

MONITORING AND EVALUATION PROGRAM
for the NEW JERSEY STATE
DEVELOPMENT AND REDEVELOPMENT PLAN

The New Jersey State Planning Commission

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the State Development and Redevelopment Plan
in accordance with the State Planning Act,
and is incorporated in the Plan by reference.*

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The report draws on information from the following studies:

"Tracking Growth and Change in New Jersey, A Framework for a Growth Management Information Program for the New Jersey State Development and Redevelopment Plan." prepared for the New Jersey Office of State Planning by the Urban Land Institute, 1988.

Assessment of Trend Infrastructure Needs to 2010, prepared by the Office of State Planning for the New Jersey State Planning Commission. (Trenton, February, 1992).

Impact Assessment of the New Jersey Interim State Development and Redevelopment Plan. Report I: Research Strategy-Research Design, Model Descriptions, Case Study Profiles, Variables Selection. Prepared for the New Jersey Office of State Planning by the Rutgers University Center for Urban Policy Research, February 15, 1992.

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EXECUTIVE SUMMARY

This report, prepared pursuant to the New Jersey State Planning Act, defines an approach to monitoring and evaluating trends in economic, environmental, infrastructure, intergovernmental, and community life conditions in New Jersey during the implementation of the New Jersey State Development and Redevelopment Plan. The program is intended to:

- (1) monitor primary data which should be monitored to determine future changes in basic conditions in New Jersey;
- (2) evaluate this data that will define concerns and issues that may indicate needs for adjustment of the Plan; and
- (3) periodically re-evaluate the monitoring and evaluation program to up-date and improve the program.

Data Requirements. Data that will indicate changing conditions in five major issue areas--economic conditions, environmental conditions, infrastructure conditions, conditions of intergovernmental relations, and community life conditions—will be monitored. The initial monitoring program will rely on available data from a variety of identified sources. Periodic reporting of required data will be provided through interagency agreements as necessary. In some instances, additional data will be requested.

Data obtained through the monitoring program will be used by the Office of State Planning to evaluate changing conditions throughout the state. It also will be available for the use of state agencies, local governments, and other public entities in additional analyses of trends in development and redevelopment.

Data Evaluation. Data will be evaluated on a periodic basis to determine trends in basic conditions that will influence the capability of state agencies to achieve the objectives of the Plan. The evaluation program will also determine feasible adjustments in Plan implementation measures that will serve to better achieve Plan objectives, and will suggest possible needs for modifying Plan objectives to relate more closely to changing conditions.

Periodic Program Evaluation. A routine procedure for periodic assessment of the monitoring and evaluation program is defined. The assessment will identify problems in selection and use of data, evaluate potential new data sources, and analyze evaluation methods and procedures. This aspect of the monitoring and evaluation program is critically important, given the complexities of data collection and analysis that involve many state agencies and other sources.

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INTRODUCTION

The State Development and Redevelopment Plan consists of objectives, policies, and implementation approaches that were conceived and promulgated within a framework of basic data about conditions in New Jersey and projected estimates of future conditions. Where basic data was unavailable, and for projections of future conditions, the State Plan necessarily rests on assumptions, estimates, and forecasts of demographic, economic, and other factors. Although these premises and projections have been determined through the use of the best available professional advice, using state-of-the-art methodologies, they still lack complete certainty. In addition, current projections cannot account for all possible changes that may affect the state, including effects of national and international occurrences.

Foreseeing those circumstances, the State Planning Act that provided for preparation of the State Development and Redevelopment Plan also called for establishment of an ongoing monitoring and evaluation program. To the extent that the Plan represents, a balancing of competing, dynamic forces throughout the state and within individual jurisdictions, an information tracking and response mechanism becomes a critical component of a truly proactive plan and implementation program. Furthermore, the Plan will be implemented within a context of continuous change, including fluctuations in economic cycles, new federal legislative requirements, changing patterns of population migration, and emerging crises in environmental or urban conditions. In order to adapt the State Plan to these changing conditions, they must first be identified and analyzed, which is the primary purpose of this monitoring and evaluation program.

The program is unique in the nation. Among the nine states that have enacted and currently administer state growth management programs," none has established a continuous monitoring and evaluation program to determine the degree to which state goals and objectives are being met through various implementation programs.

States that have adopted requirements for mandatory comprehensive planning by local governments and state interagency planning have kept periodic records of official acts that meet state requirements, such as the number of local governments that have prepared and submitted plans, the number of such plans that have received state approval, and the extent of state interagency cooperation agreements.

From time to time, also, some states (e.g., Vermont and Florida) have reviewed and adjusted their state goals for development. The state of Oregon, with 18 years of experience in state-level growth management, only recently commissioned a brief study

of the extent to which its state goals were being achieved through actions by local governments.¹ Soon after Washington inaugurated its state growth management program in 1990, the Washington State Institute for Public Policy proposed a relatively comprehensive monitoring program, but with budgets limited by the current recession the program has not been adopted.²

Otherwise, states have depended on occasional, independent assessments of goal achievement by academics and by organizations such as the 1000 Friends of Oregon.³ These evaluations usually have been narrowly addressed to consider actions of specific communities or to analyze specific aspects of development or administrative procedures.

New Jersey's State Plan for Development and Redevelopment represents a somewhat more ambitious effort to guide growth and change through state action than have the programs of other states. Accordingly, it is even more important that the State Plan and its implementation should be accompanied by a program to determine, on a regular basis, changes in the conditions the State Plan addresses, the apparent effects of the State Plan on those conditions, and possible modifications in implementation efforts that may be required to achieve State Plan objectives.

The program outlined in the succeeding sections represents an initial approach to monitoring and evaluation. It incorporates readily available data sources for monitoring purposes, and utilizes relatively uncomplicated evaluation methods to determine potential effects of changing conditions. It also includes procedures to improve the program as data and methodologies evolve. The program is more than a "spot check" of progress toward implementation of the Plan-it provides an established, routine process for making the State Development and Redevelopment Plan a workable instrument for improving living and working conditions in New Jersey.

¹ See the series of studies published by the Oregon Department of Land Conservation and Development in 1991, variously authored and dated, but including several case studies of the effectiveness of urban growth boundaries, a review of growth management strategies of other states, and an evaluation of annexation and infrastructure issues.

² Gary Pivo and David Rose, Toward Growth Management Monitoring in Washington State. (Olympia, Washington: Washington State Institute for Public Policy, January, 1991) and updated through a telephone interview by this author with Gary Pivo, March 18, 1992.

³ See, for example, Paul Ketchum and Scott Siegel, Managing Growth to Promote Affordable Housing: Revisiting Oregon's Goal 10. Executive Summary (Portland, Oregon: 1000 Friends of Oregon, September, 1991; "Evaluation of [Vermont] State Agency Interim Plans," prepared by The Council of Regional Commissions. (Administrative memorandum, May 22, 1991.); [Florida] Governor's Task Force on Urban Growth Patterns. Final Report. (Tallahassee: June, 30, 1989); [Florida] Governor's Growth Management Task Force. Final Report. (Tallahassee: May, 1991).

PURPOSES OF THE MONITORING AND EVALUATION PROGRAM

The overall purpose of the monitoring and evaluation program is to establish a means of providing critical information for decisionmakers to assist them in guiding implementation of the State Plan towards attainment of State Plan objectives. This goal recognizes that specific elements of the implementation program may require adjustment to respond to evolving conditions either within or external to the state. State and local officials will need the best possible data on which to base those decisions.

Within that broad goal, the program has several more specific aims. First, it is intended to identify and obtain key data that will indicate changes in development and redevelopment conditions throughout the state and in individual jurisdictions. This information will be useful not only in tracking trends--and determining variations from expected trends--but in providing base data for more intensive analyses of emerging development and redevelopment issues by state agencies and local governments. The program will provide benchmark data that will improve coordination among state agencies and between local governments.

Second, the program is structured to provide a means to determine the extent to which State Plan policies and objectives are being achieved. It furnishes data to measure the extent to which conditions are moving towards or away from State Plan objectives, and provides for conduct of analyses to determine whether those trends will continue to support or thwart the intentions of the State Plan. The program is intended to signal needs to modify implementation programs to reflect unanticipated conditions.

Third, the program provides a mechanism by which to reconsider State Plan policies and objectives in light of changing conditions. The trends measured by the program may define ways in which the State Plan is ineffective in guiding development and redevelopment. Accordingly, the State Planning Commission may take steps to update or modify the State Plan. The evaluation of changing conditions may suggest ways to fine-tune or consider alternatives to current policies and goals.

Fourth, the monitoring and evaluation program will allow the State Planning Commission and Office of State Planning to carry out responsibilities assigned by the State Planning Act. The State Planning Commission is to

- o monitor the development and promote procedures that effect cooperation and coordination among state agencies and local governments with regard to the development of plans, programs and policies which affect land use, environmental, capital and economic development issues;
- o monitor the provision of technical assistance to local governments;
- o review state and local government planning procedures, relationships, and programs and recommend administrative or legislative action to promote a more efficient and effective planning process;
- o review any bill introduced in either house of the Legislature which appropriates funds for a capital project and study the necessity, desirability and relative priority of the appropriation by reference to the State Development and Redevelopment Plan, and make recommendations with respect to the bill.

The Office of State Planning is to:

- o publish an annual report on the status of the State Development and Redevelopment Plan and progress toward achieving its goals, the degree of consistency achieved among municipal, county, and state plans, the capital needs of the state, and progress towards providing housing where such need is indicated;
- o provide planning services to other agencies or instrumentalities of state government and coordinate planning to avoid or mitigate conflicts between plans;
- o review the plans of interstate agencies that affect New Jersey;
- o compile statewide data, including forecasts of population, employment, housing, and land needs for development and redevelopment and prepare alternative growth and development strategies to accomplish the goals of the State Plan.

The monitoring and evaluation program therefore serves a number of purposes that will help to implement the State Plan and to maintain the Plan's effectiveness in guiding development and redevelopment.

GENERAL APPROACH AND METHODOLOGY OF THE PROGRAM

The ideal monitoring and evaluation program would be comprehensive in scope, tracking data on all significant components of growth and change, and intensive in detail, allowing evaluations of conditions in areas as small as census tracts. This scale of program would require the use of computer models to absorb and analyze large amounts of data emanating from numerous sources. It would also require establishment of new data sources to enable monitoring of many components of growth not currently tracked. Such a program, however, would be prohibitively costly, at least in its early stages.

Instead, the initial program should establish baseline data sufficient to identify significant trends in five principal areas:

- o economic growth and change, including income and employment growth, business earnings, formations, and expansions, housing costs and prices, agricultural production;
- o infrastructure capacities, needs, and costs;
- o environmental quality, including changes in major environmental qualities, environmentally-sensitive lands, open space, and agriculture;
- o intergovernmental coordination, including fiscal, administrative, and programmatic considerations;
- o community living qualities, including housing affordability, residential and employment environments, and quality of public services.

In each of these areas, selected data will be obtained on a regular basis to form the fundamental data bank for monitoring and evaluation. The initial data selection is based on the data inputs employed in the Impact Assessment of the Interim State Development and Redevelopment Plan, augmented by other data used in the Assessment of Trend Infrastructure Needs to 2Q1Q. These data will permit state agencies to determine important changes in conditions related to and affecting the implementation of the state plan.

A second level of this continuous monitoring program pertains to occasional, detailed studies of specific issues identified through monitoring. These might be termed "smoke alarm" monitoring devices, set off by unforeseen or unusual trends detected by the monitoring program. When such circumstances occur, the Office of State Planning will

undertake, request other state agencies to undertake, or commission special studies to determine causes of variations from expected trends.

To explain unexpected trends, the occasional analyses would obtain and use data not otherwise routinely available. The issues analyzed by the assessments would relate to unexpected data findings, either in geographic differences, within development types, in community conditions, or among jurisdictional administration of plan implementation. The data thus obtained may be added to the data bank for continuous monitoring.

The general approach to structuring a monitoring and evaluation program, therefore, is to begin with available data and expand the data base as possible and feasible over time. To this end, the program calls for continuing study of potential data sources and implementation of additional data assembly, including occasional assessments of specific concerns and issues as they arise. The monitoring and evaluation program consists of an initial phase utilizing existing data and evaluation models, to be expanded as feasible and necessary to effectively track development and redevelopment conditions in New Jersey.

MONITORING AND EVALUATION OF ECONOMIC CONDITIONS

One of the principal purposes of the State Plan is to promote and maintain a vital economy in New Jersey, capable of providing a satisfying quality of life for the state's residents. To accomplish this, the State Plan attempts to establish a reasonable balance between economic development objectives and the Plan's goals for environmental preservation, provision of public services, and residential quality of life. To ensure that these objectives are satisfactorily addressed during the implementation of the State Plan, the monitoring and evaluation program should track economic conditions and the relationships of economic development to other aspects of development and redevelopment.

Description of the Economic Objectives of the State Plan

Overall, the economic statewide goal of the State Development and Redevelopment Plan is to promote beneficial economic growth, development, and renewal. The State Plan recommends that we should strive to create a supportive climate for business in government operations and reach the full economic potential of the state without destroying the character of communities and the quality of the environment. More specifically, the primary economic objective is to accommodate the full amount of population and employment growth projected for the state to the year 2010 in ways which help to revitalize urban areas, do not impair natural resources and environmental qualities, and assure adequate housing and public services at reasonable costs.

In assessing the effectiveness of the economic development component of the State Plan, the importance of "reasonable balance" among goals is essential. Beneficial growth should be monitored in the context of a pattern and rate of growth that realizes the economic goals of the Plan. Evaluating progress toward the Plan's economic objectives is accomplished by establishing various parameters and criteria for measuring economic conditions and trends at numerous points in time and considering "trade-offs" with other goals and objectives of the Plan.

The State Plan's economic objectives pertain to economic development, redevelopment, and Planning Area development.

Economic Development Objectives

1. Improve the standard of living for New Jersey residents by building upon the state's strategic economic and geographic positions;
2. Target areas of critical capital spending to retain and expand existing businesses;
3. Foster the application of modern techniques to the existing economic base;
4. Encourage the development of new enterprises;
5. Elevate the skills of the state's work force;
6. Encourage economic growth in locations and ways that are both fiscally and environmentally sound;
7. Direct economic development activities to promote urban revitalization;
8. Locate State and cultural facilities and services to anchor and support major economic development and redevelopment activities in areas of existing development;
9. Reduce economic development obstacles such as lengthy permitting procedures;
10. Support economic development and employment that enhances the viability of agriculture.

More specific or measurable targets related to the above are as follows:

- increased level of international trade;
- increased level of tourism;
- increased availability, locations, and amount of affordable housing;
- improved balance of jobs and housing within housing market regions, and in municipalities as appropriate;
- growth in appropriate industrial and commercial sectors.

Redevelopment Objectives

An important goal of the State Plan is to revitalize the state's urban areas. The economic redevelopment objectives consist of the following:

1. Attract employment and residential population back into distressed urban and suburban communities;
2. Invest public resources to leverage private investment in jobs and housing (coordinate and target public resource investments);
3. Provide comprehensive public services to enhance economic opportunities of the urban population.

Targets include:

- increased jobs and residential population in Centers and in Metropolitan Planning Areas;
- increased participation in public/private partnerships in redevelopment projects;
- improved access to needed infrastructure capacity and to social and educational services in revitalizing Centers and Metropolitan Planning Areas.

Planning Area Policy Objectives for Economic Development

The State Plan establishes economic objectives which are unique to each of the five types of Planning Areas. They are as follows:

1. Metropolitan Planning Areas (PA1). Encourage redevelopment efforts such as infill and land assembly, public/private partnerships, and infrastructure improvements.
2. Suburban Planning Area (PA2). Guide economic development into centers and consistent with existing or planned infrastructure.
3. Fringe Planning Areas (PA3). Focus rural economic development activities • (e.g., resource extraction, agriculture) in the environs and direct higher intensity employment in Centers.
4. Rural Planning Areas (PA4). Promote economic activities within Centers that complement and support the agricultural community (e.g., opportunities for off-farm income).

5. Environmentally Sensitive Planning Area (PAS). Support recreational, natural and cultural resource-based activities in environs and locate economic development opportunities responsive to the needs of the surrounding region in Centers.

Targets include:

- increased redevelopment in Metropolitan Planning Areas;
- increased proportion of economic development and employment in Centers.

Basic Models Available to Track Economic Conditions

The OSP Income Model

The Office of State Planning has developed, a computer program intended to estimate incomes for New Jersey's future residents. The program consists of two parts: the income projection model and the income distribution model. The income projection model projects personal income by county, estimates average state per capita income, average household income for each of the state's counties, and average per capita income for each of the municipalities. Forecast years are 1995, 2000, 2005, and 2010. The income distribution model uses the county incomes estimated by the income projection model and estimates the number of households in each of eight income groups.

CUPR Econometric Model

The econometric model provides an appraisal of future statewide economic conditions statewide. The importance of the CUPR econometric model is that it interrelates key economic indicators or variables (e.g., income, employment, wages, etc.) to simulate potential economic conditions. The model can project output and employment at the one- or two-digit levels and income, population and other variables at the aggregate level. It estimates income, employment, population, building permits, and property values for Labor Areas.

CUPR's Economic and Fiscal Models

These models analyze the demand for primary and secondary jobs as well as the fiscal cost-revenue implications of the service population as introduced by growth. The models are used to evaluate the overall economy by estimating the number of jobs produced and their locations under various scenarios. In addition, they define negative or positive impacts of residential and nonresidential development on the fiscal solvency of local governments.

CUPR Economic Impact Model

The CUPR Economic Impact Model monitors changes in employment, earnings (for goods-producing and service-producing), and consumption expenditures (for convenience goods and shopping goods) at the municipal level. It forecasts the volume of the above that will be engendered by the construction and operation of residential and non-residential facilities in each municipality. The model also forecasts the direct economic impacts engendered by the operation of these facilities, and the total economic impacts of the operation. It is driven by data derived from the Housing Supply /Demand Model (e.g., projections of the number and average value of the housing units that will be built in a municipality) and the CUPR Econometric Model (e.g., projection of goods-producing employment and service-producing employment for municipalities).

Key Data Required for Monitoring and Evaluation

Many types of economic conditions and trends will indicate the extent to which State Plan objectives are being achieved. Many of these variables or parameters are external to the growth management policies of the Plan--e.g., the unemployment rate, new residential construction rate, interest rates, and per capita income. It is important to monitor these economic conditions to analyze whether conditions directly related to Plan policies are affecting these measures in either positive or negative ways. To accomplish this, the models above require inputs of the following items of data.

1. Per capita income for the state, regions and municipalities (U.S. Bureau of Economic Analysis, NJ Department of Labor)
2. Employment and unemployment for the state, regions, and municipalities (U.S. Bureau of Labor Statistics, NJ Department of Labor)
3. Population characteristics (NJ Department of Labor, NJ Department of Community Affairs)
4. Wage rates (U.S. Bureau of Economic Analysis, NJ Department of Labor)
5. Retail sales for the state, regions, and municipalities (U.S. Census)
6. Employment projections by county (NJ Department of Labor, Office of State Planning, NJ Department of Transportation)

7. Residential units built (permits issued) by type (NJ Department of Labor)
8. Nonresidential structures built (permits issued) by county and municipality (NJ Department of Labor)
9. Vacancy rates, residential and non-residential structures (Various sources for incremental data)

The State Plan also suggests that in order for any distressed municipality to be eligible to receive priority for distress in the allocation of State funds, it must prepare a strategic revitalization plan and program. Therefore, the monitoring program should track the preparation of these plans by each "distressed" municipality.

In addition, general redevelopment efforts which might be monitored include:

1. Municipal or nonprofit acquisition of land or buildings to support redevelopment and adaptive reuse;
2. Creation of public/private partnerships for redevelopment;
3. Creation of enterprise zones to promote redevelopment;
4. Commitment of public and private funds for redevelopment of targeted areas;
5. Establishment of special taxing districts to provide funds for redevelopment.

Economic data that is currently not routinely collected but would be very useful in evaluations of development conditions include housing prices standardized for quality and location, land prices standardized by type of permitted use and location, and commercial space lease rates for standard types of space.

MONITORING AND EVALUATION OF ENVIRONMENTAL CONDITIONS

The State Plan intends to protect the environment, conserve the state's natural resources, and preserve and enhance historic, cultural, open space and recreational lands and structures. More specifically, the goals are to conserve agricultural areas, fresh and saltwater wetlands, flood plains, stream corridors, aquifer recharge areas, steep slopes, habitats of unique flora and fauna, and forests, as well as areas with scenic, historic, cultural and recreational values. The policies attempt to guide the location, types and forms of development in ways which do not impair natural resources, which reduce the rate of conversion of agricultural land to non-agricultural land, and which protect historic lands and structures.

The State Plan recommends that environmental quality be monitored by tracking progress on maintaining clean ground and surface waters, wildlife habitats, air quality, scenic areas, open space features, etc. Variables not directly connected to the policies of the State Plan (e.g., air contamination from sources in nearby states, ozone levels, etc.) should also be monitored. The Plan's strategy is that retention of low intensities of development in areas unserved by major infrastructure should lead to the accomplishment of this goal.

Description of the Environmental Objectives of the State Plan

The following briefly describes the general environmental objectives of the State Development and Redevelopment Plan.

1. Plan the location, intensity and design of new development to preserve the capacity of the natural resource systems;
2. Increase infrastructure capacities and growth potential in areas and locations (compact forms) which will protect water resources, critical habitats, .. important forests, etc;
3. Plan transportation and make transportation alternatives feasible to help maintain air quality standards;
4. Identify important historic, cultural, open space and recreational lands and guide growth in locations that protect them - promote and preserve the agricultural industry and retain farmland;

5. Ensure adequate energy resources through conservation, facility modernization and cogeneration.
6. Support planning and facility development efforts with respect to solid and hazardous waste treatment, storage and disposal by regionalizing waste management facilities and promoting recycling and source reduction.
7. Inventory and protect historic areas, historic sites, landscapes, archeological sites, and scenic corridors;
8. Identify, in municipal and county plans, aquifer recharge areas as Critical Environmental Sites - identify Flood Control Priority Areas, Critical Habitats, Critical Slopes as Critical Environmental Sites.

More specific or measurable targets related to the above include:

- improved water quality;
- improved air quality;
- increased local planning efforts to protect the integrity of Critical Environmental Sites;
- increased identification of Critical Environmental Sites in the State Plan;
- reduced rates of development in Critical Environmental Sites;
- increased viability of the agricultural industry;
- increased long-term preservation of high quality agricultural lands in the Rural Planning Area, and in other Planning Areas as appropriate;
- increased efficiency in energy use;
- increased rates of recycling and source reduction of solid and hazardous wastes.

Basic Models Available to Track Environmental Conditions

CUPR Land Capacity Model

This model calculates land consumption for urban development. It converts household and employment growth to the demand for residential and nonresidential structures;

residential and nonresidential structure growth is then converted to demand for raw land, which can be compared to the total inventory of developable land by municipality.

CUPR Frail Environmental Lands Model

This model uses historic rates of consumption of sensitive lands (forests, steep slopes, critical watershed areas) to determine potential impacts of development on inventories of sensitive lands.

CUPR Agricultural Lands Model

This model identifies uses and conditions of agricultural land and projects how this land will be consumed by development for the state and counties.

CUPR Air Pollution Model

Projections of traffic expressed in vehicle miles travelled per year are calculated from projections of county population and lane-miles of State highways and multiplied by emissions factors for various pollutants to estimate the generation of air pollutants.

CUPR Water Pollution Model

This model views historic use of septic and secondary water treatment and tracks its effect on water quality. Lane-miles are used to generate water pollution estimates attributable to runoff. (Information on clustering and density under different development scenarios can be considered.)

Key Data Required for Monitoring and Evaluation

Population and employment data, plus data on types of development, is required as base information. The specific types of data required as inputs to the models above include:

1. Vacant land and farmland by municipality (amount of developable land) (NJ Department of Treasury, Office of State Planning Housing Allocation Model)
2. Amount of land designated as flood plain by county (NJ Department of Environmental Protection and Energy)
3. Amount of land in steep slopes by municipality and county (NJ, Department of Environmental Protection and Energy, US Department of Agriculture, Soil conservation Service, Soil Surveys)
4. Amount of land in wetlands by county (NJ Department of Environmental Protection and Energy Critical Area Maps, US Army Corps of Engineers,

Wetlands Designations)

5. Amount of land in critical habitats by county)' (NJ Department of Environmental Protection and Energy, Division of Fish, Game, and Wildlife)
6. Amount of land in aquifer recharge areas by county (NJ Department of Environmental Protection and Energy, Division of Water Resources, County 208 Water Quality Management Plans)
7. Amount of land in stream encroachment designation by county (NJ Department of Environmental Protection and Energy)

Impacts of development on each of these types of environmentally-sensitive lands can be monitored through periodic (e.g. quarterly) county reports on amounts of such lands included in development permit applications and proportions to be preserved or developed. This procedure would be aided by digitizing approved major subdivision location data USGS or aerial photos. The OSP should initiate actions to establish such a monitoring system.

MONITORING AND EVALUATION OF INFRASTRUCTURE CONDITIONS

The impacts of growth and change on infrastructure systems were a major stimulant to interest in a state plan for New Jersey. Increasingly congested highways, water supply shortages and other problems with schools, waste disposal, and other capital facilities prompted concerns about urban and rural development patterns. The objectives of the State Plan recognize the fundamental importance of infrastructure in shaping the location, character, and quality of urban development and redevelopment. The monitoring and evaluation program, therefore, must link those objectives to continual monitoring of infrastructure conditions throughout the state.

Description of the Infrastructure Objectives of the State Plan

The State Plan intends to provide infrastructure related services more efficiently by restoring systems in distressed areas, maintaining existing infrastructure investments, creating more compact settlement patterns in appropriate locations in suburban and rural areas, and timing and sequencing the maintenance of capital facilities service levels with development throughout the state.

Infrastructure consists of capital facilities and land assets under public ownership, or operated or maintained for public benefit, that are necessary to support development and redevelopment and to protect the public health, safety, and welfare of New Jersey citizens. Infrastructure includes but is not limited to facilities for water supply, wastewater disposal, transportation, solid waste disposal, drainage, flood protection, shore protection, open space and recreation, education, public health, public safety, public buildings, public housing, energy, telecommunications, and farmland retention.

Because investments in these facilities have lagged considerably behind growing demands, the State Plan focuses on making future investments as efficient and cost-effective as possible. It calls for directing growth to settled or urbanizing areas in which infrastructure systems already exist, for providing adequate levels of infrastructure to serve development and redevelopment needs, and for making investments based on strategic financial planning that accounts for maintenance and replacement costs as well as initial capital costs and that leverages private investments to the maximum amount possible.

The specific objectives of the Plan for infrastructure investments are summarized below.

1. Incorporate in local and state agency plans the life-cycle needs for infrastructure that will arise from development proposed in those plans;
2. Prepare capital facility budgets that assure maintenance of level-of-service standards for all infrastructure systems and that identify the sources of financing for proposed facilities;
3. Establish level-of-service standards to assure adequate facility capacities to support development within Centers and links between Centers;
4. Coordinate municipal, county, and state resource management programs for the provision of capital facilities and services;
5. Determine investments in and construction practices for infrastructure in ways that promote:
 - economic development and redevelopment; -
 - sharing of utility rights-of-way where possible; --
 - construction of affordable housing; ~ preservation and
 - renewal of historic, cultural and
 - scenic resources; -- protection of the functional
 - integrity of natural
 - resources;
 - attainment of national ambient air quality standards; --
 - adequate treatment of hazardous and nonhazardous waste
 - disposal sites and adjacent areas;
6. Plan and design infrastructure facilities to protect natural resources, water quality, recreational facilities and open space from impacts of infrastructure construction and the development that it may support or induce;
7. Plan, design, construct, and maintain water supply facilities, flood control and stormwater management facilities, and wastewater collection and treatment facilities to maintain water quality and sustainable yields;
8. Coordinate investments in recreational facilities with acquisition of environmental and recreational lands, giving priority to Critical Environmental Sites and to areas of high scenic and recreational value;
9. Support seasonal demands of travel and tourism, especially in recreational areas of the New Jersey Shore and Highlands, with infrastructure investments that provide adequate mobility and water supply while protecting the resource, and support transition of seasonal communities to year-round use by infrastructure investments that remedy threats to public health and safety and

prevent environmental degradation;

10. Direct transportation investments to linking residential areas with employment areas and enhancing goods movement, to preserving and maintaining the existing transportation network, and to expanding mobility through emphasis on public transit, nontraditional transit modes, innovative management of resources, and development of supportive land use patterns.

The monitoring and evaluation program should be structured to determine the extent to which these objectives are being achieved during the implementation of the State Plan through the use of more specific and measurable targets such as those identified in the following:

- increased frequency of satisfying established levels of service and quality standards;
- increased compatibility among capital improvement programs, infrastructure needs assessments, and applicable local master plans and State agency functional plans;
- improved mobility among Centers, enhancing commutation and goods movement and satisfying seasonal needs.

Basic Models Available to Track Infrastructure Conditions

A number of models were employed to translate population and employment data, and existing conditions of infrastructure, into projections of infrastructure needs and costs for the OSP Infrastructure Needs Assessment and the CUPR Impact Assessment. These models permit continuous updating of current and future infrastructure needs.

OSP Roads Model. This model projects local (county and municipal) needs for roads arising from new growth, based on establishment of correlations between population densities and road mileage densities. The model also projects costs for projected road needs.

CUPR Roads Model. The CUPR model uses an approach similar to the OSP Roads Model but also includes state roads. Projections of state road requirements are disaggregated to the county level.

NJDOT Roads Model. The New Jersey Department of Transportation uses a computer model called the Highway Performance Monitoring System, administered by the Federal Highway Administration. Using an inventory of state highway physical and operating characteristics and projections of pavement deterioration and traffic growth, the model identifies future improvement needs and costs.

OSP School Facilities Model. Part of the OSP Growth Simulation Model, this model estimates new capacity needs and costs for public schools in response to population and employment within each municipality.

CUPR School Capital Facilities Model. This model determines school enrollments for each municipality, school capacity requirements accounting for existing capacities, and capital cost requirements for new space.

OSP Wastewater Model. This model estimates needs and costs for wastewater collection and treatment facilities within each municipality based on population and employment projections.

CUPR Water and Sewer Demand Model. Based on population and employment information, this model projects water and sewer demands. Water demand includes outdoor demand by household types. Projections are for state and regional levels. Additional models calculate water and sewer costs.

CUPR Transit Model. Transit propensities of all municipalities are determined by correlating net residential densities to various types of transit service, using household projections and, for commuter rail, a locational determination.

These models provide methods for determining current and future demands for the major components of infrastructure: roads, schools, water supply, sewage collection, and transit. All include data on existing conditions.

In addition to the data base available at the state level for operation of the models described above, the State Plan calls for periodic assessments of capital facility needs and costs by counties and municipalities. This information is critical to programming of capital improvements. At present, the data array available in each jurisdiction is not known.

Key Data Required for Monitoring and Evaluation

Many of the data items identified below are important inputs to the models described above. In other cases, key data is not yet generally available but should be obtained to assist in periodic evaluation of infrastructure conditions and needs.

Roads and Transit Systems

1. Current mileage of state, county, and local roads, by municipality. (New Jersey Department of Transportation, input to OSP Roads Model)
2. Current conditions of state roads. (New Jersey Department of

Transportation)

3. Current traffic conditions on state roads. (New Jersey Department of Transportation)
4. Current traffic conditions on turnpike and highway authorities and commissions. (New Jersey Department of Transportation and independent authorities and commissions)
5. Current vehicle registration by regions and/or localities. (New Jersey Department of Transportation)
6. Road miles by type for which funds are obligated for near-term construction by state or local governments. (New Jersey Department of Transportation; not routinely compiled for local roads through annual budgets and capital improvement programs of counties and municipalities)
7. Current transit ridership. (New Jersey Department of Transportation, NJTransit)
8. Population propensity to use mass transit. (CUPR Transportation Model)
9. Funded transit improvements that add capacity. (NJDOT, NJTransit)

Water and Sewer Systems

1. Current sewer and water system capacities by municipality. (New Jersey Department of Environmental Protection and Energy)
2. Water and sewer consumption by type of land use. (American Society of Civil Engineers and other sources as national averages; data specific to New Jersey unavailable)
3. Water and sewage treatment quality levels. (American Society of Civil Engineers and other sources; quality standards and measurements from New Jersey Department of Environmental Protection and Energy)
4. Programmed water and sewer improvements. (New Jersey Department of Environmental Protection and Energy)

School Facilities

1. School building pupil capacities for elementary, middle, and high schools for New Jersey school districts. (OSP School Facilities model)

2. Household size and school children by housing type and bedrooms. (CUPR Models)
3. Current school enrollments for elementary, middle, and high schools for school districts. (NJ Department of Education)
4. Prospective school enrollments. (OSP School Facilities Model, CUPR School Facilities Model)
5. Programmed/authorized/funded school facility improvements. (New Jersey Department of Education)

Freight, Aviation, and Other Transportation Facilities

1. No data are regularly collected on statewide needs. Amount of use of these facilities, compared to available capacity and funded capacity expansions, should be obtained annually. (Authorities, commissions, and state agencies responsible for transportation facilities)

Energy and **Telecommunications**

1. No data are regularly collected on statewide needs. Rates of use of telecommunications and energy systems, compared to available capacity and funded capacity expansions, should be obtained annually. (New Jersey Board of Public Utilities)

Farmland Retention

1. Number of acres acquired per year, either in perpetuity or for a given time period. (New Jersey Department of Agriculture)

Stormwater Management

1. Data defining problems in stormwater management and steps taken to provide solutions. (New Jersey Department of Environmental Protection and Energy)

Shore Protection

1. Major erosion problems, amount of land acquisition for conservation, and extent to which structures are being relocated or replaced behind shorelines. These data may be reported in multi-year segments. (New Jersey Department of Environmental Protection and Energy)

Public Recreation Open Space Lands

1. An index of land capacity needs for the state and each county and municipality, established based on current inventory and approved standards. Annual land acquisition by state agencies and county and municipal jurisdiction? identified to update the index. (New Jersey Department of Environmental Protection and Energy)

Solid Waste Management

1. Solid waste generation for the state and regions, landfill openings and closures, and capacity additions for other solid waste treatment facilities. (New Jersey Department of Environmental Protection and Energy)

Higher Education

1. Existing capacities, deficiencies, and funded capacity additions. (New Jersey Department of Higher Education)

Arts

1. Existing and programmed arts facilities. (New Jersey Department of State)

MONITORING AND EVALUATION OF COMMUNITY LIFE CONDITIONS

Quality of life issues outlined in the State Planning Act are broadly stated. The planning process should "facilitate the provision of equal social and economic opportunity so that all of New Jersey's citizens can benefit from growth, development and redevelopment." The Act also mandates "an adequate response to judicial mandates respecting housing for low- and moderate-income persons."

According to a 1986 Gallup Poll, the community characteristics that New Jerseyans value most are low crime rates, a clean environment, quality schools, and physical appearance. Other quality of life issues are local taxes, the cost of housing, and access to stores. Community characteristics that are less important are access to cultural activities, to recreational areas, to public transportation, and employment opportunities. An analysis of the poll by the Office of State Planning suggests that "current" community concerns are as follows: traffic; affordable housing; and local taxes (i.e., issues that are both important to New Jerseyans and for which residents give a negative rating to their community).

Description of the Community Life Objectives of the State Plan

Overall, the State Plan identifies four qualities that are important to the vision of New Jersey's future:

- the livability and design of communities;
- the quality of the environment;
- the ease and manner in which residents travel to work and shop;
- the state of New Jersey's economy.

Therefore, in monitoring "quality of life," aspects of the environmental quality, fiscal impact (property costs and local tax issues), and the economy need to be considered and incorporated.

In addition, the State Plan defines an important component of community life as provision of adequate housing at a reasonable cost.

More specific or measurable targets related to the above therefore include:

- increased community quality of life ratings for each general type of community;
- an appropriate multiple of land available for development in excess of demand within each housing region;
- availability of housing of prices and tenure types adequate to meet needs of all income groups within each housing region.

Basic Models Available to Track Community' Life Conditions

CUPR Quality of Life Model

This model contains a composite community rating of preferred living environments based on quantifiable measures. (Preferred community qualities include good schools, low taxes, affordable housing, cultural and recreational facilities, low crime rates, low welfare-burdened populations, etc.) The measured variables include measures of economic viability, housing access, public safety, school achievement, and community recreation and cultural activities. These variables are then used to calculate a "quality of life index" for each municipality, which is further divided into five size classifications. Quality of Life ratings are also provided for each of the twenty-one counties. These ratings are related to projections of future population, employment, and tax base to estimate future community life conditions.

CUPR Housing Demand/Supply Model

The Housing Demand/Supply Model projects housing demand, supply, and costs by building type and tenure for New Jersey's six housing regions as defined by the New Jersey Council on Affordable Housing (COAH). The land-limiting aspects of the State Plan are factored into the model with respect to the cost of land and housing.

CUPR Housing and Property Development Cost Model

This model compares the impacts of development on land prices in New Jersey, based on an index that relates land price appreciation effects to distance. It projects cost-of-land increases as land becomes more scarce.

Key Data Required for Community Life

The following data were obtained for input to the CUPR Quality of Life Model from a variety of sources, some of them from one-time sources, some from periodically-available sources such as U.S. Census reports. Further examination of data sources will be

required to determine the timely availability of data.

1. Economic well-being: median income of households, AFDC caseloads per capita, homeless count per capita. (New Jersey Department of the Treasury, New Jersey Department of Human Services)
2. Housing value and home ownership: percent home ownership, median housing value, change in median housing value. (New Jersey Department of Community Affairs)
3. Property tax base and rates: equalized tax rates, tax base per capita. (New Jersey Department of the Treasury)
4. Public safety: violent crimes per capita, changes in violent crimes per capita, non-violent crimes per capita, changes in non-violent crimes, public safety expenditures per capita. (New Jersey Department of Law and Public Safety)
5. School achievement: average reading scores, high school dropout rate. (New Jersey Department of Education)
6. Community amenity: capital expenditures per capita, recreation expenditures per capita, library expenditures per capita. (New Jersey Department of Community Affairs, New Jersey Department of Education, New Jersey Department of the Treasury)
7. Housing supply trends: building permit data (New Jersey Department of Community Affairs, New Jersey Department of Labor)
8. Household trends: municipal population estimates (U.S. Census Bureau, New Jersey Department of Labor)
9. Rent levels. (American Housing Survey, U.S. Department of Housing and Urban Development, New Jersey Department of Community Affairs, Division of Housing Development, Bureau of Housing Services)
10. Home prices for new and existing units: (municipal data from New Jersey Department of the Treasury) data on new home prices by building type; New Jersey Department of Community Affairs)
11. Housing affordability, current information on income and mortgage rates - (U.S. Bureau of the Census, New Jersey Department of the Treasury, Division of Taxation, U.S. Federal Reserve Bank)

12. Real estate transaction data. (N J. Depanment of Treasury Usable Sales File, including vacant lots)

MONITORING AND EVALUATION OF INTERGOVERNMENTAL ACTIVITIES

An important goal of the State Plan is to ensure sound and integrated planning by all governmental jurisdictions. The Plan itself provides a substantive policy guide for growth and development in New Jersey. The New Jersey State planning process also offered a unique framework (i.e., the cross-acceptance process) to initiate and institutionalize a formal means for systematic and rational intergovernmental cooperation.

More specifically, the State Plan supports the enhancement of planning capacity at all levels of government, using capacity analyses strategically to guide the location and pattern of growth, and the promotion of cooperation and coordination among counties and municipalities. Planning must be coordinated among agencies at the same level as we]] as among levels of government. The Plan suggests data base sharing, education and training, multi-jurisdiction planning, multi-state regional planning as well as regional coordination.

Th^ State Plan recommends that the monitoring process focus on regional planning arrangements, tax sharing agreements, cross-acceptance participation, compatibility of agency actions with the Plan, etc. It also states that in carrying out the monitoring and evaluation program, the appropriate State agencies should monitor substantive variables and prepare annual reports to the State Planning Commission. The Cross-Acceptance Report on Implementation Issues further recommends specific actions necessary at all levels of government to achieve the purposes of the State Development and Redevelopment Plan.

The overall purpose of this portion of the monitoring and evaluation program is to determine the extent to which intergovernmental coordination has led to significant improvements in coordination of planning and transfer of information among the various levels of government. The process of intergovernmental coordination is critical to the achievement of many of the goals and objectives of the Plan. It is also important to the data-gathering and analyses necessary for monitoring and evaluation.

Description of the Intergovernmental Coordination Objectives of the State Plan

Overall, the objective for intergovernmental coordination is statewide coordination of land use planning and infrastructure programming and regional delivery of many public services.

The Interim Report on Implementation Issues identifies two specific tasks necessary to promote intergovernmental coordination that are appropriate for continuing inclusion in the monitoring and implementation program:

1. Establish a system for reviewing and commenting upon voluntary submissions of local, county, and regional plans, programs and planning processes;
2. Initiate an ongoing, integrated intergovernmental program for data development and exchange, including the following:
 - long-term infrastructure needs and costs;
 - existing and planned capacity data for natural and built systems;
 - site plan and development permit approvals;
 - critical environmental sites.

More specific or measurable targets related to the above include:

increased areas of compatibility between the State Plan and municipal and county master plans and State agency functional plans;

increased levels of exchange of planning information among State agencies, counties and municipalities.

Basic Models Available to Track Intergovernmental Coordination Conditions

CUPR Intergovernmental Submodel

This model brings together the information compiled from the state, county, and municipal questionnaires in an accounting and scaling routine. It sorts information on state, county, and local frequency and quality of contact to determine the amount of intergovernmental coordination.

Key Data Required for Monitoring and Evaluation

1. Indicators or information necessary to monitor the initial quantity and quality of intergovernmental coordination would be available from the analysis of questionnaires distributed to state, county, and municipal officials. They would provide information on the following information exchanges among governmental agencies:

--transportation coordination -
environmental coordination

-planning coordination -
economic development -
housing coordination

In addition, the questionnaires would provide information on the status of implementation activities for each state agency and counties, the number of regional planning arrangements, and increases in planning capabilities.

2. Similar information on a continuing, periodic basis should be obtained from state agencies, counties, and local governments.

IMPLEMENTATION OF THE MONITORING AND EVALUATION **PROGRAM**

The program described above for monitoring and evaluation of State Plan implementation will provide a basic framework for tracking growth and change in New Jersey. To establish the program and to maintain it as a viable and effective mechanism for supporting the implementation of the State Plan will require several steps, including tasks recommended in the State Planning Commission's Report on Implementation Issues.

Expand Consultation with State Agencies

The monitoring and evaluation program will work for and through a myriad of state agencies having direct responsibilities for facilities, services, and other components of growth and change. The program will be effective only if interagency coordination and cooperation is effective. To this end, the Office of State Planning will continue its efforts to secure the active participation of state agencies in the monitoring and evaluation program.

OSP will initiate preparation of interagency agreements with other appropriate state agencies to establish cooperative processes for:

- information exchange;
- advising state agencies as they revise plans and decision-making processes;
- evaluating the consistency of State agency plans and actions with the State Plan.

Some progress already is evident. Much of the basic data for planning and assessment efforts to date has been contributed by state agencies. OSP has given priority to working with the following state agencies to prepare guides to agency implementation of the State Plan:

- Department of Agriculture
- Department of Community Affairs
- Department of Commerce and Economic Development
- Department of Environmental Protection and Energy
- Department of Transportation

As part of this ongoing interagency effort, OSP will confirm needs for specific data sets and reporting periods as recommended by the monitoring and evaluation program. To the extent that additional data germane to the program becomes available, OSP will work with agencies to establish a reporting procedure for that data.

In addition, in a number of areas present data is incomplete or unsatisfactory for other reasons. OSP will work with the state agencies above and others as well to establish feasible and useful data sources and reporting arrangements.

OSP will examine opportunities to furnish reports to other state agencies of data resulting from this interagency effort. The Office of State Planning in California, for example, annually publishes a "Book of Lists" with summary information on many aspects of state development policy.

The Office of State Planning will also establish a regular process of agency interaction on specific programmatic actions, and will study the development of a State interdepartmental planning, planning, capital capital facility, development and permit review process.

Incorporate Data-Gathering in the Cross-Acceptance Process

The relationships set up among the state, counties, and municipalities in the Cross-acceptance process will continue to be maintained. One aspect of intergovernmental activity that will be encouraged is data collection and transmittal. Much of the data required or simply useful for determining local, regional, and statewide conditions is derived from local sources. OSP will extend its efforts to establish reporting procedures for locally-based data that would provide periodic information on important development and redevelopment issues.

Most of the problem in such circumstances is establishing a universal data set that can be easily obtained from local records. OSP will investigate ways and means of achieving this, if necessary by encouraging reorganization of local data records. In return, OSP will provide local governments with access to data files for the state, regions, counties, and municipalities. The comparative data obtained from local sources will be invaluable in tracking implementation of the State Plan, and in the work of other state agencies.

All components of the Cross-acceptance process will be examined to identify needed improvements in intergovernmental cooperation and coordination. A comprehensive questionnaire or other appropriate correspondence will be drafted to obtain input on potential avenues of cooperation from municipalities and counties.

Update and Upgrade OSP Data Bank and Models

The results of the infrastructure needs assessment and the impact assessment identified areas in which improvements in data and projection methods would yield much more satisfactory information about existing and future conditions. In all the aspects of monitoring and evaluation, current information is incomplete, or faulty, or otherwise imperfect. OSP will take steps to fully utilize available data to update its data bank and model outputs. OSP will also explore ways to improve existing models that will be used to define existing and future needs and costs. The Infrastructure Needs Assessment indicates several areas that require immediate attention.

Organize and Initiate Special Studies

As part of the updating and improvement of existing data, OSP will initiate special studies as required to explore selected issues that already have emerged and for which more information would be helpful to decisionmakers. The infrastructure assessment, for example, defined a number of questions about existing and future needs in existing urban areas. Other questions concern expansion of the quality of life analysis to include additional factors, further exploration of clustering options in rural areas, and potential contributions of compact settlement patterns to business agglomeration.

OSP will define and rank priorities for a number of such studies, in parallel with its other research and monitoring efforts.

Potential Staff and Budget Requirements

Monitoring and evaluation will be managed by a core staff in order to build and retain an institutional memory for monitoring procedures and methods. The core staff will manage compilation of data and data-handling in close cooperation with other state agencies, many of which will bear direct responsibility for data collection.

The staff will also conduct or commission research studies to evaluate reported data and defined trends. In addition, the staff will establish and maintain an informational network with counties and municipalities for two-way transmission of data and research results.

Much of this work is part of the common task description for state planning agencies, State planning agency staffs usually compile data, conduct studies, and maintain contacts among state and local public entities. The monitoring and evaluation program, which is linked to effective implementation of the State Plan, requires a more structured approach and a more lasting effort than is typical for planning agencies.

For these reasons, certain staff members in the Office of State Planning have been assigned responsibility for conducting the monitoring and evaluation program. Added