4) Growth Potential and Treatment Facilities Requirements

The growth potential in each planning region will be discussed with particular emphasis on the effects of land use on water quality and on the need for municipal sewage facilities.

Information regarding non-point sources of pollution, for the Phase II plans, was obtained primarily from the 208 Water Quality Management Plan for Rhode Island while additional updated information regarding both point and non-point sources of pollution was provided by the Department of Environmental Management. The Phase II planning regions were established through a combination of geographic and political factors instead of hydrological boundaries and reduced from seven to four planning regions. The four planning regions were established so that they would include entire communities wherever possible in order to facilitate the discussion of management needs and to eliminate the repetition which occurred in Phase I plans when a community was in more than one drainage basin. The four planning regions illustrated on Figure 010-710(2) are the Blackstone, Narragansett, Pawcatuck, and Pawtuxet.

The city of Providence is considered as part of both the Blackstone and Narragansett Regions due to its strong influence on both regions. The towns of Johnston and West Greenwich are the only municipalities that are divided between two planning regions. The regional planning boundaries in these two communities were established according to the 1970 analysis zone boundaries, which are based on population density, nearest to the hydrologic boundaries of the planning regions.

To date, one Phase II element of the four drainage basin system has been adopted by the State Planning Council, on August 12, 1982; State Guide Plan Element Number 711,

The Blackstone Region Water Resources Management Plan. Adoption of this element was accompanied by the following deletions from the seven drainage basin systems:

Blackstone River Basin Water Quality Management Plan: entire plan

Moosup River Basin Water Quality Management Plan: Sections applying to Burrillville and Gloucester

Moshassuck River Basin Water Quality Management Plan: entire plan

Narragansett River Basin Water Quality Management Plan: Sections applying to Pawtucket and Providence

Pawtucket River Basin Water Quality Management Plan: Sections applying to Gloucester and Providence

Woonasquatucket River Basin Water Quality Management Plan: entire plan

These plans are summarized on the following pages using the standardized format discussed in Section 010-02-01.

02-711 BLACKSTONE REGION WATER RESOURCES MANAGEMENT PLAN

02-711-01 Introduction

The Blackstone Region encompasses the northern part of the state and consists of the Woonasquatucket River Basin, the Moshassuck River Basin, the Rhode Island portion of the Blackstone River Basin, and small portions of the Pawtuxet, Moosup, and Narragansett Bay Basins (see Figures 010-710(1) and (2)). Three major rivers drain through the region: the Blackstone, Woonasquatucket, and the Moshassuck. The Blackstone River is by far the most commercially important river in the region. The Blackstone originates in Worcester and flows in a southeasterly direction to its mouth in Pawtucket, where it becomes a tidal estuary known as the Seekonk River.

The Blackstone Region encompasses 278 square miles with 59 percent or 163 square miles covered by forest. The terrain in the region is generally hilly or rolling with the highest elevations located in the western portion of the region. The elevations vary from a maximum of 750 feet in western Gloucester to mean sea level in the southeast corner of the region. The population of the region, based on the 1980 census, was 441,602 people.

This element is scheduled to be updated in the first quarter of calendar year 1988.

02-711-02 Issues Addressed

A. Point Sources of Pollution

Point source pollution is that which is discharged from a pipe or conduit directly into a waterway with or without some treatment. For example, discharges from municipal wastewater treatment plants and industries are considered point source discharges. All point source discharges in Rhode Island are regulated by discharge permits. The EPA has established effluent limitations for all dischargers. An effluent limitation is the maximum amount of pollutant that may be discharged into any water body. These limitations formally establish performance criteria for wastewater treatment facilities. In Rhode Island, the state Division of Water Resources assists the EPA in the issuance of permits. There are 47 wastewater discharges in the Blackstone Region, not including 95 combined sewer overflows.

Non-Point Pollution Sources

Non-point pollution is that which is not discharged through a pipe or conduit. Typical non-point pollution sources include: urban and rural runoff, leachates from landfills, erosion and sedimentation, failing septic systems, and excessive application of fertilizers or pesticides.

Non-point pollution sources within the Blackstone Region include: landfills, urban runoff, erosion and sedimentation, road salt, and individual subsurface disposal systems.

02-711-03 Goals and Policies

Rhode Island does not have an adopted or generally accepted statement of goals and objectives for the comprehensive management of its water resources. The eventual goals and objectives of this plan will encompass all major aspects of water resources: water quality, water supply, wetlands, flooding, navigation, recreation, fish and wildlife, hydropower and other related topics. The goals and objectives for water resources must be established on an integrated basis rather than through a single purpose orientation. In addition, goals and objectives will be applied on a statewide and regional basis, specifically for natural drainage basins.

This element has been prepared as a part of a broader plan which will eventually incorporate all major water resource issues. This phase of the plan addresses the water quality aspects of water resource planning.

A. Water Resource Goals and Objectives

One of the major goals of the Rhode Island Land Use Policies and Plan is to "make efficient use of available land and water, producing a visually pleasing coherent, and workable environment." In addition, this Plan recommends reducing water pollution and protecting water resources which are presently unpolluted, maintaining high quality water bodies in their existing condition, and providing for adequate water supply.

Other objectives of the State Guide Plan to be incorporated into the water resources plan are as follows:

- Plan for and develop water resources in a coordinated and efficient manner, on a state and regional level
- Secure or protect high-quality sources of ground and surface water adequate to meet future needs.
- Encourage the organization of combined regional water supply and water pollution control functions
- Support measures which encourage more efficient use of water.
- Maintain and upgrade necessary natural resources for selected industries, such as tidal marshes for the commercial fishing industry.

These goals and objectives will be incorporated into the Water Resource Plan when topics such as water supply, wetlands, flooding, etc. are addressed at a future date.

B. Water Quality Goals and Objectives

The water quality planning goals utilized in the Blackstone Region Water Resources Management Plan are based on federal and state water quality goals and objectives. The following goals and objectives are fully integrated with all related elements of the State Guide Plan, so that implementation of recommendations will be consistent with other activities.

1. Federal Goals and Objectives

The enactment of the Federal Water Pollution Control Act Amendments of 1972 initiated a long term commitment by the federal government to clean up and maintain the purity of the nation's waters. The goals and objectives of this Act, which was amended in 1977, were:

- a. By July 1, 1977, effluent limits applying the best practicable control technology by industry as defined by the Administrator (under section 304(b)) or treatment to meet pretreatment standards (under section 307)
- b. By July 1, 1977, effluent limits applying secondary treatment as defined by the Administrator (section 304(d))(1) for publicly owned treatment works in existence on July 1, 1977 or approved prior to June 30, 1973 with four years allowed for completion

- c. By July 1, 1977, any more stringent limitations including those necessary to meet water quality standards, treatment standards, or schedules of compliance.

These goals have been met wherever possible and extended wherever necessary. The water quality goals for 1983 are:

- a. By July 1, 1983, effluent limits applying the best available technology for industries which is economically achievable for that category of point source as defined by the Administrator (section 304((b))((2))), including the elimination of the discharge.
- b. By July 1, 1983, effluent limits applying the best practicable treatment for the publicly owned treatment works.

2. Rhode Island Goals and Objectives

The goals cited by the Rhode Island Water Quality Regulations for Water Pollution Control are "to upgrade the quality of the waters of the state and, where attainable, achieve swimmable/fishable waters by 1983". These goals are consistent with the Federal Water Pollution Control Act.

In addition to this goal, this plan incorporates the water quality objectives cited in related elements of the State Guide Plan.

These objectives are as follows:

- a. Improve the coordination of local water pollution control management plans and programs and seek regional solutions to the greatest extent possible.
- b. Continue the close coordination of the state's water pollution control planning activities such as those concerned with water resource development and land use development.
- c. Assure that all proposals for water pollution control management facilities and systems are fully analyzed and evaluated in terms of their impact on the social, economic and physical environment.
- d. Limit intensive development to areas served by public sewer systems which can provide for the adequate collection and treatment of the liquid wastes generated.
- e. Require pre-treatment of sewage by industrial operations where appropriate.
- f. Upgrade treatment in municipal or other treatment plant facilities, where appropriate.
- g. Support and encourage efforts to prevent and control oil spills of contaminants.
- h. Encourage research to better determine potential effects of thermal pollution on the marine environment.

- i. Support efforts to maintain and strengthen the state's regulatory activities for water pollution control
- j. Take necessary actions to reduce water pollution to levels set in the state's water quality classification plan
 - provide public sewer systems and treatment facilities in all intensively developed areas, in ways that do not stimulate unnecessary or undesirable growth
 - provide at least secondary-level treatment, provide tertiary-level treatment where required to bring water quality to the standards set forth in the state water quality plan
 - regionalize treatment facilities.
 - limit intensive development to areas served by public sewer systems providing adequate treatment.
- k. Identify water quality problems
- l. Assess the effects of point and nonpoint pollution
- m. Determine where fishable-swimmable water quality can be attained
- n. Determine potential future sources of water pollution
- o. Develop effective programs to mitigate pollution problems
- p. Develop management strategies and designate appropriate agencies to implement the plan
- q. Require that
 - 1) industrial development causing other than domestic waste discharges occur only in areas served by public sewer systems
 - 2) recycling of industrial wastes be undertaken whenever possible to conserve resources and reduce treatment problems
 - 3) pretreatment of industrial wastes be accomplished before discharge to a public system wherever necessary

02-711-04 Strategies

Generally, the water quality in the Blackstone Region is very good. The most notable exception is the head of upper Narragansett Bay, where the most intensive development in the state has occurred. The implementation of the following recommendations will aid to improve those waters that are currently out of compliance with state water quality standards and maintain the quality of those waters that are in compliance with state water quality standards. These recommendations have been adapted from the 208 Water Quality Plan for Rhode Island.

The strategies (recommendations) indicated with three asterisks, ***, denotes those 208 recommendations that have been conditionally certified by the EPA. The reader is referred to Certification of Plan Elements by the Governor and Approval by the U. S. Environmental Protection Agency, May 1980 for the specific conditions.

A. Growth and Land Use

Water quality is strongly correlated with land use. Urban waterways usually are polluted, whereas high quality waters generally are located in rural areas. Both point and nonpoint sources of pollution contribute to the poor water quality in urban areas.

As indicated in the urban runoff section, once development patterns conducive to direct runoff of pollutants have been established, there is little that can be done (at reasonable cost) to effectively abate that pollution. However, with proper planning and design, new development may avoid the runoff pollution problems associated with older urban areas. Accordingly, land use recommendations are directed primarily to communities in developing and rural areas of Rhode Island, so that future growth may be accomplished without causing water quality deterioration or the need for expensive municipal sewerage systems. Special protective measures are recommended for areas considered to be environmentally sensitive, water-related lands, particularly areas suitable for groundwater development, surface water supply watershed, wetlands, floodplains, and lands adjacent to coastal ponds and Class A and B waters.

The land use recommendations are as follows:

- Communities should evaluate land to be zoned for industrial use in view of groundwater reservoirs, soil types, slopes, and availability of public utilities, as well as access to transportation facilities and adjacent land use.
- *** — Local governments should use their zoning, subdivision and other available controls to minimize the likelihood of water pollution from urban runoff generated at commercial and industrial sites.
- The minimum lot size in areas to be served by individual subsurface disposal systems and public water should be at least 15,000 square feet; the minimum in area to be served by subsurface disposal and private wells should be at least 1½ acres, or approximately 60,000 square feet.
- *** — In waterfront areas and adjacent to wetlands, development using individual subsurface disposal systems and private wells should be at a maximum density of one dwelling per acre. In areas adjacent to public water supply reservoirs, the maximum density should be no more than one dwelling unit for every two acres.
- In rural communities which wish to preserve their rural character and/or accomplish other objectives of low-intensity use while protecting high-quality waters, large lot (five acres per dwelling unit) and/or exclusive agricultural zones should be considered.
- Each community should review its zoning ordinance in relation to the soil survey information, if these data were not used in developing the current zoning regulations and map. This action will help ensure that the soils are suited to the types and intensities of development permitted under

the ordinance provisions. A specific soil consideration requirement is strongly urged

- There should be no building allowed which will require filling of wetlands unless a permit is obtained from DEM. In floodplains, there should be no building other than structures accessory to conservation and open space uses or facilities which frequently must be located in flood hazard areas in order to perform their intended functions. (For example, a port facility usually must be located in a flood hazard area) The maximum density of residential development in public water supply and coastal pond watersheds and in important aquifer recharge areas should be one dwelling unit for every two acres of land.
- The Statewide Planning Program should review the State Building Code with reference to regulations affecting the design and construction of underground storage tanks for gasoline and other chemicals. Recommendations for changes in the code to ensure groundwater protection should be made to the State Building Code Commission
- *** — Developing communities should establish a setback requirement of 150 feet from the rainy-season flow line of a stream or 50 feet from the high-water mark of any lake or pond, wherever possible. A 300 foot setback is recommended from public water supply reservoirs, and a 400 foot setback is recommended from any groundwater aquifer pumping center. Land disturbance during construction should be minimized, and the natural vegetation should be left intact, as much as possible. If natural vegetation is removed, the area should be revegetated as soon as possible
- State zoning enabling legislation should be changed to allow specifically cluster and planned unit developments
- Local communities should zone waterfront areas for large-lot or cluster-type developments, in order to reduce runoff. If special enabling legislation is required, the communities should petition the state legislature for the appropriate provisions.
- Developing and rural communities should use their subdivision regulations to promulgate design standards to mitigate water pollution from stormwater runoff
- Natural buffer strips of 300 feet from the rainy-season flowline of a stream or the high-water mark of a natural body of standing water should be provided in rural areas, wherever possible.
- The state and communities should study the costs and benefits of land acquisition and tax incentives as means of protecting environmentally sensitive, water-related areas from pollution.
- The state legislature should enact critical areas legislation which will protect environmentally sensitive, water-related areas in Rhode Island

B. Sewage Disposal1. Municipal Sewerage Systems

Municipal sewerage needs fall into two general categories:

- (1) existing sewerage systems, including treatment facilities, that need repair or improvement; and
- (2) areas that may need to provide sewer service because of problems with individual sewage disposal systems.

The sewerage needs of many of the older cities in the region fall into the first category. The combined sewer systems in Providence, Pawtucket and Central Falls and the inefficient Providence wastewater treatment facility have created major water quality problems in the Providence River and Upper Narragansett Bay. Facilities plans for these cities have estimated that treatment of discharges from the nearly 100 combined sewer overflows may cost approximately \$200 million. In addition, the cost of upgrading the Providence wastewater treatment facility could be as much as \$95 million.

Although plans for municipal facilities to alleviate serious water pollution in the Providence River have been developed, the costs of the recommended facilities present a problem. At present, EPA construction grant funding available to Rhode Island is approximately \$26 million per year through fiscal year 1982. The uncertain future of additional funding from EPA may delay construction of many of the needed facilities.

- The U. S. Congress and EPA should revise the present construction grant allocation formula so that Rhode Island receives a greater allocation. Under the present formula, Maine receives \$10 million more than Rhode Island even though its population is nearly the same as Rhode Island's; New Hampshire receives \$16 million more than Rhode Island even though it has less population than Rhode Island.
- EPA should clarify its policies with regard to the funding of advanced treatment facilities and combined sewer overflow improvements. If additional funding for the timely completion of these projects is not possible under the Clean Water Act, then it should be amended to allow separate additional funding for these projects.
- The U. S. Congress and EPA should make a commitment to fund the construction grants program beyond FY 1982.

In recent years, there has been growing concern regarding the impacts of present wastewater chlorination practices. This concern has focused on the direct toxicity of chlorine to aquatic organisms and the formation of cancer-causing substances from the reaction of chlorine with organics in wastewater. Since state policy does not allow wastewater discharges tributary to water supply sources, the toxicity of chlorine and its reaction products is an issue of great concern to aquatic life. However, because public health standards mandate wastewater disinfection in waters tributary to shellfish beds, the use of chlorine at most facilities could not be eliminated without very large expenditures of public funds on alternative disinfection systems.

- If a municipal treatment facility is consistently meeting state coliform standards, the superintendent should request permission from DEM to

reduce the chlorine residual to the minimum required to obtain the coliform requirement deemed appropriate.

- Existing municipal wastewater treatment plants discharging to fresh waters should install dechlorination facilities and dechlorinate their discharges at least during summer months (May 1 to October 1). Alternatives to chlorine disinfection should be considered in planning new or expanded treatment facilities. The Burrillville wastewater facility is the only plant in the Blackstone Region that dechlorinates their discharges during the summer months (May 1 to October 1).

2. Individual Subsurface Disposal Systems

Much of the population in the developing communities in the Blackstone Region depend upon septic tanks or cesspools to dispose of household wastes. Properly operating subsurface disposal systems efficiently remove most pollutants (except for nitrates) from sewage and are more cost effective to install than municipal sewer systems.

The major problem with subsurface systems is that they can fail, creating a health hazard or nuisance conditions. There are a number of reasons why systems fail, some of which are not well understood. However, failed systems can be rehabilitated and subsurface systems can be designed and maintained to reduce the chance of failures. In addition, the initiation of an ISDS management program discussed should reduce the chance of ISDS failures in the future.

- Because subsurface disposal systems are less expensive than municipal sewer systems, and because they are an effective means of sewage treatment, individual subsurface disposal systems should be used wherever possible.
- Chapter 45-22 of the General Laws should be amended to require communities to develop sewer plans as part of their comprehensive plan.

The municipal sewer plan would include the following elements:

- identification of areas currently sewered and non-sewered
- physical characteristics of the non-sewered areas of the community (e.g. soil type, location of water bodies)
- criteria to assess the location of future sewers (e.g. population movement, current zoning requirements)
- a projection of those areas to be sewered over the next 20 years
- projected costs of sewerage these areas
- specific actions (e.g. zoning, establishment of local maintenance program) to be taken to ensure that sewers will be required only in the designated area.
- As a guideline for future zoning, the following minimum lot sizes are recommended:
- 15,000 sq. ft. in areas that will be served by public water and on-site sewage disposal

- 60,000 sq. ft. in areas that will be served by private wells and on-site sewage disposal.
- *** — Groundwater sampling has indicated some problems with nitrates from subsurface disposal systems, lot sizes of two acres in existing and potential municipal water supply watersheds and groundwater reservoirs are recommended to ensure that nitrate concentrations in drinking water will be below the established standard of 10 ppm.
- All new ISDS systems should be set back at least 150 feet from any water body to prevent nutrient enrichment from ISDS leachate.
- Local communities should review approved ISDS permits upon their receipt from DEM to ensure that they are in accordance with local development regulations.
- Conversion of a home from seasonal to year-round use should be brought to the attention of DEM by the local building inspector, so that a determination can be made by DEM as to whether or not the system will be adequate for increased loading.
- In order to obtain better information on the reasons for septic tank failures in Rhode Island, DEM should initiate a system whereby septic tank failures will be recorded, with a notation of the street location, and the reason for failure. This information could be compiled in the Statewide Planning Program computer so that areas with high failure rates could be readily identified and corrective action taken.
- Communities which rely upon subsurface disposal systems for sewage disposal should voluntarily institute some type of septic tank maintenance program, even if only a minimal effort, aimed at providing information to homeowners.
- Septic system users should avoid disposing of greases down the drain and institutions and restaurants should clean grease traps at least once a year, if not more frequently, to prevent grease buildup.
- Water conservation devices should be utilized in the home to help maintain septic systems.

3. Urban Runoff

Rain that falls on impervious surfaces in an urban area cannot penetrate the soil and must be conveyed to nearby water courses to minimize the impacts from flooding. Pollutants that have accumulated on impervious surfaces are either dissolved or physically transmitted with the flowing stormwater into adjacent water bodies.

There is no easy means of abating runoff pollution. However, the 208 recommendations call for a management program integrating treatment of receiving waters, source controls and land use controls to reduce urban runoff impacts. Additional stormwater sampling and analysis also are recommended to refine the understanding of Rhode Island's urban runoff problems and to permit selection and justification of further control measures.

The primary recommendations for short-term implementation pertain to problem identification. This effort should include the following.

- Continue studies to identify the scope of the problem, and
- Monitor stormwater to refine the identification of the problem.

Recommendations in these two areas are presented below, followed by recommendations pertaining to control measures.

a) Problem Identification

- The problem identification effort begun in the initial 208 study should be completed. In the area of public health impacts, this effort should include the evaluation of all water supply reservoirs under existing and future (e.g. year 2000) land use conditions using screening methodologies presented in the Final Urban Stormwater Evaluation Report. This work will identify those parameters and locations of public health concern with respect to stormwater runoff impacts on drinking water supplies
- Additional studies should be conducted regarding the impacts of urban stormwater runoff on water quality and shellfishing in Narragansett Bay. Control of these impacts is dependent upon the feasibility of funding combined sewer overflow abatement projects in the cities of Central Falls, Pawtucket, and Providence, however
- The impacts of aquatic life should be assessed utilizing the techniques described in the Final Urban Stormwater Evaluation Report for both existing and future land use. This will enable the identification of all parameters and locations of concern with respect to stormwater runoff impacts on aquatic life.
- Prior to initiating the study described above, improved data should be obtained, particularly for residential land use categories

b) Stormwater Sampling Program and Refined Analysis

- After completion of the previously described analyses, a stormwater sampling program should be designed and carried out. The sampling program should serve two technical purposes: revise the assumed average concentrations of urban runoff pollutants by land use, and obtain data pertaining to critical problem areas identified in the initial problem identification effort. To serve the first purpose, sampling stations should be located at the outlet of subbasins with 1-5 square miles of drainage area that are dominated by one type of land use. The second purpose would be served by including such sampling stations in areas draining to initially identified problem locations (particularly drinking water supplies). Several other factors, such as accessibility and proximity to rainfall gauges, bear on the selection of sampling locations

With the data obtained as recommended above, the techniques utilized in the initial problem identification effort can be calibrated and applied in a more refined manner. Then certain special-purpose studies could be undertaken, to more definitively establish present or future problems

These special-purpose studies (some of which could be initiated earlier) could include any or all of the following:

- More frequent analyses (e.g., monthly) of surface water supply sources for lead, mercury, indicator bacteria, and other potential problem substances, to complement the short-term problem-identification effort recommended above (with which it should be coordinated), by establishing a long-term data base.
- Bioassay tests, microbiological sampling, and biomonitoring studies to aid in the accurate identification of water quality and aquatic life impacts of stormwater runoff.
- Estimation of impacts of suspended solids and nutrients on water uses to aid in the establishment of a sound point source nutrient control program, among other purposes.
- A generalized hydrologic analysis of pertinent streamflow and rainfall characteristics.

The purpose of the sampling program and affiliated computational analyses is to refine the understanding of urban runoff problems to permit selection and justification of control measures. Without knowing the full scope of problems that will be initially identified, it is impossible at this time to estimate the full costs involved. However, based on experience with other 208 studies, \$300,000 would be a reasonable order-of-magnitude estimate for the complete sampling program. Such an effort should be spread out over a 3 to 5-year period, to allow adequate interaction between sampling and computational efforts.

c) Control Measures

Additional problem identification work will be required before definitive recommendations for substantial control measures can be made, but the following alternatives appear to offer the greatest potential for mitigating the impacts of urban stormwater runoff.

- Provide adequate treatment of water withdrawn for public water supply to remove metals, toxics, and taste and odors. The Department of Health should continue to monitor for these pollutants and if present removals are not adequate, pilot studies should be conducted to determine process changes, such as treatment by granular activated carbon, that may be required to achieve drinking water standards. If standards cannot be met with process changes, then new sources of supply should be utilized.
- Implement best management practices during construction of buildings and highways to control erosion. A uniform erosion and sediment control statute should be adopted by the state.
- Aeration of lakes and rivers should be considered as a possible means of reducing storm runoff-induced dissolved oxygen problems.
- Chemicals, such as fertilizers, pesticides and road salts should be carefully and sparingly applied.

- *** — The federal government should undertake an effort to have lead compounds removed from gasoline and to control other motor vehicle toxicants.
- Illegal discharges and wastewater overflows to sewers should be eliminated. A public education program should be carried out to reduce the disposal of leaves, garden clippings, used automobile crankcase oil, and the like, in stormwater inlets
- To encourage and provide for proper disposal of waste oil, the state should adopt a used oil recycling act. DEM currently has initiated a waste oil recycling program.
- *** — Measures should be adopted which restrict land uses in sensitive areas. These "non-structural" controls would include land use planning (including open space and conservation planning) and restrictive zoning. Considering available technology for abating stormwater pollution, such measures may represent the only means of preventing water quality degradation in some areas. Most of the present urban region in the state lies at the downstream ends of rivers and near coastal waters, where some dilution of urban runoff can be provided. As a general policy, future land use planning in Rhode Island should direct growth to existing urban and coastal areas and away from upstream undeveloped areas.

4 Landfills

Of the 22 landfills in the Blackstone Region, 5 are still active. Leachate generated at both active and inactive landfills may result in the contamination of ground and surface water. From a management standpoint, landfill-generated pollution is most serious where it is affecting or potentially could affect groundwater aquifers, surface water supply reservoirs, and/or pristine water bodies.

The following recommendations are aimed at minimizing the need for future landfills, ensuring proper operation of existing landfills, and providing for groundwater protection in the siting of hazardous waste disposal facilities and new landfills.

a) Reduction of Solid Waste

- Because landfills all generate leachate and are possible sources of pollution, it is recommended that recycling be practiced as much as possible, in order to reduce the quantity of wastes and the need for new landfills. The following measures would serve to maximize attainment of this objective:
 - passing mandatory deposit legislation ("bottle bill") in Rhode Island
 - recycling oil, flat papers, bottles, and cans by source separation
 - burning as fuel those materials that cannot be recycled and that are combustible. The Solid Waste Management Corporation resource recovery facility proposes to recover this energy potential of solid waste.

b) Monitoring Program

- DEM should undertake a monitoring program at four or five landfill sites representative of different hydrogeologic conditions in the state. This sampling program should consist of the installation of monitoring wells at varying distances from the landfills to measure the attenuation of leachate. Based on costs for well installation, sampling, and analyses carried out for the 208 program, the estimated cost of this sampling program would be \$30,000 - 45,000 per year.

c) Changes to Existing Regulations

- DEM should continue to administer the program for licensing landfill operators. Existing regulations should be strengthened as follows:
 - A 200-foot buffer between landfills and surface water may not be sufficient to preclude leachate contamination, as attenuation capacity varies from site to site. DEM should be given discretion to require a greater setback from surface water bodies on a site-specific basis. This is especially important for protection of existing high quality (Class A and B) waters. Similarly, DEM should have discretionary authority to require a buffer greater than 200 feet between a landfill and any water supply wells. The direction of groundwater flow from the landfill is an essential consideration in determining a safe distance for location of wells.
 - Given the porous nature of Rhode Island soils, the required 4-foot depth to water table may not be adequate to protect groundwater from serious leachate pollution. The U. S. Environmental Protection Agency recommends five-foot depth to water table (Residual Waste Best Management Practices) and greater depth should be required by DEM on a site-specific basis.
 - In addition to the groundwater standard, there should be a required minimum depth to bedrock. Such a standard is needed because the leachate will tend to spread over a larger area in shallow soils than in deep soils, causing an increased risk of pollution of nearby surface waters. A 6-foot minimum depth to bedrock is recommended, with DEM given discretion to require greater distances on a site-specific basis.
 - Impervious final cover, preferably clay or silt, should be required in order to minimize infiltration into the landfill. Application of two feet of top soil over the impervious material should be required as a base for vegetating the site. The use of impervious cover necessitates proper venting of the methane produced by decomposition of the landfill waste. Methane extraction from closed landfills should be investigated as a potential energy source.
 - The establishment of vegetation is important for controlling erosion, increasing evapotranspiration, and aesthetics. Vegetation has been found lacking, however, at almost every Rhode Island landfill site evaluated. The landfill operation regulations should require vegetation of all completed and intermediate slopes and surfaces.

- Temporary sediment control measures are needed to mitigate impacts of erosion from active areas of landfills where establishment of vegetation is not practicable. State regulations should require landfill operations (both private and municipal) to meet the same erosion and sediment control standards as other earth-moving activities. Measures for controlling erosion and sedimentation from construction sites are summarized in Chapter 05-03 of the report.
- The landfill operation regulations should specify required grades to reduce infiltration while not encouraging erosion. Slopes of not less than 2 percent and not more than 15 percent are recommended.
- The landfill licensing regulations should prohibit the siting of any new landfill in water-related environmentally sensitive areas, particularly recharge areas for groundwater reservoirs with water supply potential, surface water supply watersheds, and near coastal ponds.

d) Groundwater Legislation

- *** — Groundwater protection legislation should be enacted that will prohibit the siting of landfills, hazardous waste disposal facilities, and other specified uses (e.g., road salt storage) in groundwater reservoir aquifers and recharge areas.

e) Groundwater Protection

- *** — The Statewide Planning program should delineate groundwater reservoir and associated recharge areas which constitute existing or potential public water supply sources.
- *** — DEM should adopt regulations which prohibit new sanitary landfills in the groundwater reservoir and recharge areas designated by the Program.
- *** — Existing landfills located in these groundwater reservoir and recharge areas should be closely monitored by DEM to determine if the landfills are polluting the reservoirs. If there is evidence of leachate contamination, then the offending landfill should be closed in such a manner that infiltration will be minimized.

f) Hazardous Wastes

- Currently there are no sites in Rhode Island which are permitted to receive hazardous wastes. Disposal, storage and/or treatment of hazardous wastes should be allowed only at a completely secure site, with a dual impermeable liner and leachate collection and treatment system, or with other appropriate safeguards. Such a facility should be strictly prohibited from being sited in water-related, environmentally sensitive areas. Stringent siting, design and operating requirements have been incorporated into the state's hazardous waste regulations.

5. Road Salt

The environmental impacts associated with storage and use of this salt include: decline of roadside vegetation; loss of permeability in roadside soil; automobile corrosion; damage to highways, highway structures and underground utilities; and contamination of groundwater and (to a lesser degree) surface water.

Contamination of groundwater used, or with potential for use, as potable water supplies is considered the most critical long-term effect of current road salting practices. Fortunately, sodium and chloride concentrations in public water supplies in Rhode Island generally have not risen to the extent that they have in Massachusetts and Connecticut. However, in the interest of avoiding future problems, it is important to restrict Rhode Island's road salt use.

The following actions are recommended to reduce the impact of road salt on water quality.

a) Road Salt Storage

- With the exception of salt piles located adjacent to salt water bodies in areas served by public water, all salt piles and sand/salt mixtures should be enclosed. Highest priority should be given to enclosing stockpiles located within water supply watersheds, or within recharge areas of groundwater aquifers currently used for public water supply or with potential for public water supply development.

b) Road Salt Use

- All town highway departments should act to minimize their use of road salts in winter road maintenance. For general use, the proportion of salt in the sand/salt mix should be no more than one part salt to six parts of sand (6:1 sand to salt mixture). The Town of North Smithfield already uses an even smaller proportion of salt (9:1 or 10:1 sand to salt ratio) except for heavier applications in the case of particularly icy areas or severe storm conditions. Similarly, other municipalities should attempt to further reduce the proportion of salt in the sand/salt mixture applied to town roads, whenever and wherever feasible.
- Environmentally sensitive areas associated with present or potential ground or surface water supplies should be considered water resource protection areas, and special restrictions should be applied to the use of road salts in such areas. Sand should be used as much as possible. If salt must be used, a 10:1 sand to salt ratio with a salt mixture of 3 parts sodium chloride to one part calcium chloride is recommended. Such a road salt "premix" has been used for several years in critical water supply areas in Connecticut to stem the rise in sodium concentrations in public water supply reservoirs.
- The Rhode Island Department of Transportation (DOT) should gradually reduce the proportion of salt in the sand/salt mixture applied to state-maintained roads, aiming for a 6:1 sand/salt mixture for general use. Efforts undertaken thus far to reduce road salt use by the Department are commendable, but further reduction is still desirable from an environmental standpoint. DOT could increase the sand/salt mixture to 6:1 for one section of road on a trial basis, to determine the

effectiveness of this application rate. Within water resource protection areas, the amount of sodium chloride applied to state roads should be reduced as recommended for town roads, unless the highways have drainage systems designed to divert road salt runoff from these sensitive areas.

c) Sodium Concentration Guideline

- Consideration should be given by the Department of Health to establishing a public health guideline for sodium in drinking water in Rhode Island. The adoption of a sodium guideline would not mean that a water supply that exceeds that level would have to be shut down, but rather that sodium concentrations in the supply should be closely monitored, and the source of contamination should be investigated and abated, if possible. Concentrations in excess of the recommended limit could be publicly announced to alert those on sodium-restricted diets. The need for such a guideline results from the continued introduction of sodium chloride into the environment and the continued potential for sodium leaching into water supplies.

6. Erosion and Sedimentation

Soil loss from construction sites in Rhode Island has been estimated at 35.7 tons per acre per year. The estimated soil loss from untreated cropland is 11.2 tons per acre per year. A certain amount of erosion is natural, accounting for the the three tons per acre per year tolerable limit guideline used by the Soil Conservation Service. Soil loss beyond that limit constitutes a source of excess sedimentation in waterways, and also robs the land of productive top soil. Sediments can carry other pollutants as well, such as nutrients, pesticides, and bacterial contaminants from animal wastes.

Erosion and sedimentation both from construction sites and from cultivated land are readily controllable through application of best management practices. The primary problems in ensuring that best management practices are applied, are lack of legislation for controlling construction and lack of funds for agricultural measures. Accordingly, recommendations are aimed at establishing an institutional framework for erosion and sediment control and obtaining funding through the Rural Clean Water Program for agricultural runoff control in Rhode Island.

a) Construction-Related

- *** - State legislation should be adopted to establish minimum standards for controlling erosion and sedimentation. Local cities or towns would be responsible for ensuring compliance with these standards. The legislation should also establish specific erosion and sedimentation controls for certain critical areas which the state would be able to enforce directly.
- Best management practices to control erosion and sedimentation should be used by all state agencies engaged in construction activities.

b) Agriculture-Related

- The Soil Conservation Districts should be designated advisory agencies for agricultural runoff control in the Northern, Southern, and Eastern Conservation Districts.

- Funding should be sought under the Rural Clean Water Program for implementing erosion control techniques. The State Rural Clean Water Coordinating Committee has had two previous applications for funding under this program rejected. Their efforts to solicit funds should be continued.
- The Soil Conservation Service and the Agricultural Stabilization and Conservation Service should jointly administer the Rural Clean Water Program, when funding becomes available.
- The tax-exempt provisions of Chapter 44-3 should be amended to apply to the installation of best management practices. Any real or personal property acquired or altered to control pollution from agricultural land uses should also be given the same tax-exempt status as property acquired to control industrial pollution.
- Compliance with the best management practices recommended by the 208 Plan should be voluntary to the maximum extent possible.

02-712 WATER QUALITY MANAGEMENT PLAN FOR THE NARRAGANSETT BAY BASIN

02-712-01 Introduction

State Guide Plan Element 712, Narragansett Bay Basin Water Quality Management Plan, was originally approved by the State Planning Council on August 11, 1977 and amended on August 12, 1982. This element is scheduled to be updated in the fourth quarter of calendar year 1987.

The Narragansett Bay Basin planning area is located in the eastern and southern parts of the state. Narragansett Bay, encompassing 13 percent of the state's total area and extending 28 miles inland from the Atlantic Ocean, is one of the state's most outstanding natural resources. The planning area includes all or part of twenty-three Rhode Island communities.

Except for a few cases, water quality in the Narragansett Bay basin is generally very good (Class SA). Severe water quality problems exist in the Upper Bay (Providence and Seekonk Rivers) and in Newport Harbor, due primarily to discharge from municipal treatment plants and combined sewers. In particular, extensive improvements must be made to the Providence sewerage system and wastewater treatment facility if water quality standards in the Upper Bay are to be met.

Mount Hope Bay is severely affected by untreated and partially treated wastewater from the Fall River and Taunton, Massachusetts, sewerage systems. The remaining water quality problems in the basin are less severe, but they too are caused principally by the discharge of municipal wastewaters, both treated and untreated.

Nonpoint sources of pollution are not addressed in this plan due to a lack of information on their frequency and effects. This problem was assessed by the areawide wastewater treatment management plan (Section 208) prepared by the Statewide Planning Program.

The Bay and its tributaries have been divided into 77 segments and these have been classified as either "effluent limited" or "water quality limited." Fifty-three of the seventy-seven segments in the basin have been designated as water quality segments because of their Class A, B, SA or SB classification. One of the major water quality goals in the basin is the preservation of these existing high quality waters. However, a number of non-degradation water quality segments receive wastewater discharges. These discharges should either be eliminated or the segment should be classified to reflect its use as a receiving water.

02-712-02 Issues Addressed

Because water pollution is a problem which transcends local community boundaries, the water quality management plan must consider pollution problems and abatement programs from a basinwide rather than strictly local perspective. The plan provides the foundation for an orderly water quality management program by:

- (1) Determining existing water quality, identifying point sources of pollution, and assigning applicable water quality standards to the waters of the basin.
- (2) Assessing water quality and abatement needs in order to establish priorities for awarding construction grants.

- (3) Setting compliance schedules or target abatement dates, and coordinating the national pollutant discharge elimination system permit program with these schedules.
- (4) Identifying needs and priorities for facilities planning (Section 201 of PL 92-500) and areawide wastewater management planning (Section 208 of PL 92-500).

To facilitate identification of water quality problems and the establishment of priorities, the Bay and its tributaries have been divided into segments according to water quality standards and classifications established by the Division of Water Pollution Control of the Rhode Island Department of Health. These segments are then further classified as "water quality limited" or "effluent limited" segments depending on the degree of treatment required to meet the Health Department standards. In order to meet water quality standards, effluent limitations have been allocated to discharges along these segments.

Priorities have been assigned for all the segments and for construction grants based on the severity of pollution in the segments. Recommendations have been made for a pollution abatement facilities construction program and for further, more extensive planning under Sections 201 and 208 of PL 92-500.

The issues listed above are common to Pawcatuck, Pawtuxet, and Moosup.

02-712-03 Goals and Policies

The goals of the plan are those established in the State Guide Plan: (1) to reduce stream pollution to levels set in the state's stream classification plan, and (2) to coordinate development, conservation and use of the state's water resources.

This water quality management plan for Narragansett Bay also conforms to the goal and policies established for the Bay in the recreation, conservation, and open space element of the State Guide Plan (section 151-02-01):

GOAL: RECOGNIZE THAT NARRAGANSETT BAY IS THE STATE'S MOST IMPORTANT NATURAL FEATURE AND RECREATIONAL RESOURCE.

- Use Narragansett Bay primarily, but not exclusively, to provide active and passive recreational opportunities. Evaluate all potential uses of water and contiguous land areas in a manner which will achieve a balance of uses in accordance with the capabilities of lands and waters.
- Conserve and protect the Bay as an open space which is essential to maintenance of a natural environment, particularly in and near the state's major urban communities.
- Emphasize the preservation of natural areas which are important components of the Bay ecosystem in wildlife, marine life, or vegetative habitat, preservation of erosion and sedimentation, protection from flooding, and other concerns.
- Protect the cultural heritage which has grown up around the Bay and which demonstrates its original habitation, colonial settlement and development through revolutionary, agricultural — commercial, manufacturing, and other activities.

This plan also incorporates the applicable data, findings, and recommendations for the multi-state region of which this basin is a part as presented in the plan for water and related land resources (level B plan) adopted by the New England River Basins Commission, as provided for by Section 209 of the Federal Water Pollution Control Act (PL 92-500).

02-712-04 Strategies

In order to achieve water quality standards for effluent limited segments which receive wastewater discharges and to conform with requirements of National Pollutant Discharge Elimination System (NPDES) permits issued by EPA, the following program of municipal facilities improvements is recommended:

Municipal facilities currently under construction

- (1) Barrington: New sewer system to be connected to East Providence wastewater treatment facility (WWTF). (To be completed in 1979.)
- (2) Narragansett: Improvements and expansion of existing collection system with tie-in to South Kingstown WWTF. (To be completed in mid-1977.)
- (3) New Shoreham: New wastewater collection system, advanced WWTF, and outfall sewer. (To be completed in 1977.)
- (4) Newport: Modifications and improvements to existing combined sewer systems; some separation of combined sewers. (To be completed by 1981.)
- (5) South Kingstown: New sewer system to serve the University of Rhode Island (URI) and the Peace Dale-Wakefield area of the town and a new secondary WWTF. (To be completed in mid-1977.)
- (6) Westerly: Expansion of existing collection system and upgrading of existing primary WWTF to secondary treatment. (To be completed in 1978.)

Municipal facilities programmed for construction

- (1) Blackstone Valley District Commission (BVDC): Rehabilitation of existing secondary WWTF. (To be completed by 1980.)
- (2) Bristol: Expansion of existing collection system and WWTF. Upgrading of existing primary WWTF to secondary treatment. (To be completed in 1982.)
- (3) Cranston: Expansion of existing WWTF and upgrading from secondary to advanced treatment. Expansion of existing collection system. (To be completed by 1980.)
- (4) Fall River: Upgrading of existing primary WWTF to secondary treatment. Improvements to existing combined sewer system. (To be completed by 1980.)
- (5) Jamestown: Improvements to existing sewerage systems, some separation of combined sewers. Construction of a new secondary WWTF and outfall sewer. (To be continued by 1979.)

Narragansett Bay

- (6) Narragansett. Upgrade the existing primary WWTF at Scarborough to secondary treatment. (To be completed in 1978.)
- (7) Newport: Upgrade the existing primary WWTF to secondary treatment and expand its capacity. (To be completed by 1981)
- (8) North Kingstown: Wastewater collection system and secondary WWTF at Quonset Point. (To be completed by 1981)
- (9) Tiverton: Wastewater collection system in the North Tiverton and Stone Bridge areas. Treatment will be provided at the Fall River WWTF. (Project completion date is mid-1980's)
- (10) Warren: Expansion of sewage collection system and upgrading existing WWTF from primary to secondary treatment. (To be completed by 1980)

Facilities plans to be prepared or completed

- (1) Pawtucket A facilities plan is presently being prepared to determine the most feasible alternative for treatment or abatement of combined sewer overflows (To be completed by February, 1978)
- (2) Providence. A facilities plan is presently being prepared to determine the most feasible alternative for treatment or abatement of combined sewer sewer overflows. (To be completed by May, 1977) A second facilities plan is presently being prepared to detail improvements to be made at the Providence WWTF (To be completed by May, 1978)
- (3) Warwick. Prepare a facilities plan to determine areas to be served by sewers and the need for additional or upgraded wastewater treatment facilities (To be completed in 1978)
- (4) West Warwick. Prepare a facilities plan to determine the need for expansion and/or upgrading of existing secondary WWTF. (To be completed in 1979)

02-713 WATER QUALITY MANAGEMENT PLAN FOR THE PAWCATUCK RIVER BASIN

02-713-01 Introduction

State Guide Plan Element 713, Pawcatuck River Basin Water Quality Management Plan, was approved by the State Planning Council on February 10, 1977. This element is scheduled to be updated in the second quarter of calendar year 1986.

The Pawcatuck River Basin, which drains nearly one-fourth of Rhode Island's land area, lies in the southwestern corner of the state. The total surface area of the basin is about 317 square miles, of which approximately 260 square miles are in Rhode Island and about 57 square miles are in Connecticut. The Rhode Island portion of the basin encompasses the towns of Exeter, Hopkinton, and Richmond and parts of the towns of Charlestown, North Kingstown, South Kingstown, Westerly, and West Greenwich. The basin also drains parts of four Connecticut communities: North Stonington, Sterling, Stonington, and Voluntown. All the basin communities are primarily rural with isolated centers of concentrated development, some of which are seasonal and shore-oriented.

All of the fresh water streams in the basin are of Class C or better and all tidal waters are of Class SC or better, as determined by the Rhode Island Department of Health. Five areas are out of compliance with their water quality classification: one reach of the White Horn Brook, one reach of the Wood River, and three reaches of the Pawcatuck main stem.

All surface waters in the basin are expected to be in compliance with their classifications by 1978, with the exception of the middle reach of the Pawcatuck River, which is degraded by the the Ashaway discharges; and the lower Wood River, which is degraded by the Hope Valley discharges. Abatement dates for these discharges have not been determined.

Basin streams are divided into 37 "segments" for the purpose of this plan. These segments are discussed in detail in the plan, as are seventeen identified point-source discharges, three of which consist only of non-contact cooling water.

02-713-02 Issues Addressed

The issues are presented in Section 02-712-02 and are common to this plan.

02-713-03 Goals and Policies

The goals of the plan are those established in the State Guide Plan: (1) to reduce stream pollution to levels set in the state's stream classification plan, and (2) to coordinate development, conservation and use of the state's water resources. This plan is one of four water quality management plans (Blackstone, Moosup, Moshassuck, Narragansett, Pawcatuck, and Pawtuxet) which in total constitute the water quality element of the State Guide Plan. This plan also incorporates the applicable data, findings, and recommendations for the multi-state region and for this drainage basin presented in the plan for water and related land resources (level B plan) adopted by the New England River Basins Commission, as provided for by Section 209 of the Federal Water Pollution Control Act of 1972 (PL 92-500).

Water Quality Planning Goals

One of the major goals of the state land use plan is to "make efficient use of available land and water, producing a visually pleasing, coherent, and workable environment." The state water quality management plan is guided by this same general goal and by more specific goals: to "reduce stream pollution to levels set in the state's Stream Classification Plan" and to aid in the "coordinated development, conservation, and use of the state's water resources."

Another goal in the basin plan is the application of effluent limits specified in the Water Pollution Control Act Amendments of 1972 (PL 92-500) under Section 301(b), which are:

- (1) (A) By July 1, 1977, effluent limits applying best practicable treatment by industry as defined by the Administrator (under section 304b) or treatment to meet pre-treatment standards (under section 307).
- (B) By July 1, 1977, effluent limits applying secondary treatment as defined by the Administrator (section 304d(1)) for publicly owned treatment works in existence on July 1, 1977 or approved prior to June 30, 1974 with four years allowed for completion.
- (C) By July 1, 1977, any more stringent limitations including those necessary to meet water quality standards, treatment standards, or schedules of compliance.
- (2) (A) By July 1, 1983, effluent limits applying the best available technology for industries which is economically achievable for that category of point source as defined by the Administrator (section 304(b)(2)), including the elimination of the discharge.
- (B) By July 1, 1983, effluent limits applying the best practicable treatment for the publicly owned treatment works.

02-713-04 Strategies

Actions leading to improved surface water quality are summarized below:

Municipal facilities currently under construction

- (1) **Westerly:** Upgraded treatment plan from primary to secondary treatment. New interceptor and collector sewers for expanded service area. (To be completed June, 1978.)
- (2) **South Kingstown (Narragansett) Regional System:** New secondary treatment plant. (To be completed September, 1976.) New interceptor and collector sewers for expanded service areas (both towns). (To be completed March, 1977.)

Municipal facilities programmed

- (1) **Stonington, Connecticut:** New secondary treatment plant. New interceptor and collector sewers to replace combined sewer system and for expanded service area. (Approved by EPA, December, 1975; construction delayed by

litigation, completion expected two years after start of construction, probably complete in 1978.)

- (2) Westerly: New interceptor and collector sewers to replace individual sewage disposal systems in the Watch Hill area, with treatment at Westerly municipal plant. (Timing contingent upon state and local funding.)
- (3) Hopkinton: New interceptor and collector sewers in Ashaway Village to replace individual sewage disposal systems; tie-in to Westerly system. (Tentative; design, cost, and timing not yet established.)

Municipal facilities needs to be determined under Section 208 areawide planning program

- (1) Hopkinton and Richmond: Solutions for abatement of pollution from inadequate individual sewage disposal systems in the Hope Valley-Wyoming area (Hopkinton-Richmond).
- (2) North Kingstown: Determination of need for and time frame of public sewer service to Saunderstown Village, with consideration for waste treatment by the South Kingstown regional treatment plant.
- (3) South Kingstown: Determination of need for and time frame of public sewer service to West Kingston Village, with consideration for impact on South Kingstown regional system currently under construction.

Industrial and other treatment improvements programmed

- (1) Kenyon Piece Dye Works (Richmond): Treatment to be upgraded by November, 1976.
- (2) Charbert, Inc. (Richmond): Discharge to be eliminated by December, 1976. (Construction currently underway.)
- (3) New Bradford Dyeing Association (Westerly): Treatment to be upgraded by November, 1976.
- (4) Yardney Electric Corporation and Harris Intertype Corporation, Cottrell Division (Stonington, Connecticut): Partial tie-in to new Stonington municipal system, remainder pre-treated before discharge to Pawcatuck River.
- (5) University of Rhode Island: Elimination of boiler blowdown discharge through in-ground disposal. (Timetable unavailable.)

- (2) In order to accommodate the wastewater from Ciba-Geigy and from future industrial and residential expansion, the capacity of the Cranston wastewater treatment facility must be expanded to 23 0 million gallons daily (mgd) and must be upgraded to provide nitrification treatment during the summer months. A facilities plan (201) has been completed and the plant expansion is currently under design.
- (3) Warwick and West Warwick must upgrade their wastewater treatment facilities so that nitrification treatment can be provided during the summer months. Warwick is currently preparing a facilities plan and West Warwick should initiate a facilities plan this year (1977) to address this problem.
- (4) Construct a municipal sewerage system in eastern Coventry where subsurface disposal is a problem. A treatment facility should also be constructed which will provide nitrification treatment during the summer months or the Coventry system should be regionalized with the West Warwick plant.
- (5) Complete the facilities plan for the City of Providence detailing the needed sewerage system improvements and then embark upon a program for making those improvements.
- (6) Complete a sewer system evaluation for the Johnston sewerage system to determine if it is subject to excessive infiltration/inflow. A facilities plan must then be prepared to detail sewerage system improvements needed to correct surcharging (sewerage backups) that presently occurs in many parts of the system.
- (7) The areawide wastewater treatment management (208) study will further consider possible regional or out-of-basin transfer alternatives in order to improve water quality in the Pawtuxet River basin.

02-715 WATER QUALITY MANAGEMENT PLAN FOR THE MOOSUP RIVER BASIN

02-715-01 Introduction

State Guide Plan Element 715, Moosup River Basin Water Quality Management Plan, was originally approved by the State Planning Council on January 12, 1978 and amended last on August 12, 1982. This basin plan will be deleted and its geographical area (see Figure 010-710(1)) will be discussed in the Pawtuxet Region Water Resources Management Plan which is scheduled to be updated in the first quarter of calendar year 1985.

The Moosup River Basin, which is a minor sub-basin of the Thames River Basin, lies in the extreme northwest corner of Rhode Island and in the northeastern portion of Connecticut. The Moosup Basin encompasses approximately 61 square miles in Rhode Island and includes parts of the towns of Burrillville, Coventry, Foster and Glocester. The Rhode Island portion of the basin has remained primarily rural, while areas in Connecticut have experienced and will continue to experience growth pressures.

Water quality in the Moosup Basin in Rhode Island is uniformly good — Class A or B. The streams in the planning area are divided into 12 "segments" for the purposes of classification and analysis.

02-715-02 Issues Addressed

The issues are presented in Section 02-712-02 and are common to this plan.

02-715-03 Goals and Policies

The goals of the plan are those established in the State Guide Plan: (1) to reduce stream pollution to levels set in the state's stream classification plan, and (2) to coordinate development, conservation and use of the state's water resources. This plan also incorporates the applicable data, findings, and recommendations for the multi-state region and for this drainage basin presented in the plan for water and related land resources (level B plan) adopted by the New England River Basins Commission, as provided for by Section 209 of the Federal Water Pollution Control Act of 1972 (PL 92-500).

02-715-04 Strategies

No public sewer or water service is available in the planning area. At this time, there are no identified sources of pollution, either point or nonpoint, nor are any municipal treatment facilities programmed for the basin.