

INFRASTRUCTURE NEEDS ASSESSMENT
2000 — 2020

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DRAFT

New Jersey State Planning Commission

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DEFINITIONS

- **Backlog Need** — “Backlog need” is defined as an “infrastructure need” that corrects existing deficiencies related to infrastructure capacity and condition to serve the existing population. Examples include improvements to bridges that do not meet Federal structural safety standards and must be repaired (condition), or a commuter rail line that does not have sufficient rolling stock to adequately serve the number of commuters on its lines (capacity).
- **Capital Outlays** — This assessment uses the United States Census Bureau definition of “capital outlays” as “direct expenditure(s) for contract or force account construction of buildings, roads and other improvements, for purchase of equipment, land and existing structures, and for payments on capital leases. Includes amounts for additions, replacements, and major alterations to fixed works and structures. However, repair to such works and structures is classified as current operation expenditures as are payments on operating leases.”
- **Direct Expenditure** — As defined by the United States Census Bureau, “direct expenditures” are payments to employees, suppliers, contractors, beneficiaries, and other final recipients of government payments — i.e. all expenditures other than “intergovernmental expenditure.”
- **General Expenditure** — As defined by the United States Census Bureau, “general expenditures” are “all government expenditure other than the specifically enumerated kinds of expenditure classified as Utility Expenditure, Liquor Stores Expenditure, and Employee-Retirement or other Insurance Trust Expenditure.”
- **Infrastructure and Infrastructure Systems** — The State Planning Commission defines the term “infrastructure” and “infrastructure systems”, respectively, as those 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. Infrastructure systems include transportation, energy, telecommunications, farmland retention, water supply, wastewater disposal, storm water management, shore protection, open space and recreation, recreation facilities, solid waste management, public health care, public education, higher education, arts, historic resources, public safety, justice, corrections, public administration, and public housing.

In these respects, infrastructure is the “overhead” of capital that needs to be invested to maintain our society and our economy. Investments in infrastructure are investments in the future of our economy, environment, government and culture. These investments promote economic development and protect the public’s health, safety and welfare. To assure consistency among all levels of government in how infrastructure is defined, the following criteria are recommended:

- Facilities and assets that are publicly owned or that serve the public.
 - Systems of facilities and assets whose needs are generated by and which are necessary to support development and redevelopment encouraged by the State Development and Redevelopment Plan.
 - Facilities and assets that may influence the form or the location of development and redevelopment.
 - Capital facilities with a high fixed cost (> \$50,000) and a long service life (> 10 years).
 - Facilities and assets that are directly and substantially related to protecting public health, safety and welfare.
- **Infrastructure Need** — For the purposes of this assessment, need for infrastructure is a measure of the extent to which desired levels of service and standards of quality for infrastructure systems are achieved and maintained given estimates and projections of demand. In a financial context, “infrastructure need” refers to the extent to which costs for infrastructure exceed expected revenues.

- **Intergovernmental Expenditure** — The United States Census Bureau defines “intergovernmental expenditures” as “amounts paid to other governments as fiscal aid in the form of shared revenues and grants-in-aid, as reimbursements for performance of general government activities and for specific services for the paying government, or in lieu of taxes. Excludes amounts paid to other governments for purchases of commodities, property or utility services, any tax imposed and paid as such, and employer contributions for social insurance, e.g. contributions to the Federal Government for Old Age, Survivors’, Disability, and Health Insurance for government employees.
- **Land Assets** — ”Land assets” are infrastructure components that provide for the preservation and public control of existing land resources that are sensitive to, and necessary to support, growth and development in other locations, and include, but are not limited to, parks, open space and farmland retention.
- **Present Need** — “Present need” is defined as an “infrastructure need” consisting of “backlog needs” and “rehabilitation needs” for existing infrastructure.
- **Prospective Need** — “Prospective need” is defined as an “infrastructure need” consisting of needs to provide and maintain new infrastructure to serve anticipated future development and redevelopment and to respond to changes in standards of service between the date of the needs assessment and the horizon year (2000 – 2020).
- **Rehabilitation Need** — “Rehabilitation need” is defined as an “infrastructure need” associated with recurring, periodic improvements and/or replacements of capital facilities necessary to keep existing and anticipated infrastructure in service, at least through the horizon year of the needs assessment. “Rehabilitation needs” are distinct from, and do not include, routine operations and maintenance costs. For example, rehabilitation needs would include a roadway resurfacing project which may take place every ten years, but would not include routine street cleaning and patching.
- **Revenues** — As defined by the United States Census Bureau, “revenues” are “all amounts of money received by a government from external sources — net of refunds and other correcting transactions — other than from issuance of debt, liquidation of investments, and as agency and private trust transactions. Note that revenue excludes noncash transactions such as receipt of services, commodities or other receipts in kind.
 - **Anticipated Revenue** — In this assessment, “anticipated revenue” refers only to currently authorized sources and levels of government funding that will be available for capital projects.
 - **Projected Revenue** — In this assessment, “projected revenue” refers to an extension of existing authorized sources and levels of revenue, or replacements thereof, into the future.
- **State Development and Redevelopment Plan or State Plan** — The New Jersey State Development and Redevelopment Plan prepared and adopted pursuant to the State Planning Act, N.J.S.A. 52:18A-196 et seq., unless otherwise specified.

I. SUMMARY OF FINDINGS

A. Purpose

This *Infrastructure Needs Assessment, 2000 — 2020* compiles and summarizes information provided by state agencies since the adoption of the first Infrastructure Needs Assessment by the State Planning Commission in June 1992.¹

Investment in capital facilities and other infrastructure is one of the most powerful tools available to implement comprehensive plans for development and redevelopment. The New Jersey State Planning Act recognizes the importance of infrastructure by promoting development where infrastructure capacity exists or may be readily provided and discouraging development where capacities are limited. The State Planning Act links the State’s annual capital budget recommendations to the State Plan, and makes the Infrastructure Needs Assessment an integral part of the State Plan.

An ultimate objective of the State Planning Act is to allow government at all levels to devise more effective, efficient and desirable growth and infrastructure policies. Specifically, the State Planning Act and related legislation encourages State and local agencies to:

- coordinate capital plans with comprehensive and functional plans,
- increase the time horizon for capital planning,
- base capital budget on long term capital plans, and
- use consistent and coordinated capital planning methods.

The State Plan defines *infrastructure* as *those 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 public health, safety and welfare.*

The 1992 Infrastructure Needs Assessment was the State Planning Commission’s first attempt to:

- profile current conditions and estimates of future needs and costs for 17 components of infrastructure that support development and redevelopment in New Jersey,

“[The State Planning Commission shall]...Prepare and adopt as part of the [State Development and Redevelopment] plan a long-term Infrastructure Needs Assessment, which shall provide information on present and prospective conditions, needs and costs with regard to State, county and municipal capital facilities, including water, sewerage, transportation, solid waste, drainage, flood protection, shore protection and related capital facilities...”

N.J.S.A. 52:18A-199b.

Develop and promote procedures to facilitate 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.

N.J.S.A. 52:18A-199b.

The Commission [on Capital Budgeting and Planning] shall each year prepare a State Capital Improvement Plan containing its proposals for State spending for capital projects, which shall be consistent with the goals and provisions of the State Development and Redevelopment Plan adopted by the State Planning Commission.

N.J.S.A. 52:9S-3a.

¹ *Assessment of Infrastructure Needs to 2010: New Jersey State Development and Redevelopment Plan.* New Jersey State Planning Commission, June 12, 1992. OSP Publication #95.

- analyze revenues for capital investment trends,
- provide a conceptual and informational framework for future reassessments and for shorter-term determinations of specific needs, and
- recommend an approach to infrastructure decision making that may lead to reductions in future needs and to better use of existing and future infrastructure systems.

The most comprehensive and methodologically consistent assessments of conditions and needs are prepared as part of regional, statewide or nationwide studies. This Infrastructure Needs Assessment is based on data compiled by New Jersey state agencies except where other sources are cited. To the extent adequate data are available, this Infrastructure Needs Assessment:

1. profiles changes in *conditions* since the 1992 Assessment,
2. estimates *needs* in terms of both:
 - *units* of service or capacity (classrooms, millions of gallons per day, acres) for capital facilities and land assets, and
 - dollar *costs* (adjusted to 1999 constant dollars), without regard to funding source,
3. defines needs as:
 - *present* needs, consisting of *backlog* needs to correct existing deficiencies to serve existing residents and jobs and *rehabilitation* needs for recurring, periodic improvement or replacement of capital facilities to keep existing infrastructure in service, and
 - *prospective* needs, consisting of needs to provide and maintain new infrastructure to serve anticipated future development and redevelopment and to respond to changes in standards of service.

B. Findings

1. Infrastructure Needs and Costs

Projected infrastructure costs based on the information currently available is presented in **Table 1**. Infrastructure costs reported in the forthcoming Impact Assessment of the 1999 Interim State Development Plan will be incorporated as prospective needs when they become available. Due to changes in the computation of costs, the inclusion of new infrastructure components and updating costs from 1990 to 1999 constant dollars, costs presented in this assessment may not be directly comparable to the 1992 Infrastructure Needs Assessment.

Infrastructure is the foundation of a sustainable state, supporting a productive economy, a healthy environment and a just society.

- **Transportation and commerce** infrastructure systems represent nearly 44% of the estimated infrastructure costs within New Jersey. Most costs are for maintaining and upgrading existing systems to meet Present Needs. Prospective Needs in relation to Present Needs are greatest for farmland retention and public transportation.
- **Health and environment** infrastructure systems represent approximately 33% of the estimated infrastructure needs within New Jersey, based on information currently available. The predominant share of costs is associated with Present Needs.
- **Public safety and welfare** infrastructure systems represent the remaining 23% of needs identified in this assessment. Based on information currently available, most costs are associated with Present Needs.

Table 1: Summary of Projected Infrastructure Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
TOTAL PROJECTED COSTS	\$45,800	\$19,667	\$65,467
Transportation and Commerce	\$18,737	\$10,048	\$28,785
Roads, Bridges and Tunnels	\$6,014*	***	\$6,014
Public Transportation	\$4,075	\$4,129	\$8,204
Freight, including Ports	\$2,530	\$835	\$3,365
Aviation, including Air Freight	\$4,209	\$2,916	\$7,125
Other Transportation Facilities	\$190	\$145	\$335
Energy	\$1,335	\$415***	\$1,750
Telecommunications	nav	nav	nav
Farmland Retention	\$384	\$1,518	\$1,902
HEALTH AND ENVIRONMENT	\$15,376	\$6,200	\$21,576
Wastewater Disposal	\$4,988	\$3,550***	\$8,538
Water Supply	\$1,980	\$1,980***	\$3,960
Storm Water Management	\$201	nav	\$201
Shore Protection	\$364	nav	\$364
Public Recreation Open Space Land	\$2,500	\$0	\$2,500
Public Recreation Facilities	\$243	nav	\$243
Solid Waste Management	\$5,100	\$670	\$5,770
Public Health Care	nav	nav	nav
PUBLIC SAFETY AND WELFARE	\$11,687	\$3,419	\$15,106
Public Education	\$10,300	***	\$10,300
Higher Education	\$581	\$2,569	\$3,150
Public Libraries	\$290	nav	\$290
Arts	\$300	nav	\$300
Public Safety	nav	nav	nav
Justice	nav	nav	nav
Corrections	\$129	\$534	\$663
Historic Resources	nav	nav	nav
Public Administration	nav	nav	nav
Human Services	\$87	\$316	\$403
Public Housing	nav	nav	nav

Notes: All values in millions of 1999 constant dollars.

nav = Not available.

*** = Prospective Needs to be provided by Impact Assessment Study

Figure 1: Total Projected Costs by Type

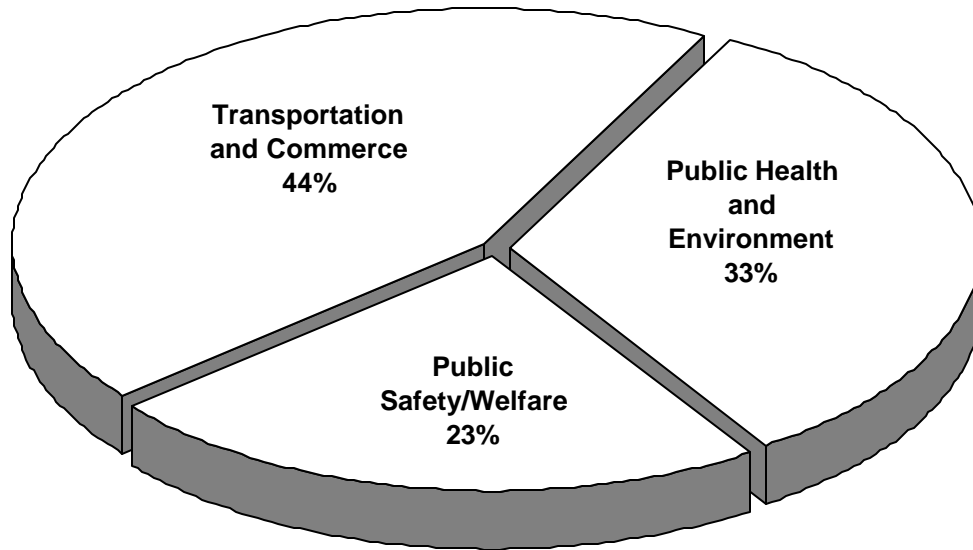
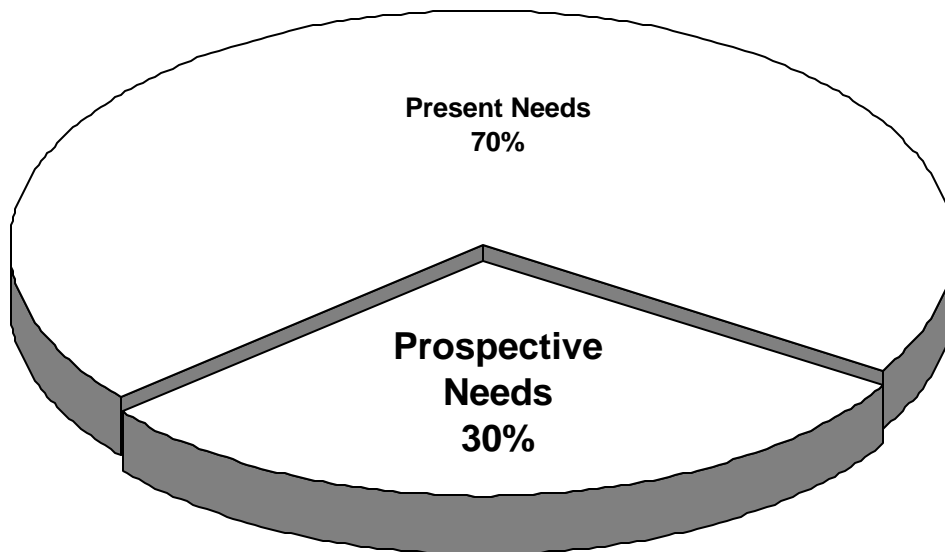


Figure 2: Total Present and Prospective Needs



Note: Additional Prospective Needs to be provided by Impact Assessment Study

For some infrastructure components, no new information is available. In these cases, either no estimates of needs are provided or the 20-year estimates in the 1992 Infrastructure Needs Assessment are assumed to continue at the same level and are updated to 1999 dollars. Several components are now included in the Infrastructure Needs Assessment:

- Public recreation facilities,
- Public libraries,
- Corrections facilities,
- Human services facilities.

The context for infrastructure investments has changed significantly since the State Plan was adopted in 1992. The provision of telecommunications infrastructure is evolving rapidly through the expansion of high bandwidth and wireless communications. The deregulation of energy markets may result in peak pricing rates that can affect work schedules, the timing and sequence of household chores and errands, and other activities that in turn affect when and how great the peak demands on roads, water, sewer, telecommunications and other infrastructure will occur. The use of information and communication as a substitute for materials, facilities and physical proximity is accelerating as we enter the 21st century.

a. Transportation and Commerce

- As vehicle miles traveled and road networks continue to grow, an increased emphasis has been placed on identifying and addressing backlog needs. Wear and tear of New Jersey's highway system will grow as increases motor vehicle registrations for light trucks and vans are outpacing declines in car registrations.
- Public transit ridership, and projected infrastructure needs, have increased significantly since 1992.
- Expansion of the global economy has increased import and export activity, while the demands for just in time inventory and courier services are increasing demands for goods movement by road, rail, sea and air. Major intermodal investments are planned for the port and airport areas of Newark and Elizabeth and the role of southern New Jersey ports may increase.
- There are likely to be strong market forces to locate very large warehousing and distribution facilities and related support businesses where there is a strategic interface between a rail line and major highways. There is adequate capacity on rail lines to support this development in many of the state's suburban and rural areas. In contrast, as a result of rail line abandonments, rail capacity is now insufficient in many of our urban areas to support the traditional roles of warehousing and distribution in New Jersey's cities and towns. Urban redevelopment and revitalization strategies will need to be carefully considered to determine if investments in restoring rail capacity would ensure that these roles remain viable, or if investments in redeveloping warehousing and distribution centers to other uses would be more effective.
- General aviation airports, while facing increased land use conflicts, may require infrastructure improvements to meet demands for goods movement and economic development.
- Energy facilities costs per megawatt have decreased substantially. Deregulation of energy markets is likely to further reduce capital investments in generation facilities in New Jersey. Future capital costs for distribution systems will be affected by patterns of development and energy demand.

- Telecommunications technology is rapidly evolving and being applied rapidly in New Jersey's high technology corridor. No current, comprehensive long range analyses of capital needs is available, or is likely to be valid, during this period of rapid change.
- New Jersey's farmland preservation program has grown from preserving approximately 12,000 acres in 1992 to nearly 60,000 acres in 1999, and is accelerating with a commitment to preserve a total of 500,000 acres of farmland within ten years.

b. Public Health and the Environment

- While the number of sewer connection bans has decreased, wastewater disposal needs have increased largely due to new cost estimates for controlling combined sewer overflows and nonpoint sources of pollution.
- Water supply infrastructure needs are based on new cost estimates associated with meeting current and proposed Federal Safe Drinking Water Act standards. The assessment of water supply infrastructure needs do not currently address needs resulting from new growth.
- Storm water management needs are being reconsidered in the wake of 1999's Tropical Storm Floyd flooding disaster and the initiation of watershed management plans statewide by the Department of Environmental Protection.
- Shore protection projects continue to be designed and prioritized in response to storm and tidal damages. Current analyses of long range shore protection needs are not yet available.
- A statewide commitment to preserve an additional 500,000 acres for public open space for watershed protection, trails, greenways and recreation areas within ten years will result in a total of nearly 1.4 million acres of permanently preserved open space in various types of public ownership. This initiative, together with the farmland preservation initiative, will result in the preservation of one million acres of open space and farmland within the next ten years.
- A substantial commitment has been made to develop, improve and restore State owned public recreation facilities.
- Solid waste management is becoming increasingly privatized as a result of court actions voiding public flow control regulations established to ensure waste streams for public resource recovery, transfer and disposal facilities. Increases in solid waste generation have been more than offset by increases in recycling rates since 1992, but waste reduction measures may be necessary to continue to reduce or minimize demands for landfilling or out of state transport in the future.
- A current, comprehensive statewide assessment of long term capital needs for hospitals, long term care facilities and other public health infrastructure is not available.

c. Public Safety and Welfare

- Major analyses of school facilities capital needs are currently being initiated in response to court rulings relating to facilities needs in special needs public school districts. While the emphasis has been on special needs districts, proposals for capital needs for all school districts are currently being developed.
- The New Jersey Department of Higher Education was abolished to form a Commission on Higher Education in 1994. In 1996, the new Commission filed the first long range plan for New Jersey's higher education system since 1981 and completed a capital investment study in 1999. Substantial facilities improvements will be necessary

immediately to accommodate a dramatic increase in potential enrollments within the next ten years.

- A new survey of building needs for New Jersey public libraries has become available.
- A new State plan for the arts was adopted in 1997. Preliminary estimates of long term capital needs are expected to be refined through a future comprehensive study.
- Capital needs for State Corrections and Human Services were compiled from 7 year capital planning documents.

2. Revenue Analysis

A review of capital authorizations and expenditures at the state level since 1992 indicates that progress is being made in public investments to reduce the need for backlog and rehabilitation expenditures. The Infrastructure Needs Assessment attempts to estimate total costs for infrastructure investments by all levels of government and the private sector for the next twenty years *without regard to source of funds*, whether State, Federal, local or private (such as donations and developer exactions). The revenue analysis is intended to identify existing and potential sources of funds to meet these needs in whole or in part.

a. General Findings

In response to general declines in Federal funding support for infrastructure since 1992, there has been greater pressure on state and local governments to finance infrastructure that is financially self-sustaining, using market driven techniques such as user fees, development fees and exactions on developers, privatization, outsourcing and revenue bonding. Nevertheless, the amount of infrastructure supported by general taxation for pay-as-you-capital outlays has remained substantial, and New Jersey has invested more than its share of the nation and most of its surrounding states in recent years. In fiscal year 1996, the most recent year in which comparable data was available, the average New Jersey resident paid approximately \$543 for state and local infrastructure investments, nearly evenly divided between State and local governments. In the nation as a whole, local governments provide a significantly larger share of capital investments relative to state government. Over the five year period from fiscal year 1992 through fiscal year 1996, New Jersey State and local governments invested \$21.4 billion in capital outlays, with the greatest investment in highways (38%) and education (22%).

In 1992, an analysis by the New Jersey Office of State Planning estimated that the private sector contribution to infrastructure in New Jersey averaged \$1 billion per year (in 1990 constant dollars).² Adjusting for inflation to current dollar values, this estimate, if it remains accurate, would yield nearly \$1.3 billion per year in private sector investments. If this level of State and local government capital outlays and private sector infrastructure investments was maintained through 2020, *potential projected total revenues for infrastructure investments would reach \$133 billion* through the horizon year of the 2000 State Development and Redevelopment Plan.

While this projection is more than twice the infrastructure costs estimated in this Assessment, it is important to note that the estimated costs do not yet account for major prospective needs to be estimated by the Impact Assessment Study, nor do the costs in this Assessment include many infrastructure components for which State and most local infrastructure needs have not yet been estimated. Therefore, *a reasonably accurate comparison between projected costs and revenues for infrastructure by 2020 cannot yet be made as part of this Assessment.*

² *Assessment of Trend Infrastructure Needs to 2010*. New Jersey Office of State Planning, January 1992, p. 138.

In addition to capital outlays, capital needs are commonly funded by the use of general obligation bond funds (which may also be used to establish and secure revolving funds and revenue funds) and by leasing or lease-purchase arrangements. A summary of major State capital programs addressing the infrastructure components in this Assessment for which data are available identifies **\$2.8 billion in fund balances and \$128.4 million in unissued bonds** that are potentially available to fund infrastructure projects. However, due to Constitutional debt limitations and other statutory provisions, as well as other accepted financial practices, such as to secure fund liabilities, not all unissued or remaining funds may currently be used for this purpose.

b. Transportation and Commerce

- The Transportation Trust Fund is expected to contribute \$900 million in highway and transit projects in fiscal year 2000. However, future Transportation Trust Fund funding for projects will be limited due to debt payments until additional revenues are made available to the fund. The \$500 million Statewide Transportation and Local Bridge Bond Act of 1999 will provide funds for transportation projects in the short term. The \$205 million Dredging and Containment Facility Fund provides revenues for projects to improve the capacities of New Jersey's ports and navigation channels.
- The State Agricultural Development Committee administers three capital intensive programs that are the major tools for farmland preservation in the State of New Jersey — Fee Simple, Easement Purchase, and the 8 Year Program. \$600 million in Garden State Preservation Trust funds will be made available to match Federal and local funds and private donations through 2009.

c. Health and Environment

- The Municipal Wastewater Assistance Program of the New Jersey Department of Environmental Protection provides priority to projects serving centers designated in the State Development and Redevelopment Plan. Over the longer term, the water quality planning process is expected to emphasize watershed-based planning in a manner consistent with that advanced by the State Development and Redevelopment Plan. Watershed plans would define the scope of magnitude of wastewater treatment projects that could be permitted within a defined watershed.
- The Water Supply Plan Action Program and the Federal/State Drinking Water State Revolving Loan Program provide revenues for improving water supply facilities to meet current and anticipated standards.
- Watershed management planning will provide the main context for stormwater management through the implementation of nonpoint source controls. Separate State programs provide resources for flood control (both structural and non-structural measures) and dam restoration efforts. Federal funds provide revenues for mitigating stormwater runoff impacts of highways and other transportation projects.
- The Realty Transfer tax provides \$45 million per year for shore protection projects. In 1995, a \$15 million ***Coastal Blue Acres Fund*** was established to acquire lands in the coastal area that have or are prone to damage by storms or storm related flooding for permanent open space
- The Green Acres Program has historically received large amounts of capital funding through bond acts. Public support for investment in open space and recreation led to nine Green Acres Bond issues totaling over \$1.16 billion to acquire public open space lands from 1961 through 1995. In 1999, a stable source of funding was created to set aside \$98 million of state sales

tax revenues per year for ten years and to allocate up to \$1.0 billion in revenue bond proceeds (paid for by up to \$98 million a year of sales tax revenues beginning 2010 for up to 20 years) to preserve open space and historic resources through the Garden State Preservation Trust.

- The Garden State Preservation Trust is also expected to increase available funding for maintaining State and urban public recreation facilities.
- Most solid waste management funding resources remain targeted toward resource recovery and recycling, despite the invalidation of flow control requirements. Capital funding does not appear to be available for waste reduction efforts.

d. Public Safety and Welfare

- The New Jersey Economic Development Authority offers school districts loans to pay for infrastructure at significant cost savings. A substantial school facilities financing initiative is currently being address by the State Legislature.
- Since 1992, a \$220 million trust fund and a \$550 million capital improvement fund have been established for higher education capital construction. In addition, Chapter 12 funding provides resources for county college infrastructure construction.
- A new \$45 million fund to finance public library construction was established in 1999.
- A small portion of funds for capital projects related to the arts remains available under a 1987 bond act. A \$100 million “New Jersey Cultural Trust” has been proposed to appropriate \$10 million per year for ten years to create a permanent, interest generating fund for future arts grants.
- Two major State bond funds contributed to the construction and renovation of corrections facilities in the 1980s. Since then, corrections facilities in New Jersey have been primarily funded by Federal grants and State pay-as-you-go capital outlays from the General Fund. In 1999, \$20.9 million in Federal funds were awarded to New Jersey to fund expansion of three major minimum-security facilities.
- The Garden State Historic Trust is scheduled to receive \$6 million annually for the next ten years to fund historic preservation projects, including matching grant awards.
- Several programs within which the New Jersey Home Mortgage Finance Agency (HMFA) and the New Jersey Department of Community Affairs which provide funding assistance to local governments, nonprofit organizations and developers to construct and rehabilitate housing for low and moderate income households and special needs populations. NJHMFA has programs to develop affordable single family and multifamily housing. The Balanced Housing program of the New Jersey Department of Community Affairs assists municipalities in providing low and moderate income housing in accordance with their Mt. Laurel housing obligations. The Neighborhood Preservation Program in the New Jersey Department of Community Affairs provides funding to municipalities to restore housing in threatened, but still viable, neighborhoods.

3. Infrastructure Investment Decision Making

Infrastructure not only supports growth, it effects and establishes the shape and patterns of growth, and the potential for growth and redevelopment in any area (see **Table 2**). Processes for infrastructure decision making should complement, rather than undermine, other efforts to implement the State Development and Redevelopment Plan.

A number of conditions have *not* changed since the 1992 Infrastructure Needs Assessment:

- The infrastructure needs assessment remains a process unique to New Jersey.
- State agencies rarely (but increasingly) perform or publish long-range (20 year) infrastructure needs assessments.
- Local governments rarely perform effective long-range capital planning from which infrastructure needs can be assessed.
- Level of service standards have not been established in most local master plans.
- The Infrastructure Investment Decision Process (see **Figure 3**) recommended in the 1992 Infrastructure Needs Assessment is not in place.

The New Jersey Commission for Capital Budgeting and Planning now requires each State agency requesting funding for pay-as-you-go capital construction projects within the State budget to submit a 7 year capital program specifying projects and costs (the first three years by year, the last four years aggregated). This information was used extensively for this Assessment. However, this information is limited:

- **By jurisdiction.** Independent State authorities and institutions and legislated capital projects not included within the State capital budget are not included in these agency reports. Further, these reports do not include most regional agency and local government projects.
- **By horizon year.** Even a seven year capital program is heavily weighted to respond to existing, backlog and immediately emerging needs. Capital programs with a 20 year (or longer) horizon are better suited to considering life cycle costs and evaluating alternative, perhaps more sustainable, infrastructure projects and approaches to meet (or otherwise reduce) these needs.

The Office of Local Government Budget Review advances as a recommended Best Practice an annually updated, five-year capital plan and budget for municipalities, counties, school districts and local authorities. While such budgets are required for most municipalities by State law, the effective use of such a practice linked to the implementation of community master plans is not yet widespread. Further, the use by local governments of 20-year infrastructure needs assessments associated with long range master plans for community or facilities development is virtually unknown.

However, significant progress has been made since 1992 in that *strategic plans are now being developed and applied by State agencies* to guide public investments in economic development, transportation, energy, water supply, open space, higher education, affordable housing, the arts and other key infrastructure components. These plans are not only defining broad goals, policies and actions, but are also incorporating indicators and specific targets which define the “levels of service” that investments in particular facilities and services must yield. During the same period, the importance of long range capital improvement planning as a management and fiscal planning tool to help local governments finance and build infrastructure has been increasingly highlighted.³

Strategic infrastructure plans are increasingly advancing consideration of “non-structural”, and often non-capital, initiatives such as demand reduction and source reduction management practices advocated in the Infrastructure Investment Decision Process included in the 1992 Infrastructure Needs Assessment.

These plans are also providing the initiative for investments in advanced decision making tools. The Office of State Planning has initiated a project to develop *New Jersey Planning Plus*, a computerized system of software and data that not only consolidates and integrates traditional databases and maps through geographic information system and Internet technologies, but that will

Table 2: Growth Shaping Public Facilities and Services

Component	Shape	Support
Transportation and Commerce		
<i>Roads</i>		
Interstates/Limited Access		X
Interchanges	X	X
Arterials	X	X
Collectors	X	X
Local	X	X
<i>Transit</i>		
Rail	X	X
Buses		X
<i>Airports</i>	X (locally)	X
<i>Marine Terminals</i>	X	X
<i>Energy</i>		
Generation facilities	X (weak)	X
Distribution lines	X (weak)	X
Transmission lines		X
<i>Telecommunications</i>		
Switching/signaling facilities	X	X
Network transport lines	X	X
Local loop transport lines	X	X
<i>Farmland Retention</i>	X	X
Health and Environment		
<i>Sewer Systems</i>		
Treatment plants		X
Interceptors	X	X
Collectors	X	X
Service areas	X	X
Local connections		X
<i>Water Supply</i>		
Reservoirs		X
Watershed protection		X
Treatment plants		X
Distribution mains	X (weak)	X
Service areas		X
<i>Open Space and Recreation</i>	X	X
<i>Solid Waste</i>		
Landfill	X (local)	X
Collection		X
Hazardous waste management	X (weak)	X
<i>Public Health</i>		X
Public Safety and Welfare		
<i>Public Education</i>		
Elementary	X (potential)	X
Middle		X
Secondary		X
Vocational/Technical		X
<i>Higher Education</i>	X	X
<i>Libraries</i>		X
<i>Police</i>		X
<i>Corrections</i>		X
<i>Cultural, Arts facilities</i>		X

³ The Federal Office of Management and Budget (Executive) and General Accounting Office (Congress) have teamed to advance strategic planning for infrastructure investments by Federal agencies. See “Leading Practices in Capital Decision-Making: Executive Guide”, United States General Accounting Office, April 1998, Washington, D.C.

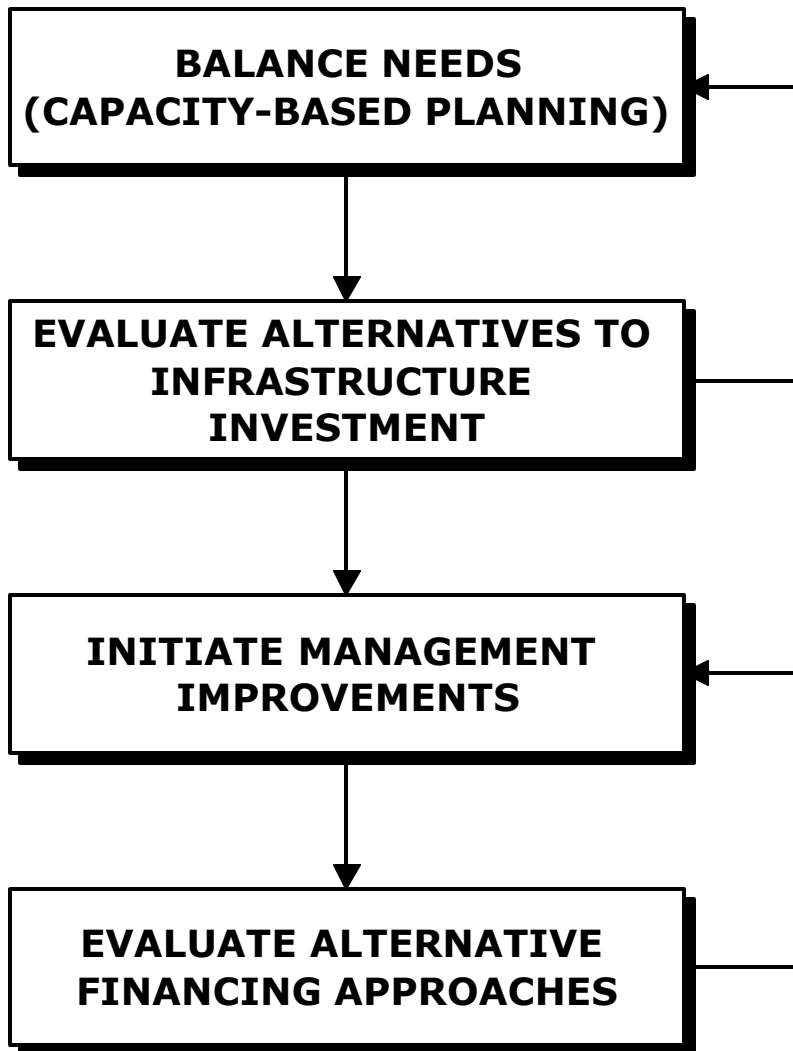
I. Summary of Findings

enable a wide range of potential impacts of alternative policies and projects to be modeled in interactive, “what if” approaches to planning and decision making. Through the use of these tools in strategic planning efforts by State and regional agencies to develop policies, indicators and targets, and long term project priorities, data limitations that currently limit the comprehensiveness and analytical completeness of the long term infrastructure needs assessment may be overcome.

The rehabilitation, repair and replacement of existing infrastructure have been increasingly coordinated with the State Plan’s priorities for infrastructure for new growth. Ongoing State Plan implementation efforts since 1992 have *improved coordination* between the Office of State Planning and State agency capital budgeting through formal and informal procedures and increased communication. The Office of State Planning is included in the process of reviewing State agency capital programs and projects with the Capital Budgeting and Planning Commission, the Office of Management and Budget, the Council of Economic Advisors, and the Office of Public Finance. The New Jersey State Planning Commission is also authorized to review and comment on capital appropriations bills of State Legislature.⁴ However, in practice, coordination between State agency capital projects and the State Development and Redevelopment Plan is more effectively achieved at the time capital projects are conceived, located and conceptualized rather than at the capital appropriations stage when key decisions regarding location, capacity and level of service and substantial investments in design and engineering have been made. For this reason, the State Planning Commission and Office of State Planning have emphasized coordination among strategic planning initiatives of all levels of government.

⁴ [The commission shall...] Review any bill introduced in either house of the Legislature which appropriates funds for a capital project and may study the necessity, desirability and relative priority of the appropriation by reference to the State Development and Redevelopment Plan, and may make recommendations to the Legislature and to the Governor concerning the bill... (N.J.S.A. 52:18A-199.f.)

Figure 3: Infrastructure Investment Decision Process



I. Summary of Findings

II. TRANSPORTATION AND COMMERCE

This section of the infrastructure needs assessment addresses the infrastructure systems that most directly support the *economy* of New Jersey by helping in the production of goods and in the movement of goods, people, and information.

The transportation system includes roads, bridges and tunnels; ports and railroads for freight movement; aviation facilities; public transportation, including bus, rail and ferry and their associated terminals; and other transportation facilities. Other systems supporting commerce include energy, telecommunications, and farmland retention (to maintain a land base for agricultural production).

In 1999, these systems represented nearly 44% percent of the estimated infrastructure costs within New Jersey. Most costs are for maintaining and upgrading existing systems to meet Present Needs. Prospective Needs in relation to Present Needs are greatest for farmland retention and public transportation (See **Table 3**).

Table 3: Summary of Projected Transportation/Commerce Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
TRANSPORTATION/COMMERCE	\$18,737	\$10,048	\$28,785
Roads, Bridges and Tunnels	\$6,014*	***	\$6,014
Public Transportation	\$4,075	\$4,129	\$8,204
Freight, including Ports	\$2,530	\$835	\$3,365
Aviation, including Air Freight	\$4,209	\$2,916	\$7,125
Other Transportation Facilities	\$190	\$145	\$335
Energy	\$1,335	\$415***	\$1,750
Telecommunications	nav	nav	nav
Farmland Retention	\$384	\$1,518	\$1,902

Notes: All values in millions of 1999 dollars.

* = Present Needs do not include tunnels or rehabilitation costs for existing infrastructure.

***= Prospective Needs to be provided by Impact Assessment Study

nav = Not available

A. Roads, Bridges, and Tunnels

New Jersey’s roads and bridges continue to be among the most heavily traveled in the nation, even as their capacities grow (see **Table 4**). Vehicle miles of travel (VMT) remains the chief measure of highway use. Nearly two million miles of traffic per year per mile continue to traverse New Jersey roads, more than three times the national average. Since 1960, the rate of increase of VMT traffic has far outpaced the rates of population and job growth (see **Figure 4** and **Table 5**). In the 13 counties⁵ served by the North Jersey Transportation Planning Authority (NJTPA), one of three Metropolitan Planning Organizations designated for regional transportation planning in New Jersey, VMT is projected to increase 1 percent per year through 2007; this aggregate increase in VMT of 17.7 percent well outpaces projected increases of 5.1 percent for population and 10.6 percent for jobs over the study period 1998-2007.⁶



On average, the work trip accounts for 35 to 40 percent of all travel in the state. Motor vehicle registrations continue to increase, with increases in light trucks and vans outweighing declines in car registrations (see **Table 6**).

Over 70 percent of New Jersey’s streets and highways are local roads under local jurisdiction. There are about 800 miles of interstate and other limited-access highways that carry about 40 percent of all the state’s VMT. The New Jersey Turnpike, Garden State Parkway and Atlantic City Expressway comprise 400 miles of limited access highways under the jurisdiction of special authorities that, combined, carry a volume of approximately 600 million vehicles and raise over \$400 million per year in revenues for capital needs through tolls and other means.

Table 4: Use of Roads and Bridges, 1990-1997

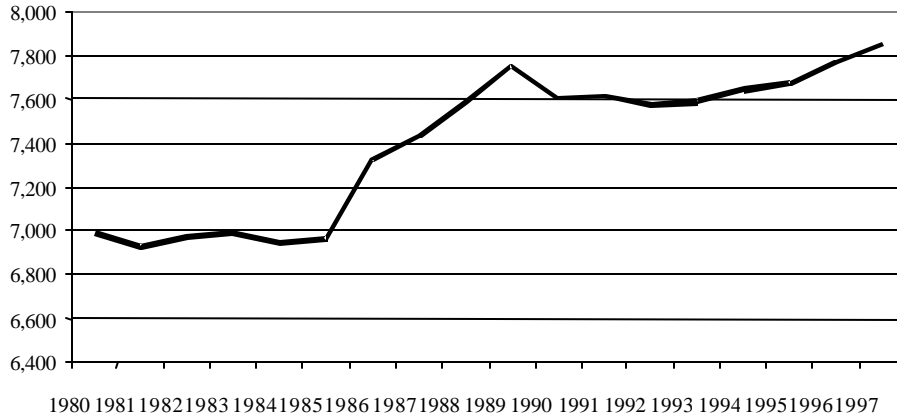
	1990	1995	1997
Highway, toll, county, and local roads	34,000 miles	35,646 miles	35,921 miles
• <i>Interstate</i>	304 miles		
• <i>Freeway</i>	509 miles		
• <i>Arterial</i>	4,182 miles		
• <i>Collector</i>	5,449 miles		
• <i>Local</i>	23,808 miles		
Bridges	>6,000	>6,000	>6,000
Licensed drivers	5.6 million	5.4 million	5.576 million
Registered vehicles	5.6 million	5.9 million	6.155 million
Vehicle miles traveled annually	60 billion	61.013 billion	63.280 billion
Vehicle miles traveled per mile per day	4,835	4,690	4,826

Source: New Jersey Department of Transportation
New Jersey Office of State Planning

⁵ Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren Counties.

⁶ North Jersey Transportation Planning Authority, *1998 Update of the Regional Transportation Plan for Northern New Jersey*. January 1998, p. 22.

Figure 4: Trends in Vehicle Miles Traveled per Capita



Sources: New Jersey Department of Transportation, New Jersey Department of Labor.

Table 5: VMT and Population Growth

	1960	1997 (est.)	Change	% Change
Vehicle Miles Traveled	22.2 billion	63.28 billion	41.08 billion	285%
Population	6,066,792	8,054,178	1,987,386	33%
Civilian Labor Force	2,457,722	4,197,700	1,739,978	71%
Employment	1,547,081	3,614,300	2,067,219	134%

Note: Employment is ES202 private sector covered employment.

Sources: New Jersey Department of Transportation, New Jersey Department of Labor.

Table 6: Motor Vehicle Registration Trends

Calendar Year	Cars	Light Trucks Vans	Total Vehicles	
			Annual	Monthly Average
1991	327,710	90,612	418,322	34,860
1992	324,998	99,974	424,972	35,414
1993	368,218	134,808	503,026	41,919
1994	371,592	160,398	531,990	44,333
1995	350,533	158,366	508,899	42,408
1996	350,955	182,203	533,158	44,430
1997	344,977	192,582	537,559	44,796
1998	347,746	200,658	548,404	45,700

Source: New Jersey Department of the Treasury, Office of Management and Budget
R.L. Polk and Company

The New Jersey Department of Transportation estimated that almost 30 percent of State highway miles operate at severely congested levels, carrying traffic volumes well in excess of their designed capacity (see **Figure 5**).⁷ Due to both their age and the intensity of their use, as much as 30 percent of the lane miles under State jurisdiction are rated “fair” or worse, and many highways and bridges are too narrow to be safe for pedestrian or bicycle use. NJTPA also reported that of the 1,400 State highway lane miles in its region, half were subject to “significant recurring congestion” and 34 percent were in fair or poor pavement condition.⁸ A 1999 United States General Accounting Office study⁹ comparing pavement condition needs for the National Highway System among states noted that New Jersey was consistent with the national average of 57 percent of pavement not in good condition (but only 8 percent in poor or mediocre condition compared to the national average of 16 percent), although differences in measurement techniques among states currently make comparisons difficult.

Figure 5: Congested Highways, 1998

In May 1998, Governor Whitman, the New Jersey Department of Transportation and NJ Transit issued *New Jersey First: A Transportation Vision for the 21st Century*, which established six objectives and 175 associated actions for improving New Jersey’s transportation systems. Among these actions were:

- Improve the 25 most congested vehicular hot spots within 5 years and the 40 most congested within 10 years.
- Construct missing highway links that are essential to our regional mobility strategy. For example, the New Jersey Turnpike/Secaucus Interchange and long-time commitments, like Route 18 in New Brunswick, will be constructed.
- Eliminate the traffic signals on the Garden State Parkway in Cape May County by 2010.
- Establish intermodal access points to connect the interstate



⁷ *Transportation Choices 2020: Statewide Transportation*. July 1995.

⁸ *Mobility for the 21st Century: Regional Transportation Planning Authority*, 1995.

⁹ *Transportation Infrastructure: Better D States General Accounting Office*. Washi

highway system and the commuter rail system.

- Eliminate all bridge deficiencies on New Jersey's national highways by 2010.
- Reduce the backlog of all other state bridge deficiencies by 50 percent and local bridge deficiencies by 25 percent by 2010.
- Correct all deficiencies on state highway dams by 2010.
- Replace all deficient state highway pavement by 2010.
- Resolve all serious flooding problems on state roadways by 2010.
- Implement a full preventive maintenance program for all state roads and bridges by 2000.
- Complete the delineation of barrier curb and guide rails and the installation of raised pavement markers by 2000.
- Upgrade all guide rails by 2000 to minimize harm to drivers and passengers involved in collisions.

In 1998, the New Jersey Department of Transportation prepared a *Capital Investment Strategy*. This document was based on policies from the 1992 State Development and Redevelopment Plan, *Transportation Choices 2020* (the 1995 NJDOT Statewide Long-Range Transportation Plan), the Governor's 1998 *New Jersey First* (Future Investments and Reinvestments in Transportation) vision report and other operating policies. Approximately 17% of State bridges on the National Highway System had been classified as structurally deficient, including 39 percent of the 1,700 bridges in northern New Jersey (NJTPA region). The *Capital Investment Strategy* set an objective to eliminate the backlog of structurally deficient NHS state bridges within 12 years. *Transportation Choices 2020* advocated removal, rather than replacement, of unnecessary bridges at the end of their useful lives where parallel or other alternate routes are available and, alternatively, obsolete bridges could be closed to traffic and preserved for bicycle and pedestrian use consistent with the State Development and Redevelopment Plan.

Transportation Choices 2020 did not project infrastructure costs beyond the year 2000. The Capital Investment Strategy estimated the costs of eliminating the current infrastructure backlog for roads, bridges and associated dams to exceed \$5.87 billion (see **Table 7**).

Data regarding backlog needs for tunnels is not available. Estimates of rehabilitation costs associated with the routine maintenance of roads, bridges and tunnels are not available. Therefore, these reported backlog needs, adjusted to 1999 dollars, provide the cost estimates for Present Needs for this Assessment. Prospective Needs associated with future growth estimated by the Impact Assessment Study will be incorporated when the estimates are received.

Table 7: Backlog Costs for Roads and Bridges, 1998

Category	Current Deficiency (1998)	Unit Cost	Cost to bring current backlog to State standards
TOTAL BACKLOG COSTS			\$5,870,462,824
Bridges	6,642,369 sq. ft.		\$4,623,088,824
National Highway System	3,810,157 sq. ft.	\$696/sq. ft.	\$2,651,869,272
Other Bridges	1,098,509 sq. ft.		\$764,562,264
• <i>Non-NHS Bridges</i>	625,554 sq. ft.	\$696/sq. ft.	\$435,385,584
• <i>NJ Transit Bridges</i>	167,319 sq. ft.	\$696/sq. ft.	\$116,454,024
• <i>Orphan Bridges</i>	305,636 sq. ft.	\$696/sq. ft.	\$212,722,656
Local Bridges	1,733,703 sq. ft.	\$696/sq. ft.	\$1,206,657,288
Bridge Painting	200,000 tons of steel requiring treatment	\$1,000/ton	\$200,000,000
Highways	4,387 lane miles		\$877,374,000
• Mainline highway resurfacing and incidentals	3,815.40 lane miles	\$200,000/l.m.	\$763,080,000
• Ramps (fair condition)	473.32 lane miles	\$200,000/l.m.	\$94,664,000
• Ramps (poor condition)	98.15 lane miles	\$200,000/l.m.	\$19,630,000
Dams	6 dams	Not applicable	\$57,000,000

Note: All values in 1998 dollars. For 1999 dollars, divide by 0.976.

Source: New Jersey Department of Transportation

Table 8: Roads, Bridges and Tunnels Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Roads, Bridges and Tunnels	\$6,014*	***	\$6,014

Notes: All values in millions of 1999 dollars.

* = Present Needs do not include tunnels or routine maintenance or rehabilitation.

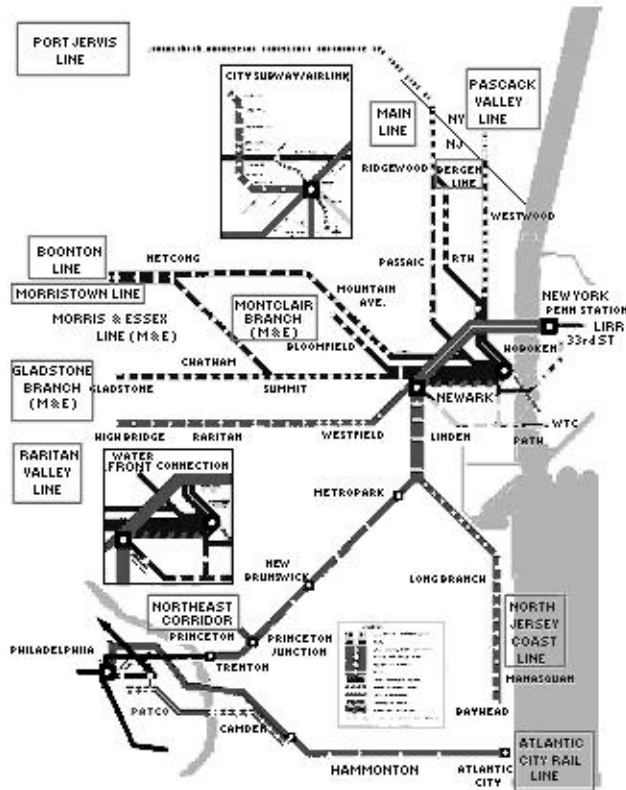
*** = Prospective Needs to be projected by Impact Assessment Study.

B. Public Transportation

New Jersey continues to be among the states most extensively served by public transportation in the nation. AMTRAK intercity rail, NJ Transit local and commuter rail and bus, the Newark subway, the Port Authority Trans-Hudson (PATH) rail in the New York area, and SEPTA and PATCO rail service in the Philadelphia area provide a convenient and expansive transit network. More than 40 private bus lines, some of whom are contract carriers for NJ Transit, also serve New Jersey. Even so, only 8.8 percent of New Jersey residents used public transit (bus and rail) to commute to work. Considering the extent of the increase of traffic on New Jersey’s highway network, transit facilities and services will need to increase substantially to sustain access between jobs and housing to accommodate the projected increase of as many as 1 million people and 1 million jobs in the state over the next 20 years.

Covering a service area of 5,325 square miles, NJ Transit has increased in rank from the fourth to the nation’s *third* largest provider of bus, rail and light rail transit – linking major points in New Jersey, New York and Philadelphia (see **Figure 6**). NJ Transit provides bus services ranging from express to suburban to local intra-city transit. The agency’s fleet of 1,900 buses and 591 trains (829 locomotives and rail cars) now serves more than 321,000 customers (up from 290,000 in 1990), making more than 632,000 trips daily. On 178 bus routes and 12 rail lines statewide, NJ Transit provides 188 million passenger trips and travels more than one billion miles each year.¹⁰ NJ Transit’s rail network serves 161 stations in 137 communities, with transfers to and from NJ Transit buses at 123 rail stations.

Figure 6: NJ Rail Transit Map



¹⁰ NJ Transit General Information, via NJ Transit website: <http://www.njtransit.state.nj.us>

The 14 mile PATH rapid transit service connecting Newark, Hoboken, Jersey City and New York City carries over 60 million riders per year. The 14 mile PATCO rapid transit service carries 11 million riders per year between Lindenwold and Philadelphia through Camden. On average, 585,000 riders board AMTRAK Northeast Corridor line trains in New Jersey each year, including Metroliner trains. NJ Transit



provided rail service to Atlantic City from Lindenwold beginning in 1989 and provided direct service to Philadelphia in 1993. In April 1995, NJ Transit took over the 68 mile AMTRAK service between Atlantic City and Philadelphia and increased the frequency of service to 14 trips per day as well as ridership. Ridership on the Atlantic City Rail Line increased 90 percent from 525,000 riders (annual) in Fiscal Year 1991 to 998,000 riders in Fiscal Year 1999 (currently approximately 2,800 riders per day). Charter buses also bring some 10 million visitors to Atlantic City each year.

Four privately operated commuter ferry services connect Hoboken, Weehawken, and Monmouth County across the Hudson River or New York harbor with lower Manhattan. Three other ferry lines serve primarily recreational markets: the Cape May – Lewes, Delaware ferry across Delaware Bay, the Liberty State Park ferry to Liberty and Ellis islands in New York harbor, and the New Jersey State Aquarium ferry across the Delaware River between Camden and Philadelphia.

The 1998 vision report, *NJ First* identified a number of objectives for public transportation, which included:

- Replace every overage bus in its fleet with one that runs on the best fuel technology. A substantial portion of the state's bus fleet operated by NJ TRANSIT and private carriers is presently overage. To ensure safe operations and minimize operating budget outlays, at least 1,400 buses will be replaced within the next five years.
- Replace 424 rail cars and 17 locomotives within 10 years to continue high on-time performance, sustain customer satisfaction and ensure safe operations.
- Upgrade the top 20 passenger stations that are most in need of repair in concert with local communities.
- Increase investments in our tracks and rail yards so that rail on-time performance remains high.¹¹

NJ Transit's \$5.2 billion five year capital program for fiscal years 2001 through 2005 included a number of major initiatives:

- Construction and operation of the 20.5 mile Hudson-Bergen Light Rail Transit System, with service on the first segments to begin in spring 2000 (see **Figure 7**).

¹¹ Ibid.

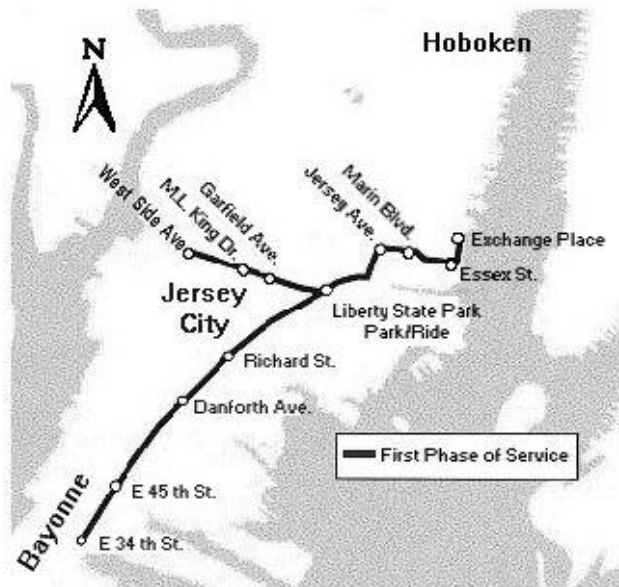


Figure 7: Hudson-Bergen Light Rail System

- Completion of the Boonton Line Electrification and Montclair Branch Connection projects, that will provide one seat rail service to Penn Station, New York from the Montclair Branch and easy access to Newark via the Broad Street Station and to other New Jersey cities via the Secaucus Transfer from as far northwest as Netcong.
- Construction of the Southern New Jersey Light Rail Transit System from Camden to Trenton.
- Completion of the Newark Airport Station, improvements to Newark's Penn Station and Broad Street Station, Hoboken Terminal and Trenton Station and improvements to several rail yards.
- Construction of a Newark-Elizabeth rail link.
- Provision of additional park and ride spaces.

Public transit services will be increasingly needed to provide mobility for several segments of the population that are projected to increase dramatically in New Jersey through 2020. According to the New Jersey Department of Transportation, more than 1.1 million New Jersey residents have a limited ability to meet their mobility needs:

- 1 of 8 households in New Jersey does not have a vehicle available for its use.
- Nearly 230,000 residents have mobility limitations than make alternatives to driving essential.
- 480,000 non-disabled New Jerseyans are over 75 years old, and age when driving reflexes and endurance may be declining and alternatives to driving become more necessary.

II. Transportation and Commerce

- 420,000 New Jerseyans are 12-16 years age and dependent on adults for transportation to jobs, schools and recreation if other alternatives are not available.¹²

In association with the New Jersey Department of Transportation, the Office of State Planning and other organizations, NJ Transit is currently leading an initiative promoting transit oriented community design which may affect infrastructure needs associated with future development and redevelopment. Walking and biking to work or to transit stops requires barrier free routes. A number of New Jersey communities are already advancing projects to improve access to and safety for rail and bus transit stops.

While most of the buses and rail rolling stock is currently being replaced, with the average useful life of a bus of 12 years and of a rail car 30 years, significant life cycle replacement and rehabilitation costs will be incurred prior to the State Plan’s horizon year of 2020. Potential major rail system projects that may be initiated by 2020 include:

- Meadowlands Sports Complex rail spur.
- West Shore Rail Line reactivation.
- New York, Susquehanna and Western Rail restoration.
- West Trenton Rail Line reactivation.
- Expansion of rail services in Middlesex, Monmouth and Ocean counties.
- Construction of a second Hudson River transit crossing.

Based on a comparison using current dollars, the NJ Department of Transportation has estimated that Present Needs for backlog and rehabilitation have slightly decreased from \$4,605 million (1990-2010) to \$4,075 million (2000-2020) while Prospective Needs to accommodate new growth will substantially increase from \$2,159 million (1990-2010) to \$4,129 million (2000-2020). Prospective Needs to accommodate future growth estimated by the Impact Assessment Study will be incorporated when available.

Table 9: Public Transportation Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Transportation	\$4,075	\$4,129	\$8,204

Notes: All values in millions of 1999 dollars
Source: New Jersey Department of Transportation.

¹² *Transportation Choices 2020: Statewide Long-Range Transportation Plan*. New Jersey Department of Transportation. July 1995.

C. Freight, including Ports

A rational and efficient goods movement system is crucial to maintaining a healthy state economy with jobs for those willing and able to work. Unlike transit and most private automobile travel in New Jersey, trucking, rail freight and marine freight movements are dictated by what happens outside the state as much as or more than by what happens within the state. The globalization of manufacturing, distribution and marketing of goods, the increasing use of “just in time” inventory practices by manufacturers and overnight package deliveries, and the changing combinations of transportation modes and links used that make up a goods movement trip today from origin of manufacture to consumer destination, all have important implications for the state’s transportation system.

Approximately 350 million tons of freight is moved each year in New Jersey¹³ by a variety of modes. For example, in northern New Jersey, trucks carry some 150 million tons of freight annually; rail, 22 million tons; ships, 57 million tons and air, 2 million tons.¹⁴ In addition, a number of privately operated pipelines provide bulk transport of oil and natural gas through New Jersey from the southwest. With convenient links to both rail



and highway, New Jersey’s ports are within a day’s truck trip of Chicago and Montreal. With the increasing demands for “just in time” freight delivery and courier delivery of consumer goods purchased through catalogs and the Internet, New Jersey’s freight network requires substantial investments to meet the demands of the 21st century economy.

The nature of the freight industry makes transfers among modes of intermodal facilities very important, especially for sea and rail containers that become truck trailers. There are three major rail freight carriers using an extensive network of 1,200 miles of track in New Jersey, led by Conrail and numerous “short-line” operators. Waterborne freight operates through 76 ports and terminals throughout the state, with Port Newark-Elizabeth and the Port of Camden the largest of the four dominant ports.¹⁵ Handling 17.6 million tons of freight per year, the Port of Newark-Elizabeth is the third largest in the United States and the largest container port on the Eastern seaboard, directly and indirectly employing approximately 166,000 people. The South Jersey Port Corporation in Camden captures about one third of the Philadelphia port traffic, specializing in scrap metals, food and building products. The ports of Salem and Bridgeton, located across from the Chesapeake-Delaware Canal, are small public ports that need substantial improvements to reach their potential. Overall, the maritime industry alone is currently estimated to contribute more than \$50 billion per year into New Jersey’s economy.

As expansion of the global economy increases the importance of import and export activity, the ports of Newark and Elizabeth as well as the Delaware River ports will become key to New Jersey’s economic future. Support activities such as custom freight brokering, international

¹³ *Regional Transportation Plan for Northern New Jersey: 1998 Update*, North Jersey Transportation Planning Authority, January 1998.

¹⁴ *Transportation Choices 2020: Statewide Long-Range Transportation Plan*, NJ Department of Transportation, July 1995.

¹⁵ *Transportation Choices 2020: Statewide Long-Range Transportation Plan*, NJ Department of Transportation, July 1995.

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banking, motor and rail freight, warehousing and distribution, and further worldwide outsourcing of goods manufacture are interdependent with the global economy. Along with proposals to dredge New York Harbor to accommodate larger vessels, the “Portway” project of the New Jersey Department of Transportation is promoting use of the Newark and Elizabeth ports through a series of transportation improvements designed to make goods movement more efficient and attractive to shippers.

At 15,000 trucks each day, and over 2 million truck trips per year, one third of all New Jersey’s truck traffic is estimated by the New Jersey Department of Transportation to use the 10 mile area surrounding Port Newark-Elizabeth, and this rate is projected to increase by 4% by 2010. Port Newark-Elizabeth handles more than 1.4 million containers per year, 1 million by rail, and is expected to handle more than 2.8 million containers (2 million by rail) by 2010. When dredging is completed, Port Newark-Elizabeth will be able to handle the cargo superships that can now carry an equivalent of 6,000 20-foot containers in a single load.

With the exception of a \$10 million road built in conjunction with the new Jersey Gardens mall, the road network serving the port area has not received significant improvements since the 1950’s. The high clearances required for “double stack” container trains frequently used for shipping products to and from the Pacific Rim are not available on many rail lines serving New Jersey’s intermodal terminals. A \$545 million Portway project has been advanced to help relieve traffic congestion in the area by expediting and accommodating the increasing truck traffic within a dedicated freight corridor. A \$45 million Port of Camden Gateway project for Route 30 and economic development and revitalization of the highway corridor was also initiated in 1999.

With the sale of Conrail, the rail freight network in New Jersey may be part of the much larger inter-regional networks of two competing private national railroads. These networks will, in turn, tie New Jersey more closely to New England, the South and the Midwest. The need to amortize the costs of their purchase of the Conrail system will motivate the successors to increase their business. As a result, more demand is likely to be made on the capacity of the existing rail system. However, under Conrail, much of the state’s rail system was significantly downsized since 1976. The capacity

of New Jersey’s freight rail system was substantially reduced due to abandonment of unprofitable branch lines and the reduction of other lines from two tracks to one. **More than 500 miles of rail lines were abandoned in New Jersey since 1970, and less than 200 miles of these rights of way still exist.** This could have potentially serious implications for passenger rail transit on those rail lines where rail freight and rail passenger operations must share the same tracks. The prospect of increased rail freight business is good for the state’s economy and employment. At the same time, provision of more rail transit can greatly benefit the mobility of the state’s residents. If we are to optimally accommodate both passenger and rail traffic, it may be necessary to increase the capacity of freight rail systems to prevent existing transit service from diminishing or being precluded from expansion in the future.



In May 1998, *NJ First* established an objective to finance improvements to short lines to promote economic growth along existing rail freight routes. New Jersey's State Rail Plan currently identifies \$20 million in needed improvements that meet carefully drawn public interest and cost/benefit tests. Under current guidelines, these projects will be eligible for state funds to cover 50 to 70 percent of the total cost.

There are now more and different intermodal connections involved in goods movement. Increased rail freight service would result in mixed impacts on the State's highway system. A shift from trucks to rail for long distance goods movement could be a benefit in reduced wear and congestion on highways. However, short distance truck traffic may increase in some areas.

Where there is a strategic interface between a rail line and major highways there are likely to be strong, market-driven forces to locate very large warehousing and distribution facilities and related support businesses. There is adequate capacity on rail lines to support this development in many of the state's suburban and rural areas. In contrast, as a result of rail line abandonments, rail capacity is now insufficient in many urban areas to support the traditional roles of warehousing and distribution in New Jersey's cities and towns. *Local strategies for urban redevelopment and revitalization will need to be carefully considered to determine if investments in restoring rail capacity would ensure that these roles remain viable, or if investments in redeveloping warehousing and distribution centers to other uses would be more effective.*

Despite the critical nature of the freight system in New Jersey, a coordinated effort to plan for these needs has emerged only in the past few years, primarily through planning for the Portway project. Competition within the private sector, lack of data regarding freight markets and needs, and conflicts among Federal, State and local environmental and site development regulations have challenged efforts for freight infrastructure planning. Therefore, while the precedent of the Portway project promises a more comprehensive statewide analysis in the future, an updated assessment of statewide needs for freight infrastructure is not yet available. For the purposes of this assessment, the estimates in the 1992 assessment are updated from 1990 dollars to 1999 dollars.¹⁶

Table 10: Freight Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Freight, including Ports	\$2,530	\$835	\$3,365

Notes: All values in millions of 1999 dollars.

¹⁶ 1990 dollars are adjusted to 1999 dollars by dividing the 1990 dollar amount by 0.783, based on the Consumer Price Index. Backlog and Rehabilitation Needs were combined as Present Needs, and Growth Needs were included as Prospective Needs.

D. Aviation, including Air Freight

New Jersey has two international airports – Newark and Atlantic City. In 1997, Newark International Airport set an all-time record for passenger usage as its cargo numbers continued to rise. About 30.8 million people flew in or out of the airport, which offers nonstop connections to more than 40 international destinations. Meanwhile, Atlantic City International Airport showed an 18 percent increase in passengers from 1996 to 1997,¹⁷ serving the booming casino industry.

Most air cargo in New Jersey comes through Newark Airport. The nation’s 8th largest air cargo facility, Newark Airport currently handles 1.14 million tons of cargo each year and is projected by NJDOT to increase its tonnage by more than 10% per year for the foreseeable future.

Increased land development near airports has continued to intensify conflicts between flight operations and neighboring land uses. Public use airports in New Jersey have decreased from 54 in 1992 to 50 in 1999 (see **Figure 8**). Portions of the airplane parking area in Bader Field in Atlantic City have been developed as a minor league baseball stadium, and airport noise has become a public issue as development has increased near many general aviation airports and public and private use heliports. The continued vitality of New Jersey’s general aviation airports was identified as an objective by *NJ First*.¹⁸



The 1991 Statewide Airport System Plan by the New Jersey Department of Transportation included a limited needs analysis. This assessment includes the total needs for all public-use airport facilities, air carrier and general aviation throughout the State. The plan is currently being updated to include a more robust needs assessment and analysis to ensure that the plan will adequately respond to the requirements of the air transportation system and can be used as a basis for airport development. A 1995 study by the Delaware Valley Regional Planning Commission recommended a \$740 million capital improvement program for major commercial, reliever and general aviation airports and heliports in the Philadelphia area, including over \$40 million for improvements to facilities in New Jersey.¹⁹ New Jersey’s system of airports is required to furnish New Jersey with adequate access to the global economy.

Based on preliminary results of the assessment in progress, the total projected needs for aviation have increased from \$6,430 million in 1992 to \$7,125 million in 1999. Of this total, Present Needs (rehabilitation costs) increased from \$3,965 million to \$4,209 million.

Table 11: Aviation Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Aviation, including Air Freight	\$4,209	\$2,916	\$7,125

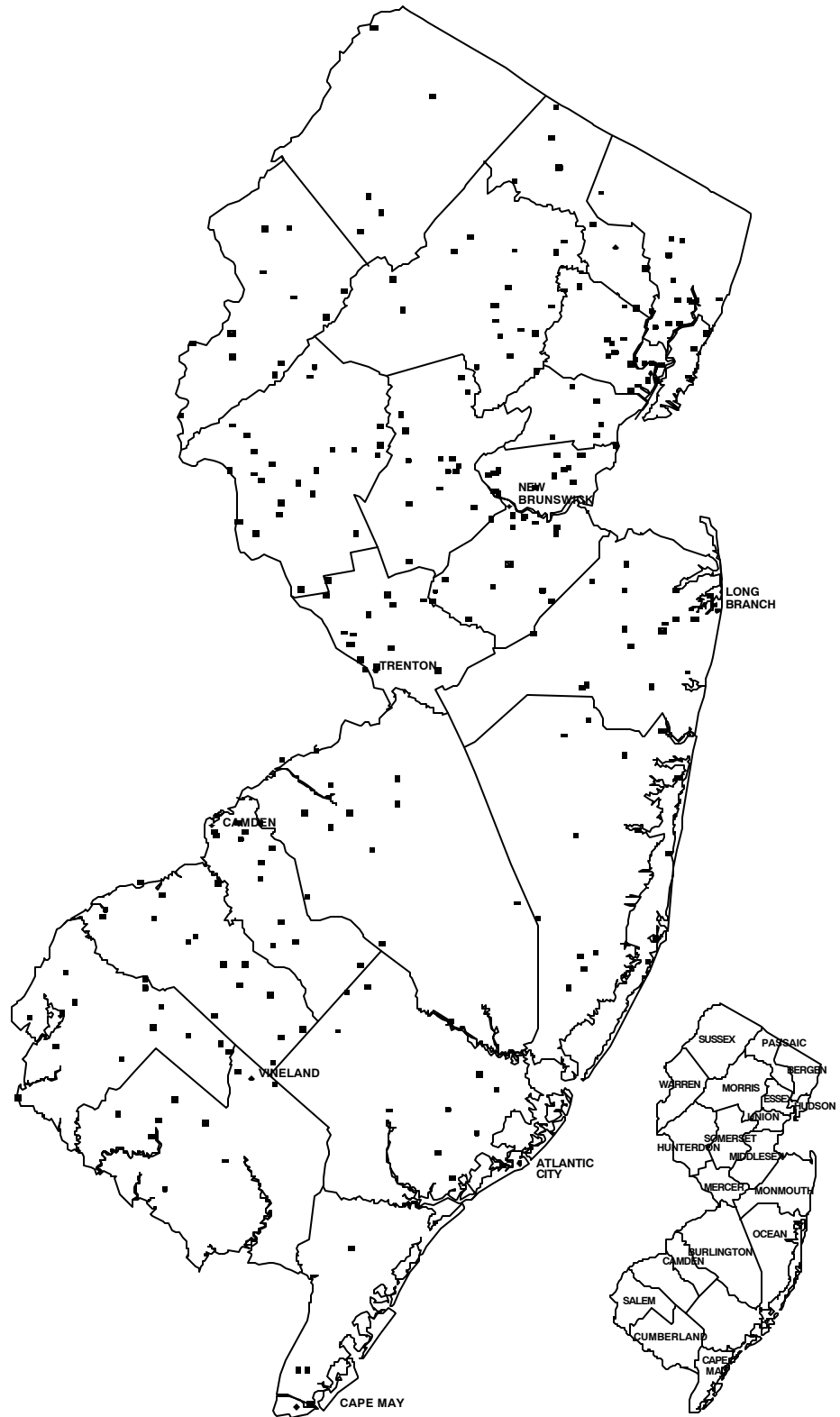
Notes: All values in millions of 1999 dollars.
Source: New Jersey Department of Transportation.

¹⁷ An expanded terminal at Atlantic City International Airport will accommodate up to 1.3 million passengers per year. <http://www.acairport.com/news/acairfacts.cfm>

¹⁸ *New Jersey First: A Transportation Vision for the 21st Century*. New Jersey Department of Transportation, May 1998.

¹⁹ *2020 Regional Airport System Plan for the Delaware Valley: The Airport Planning Element of the DVRPC Year 2020 Plan*. Delaware Valley Regional Planning Commission, August 1995.

Figure 8: New Jersey Airports



E. Other Transportation Facilities

These facilities include administration buildings and other capital facilities and services related to transportation not classified elsewhere. The magnitude of transportation facilities and services provided results in a significant need for administration buildings and other transportation-related construction and improvements that are not associated with any single transportation system. For example, the World Trade Center in Manhattan, New York City, as the headquarters of administrative services for major New Jersey transportation facilities, accounts for part of New Jersey's infrastructure needs. An international trade center proposed for Newark is intended to provide similar services.

In the absence of an updated assessment, the estimates in the 1992 assessment were updated to 1999 dollars.²⁰

Table 12: Other Transportation Facilities Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Other Transportation Facilities	\$190	\$145	\$335

Notes: All values in millions of 1999 dollars.

F. Energy

Residential and commercial buildings account for almost half the energy consumed in the state. Transportation accounts for more than one quarter, with industrial use the remainder. Space heating of buildings is most affected by building codes and construction practices. Transportation energy use is sensitive to vehicle efficiency, mode of travel (private car vs. public transportation), and land use patterns. From 1988 to 1995, the most recent year for which data are available, New Jersey has generated nearly \$100 in economic output per Million British Thermal Units (MBTU) of energy consumed (see **Figure 9**).

On May 5, 1994, Governor Whitman issued Reorganization Plan Number 001-1994 which included the following provisions related to the development of the State's energy policies:

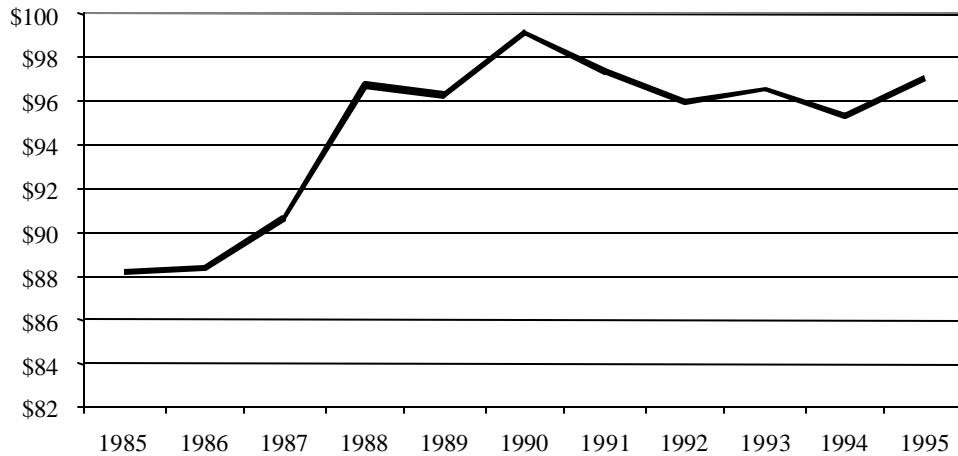
- The Board of Regulatory Commissioners was transferred to and constituted as the New Jersey Board of Public Utilities, and the name of the Department of Environmental Protection and Energy (DEPE) was changed to the Department of Environmental Protection.
- The responsibility to act as Chair of the Energy Master Plan Committee was transferred from the Commissioner of the former DEPE to the President of the Board of Public Utilities.
- The Office of Energy Planning and all of its functions, powers and duties were transferred to the Division of Energy Planning and Conservation in the Board of Public Utilities. The Division of Energy Planning and Conservation is responsible for coordinating the development of the Energy Master Plan.

The Phase 1 report of the *New Jersey Energy Master Plan* was published in March 1995 by the New Jersey Board of Public Utilities.²¹ The Phase 1 report outlined policy objectives primarily

²⁰ 1990 dollars are adjusted to 1999 dollars by dividing the 1990 dollar amount by 0.783, based on the Consumer Price Index. Backlog and rehabilitation needs are combined in Present Needs.

designed to increase competition in energy markets and to coordinate with the policies of the State Development and Redevelopment Plan and the 1995 Economic Master Plan. The Phase 2 report²² advanced specific recommendations for implementing these policies. The Phase 3 report, intended to update the detailed analyses and projections of the 1991 Energy Master Plan, has not yet been published. A recent compilation by the Board of Public Utilities of capital and purchase costs of electric power generation facilities nationwide between October and December 1998 found these costs to range from \$227,000 to \$1,536,000 per megawatt of capacity, but predominantly under \$300,000 per megawatt. These costs are considerably less than the \$0.5 million to \$1.5 million per megawatt costs estimated in the 1991 Energy Master Plan and presented in the 1992 Infrastructure Needs Assessment.

Figure 9: Economic Output Per MBTU of Energy Consumed



In the absence of new estimates from the Board of Public Utilities, for the purpose of this assessment, the energy generation needs presented in the 1992 assessment were inflated to 1999 dollars using the Consumer Price index, then reduced by 70% to account for the lower per megawatt generating costs.

Table 13: Energy Facilities Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Energy	\$1,335	\$415**	\$1,750

Notes: All values in millions of 1999 dollars.

** = Prospective Needs to be projected by Impact Assessment Study.

²¹ New Jersey Energy Master Plan Phase I Report, New Jersey Board of Public Utilities. March 1995.

²² New Jersey Energy Master Plan Phase II Report, New Jersey Board of Public Utilities updated the report, New Jersey Energy Master Plan: Implementation Section, New Jersey Energy Master Plan Committee, February 1993.

G. Telecommunications

Industry restructuring and the enactment of New Jersey’s Telecommunications Act of 1992 facilitated competition in the telecommunications industry. While telecommunications services and options have greatly increased since 1992, there are no new statewide studies of telecommunications infrastructure needs available that address this new context.

Table 14: Telecommunications Facilities Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Telecommunications	nav	nav	nav

Notes: nav = Not available

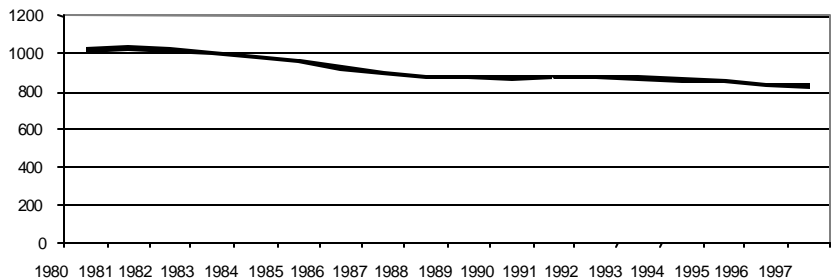
H. Farmland Retention

In 1998, the 9,200 farms in New Jersey generated cash receipts totaling \$773 million in diverse crops and industries. Of the more than 830,000 acres of productive farmland in New Jersey, 60,119 acres of farmland in 404 farms have been preserved for permanent agricultural use through easements, fee simple purchases and donations through January 2000. At that time, an additional 16,779 acres in 122 farms remained pending approval by the State Agriculture Development Committee. In 1999, the State’s farmland preservation program documented an 89,000-acre backlog of farmland ready to enter the program.²³ To stem the loss of open lands in productive agriculture, The NJ Department of Agriculture and the Governor’s Council on the Outdoors both reported that an increased effort to preserve 500,000 acres of farmland was necessary to keep agriculture viable.²⁴



Figure 10: Land in Farms

Note: Thousands of acres.
Source: NJ Dept. of Agriculture



²³ New Jersey’s Farmland Preservation Program: Securing the Future of the Garden State’s Farmland, NJ Department of Agriculture, www.state.nj.us/agriculture/, June 1999.

²⁴ Governor’s Council on New Jersey Outdoors Final Report – Summary of Findings, February 26 1998.

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For this Assessment, the statewide average cost per acre of \$4,315 was used to estimate potential costs (regardless of funding source, which may include private donation) to meet the established need of 500,000 acres of preserved farmland (see **Table 15**). The current backlog of 89,000 acres of farmland ready to enter the program is considered the basis for the Present Need. The 351,759 remaining acres necessary to preserve 500,000 acres are considered the basis for the Prospective Need.

Table 15: Farmland Preservation Easement Costs

County	Original Farms	Easement Acres Donated	Easement Acres Purchased	Total Easement Costs	Average Cost per Acre
STATE	403	874	59,241	\$255,652,820	\$4,315
Atlantic	1	0	190	205,838	1,083
Bergen	0	0	0	0	0
Burlington	65	0	10,694	44,050,843	4,119
Camden	0	0	0	0	0
Cape May	20	0	2,016	5,346,214	2,652
Cumberland	27	0	4,891	8,863,325	1,812
Essex	0	0	0	0	0
Gloucester	18	0	2,547	7,115,136	2,794
Hudson	0	0	0	0	0
Hunterdon	47	245	6,384	32,166,877	5,039
Mercer	31	628	3,397	15,106,951	4,447
Middlesex	17	0	2,279	19,082,687	8,373
Monmouth	41	0	5,942	36,971,234	6,222
Morris	27	0	2,634	27,957,766	10,614
Ocean	13	0	1,777	4,658,904	2,622
Passaic	0	0	0	0	0
Salem	31	0	6,866	11,808,785	1,720
Somerset	22	0	2,385	18,751,537	7,862
Sussex	17	0	3,016	8,138,472	2,698
Union	0	0	0	0	0
Warren	26	0	4,222	15,428,252	3,654

Note: Total easement costs are in current dollars since program inception, not adjusted for inflation. Costs are for both county owned and SADC owned easements. This table represents only permanent easement purchases involving SADC, and does not include costs of fee simple purchase, capital value of donations, or any other farmland preservation programs or techniques.

Source: New Jersey State Agriculture Development Committee, January 21, 2000.

Table 16: Farmland Retention Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Farmland Retention	\$384	\$1,518	\$1,902

Notes: All values in millions of 1999 dollars.

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III. HEALTH AND ENVIRONMENT

This section addresses the infrastructure systems that protect public *health* and the quality of the *environment*.

These systems include wastewater disposal, water supply, storm water management, shore protection, open space and recreation lands, solid waste management, and public health care. Public health care infrastructure was not addressed in this assessment, but will be included in later revisions as data become available.

Together, these systems represent approximately 33% of the estimated infrastructure needs within New Jersey, based on information currently available (See **Table 17**). The predominant share of costs is associated with Present Needs.

Table 17: Summary of Health and Environment Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
HEALTH AND ENVIRONMENT	\$15,376	\$6,200	\$21,576
Wastewater Disposal	\$4,988	\$3,550***	\$8,538
Water Supply	\$1,980	\$1,980***	\$3,960
Storm Water Management	\$201	nav	\$201
Shore Protection	\$364	nav	\$364
Public Recreation Open Space Land	\$2,500	\$0	\$2,500
Public Recreation Facilities	\$243	nav	\$243
Solid Waste Management	\$5,100	\$670	\$5,770
Public Health Care	nav	nav	nav

Notes: All values in millions of 1999 constant dollars.

nav = Not available

*** = Needs associated with future growth will be provided by the Impact Assessment Study.

A. Wastewater Disposal

In 1996, the date of the most recent nationwide needs assessment for wastewater treatment facilities,²⁵ there were 145 sewage treatment plants and 516 collection systems in New Jersey discharging approximately 1.5 billion gallons of wastewater into New Jersey's water resources. Domestic treatment systems account for 80 percent of these discharges. Systems are both publicly and privately owned. 37 combined sewer facilities, in which untreated sewage including bacteria, viruses, and other pathogens may be released from sanitary sewer systems with storm water runoff during high flow (storm) periods, existed in New Jersey in 1996. In 1999, 5 municipal sewage treatment plants and 12 sewage collection systems were not permitted to connect new customers due to violations of water quality standards, a substantial reduction from 1992 when 89 treatment plants and 23 collection systems were faced with connection bans.

By 2016, the United States Environmental Protection Agency (USEPA), based on data provided by the New Jersey Department of Environmental Protection (NJDEP),²⁶ projected there would be 153 sewage treatment plants and 553 collection systems in operation. The total 1996 documented and modeled needs through 2016 are estimated by USEPA at \$6.958 billion for New Jersey and \$139.5 billion for the entire nation. Additional needs estimated by NJDEP increase the total to \$8.026 billion (see **Table 18**).

USEPA's 1996 Clean Water Needs Survey (CWNS) presents detailed estimates of capital costs eligible for funding under the State Revolving Fund (SRF) program established in the 1987 Amendments to the Federal Clean Water Act (FCWA). The CWNS covers publicly owned, municipal wastewater collection and treatment facilities, facilities for the control of combined sewer overflows (CSOs), activities designed to control storm water (SW) runoff and nonpoint source (NPS) pollution, and programs designed to protect the nation's estuaries.

The CWNS defines a "need" as a cost estimate for a project eligible for SRF funding under the FCWA to prevent or abate a public health or water quality problem. The cost estimates in the 1996 CWNS database were either reported by the States or modeled by USEPA. Reported needs include costs for facilities used in conveyance, storage and treatment, and recycling and reclamation of municipal wastewater. In addition, costs for structural and nonstructural measures and costs to develop and implement State and municipal storm water and nonpoint source programs were included. For the modeled categories (i.e., storm water and nonpoint source pollution control), USEPA prepared cost estimates for eligible facilities and program activities. Needs estimates in the CWNS do not include annual costs for operations and maintenance. They also do not include needs that are ineligible for Federal assistance under Title VI of the FCWA, such as house connections to sewers and costs to acquire land that is not a part of the treatment process.

²⁵ United States Environmental Protection Agency, 1996 Clean Water Survey. September 1997. The national CWNS Report to Congress is required by sections 205(a) and 516(b)(1) of the Federal Clean Water Act and is a joint effort by the states and USEPA. A similar assessment was performed by USEPA in 1992, but its results were published after the 1992 Infrastructure Needs Assessment was completed.

²⁶ The New Jersey CWNS is based on a database of technical and cost information on approximately 680 publicly owned wastewater treatment facilities. It also contains cost and technical information for other specific programs and projects that target documented water quality or public health problems. Additional information may be obtained from David Shu, NJDEP Bureau of Administration and Management, (609) 633-1208 or dshu@dep.state.nj.us.

Table 18: Wastewater Needs Assessment, 1996 - 2016

Category	Description	USEPA Estimates		Separate State Estimates**	
		All Communities	Small Communities	All Communities	Small Communities
Total		\$6,958	\$492	\$1,068	\$283
I	Secondary Treatment	1,984	172	326	270
II	Advanced Treatment	257	34	0	0
IIIA	Infiltration/Inflow Correction	248	31	6	1
IIIB	Sewer Replacement/Rehabilitation	247	33	264	0
IVA	New Collector Sewers	745	139	39	0
IVB	New Interceptor Sewers	351	49	113	0
V	Combined Sewer Overflows	3,016	14	285	0
Total (I - V)	Point Sources Subtotal	\$6,848	\$472	\$1,033	\$271
VI	Storm Water	0*	0	5	0
VII	Nonpoint Sources (Total)	\$110	\$20	\$30	\$12
A	Agriculture (cropland)	16*		0	
B	Agriculture (confined animal facilities)	5*		0	
C	Silviculture	2*		0	
D	Urban Runoff	67		30	
E	Ground Water	4		0	
F	Estuaries	16		0	
G	Wetlands	0		0	

Note: This table summarizes the 1996 USEPA assessment of total documented and modeled needs for New Jersey for traditional and other SRF eligibilities to satisfy the design year (2016) population. All values are presented in millions of January 1996 dollars. Divide values by 0.940 to adjust to 1999 dollars.

The total documented and modeled needs represent the capital investment necessary to build publicly owned wastewater treatment facilities (Categories I through V) needed to serve the design year population and satisfy other types of needs eligible for funding under the SRF program. These other eligible needs are storm water (Category VI) and nonpoint source pollution control (Category VII). These needs include all planning, design, and construction activities eligible for funding under Title II and Title VI of the Clean Water Act.

The documented needs for the SRF-eligible nonpoint source pollution control projects represent the capital investment necessary to implement activities in approved State NPS Management Plans under Section 319 and to develop and implement conservation and management plans under Section 320 (National Estuary Program) of the Clean Water Act. These needs have met the established documentation criteria and are eligible for funding under Title VI of the Clean Water Act.

* = These are modeled needs. New Jersey has zero needs in Category VI because there are no municipal separate storm sewer systems regulated under Phase I of the USEPA NPDES Stormwater Program.

** = The Separate State Estimates are optional and in addition to the USEPA estimates. The Separate State Estimates were submitted by the New Jersey Department of Environmental Protection as legitimate needs but either were justified with documents outside the established USEPA documentation criteria of the 1996 Clean Water Needs Survey or had no written documentation.

Source: United States Environmental Protection Agency, 1996 Clean Water Needs Survey

Table 19: Comparison of Small Community Facilities and Needs

	Facilities				Needs			
	Small Community Percent of Total Facilities When All Documented Needs Are Met		Small Community Percent of Total Facilities with Documented Needs		Small Community Documented Needs as Percent of Total Documented Needs		Small Community Separate State Estimates as Percent of Total SSEs	
Population Served	Number	Percent	Number	Percent	\$ Million	Percent	\$ Million	Percent
All Facilities (Total)	359	52%	180	45%	492	7%	283	26%
3,500 to 10,000	188	27%	102	25%	316	5%	194	18%
1,000 to 3,500	135	20%	60	15%	158	2%	82	8%
Less than 1,000	36	5%	18	4%	18	0%	7	1%

Note: All values are millions of 1996 dollars. The facilities summary presents the total number of facilities that will serve small communities in 2016 when all documented needs are met, the total number of these facilities reporting documented needs, and their respective percentage of the relative total facilities within the state. The needs summary presents the total documented needs (Categories I - VII) for these small community wastewater treatment and collection facilities, and their reported Separate State Estimates (SSEs). The small community percentages are derived from the total documented and SSEs needs reported for each state, including needs for SRF-eligible projects unassociated with treatment and collection facilities.

Source: United States Environmental Protection Agency, 1996 Clean Water Needs Survey

Table 20: Wastewater Needs for Small Communities, 1996 - 2016

Category	Description	All Small Communities	3,500 – 10,000 Population	1,000 – 3,500 Population	Less than 1,000 Population
Total		\$492	\$316	\$158	\$18
I	Secondary Treatment	172	108	60	4
II	Advanced Treatment	34	12	21	1
IIIA	Infiltration/Inflow Correction	31	20	10	1
IIIB	Sewer Replacement/Rehabilitation	33	19	12	2
IVA	New Collector Sewers	139	92	41	6
IVB	New Interceptor Sewers	49	42	5	2
V	Combined Sewer Overflows	14	8	6	0
Total (I - V)	Point Sources Subtotal	\$472	\$301	\$155	\$16
VI	Storm Water	0	0	0	0
VII	Nonpoint Sources (Total)	\$20	\$15	\$3	\$2

Note: This table summarizes the 1996 USEPA assessment of total documented and modeled needs for New Jersey for traditional and other SRF eligibilities to satisfy the design year (2016) population. Separate State Estimate (SSE) needs are not included. All values are presented in millions of January 1996 dollars. Divide values by 0.940 to adjust to 1999 dollars.

Source: United States Environmental Protection Agency, 1996 Clean Water Needs Survey

The 1996 CWNS included an emphasis to estimate costs for preventing sanitary sewer overflows. Such overflows can be caused by a variety of factors, including blockages, system failures (e.g., power outages at pump stations or pipe collapses), high flows caused by large volumes of infiltration and inflow (I/I), and inadequate pipe or pump capacity. Often a combination of measures is required to prevent these overflows including:

- Sewer and pump rehabilitation/replacement;
- I/I correction measures;
- Expansion of sewer, interceptor, and pump capacity to address existing capacity limitations and/or to provide for future growth;
- Expansion of treatment plant capacity;
- Provision of backup facilities;
- Preventive maintenance measures (e.g., cleaning); and
- Improved operational procedures.

These needs are not identified separately since many costs overlap with, and are included in, needs for categories IIIA and IIIB and, to a lesser extent, I, IVA, and IVB. In general, USEPA believes that the needs estimates in these categories related to overflows underestimate the total costs since many municipalities have not fully investigated their overflow problems or measures necessary to correct them, or have not submitted documented needs for correction measures such as I/I measures or sewer rehabilitation/replacement because these types of projects have traditionally been given low priority or are not eligible for Federal SRF funding (e.g. preventive maintenance and operational measures that are not capital related).

Small community facilities (serving less than 10,000 people) account for approximately half the facilities in New Jersey, but a much smaller portion of estimated needs (see **Table 19** and **Table 20**).

In certain cases, improvements in water quality resulting from wastewater treatment improvements may reduce needs for drinking water treatment reported under the USEPA Drinking Water Infrastructure Needs Survey.

The New Jersey Department of Environmental Protection estimated the portion of the USEPA NCWS needs associated with new growth Prospective Needs from 1996 – 2016 to be \$3,337 million (1996 dollars). For the purpose of this Assessment, the remaining needs reported in the 1996 National Clean Water Survey for 1996 to 2016 (both the USEPA and Separate State Estimates) are reported as Present Needs for 2000 to 2020, after adjusting for inflation to 1999 constant dollars. Costs for wastewater collection systems associated with new growth estimated by the Impact Assessment Study, including costs for new individual on-site systems such as septic systems, will be incorporated in this Assessment when received.

Table 21: Wastewater Disposal Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Wastewater Disposal	\$4,988	\$3,550***	\$8,538

Notes: All values in millions of 1999 constant dollars.
 1996-2016 needs reported in the National Clean Water Survey were adjusted to 1999 dollars by dividing by 0.940 (Consumer Price Index inflator).
 Costs do not include individual on-site wastewater disposal systems, such as septic systems.
 *** = Needs associated with projected growth to be provided by Impact Assessment Study

B. Water Supply

Public water supplies in New Jersey are currently provided by more than 600 community water systems (ranging from systems for individual subdivisions to large metropolitan systems) and more than 3,700 non-community water systems. A combination of reservoirs, river intakes and well systems is used, with more than half the total supply is drawn from ground water.²⁷

The New Jersey Department of Environmental Protection published a *Statewide Water Supply Plan* in 1996 that included a \$1.087 billion action plan.²⁸ A national *Drinking Water Infrastructure Needs Survey* (DWINS) published in 1997 estimated 20-year needs from 1995 to 2015 in New Jersey to be \$3.613 billion in 1995 dollars.²⁹ Needs for all states totaled \$136.7 billion.

The 1996 Water Supply Plan updated a 1982 plan. Using a water balance model and projections of population growth to 2040, NJDEP analyzed surpluses and deficiencies among water supplies by watershed and advanced programs of management measures and capital improvements. Estimating a total safe yield for surface water supplies in New Jersey of approximately 850 million gallons per day and a total safe yield for ground water supplies of approximately 900 million gallons per day, NJDEP projected that the total safe yield of 1,750 million gallons per day was generally sufficient to meet estimated 1990 demands of 1,500 million gallons per day but **would not satisfy the projected 2040 demand of 1,790 million gallons per day** for a population of 8,933,212 (this population is currently projected by the Office of State Planning to be exceeded by 2020).

The Water Supply Plan included a \$1.087 billion action plan consisting of a number of studies and projects that were currently proposed, in progress or completed since 1982, including \$786.55 million in capital projects. Many of these capital projects involved private and other public funds, as the Water Supply Bond Fund contributed or is proposed to contribute \$217.55 million toward these projects.

The 1996 Federal Safe Drinking Water Act Amendments directed USEPA to conduct a survey of the infrastructure needs facing community³⁰ public water systems. Non-community water systems, private individual water supply wells and projects purely for future growth were not addressed by the survey. The first survey released in 1997 was used to develop a formula to allot funds for Drinking Water State Revolving Fund grants to states. The next Needs Survey, due in 2001, is currently being conducted. The breakdown of costs in New Jersey are typical of that nationwide (see **Table 22** and **Table 23**). Nationally, the total needs for large systems are significantly higher, but are the smallest on a per-household basis. Conversely, the needs for small systems tend to have the highest per household costs. Included in the needs presented below are \$175.6 million (1995 dollars) in current needs to meet current Federal Safe Drinking Water

²⁷ Data provided by the New Jersey Department of Environmental Protection.

²⁸ Water for the 21st Century: A Vital Resource. New Jersey Statewide Water Supply Plan. New Jersey Department of Environmental Protection. August 1996.

²⁹ Drinking Water Infrastructure Needs Survey: First Report to Congress. United States Environmental Protection Agency, Office of Water. EPA 812-R-97-001. January 1997.

³⁰ "Community" water systems have at least 15 service connections used year-round by residents or regularly serve at least 25 residents year-round. Examples of this type of water system include cities, towns, and communities such as retirement homes. "Non-community" water systems do not meet the definition of community water systems, but serve an average of at least 25 individuals 60 days of the year. Examples of non-community systems include schools and churches with their own water systems. (Source: USEPA)

Act requirements in New Jersey (\$212.1 million for 20-year needs). \$348.4 million in costs are estimated to meet needs associated with the adoption of proposed new Federal Safe Drinking Water Act regulations. An additional \$1,127.8 million is estimated to address related needs in New Jersey such as distribution system improvements (including transmission mains from source to treatment or from treatment to distribution systems).

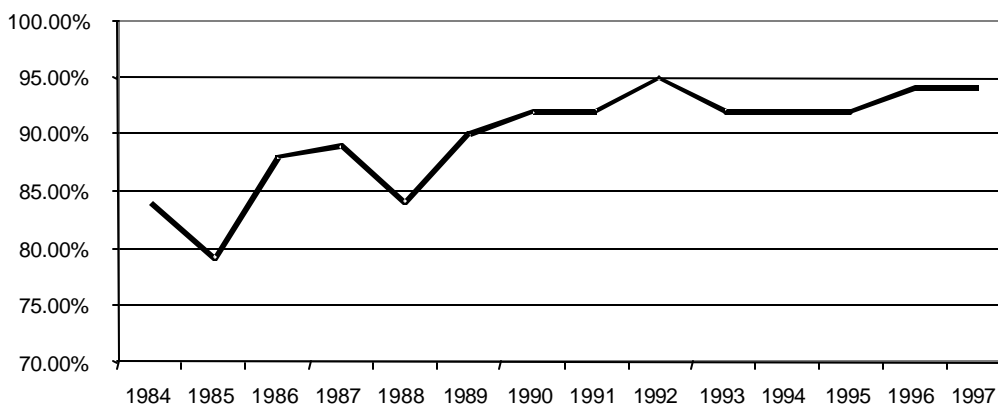
Table 22: Drinking Water Infrastructure Needs by Category, 1995-2015

Description	Transmission and Distribution	Treatment	Storage	Source Rehabilitation and Development	Other (e.g. Automation, Laboratories)	Total
Total Needs	2,469.8	658.2	290.5	163.5	31.2	3,613.2
Current Needs	1,409.1	149.0	153.8	94.9	0.0	1,806.8
Future Needs	1,060.7	509.2	136.7	68.6	31.2	1,806.4

Note: All values in millions of 1995 constant dollars.
 “Current Needs” include projects such as source, storage, treatment and water main improvements currently necessary to minimize the risk of contamination of water supplies.
 “Future Needs” include projects to replace existing infrastructure or to meet needs resulting from proposed Federal Clean Water Act regulations. Needs associated solely with future growth were excluded.

Source: United States Environmental Protection Agency, *Drinking Water Infrastructure Needs Survey*, 1997.

Figure 11: Percent of Community Water Systems Meeting Standards



Source: New Jersey Department of Environmental Protection.

The needs identified in the NJDEP Statewide Water Supply Plan and the USEPA Drinking Water Infrastructure Needs Survey overlap, but not completely. The USEPA study does not address non-community public water supplies or private individual water supply wells. The USEPA study addresses Prospective Needs that may result from changes in performance standards, but not Prospective Needs associated with new growth. In contrast, the NJDEP plan does not distinguish between capital projects needed for Present Needs and projects to meet Prospective Needs occasioned by projected growth. However, the Impact Assessment Study is expected to estimate these latter needs. Therefore, the Present Needs for water supply are based on the USEPA current needs estimate adjusted for inflation (divided by 0.913 based on the Consumer Price Index). The

Prospective Needs for water supply are based on the USEPA future needs estimate plus the estimate based on new growth provided by the forthcoming Impact Assessment Study.

Table 23: Drinking Water Infrastructure Needs by System Size, 1995-2015

System Type	Population Served	20-year Need
Total Needs		\$3,613.2
Large Systems	More than 50,000 people	1,905.4
Medium Systems	3,301 to 50,000 people	1,383.2
Small Systems	Up to 3,300 people	324.6

Note: All values in millions of 1995 constant dollars.

Source: United States Environmental Protection Agency, Drinking Water Infrastructure Needs Survey, 1997.

Table 24: Water Supply Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Water Supply	\$1,980	\$1,980***	\$3,960

Notes: All values in millions of 1999 constant dollars.

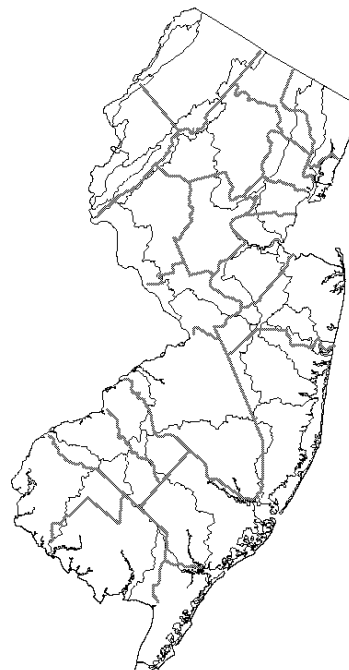
*** = Needs associated with projected growth to be provided by Impact Assessment Study.

Source: New Jersey Department of Environmental Protection.

C. Storm Water Management

The flooding generated by Tropical Storm Floyd demonstrated the vulnerability of New Jersey and its citizens, particularly in urban and suburban areas, to storm water management and flood control (see **Figure 13**).

Figure 12: New Jersey Watersheds

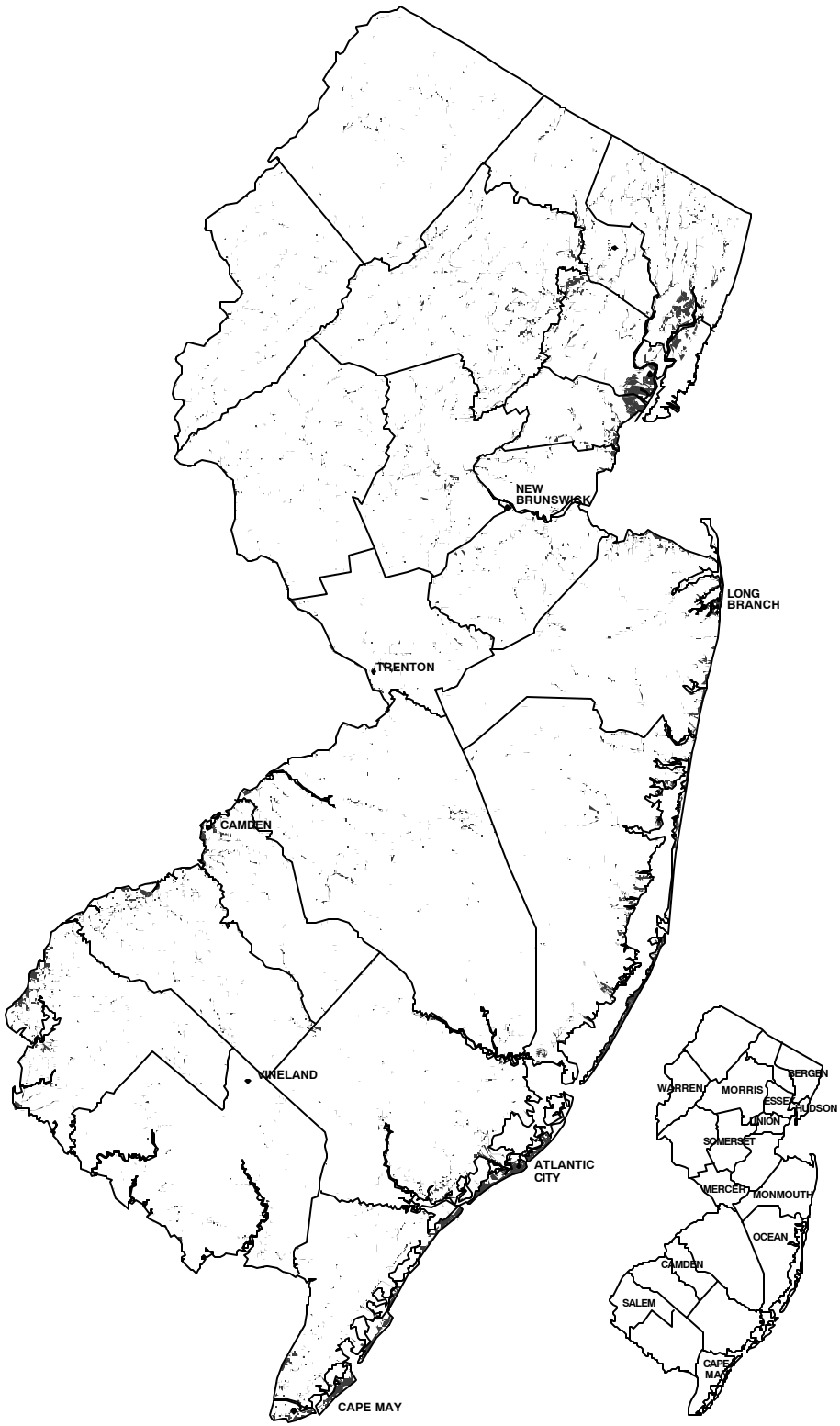


Storm water management consists of three activities:

- Flood plain management,
- Flood control, and
- Drainage control.

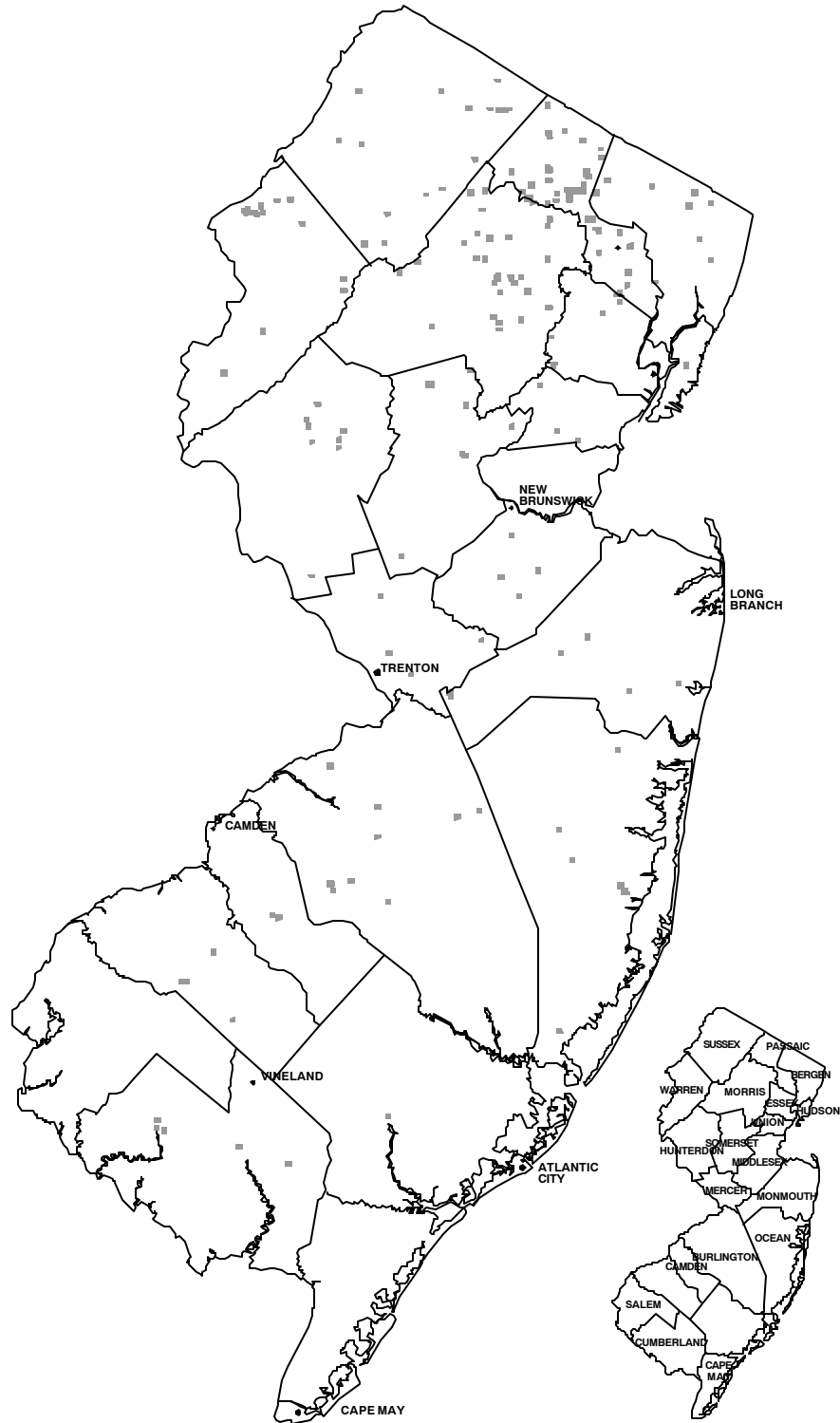
Infrastructure investments in these three categories are currently directed toward built systems such as dams, channels, storm sewers, and catch basins. Investment in natural systems and nonstructural measures are now increasingly significant portions of storm water management programs. In response to Tropical Storm Floyd damages and to current State and Federal mandates for watershed scale planning, watershed strategic plans including storm water management measures are now being prepared or are scheduled to be initiated for all watersheds in New Jersey (see **Figure 12**). As a result, current comprehensive estimates of long term storm water management needs are not yet available.

Figure 13: Urban Flood Prone Areas



Source: New Jersey Department of Environmental Protection
New Jersey Office of State Planning

Figure 14: High Hazard Dams



Source: New Jersey Department of Environmental Protection
New Jersey Office of State Planning

Updated information on the repair and rehabilitation of dams is available. Dams under State jurisdiction are artificial barriers and appurtenant structures that raise the waters of a stream more than five feet above the usual mean low water height. There are currently 1,592 dams under State jurisdiction, of which 596 are classified by the New Jersey Department of Environmental Protection (NJDEP) as being of high or significant hazard with respect to the potential impacts downstream in the event of a dam failure (not an assessment of its current physical condition, see **Table 25** and **Figure 14**). While the largest dams in New Jersey are associated with water supply reservoirs, recreation, and hydro power, most dams are used, at least in part, for storm water management and flood control.

Table 25: Number of NJ Dams by Hazard Classification, 1999

High Hazard	184
Significant Hazard	412
Low Hazard	996

Note: Hazard of a dam relates to the potential impacts downstream in the event of a dam failure and not its current physical condition.

Source: New Jersey Department of Environmental Protection

New Jersey has had dam safety programs in place continuously since 1912. The existing dam safety program was established under the 1981 Safe Dam Act amendments to the 1912 law. New Jersey's Dam Safety program is administered by NJDEP's Division of Engineering & Construction, Dam Safety Section, under the May 1985 Dam Safety Standards. The primary goal of the program is to ensure the safety and integrity of dams in New Jersey to in turn protect people and property from the consequences of dam failures. While a number of dam failures that resulted in the loss of life and extensive property damage have occurred in the United States, New Jersey has not experienced a catastrophic dam failure. However, there have been an increasing number of small dam failures, largely attributed to the lack of maintenance and inspection as well as the fact that many of the dams in the state are nearing the end of their design life. At present, 22 dam rehabilitation projects ranging in costs from \$2.2 million to \$175,000, totaling over \$15.5 million in project costs, are currently under construction. However, this listing of projects is determined by State grant funds available. A complete assessment of dam rehabilitation needs (other than for transportation related dams) is not currently available.

The capital funding request by the New Jersey Department of Environmental Protection for fiscal year 2001 calls for a total investment of approximately \$6.5 million in dam rehabilitation projects and \$195 million in flood control projects over the next seven years. For the purposes of this Assessment, this budget proposal, together with the current dam rehabilitation projects, may be considered to document Present Needs. An estimate of Prospective Needs associated with future growth is not available.

Table 26: Storm Water Management Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Storm Water Management	\$201	nav	\$201

Notes: All values in millions of 1999 constant dollars.

nav = Not available

Source: New Jersey Department of Environmental Protection.

D. Shore Protection

The New Jersey coastal area spans ten counties, 137 municipalities and several regional jurisdictions. The New Jersey Department of Environmental Protection (NJDEP) is the lead State agency responsible for coordinating shore protection. Although several studies have been initiated by NJDEP, Federal agencies and other entities, the most recent published comprehensive needs assessment for shore protection infrastructure is the 1981 NJDEP *Shore Protection Master Plan*. With coastal tourism a key component of New Jersey’s economy, shore protection capital projects such as beach nourishment, beach fill, artificial reef placement and erosion control continue to take place in reaction to damage caused by hurricanes, nor’easters, and other major storms as well as actions of the tides. With the recent availability of “Blue Acres” program State funds, nonstructural measures and buyouts of the most severely damaged or threatened properties are becoming a more significant portion of capital needs.

While a comprehensive, long term assessment of capital needs is not available, the capital funding request by the New Jersey Department of Environmental Protection for fiscal year 2001 calls for a total investment of approximately \$363.7 million in shore protection projects over the next seven years. For the purposes of this Assessment, this budget proposal may be considered to document Present Needs. An estimate of Prospective Needs associated with future growth is not available.

Table 27: Shore Protection Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Shore Protection	\$364	nav	\$364

Notes: All figures in millions of 1999 constant dollars.

nav = Not available

Source: New Jersey Department of Environmental Protection.

E. Public Recreation & Open Space Lands

Approximately 1,383 square miles or 18 percent of New Jersey’s land area is dedicated to permanently accessible open space for outdoor recreation, an increase of nearly 12 percent since the 1992 Assessment. As of 1999, the New Jersey Department of Environmental Protection, through its Division of Fish, Game & Wildlife and Division of Parks & Forestry, manages 67% of all public land preserved in New Jersey. Counties and municipalities manage 17%, the federal government manages its 12%, and nonprofit organizations hold about 4% of all preserved lands.

In 1994, the New Jersey Department of Environmental Protection, Green Acres Program published its 1994-1999 *New Jersey Open Space and Outdoor Recreation Plan*. This plan, closely linked to the *New Jersey State Development and Redevelopment Plan*, called for the preservation of an additional 271,561 acres of open space over the existing 790,341 acres to meet established balanced land use goals for the state of 1,051,452 acres. New Jersey now has approximately 885,000 acres of public open spaces permanently preserved. The Green Acres Program has also assisted in purchasing 37,200 acres of farmland in association with New Jersey’s Farmland Preservation Program. 391,000 acres of open space have been purchased over the 35 years since the first Green Acres bond program was authorized through public referendum in 1961 with the investment of approximately \$1.4 billion in State funds.

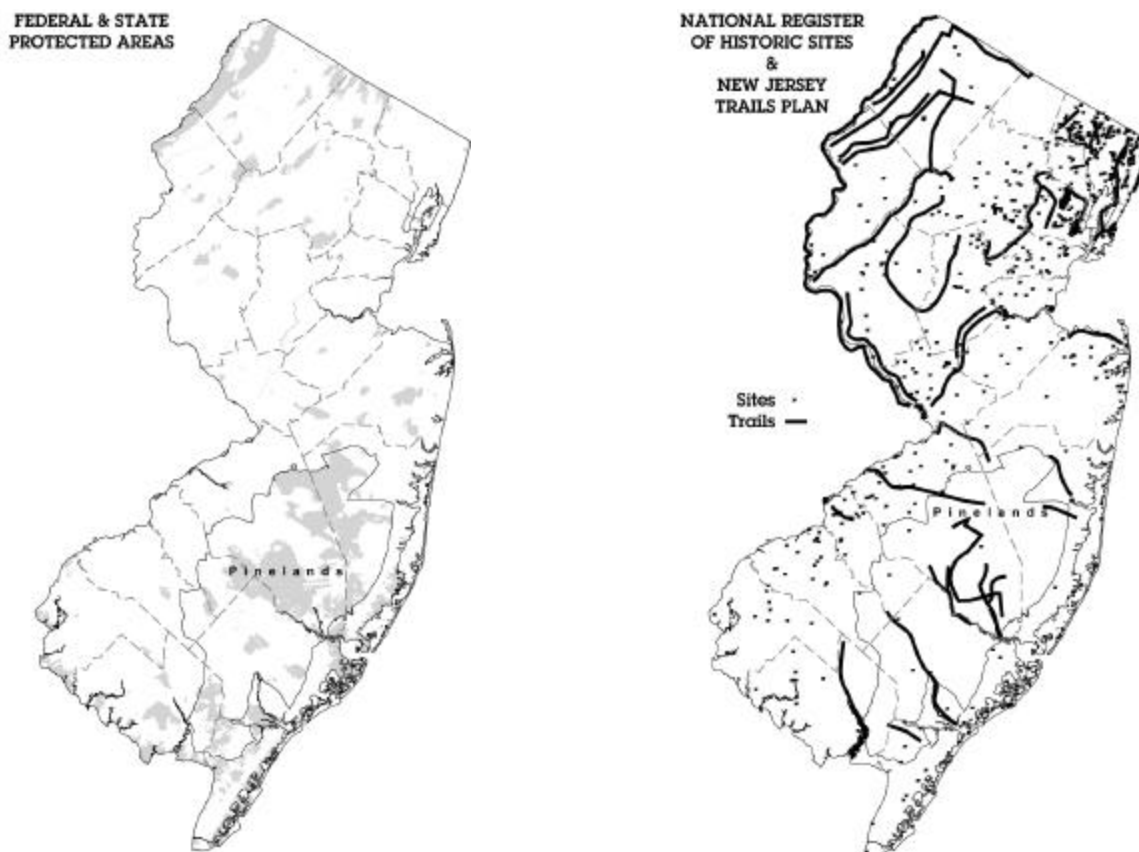
In 1998, the Governor's Council on New Jersey Outdoors issued a report defining a vision for New Jersey's open space needs and recommending the preservation of one million acres of open space *in addition to* the area already preserved within the next ten years.³¹ Half of the one million acres, or 500,000 acres, is to be farmland. The other 500,000 acres is to include lands preserved as open space for ecological, recreational, watershed protection, and historical purposes as follows:

- 200,000 more acres of recreational open space.
- 200,000 acres of greenway linkages through preservation of open space or purchase of easements and rights-of-way throughout the State.
- 100,000 acres surrounding the headwaters, water-supply streams and reservoir systems of the State.

The long-range vision for open space in New Jersey is an extensive, interconnected system of public and private preserved lands, linked together by greenways. The largest parks, forests, and wildlife management areas will serve as "hubs" from which open space "spokes" will radiate. Corridors of preserved lands will weave across the state, connecting smaller local parks and natural areas. Urban, suburban, and rural landscapes will be linked by a system of walkways, trails, and public access right-of-ways. Some corridors, such as waterfront walkways, may be narrow. In other areas, broader agrarian landscapes along scenic trails, streams, or roadways will be preserved.

— NJDEP, Green Acres Program

Figure 15: Federal and State Protected Areas, Historic Sites and Trails

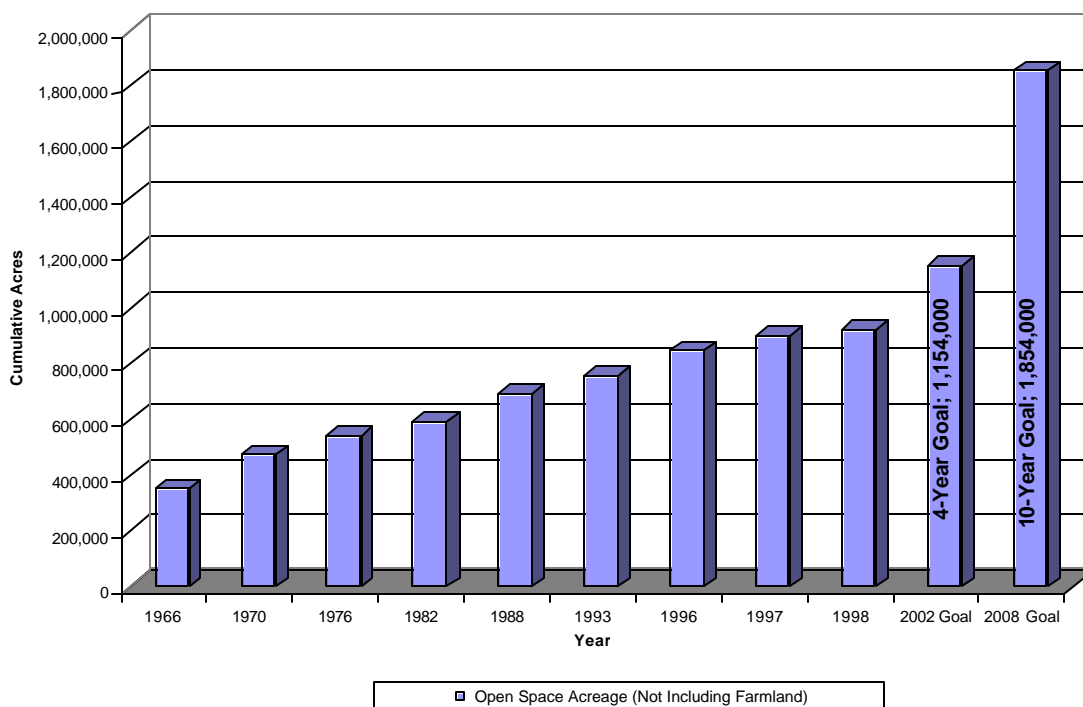


Source: New Jersey Department of Environmental Protection, 1991.

Source: New Jersey Department of Environmental Protection.

³¹ *Final Report: Summary of Findings*. Governor's Council on New Jersey Outdoors. February 26, 1998.

Figure 16: New Jersey's Open Space Acreage



The identification and preservation of bio-diversity is to be applied as one of the criteria for consideration in all open space funding categories. While most of the future open space land is expected to be permanently preserved through public ownership and management, a significant portion of these open lands (farmlands in particular) may be protected by the purchase of conservation easements while remaining in private hands.

The costs of acquiring public open space lands is highly variable, depending on local land markets, the volume of land in each purchase, the suitability of each tract for development³² or other uses, and the time and costs of each transaction. A significant amount of open space land has been donated into land trusts and other mechanisms for which there is no purchase price. Recognizing that the open space goal may be achieved through both donations and through purchases by Federal, State and local governments and by private land trusts, for the purposes of this Assessment an average cost of \$5,000 per acre (in 1999 constant dollars, based on current patterns of acquisition costs) is used to estimate the total costs of the 500,000 acre goal. The entire need is considered to be Present Need.

Table 28: Public Recreation Open Space Land Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Recreation Open Space Land	\$2,500	\$0	\$2,500

Notes: All values in millions of 1999 constant dollars.
Source: New Jersey Office of State Planning

³² According to an analysis by the Office of State Planning of NJDEP land cover, wetlands and open space data using geographic information systems, of 893,424 acres in parks, public open space preserves, athletic fields, and preserved farmlands, 271,787 acres, approximately 30%, are classified as wetlands. Site specific conditions affect the extent to which wetlands limit development.

F. Public Recreation Facilities

The 1994-1999 New Jersey Open Space and Outdoor Recreation Plan estimated that by the year 2000, as many as 709,000 adults would encounter inadequate facilities for swimming, followed by 255,900 for tennis, 216,600 for snow skiing, 185,000 for fishing, 180,100 for softball and baseball, and tens of thousands for each of 21 other outdoor activities. While a comprehensive, long term assessment of capital needs for public recreation facilities is not available, the capital funding request by the New Jersey Department of Environmental Protection for fiscal year 2001 calls for a total investment of approximately \$242.7 million in improving State public recreation facilities over the next seven years. For the purposes of this Assessment, this budget proposal may be considered to document Present Needs. An estimate of Prospective Needs associated with future growth is not available.

Table 29: Public Recreation Facilities Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Recreation Facilities	\$243	nav	\$243

Notes: All values in millions of 1999 constant dollars.
nav = Not available

G. Solid Waste Management

The New Jersey Department of Environmental Protection estimates that, while solid waste generation rates have increased, recycling rates increased at a greater rate to not only offset, but to reduce the amount of solid waste being incinerated, landfilled or transported to other states (see **Table 30**).

Table 30: Solid Waste Generation Rates

	1992	1999
Solid Waste Generated, Annual Total	14.1 million tons	16.7 million tons
Solid Waste Generated, Per Capita	10 pounds per day	11.4 pounds per day
Percent Recycled	45%	61%
Solid Waste Recycled per Year	6.3 million tons	10.2 million tons
Percent Incinerated or Landfilled	35%	25%
Solid Waste Incinerated or Landfilled per Year	4.9 million tons	4.2 million tons
Percent Transported to Other States	20%	14%
Solid Waste Transported to Other States per Year	2.9 million tons	2.3 million tons

Source: New Jersey Department of Environmental Protection

The Emergency Solid Waste Assessment Task Force Report of 1990 established the State's solid waste policy. The Task Force was created to review the solid waste management needs of the districts for the next twenty years. The Task Force achieved its statutory goal³³ to recycle 60% of New Jersey's total solid waste stream by 1995 within a comprehensive management approach of source reduction, recycling, resource recovery and disposal. The Department of Environmental Protection has established a new goal to recycle 65% of New Jersey's total solid waste stream by 2001. A statewide average of approximately 45% of the municipal solid waste stream (a portion

³³ P.L. 1992, c. 167.

of the total waste stream) is currently recycled. This includes a recycling rate for post consumer waste of 66% for aluminum used beverage containers, 65% of old newspapers, 60% of old corrugated containers, 65% for glass containers and 35% for plastic containers, considered to be near “saturation” points for consumer recycling.³⁴

According to the Department of Environmental Protection, the public role in solid waste management infrastructure is declining. In the aftermath of recent court decisions striking down solid waste flow control regulations associated with county solid waste management plans, local governments are withdrawing from public ownership of solid waste facilities. Resource recovery facilities are being sold to private interests, and public landfills are often maintained primarily to finance repayment of existing debt. Publicly owned recycling has been limited to about one in ten municipalities operating a compost facility, municipalities collecting “Class A” recyclables (such as cans, glass, and aluminum) either curbside or at drop-off centers and a few counties which have a central Class A sorting station. Much of the sorting takes place at private facilities. Nearly all “Class B” recycling (such as construction debris) has been private enterprise, as has been much composting activity. Of the 10.2 million tons of solid waste recycled in 1997, only about 2.5 million tons came from the residential solid waste. Only the issue of landfill closure remains a significant direct public cost.³⁵

While the incidence of costs does not necessarily affect the infrastructure needs, the decreased public sector role results in less publicly available data and increased difficulty in estimating costs. As no new cost estimates were available, for the purposes of this Assessment the estimates of the 1992 Assessment are carried forward and inflated to 1999 constant dollars. Present Needs are based on the backlog and rehabilitation needs estimated in the 1992 Assessment.

Table 31: Solid Waste Management Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Solid Waste Management	\$5,100	\$670	\$5,770

Notes: All values in millions of 1999 constant dollars. 1992 estimates in 1990 constant dollars were inflated to 1999 constant dollars by dividing by 0.783 (Consumer Price Index inflation factor).

Source: New Jersey Office of State Planning

H. Public Health Care

A current, comprehensive, statewide assessment of long term capital needs for hospitals, long term care facilities and other public health infrastructure in New Jersey is not available. While approximately \$95 million in needs related to public health infrastructure were identified in State agency capital budget requests, these were not considered to be representative of all needs throughout the state.

The primary infrastructure need identified by the New Jersey Department of Health and Senior Services is the replacement of existing obsolete State health laboratory equipment and facilities at an estimated cost of \$57 million.

³⁴ Jenny M Heumann, “A Waste Reduction Emphasis.” *Waste Age*. August 1997, pp. 39-53.

³⁵ Memorandum from John A. Castner, Director, NJDEP Division of Solid and Hazardous Waste to Lee Cattaneo, Director, NJDEP Office of State Plan Coordination. June 28, 1999.

III. Health and Environment

The New Jersey Department of Military and Veterans' Affairs provides health care services to approximately 740,700 New Jersey veterans. Three Veterans Memorial Homes in Menlo Park, Paramus and Vineland provide a range of medical, nursing care, residential, physical, occupational and recreational therapy services to elderly or disabled veterans, including their spouses and survivors. In 1999, 92 beds were added to the capacity of the Menlo Park home.

In its capital budget request for FY2001, the Department of Military and Veterans' Affairs proposed replacing the Vineland Memorial Home with a new 166,000 sq. ft., 332 bed facility at a cost of approximately \$37 million and a \$1 million Adult Day Care Center at the Paramus home to assist families caring for senior citizen veterans. A portion of this need may be met if the Walston hospital at Fort Dix is made available by the United States Army.

Table 32: Public Health Care Costs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Health Care	nav	nav	nav

Notes: All values figures in millions of 1999 constant dollars.
nav = Not available

IV. PUBLIC SAFETY AND WELFARE

Infrastructure systems primarily associated with public safety and welfare help create and sustain a just society. Some of these systems provide for basic needs, such as public safety (police and fire departments), justice (State and municipal court systems), public administration (government buildings), and public housing. Other systems define our culture and our opportunities to improve our welfare, such as education, higher education, arts, and historic resources.

Public safety infrastructure systems addressed in this analysis represent approximately 23% of the total infrastructure needs within New Jersey (See **Table 33**).

Table 33: Summary of Public Safety and Welfare Needs

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
PUBLIC SAFETY AND WELFARE	\$11,687	\$3,419	\$15,106
Public Education	\$10,300	***	\$10,300
Higher Education	\$581	\$2,569	\$3,150
Public Libraries	\$290	nav	\$290
Arts	\$300	nav	\$300
Public Safety	nav	nav	nav
Justice	nav	nav	nav
Corrections	\$129	\$534	\$663
Historic Resources	nav	nav	nav
Public Administration	nav	nav	nav
Human Services	\$87	\$316	\$403
Public Housing	nav	nav	nav

Notes: nav = Not available

All values in millions of 1999 constant dollars.

A. Public Education

A study of school facilities needs for 28 of the 30 “Abbott” districts³⁶ published by the New Jersey Department of Education in 1998 estimated the cost for rehabilitation of existing Abbott district schools and the construction of new general classroom space to meet current enrollments to exceed \$1.8 billion. As of the 1997-1998 school year, the Abbott districts enrolled 261,738 students in pre-kindergarten through grade twelve in 429 public school buildings with a rated capacity of 222,076 students and an average of 135 square feet per student. The average age of an original school building was 56 years old (1941) and the average age of an addition is 33 years old (1964). Costs for new construction of 3,137 new classrooms at various grade levels are estimated to be \$125 per square foot (excluding site acquisition costs and design, engineering, legal and administrative expenses).³⁷

An independent 1997 study³⁸ analyzing the 1995 Long Range Facilities Master Plans submitted to the New Jersey Department of Education by local school districts found that in the non-Abbott school districts 612 school buildings (36%) exceeded 90% of their design capacity compared to 228 of the Abbott district school buildings (62%). In the non-Abbott school districts 259 school buildings (15%) exceeded their design capacity compared to 161 of the Abbott district school buildings (44%). These ratios were expected by the school districts to increase to 44% and 22%, respectively, in the non-Abbott districts and 67% and 49% in the Abbott districts by the 1999-2000 school year. This analysis did not take into account potential space requirements arising from implementation of the Department of Education’s new Core Curriculum Standards. However, the study noted that many school districts had buildings with significant amounts of extra room. The study was not able to estimate costs for needed school facilities, but it cited the 1992 Infrastructure Needs Assessment estimate of \$16.4 billion and suggested that a current statewide estimate of \$6 billion (including \$2.7 billion in needs for non-Abbott districts) by the Department of Education based on the 1985 and

Table 34: Special Needs ("Abbott") Districts for Public Education	
District	County
Pleasantville	Atlantic
Garfield	Bergen
Burlington Pemberton	Burlington
Camden City Gloucester City	Camden
Bridgeton Millville Vineland	Cumberland
East Orange Irvington Newark Orange	Essex
Harrison Hoboken Jersey City Union City West New York	Hudson
Trenton	Mercer
New Brunswick Perth Amboy	Middlesex
Asbury Park Keansburg Long Branch Neptune	Monmouth
Passaic City Paterson	Passaic
Elizabeth Plainfield	Union
Phillipsburg	Warren
Source: New Jersey Department of Education	

³⁶ New Jersey’s 28 poorest urban school districts were identified as Special Needs Districts, or “Abbott” Districts, in the Abbott v. Burke litigation decided by the New Jersey Supreme Court on June 5, 1990. Two school districts have been added to this list since 1990.

³⁷ A Study of School Facilities and Recommendations for the Abbott Districts. New Jersey Department of Education, 1999. <http://www.state.nj.us/njded/abbotts/abbottstudy2.htm>

³⁸ School Facilities: A Challenge for New Jersey. Joan M. Ponessa, Public Affairs Research Institute of New Jersey, Inc. and James P. Nichols, New Jersey Institute of Technology, Center for Architecture and Building Science Research, October 1997.

1990 Long Range Facilities Master Plans was low. As of November 1999, 28 of the Abbott districts had proposed school construction plans totaling \$7.6 billion.

Statistics on substandard facilities used in the 1992 Infrastructure Needs Assessment are no longer actively maintained or readily available to the Department of Education. The Department of Education currently maintains the following data relevant to estimating capital needs for public school facilities:³⁹

- Long-range Facility Plans
1995 edition covers school years 1995-96 through 1999-00 and includes enrollment projections, building capacities, and planned capital expenditures for most districts. Based upon district's own planned projects, not on an actual comprehensive needs assessment, these plans projected a total of \$4.266 billion statewide over five years.
- Project Cost Estimate Summaries
Summarizes Department of Education project cost estimate forms filed by local school districts. Includes both projects not built and projects built, but does not include building repairs and capital projects with no educational program impact. Costs per square foot for new construction and renovation, as well as gross square feet per student for school buildings are provided for most recent projects. Data available for projects approved within the last 18 months.
- Actual Construction Expenditures
Includes capital outlays and capital expenditures as reported by districts in annual audit summaries maintained in a SAS database. County and statewide totals are available. The statewide total has varied between \$600 and \$800 million over the last few years; in 1996-97, the total was \$704.3 million.
- Enrollment History
Based on official school enrollment counts each October.
- Abbott District Facilities Management Plans
Comprehensive needs assessments and master plans prepared by most of the special needs districts in response to the Supreme Court decision in Abbott v. Burke. Includes new construction and renovation needs identified by the districts and currently under review and evaluation by the Department of Education. Paper reports, dedicated website and Oracle database.

For the purpose of this Assessment, the \$7.6 billion estimate for capital construction needs for the Special Needs Districts and the \$2.7 billion prior estimate for the remaining districts represents the statewide Present Needs. Estimates of Prospective Needs will be obtained from the Impact Assessment Study.

Table 35: Public Education Infrastructure Needs

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Education	\$10,300	***	\$10,300

Note: Needs in millions of 1999 dollars.

*** = Needs associated with projected new growth to be provided by Impact Assessment Study.

Source: New Jersey Department of Education.

³⁹ Letter from David C. Hespe, Commissioner, New Jersey Department of Education, to Nichole Purcell, New Jersey Office of State Planning, June 2, 1999.

B. Higher Education

In 1996, the New Jersey Commission on Higher Education adopted *Looking to the New Millennium: New Jersey's Plan for Higher Education*. The first long range plan since 1981, it defined a vision and policies for New Jersey's higher education system following its restructuring in 1994 (which included the elimination of the State's Department of Higher Education). The plan recommended a five year facility renewal program for the senior public institutions and an increase in the State bond authorization level for the community college Chapter 12 program. In 1998, the Chapter 12 authorization was increased from \$160 million to \$280 million. In 1999, the Commission identified a need of nearly \$3.2 billion for facilities over the next seven years in two reports (see **Table 37**).⁴⁰ New growth needs comprised over 80 percent of the total for both the senior colleges and universities and the community colleges (see **Table 38**).

The higher education system in New Jersey includes 24 private colleges, 19 community colleges, as well as the following State institutions:

- *The College of New Jersey*
- *Thomas Edison State College*
- *Kean University*
- *Montclair State University*
- *New Jersey City University*
- *New Jersey Institute of Technology*
- *The William Paterson University of New Jersey*
- *Ramapo College of New Jersey*
- *Rowan State University*
- *Rutgers, The State University of New Jersey*
- *The Richard Stockton State College*
- *University of Medicine and Dentistry of New Jersey*

Current undergraduate enrollment trends show increasing full-time enrollments substantially offsetting decreases in part time enrollments (see **Table 36**). Data from the National Center for Educational Statistics indicate that the number of high school graduates in New Jersey may increase by as many as 15,000 by 2008, bringing the total number of annual graduates to approximately 87,000. Assuming that current patterns regarding higher education attendance continue into the future, roughly 76% of those additional graduates, or 11,400 additional students, might enroll in college after graduation, with about 7,000 of those (62%) remaining in state.

Additionally, the percentage of New Jersey jobs that require some form of higher education is expected to increase, and the desire for lifelong learning opportunities to enhance job skills and provide ongoing intellectual stimulation continues to grow. As a result, enrollments are likely to increase among both traditional and nontraditional students.⁴¹

A *Capital Investment Study* was prepared by the New Jersey Commission on Higher Education in an effort to address the future needs of the higher education community. The 18-month long survey of the public and private colleges and universities in the state found that the replacement value of academic buildings at the institutions that responded to the survey is more than \$5 billion, and more than \$2 billion for auxiliary buildings such as dormitories and student centers. The 1,955 buildings contain more than 51 million gross square feet, the majority of which was constructed in the 1960s and 1970s. The colleges and universities estimate that an additional \$3.2

⁴⁰ Data was obtained from two New Jersey Commission on Higher Education reports: *Looking to the New Millennium: New Jersey's Plan for Higher Education 1999 Update*, June 1999. *New Jersey's Capital Investment in Higher Education*, February 1999. Reports available online: <http://www.state.nj.us/highereducation/>

⁴¹ *Looking to the New Millennium: New Jersey's Plan for Higher Education 1999 Update*, June 1999.

billion is needed for capital construction over the next seven years, two-thirds for new construction and an additional \$547 million needed to preserve existing buildings. Additionally, New Jersey's institutions reported a total of \$581 million in accumulated deferred maintenance needs.⁴²

Table 36: Public and Independent College Enrollment Summary

FULL-TIME UNDERGRADUATE ENROLLMENT					
Year	Community Colleges	State Colleges	Other Public 4-Year(1)	Independent Colleges	Total
1989	42,398	37,873	31,308	29,801	141,380
1990	45,673	39,457	31,390	29,477	145,997
1991	49,497	39,911	32,147	29,343	150,898
1992	52,584	40,569	32,147	29,148	154,448
1993	54,923	40,246	31,595	29,818	156,582
1994	54,676	39,356	31,597	30,082	155,711
1995	54,862	40,265	32,272	30,244	157,643
1996	54,053	40,934	32,677	32,005	159,669
1997	53,323	41,874	33,468	33,258	161,923
1998	53,643	42,843	34,578	35,175	166,239
PART-TIME UNDERGRADUATE ENROLLMENT					
1989	76,044	20,383	16,232	13,282	125,941
1990	79,167	20,540	16,526	13,281	129,514
1991	83,132	19,067	16,851	13,299	132,349
1992	86,144	18,958	17,584	13,824	136,510
1993	84,992	18,304	17,747	13,893	134,936
1994	81,086	17,871	17,259	13,366	129,582
1995	78,378	17,400	17,103	12,936	125,817
1996	73,050	16,733	16,751	13,169	119,703
1997	69,265	16,418	16,515	12,489	114,687
1998	67,471	15,471	16,452	11,757	111,151

Note: (1) Includes Rutgers, The State University, New Jersey Institute of Technology, The University of Medicine and Dentistry's School of Allied Health Professions, and Thomas Edison State College.

Source: New Jersey Department of Higher Education, "Opening Fall Enrollments New Jersey Colleges and Universities".

⁴² New Jersey's Capital Investment in Higher Education, February 1999.

Table 37: Higher Education Capital Needs Analysis, 1999

Seven-Year Capital Needs Estimates

(millions of dollars)

	Community Colleges	Independent Colleges & Universities	Public Research Universities	State Colleges & Universities	All Institutions
Preservation	111.12	41.09	188.62	206.01	546.84
Compliance (ADA)	7.49	4.08	16.35	18.72	46.63
Compliance(life safety)	9.22	6.41	25.26	31.60	72.49
Environmental	6.84	6.24	21.43	32.11	66.63
Acquisition	22.15	5.25	79.67	12.57	119.64
Construction	443.67	180.83	746.06	658.79	2,029.35
Infrastructure	42.75	20.61	146.27	58.43	268.06
Total Capital Needs	643.24	264.52	1,223.65	1,018.23	3,149.64
<i>Total Deferred Maintenance</i>	<i>53.25</i>	<i>136.03</i>	<i>208.06</i>	<i>184.11</i>	<i>581.45</i>

Source: New Jersey Commission on Higher Education

Table 38: Higher Education Infrastructure Needs

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Higher Education	\$581	\$2,569	\$3,150

Note: All values in millions of 1999 dollars.

Source: New Jersey Commission on Higher Education

C. Public Libraries

In 1999, the New Jersey State Library Association, in consultation with the New Jersey State Library, published the results of a survey of public libraries regarding building needs. Many libraries have developed construction plans and are awaiting funding to initiate projects. In addition, a number of libraries have identified unspecified capital needs for renovations to accommodate new and emerging information technologies and to retrofit existing buildings to be compliant with Americans with Disabilities Act requirements. The survey, which is not represented to be comprehensive or exhaustive, identified total needs of over \$289.4 million, of which over \$78.4 million was for libraries serving communities eligible for Urban Coordinating Council assistance. All the reported needs are considered to be present needs for the purposes of this Assessment (see **Table 39**).

Table 39: Public Libraries Infrastructure Needs

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Libraries	\$290	nav	\$290

Note: All values in millions of 1999 constant dollars.

Nav = Estimate of needs not available.

Source: New Jersey State Library Association.

D. Arts

In 1994, an Eagleton Institute study of nonprofit arts institutions and programs in New Jersey estimated that the nonprofit arts sector (exclusive of profit-making motion picture and television production, commercial theater or other live entertainment, or for-profit art galleries) contributed over \$643 million to New Jersey’s economy in 1993. Further, over the prior five year period, nonprofit arts organizations made substantial investments in enhancing New Jersey’s arts infrastructure, spending nearly \$82 million in new construction and renovation of arts facilities and \$3.5 million for the purchase of equipment. According to the report, an additional \$206 million in capital expenditures was planned for the next five years.⁴³

In April 1997, the New Jersey State Council on the Arts estimated a total current capital development need of \$300 million through 2020 (see **Table 40**), recommending that a more formal, comprehensive survey of needs was necessary to obtain a more accurate number.⁴⁴ Also in 1997, the Council published *Arts Plan New Jersey*, a strategic plan defining objectives and future programs.⁴⁵

Table 40: Arts Infrastructure Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Arts	\$300	nav	\$300

Note: All values in millions of 1999 dollars.
 Nav = Estimate of needs not available.
 Source: New Jersey State Council on the Arts.

E. Public Safety

Public safety is an important component of the infrastructure that supports and sustains development and redevelopment. Capital needs for police, fire fighting, ambulance and emergency management services are substantial, particularly at the local level. However, no statewide, comprehensive compilation of capital needs for public safety is currently known to exist. As a result, estimates of present and prospective public safety needs through 2020 are not available for this Assessment.

Table 41: Public Safety Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Safety	nav	nav	nav

Note: All values in millions of 1999 dollars.
 Nav = Estimate of needs not available.

⁴³ The Arts in New Jersey: A Study of Economic Activity 1992-93 Summary Report. Prepared by the Center for Public Interest Polling, Eagleton Institute of Politics, Rutgers University for the NJ Council on the Arts and the South Jersey Cultural Alliance. 1994.

⁴⁴ Excerpted from a memorandum from Barbara Russo, Executive Director of the NJ Council on the Arts to Lathea Morris, Assistant Secretary of State, April 22, 1997.

⁴⁵ Arts Plan New Jersey: Toward a Thriving New Jersey. A Statewide Plan for the Arts. New Jersey State Council on the Arts. Fall 1997.

F. Justice

Capital needs for the justice system are typically associated with buildings that house the State, county and municipal courts and associated services, including holding cells but excluding detention centers and prisons, which are addressed under Corrections. In recent years, the State has assumed the costs of operating the county court system.

No statewide, comprehensive compilation of capital needs for the State and local justice system in New Jersey is currently known to exist. As a result, estimates of present and prospective infrastructure needs for the justice system through 2020 are not available for this Assessment.

Table 42: Justice Infrastructure Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Justice	nav	nav	nav

Note: All values in millions of 1999 dollars.
Nav = Estimate of needs not available.

G. Corrections

Infrastructure needs to accommodate resident populations of adult and juvenile offenders are estimated by the New Jersey Department of Corrections and the New Jersey Juvenile Justice Commission, respectively.

The New Jersey Department of Corrections is not only responsible for administering all aspects of custody and rehabilitation of persons committed to adult correctional institutions in the State correctional system, but also ensures that county and municipal jails are in compliance with state standards. In part due to significant changes in the New Jersey Criminal Code (Title 2C) in 1997, the Department’s adult population has increased by 13,444 (75%) from 17,856 to 31,300 inmates between 1989 and 1999. Preliminary estimates by the Department of Corrections indicate that the 1997 No Early Release Act, which increases the length of stay before a prisoner is eligible for parole, will increase the prison population by 4,000 offenders within 15 years. Despite the 1998 opening of the 3,200 bed South Woods State Prison at Bridgeton, State correctional facilities are operating at 140% of their design capacity of 22,350, and 5,000 State sentenced inmates are currently housed in county facilities. Since 1980, admissions to the state correctional system have exceeded releases by an average of 100 per month.

In its FY2001 capital budget request, the Department of Corrections proposed a 7-year program totaling over \$480 million. Of this total, \$46.9 million for renovations and rehabilitation, \$22.5 million for preservation, \$16.9 million for environmental projects, \$14.4 million for compliance projects and \$3 million for infrastructure projects, yielding a total of \$103.7 million in Present Needs costs. Although the cost estimates do not address all needs through the 2020 horizon year of this Assessment, the remaining costs are considered Prospective Needs.

The Juvenile Justice Commission was created “in but not of” the Department of Law and Public Safety in 1996 to respond to the complicated nature of juvenile justice, the increased demand for services, and the need for comprehensive planning for system needs. Prior to 1996, responsibilities for programs, operations and facilities were divided among the departments of Corrections, Human Services and Law and Public Safety. By 1999, the Commission was

responsible for an average of 1,400 to 1,500 youths per day in a variety of programs and facilities throughout the state. In its FY2001 capital budget proposal, the Juvenile Justice Commission identified a 7 year program totaling \$182.5 million. Of this total, \$25.2 million was requested to address Present Needs. The remaining needs were considered to be Prospective Needs for the purposes of this Assessment.

Table 43: Corrections Infrastructure Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Corrections	\$129	\$534	\$663

Note: All values in millions of 1999 dollars.

Source: New Jersey Department of Corrections.

H. Historic Resources

To protect, preserve and enhance historic buildings, districts and landscapes is a significant public trust, whether the preservation of these resources is undertaken by public sector or private entities. While most State agencies have assigned costs in their capital budgets related to actions taken to preserve or restore historic structures, these costs are typically incurred in association with meeting other needs, such as the adaptive reuse of an historic structure to serve as administrative offices. Similar data problems exist for other jurisdictions. No other statewide, comprehensive compilation of capital needs for historic resources is currently known to exist. As a result, estimates of present and prospective needs for historic resources through 2020 are not available for this Assessment.

Table 44: Historic Resources Infrastructure Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Historic Resources	nav	nav	nav

Note: All values in millions of 1999 dollars.

Nav = Estimate of needs not available.

I. Public Administration

Since 1992, the New Jersey Department of the Treasury completed a *Statewide Facilities Master Plan* for New Jersey State government facilities. This plan focused on eliminating unnecessary leased space and improving the utilization of State-owned facilities in the context of constantly fluctuating State agency staffing levels. Detailed assessments of costs associated with the master plan have not yet been completed. No statewide compilation of needs for local government facilities is available.

Table 45: Public Administration Infrastructure Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Administration	nav	nav	nav

Note: All values in millions of 1999 dollars.

Nav = Estimate of needs not available.

J. Human Services

The largest institution addressing human services needs in New Jersey is the State’s Department of Human Services (DHS), which serves some of the state’s most vulnerable citizens: abused children, troubled youth and families, the poor, elderly men and women, and persons who are mentally ill, developmentally disabled, blind, visually impaired, deaf and hard of hearing. While DHS is primarily concerned with the efficient and coordinated delivery of social services through a combination of public, private and non-profit organizations to provide food, clothing, shelter and medical care, it also operates and maintains thirteen major facilities serving the mentally ill, developmentally disabled, and blind and visually impaired. DHS is the largest agency in state government. With 18,829 employees and a \$6.7 billion budget, it comprises about one-quarter of the state's budget and work force.

In its FY2001 budget request, the Department of Human Services advanced a 7 year capital program totaling \$395 million. Current year funding requests to meet existing backlog and rehabilitation (Present) needs total \$79.1 million: \$31.1 million for facilities preservation projects, \$15.5 million for new construction, \$13.8 million for environmental projects, \$11.3 million for infrastructure, \$7.4 million for compliance projects. For this Assessment, the remaining needs are considered Prospective Needs.

The New Jersey Department of Education is directly responsible for funding capital projects associated with the Marie H. Katzenbach School for the Deaf, and for capital projects for New Jersey’s 11 Regional Schools for the Handicapped that exceed \$50,000. The FY2001 capital budget request for the Department of Education identifies a 7 year program of \$8.1 million in needs associated with rehabilitating existing facilities, classified as Present Needs for this Assessment.

Table 46: Human Services Infrastructure Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Human Services	\$87	\$316	\$403

Note: All values in millions of 1999 dollars.
 Source: New Jersey Department of Human Services.
 New Jersey Department of Education.

K. Public Housing

The State of New Jersey and other levels of government invest capital to encourage construction of moderate and low income housing units. By the definition of infrastructure applied by the State Planning Commission, public capital investment in housing stock for low and moderate income households and special needs populations is viewed as an investment in the State’s infrastructure.

Public housing is under the jurisdiction of the New Jersey Department of Community Affairs, Division of Housing and Community Resources. Public Housing provides the largest pool of affordable housing in New Jersey. Public Housing units are administered by public housing authorities (PHAs) that receive federal funds to build, manage, and operate public housing developments. There are currently 94 local public housing authorities in New Jersey (see **Table 47**). Most of these units are apartments. Rents depend on household income and can be no more than 30 percent of a household's adjusted earnings. Public housing units generally are reserved for families with earnings at or below the moderate-income levels, as defined by the federal

government. At present, however, federal law requires housing authorities to reserve a percentage of their units for very low-income families, who earn 50 percent or less than median family income.

The current draft of the Public Housing Authority 5 year plan establishes its mission to be to promote adequate and affordable housing, economic opportunity and a suitable living environment free from discrimination for the low-income, very low income, and extremely low-income families in the PHA's jurisdiction, and to strengthen and revitalize communities by assisting in the delivery of adequate and affordable housing, economic opportunity and a suitable living environment, and by providing supportive services and by promoting community and economic development without discrimination.

Table 47: Local Public Housing Authorities, 1999

Asbury Park	Garfield	Newton
Atlantic City	Glassboro	North Bergen
Bayonne	Gloucester City	Ocean City
Belmar	Gloucester County	Old Bridge
Bergen County	Guttenberg	Orange
Berkeley Township	Hackensack	Passaic County Hsg Agy
Beverly	Haddon Township	Passaic City
Bloomfield	Hamilton Township	Paterson
Boonton	Harrison	Penns Grove
Brick Township	Highland Park	Perth Amboy
Bridgeton	Highlands	Phillipsburg
Brooklawn	Hightstown	Plainfield
Buena	Hoboken	Pleasantville
Burlington City	Irvington	Princeton
Burlington Co Rental Asst	Jersey City	Rahway
Camden City	Keansburg	Red Bank
Cape May	Lakewood	Salem
Carteret	Linden	Sayreville
Clementon	Lodi	Sea Isle City
Cliffside Park	Long Branch	Secaucus
Collingswood	Madison	Somerville
Dover	Manville Hsg Asst Program	South Amboy
East Orange	Middlesex County	Summit
Edgewater	Middletown	Trenton
Edison	Millville	Union City
Elizabeth	Morris County	Vineland
Englewood	Morristown	Warren County
Florence	Neptune City	Weehawken
Fort Lee	Neptune Township	West New York
Franklin Township	New Brunswick	West Orange
Freehold Borough	Newark	Wildwood
		Woodbridge

Source: New Jersey Department of Community Affairs

In 1999 there were 9,640 families on the waiting list for Section 8 tenant rental assistance. Of these, 8,540 families qualified as extremely low income (less than 30% of median income), 1,059 qualified as very low income and 41 qualified as low income. 7,677 of these families included children and 625 included elderly. 1,507 were families with disabilities. The State's approach is to provide \$150 million in funds to assist in rental payments rather than to increase capital investments in public housing. Many public housing authorities accommodate Section 8 and other rental assistance tenants, however. There is no statewide compilation of capital needs for local housing authorities currently available.

Table 48: Public Housing Infrastructure Needs, 1999

	PRESENT NEEDS	PROSPECTIVE NEEDS	TOTAL NEEDS
Public Housing	nav	nav	nav

Note: All values in millions of 1999 dollars.
Nav = Estimate of needs not available.

V. REVENUE ANALYSIS

A. Overview

This section is intended to provide a framework for discussing alternative revenue sources for financing infrastructure costs. Revenue analysis is a highly complex task. A complete revenue study is beyond the scope of this infrastructure needs assessment as it requires the application of sophisticated financial analysis tools and a comprehensive review of State, county, regional agency, municipal and special district expenditures.

In response to general declines in Federal funding support for infrastructure since 1992, there has been greater pressure on state and local governments to finance infrastructure that is financially self-sustaining, using market driven techniques such as user fees, development fees and exactions on developers, privatization, outsourcing and revenue bonding. Nevertheless, the amount of infrastructure supported by general taxation for pay-as-you-capital outlays has remained substantial, and New Jersey has invested more than its share of the nation and most of its surrounding states in recent years. In fiscal year 1996, the most recent year in which comparable data was available, the average New Jersey resident paid approximately \$543 for state and local infrastructure investments, nearly evenly divided between State and local governments. In the nation as a whole, local governments provide a significantly larger share of capital investments relative to state government. Over the five year period from fiscal year 1992 through fiscal year 1996, New Jersey State and local governments invested \$21.4 billion in capital outlays, with the greatest investment in highways (38%) and education (22%).

In 1992, an analysis by the New Jersey Office of State Planning estimated that the private sector contribution to infrastructure in New Jersey averaged \$1 billion per year (in 1990 constant dollars).⁴⁶ Adjusting for inflation to current dollar values, this estimate, if it remains accurate, would yield nearly \$1.3 billion per year in private sector investments. If this level of State and local government capital outlays and private sector infrastructure investments was maintained through 2020, ***potential projected total revenues for infrastructure investments would reach \$133 billion*** through the horizon year of the 2000 State Development and Redevelopment Plan.

While this projection is more than twice the infrastructure costs estimated in this Assessment, it is important to note that the estimated costs do not yet account for major prospective needs to be estimated by the Impact Assessment Study, nor do the costs in this Assessment include many infrastructure components for which State and most local infrastructure needs have not yet been estimated. Therefore, ***a reasonably accurate comparison between projected costs and revenues for infrastructure by 2020 cannot yet be made as part of this Assessment.***

In addition to capital outlays, capital needs are commonly funded by the use of general obligation bond funds (which may also be used to establish and secure revolving funds and revenue funds) and by leasing or lease-purchase arrangements. A summary of major State capital programs addressing the infrastructure components in this Assessment for which data are available identifies \$2.8 billion in fund balances and \$128.4 million in unissued bonds that are potentially available to fund infrastructure projects (see **Table 49**). However, due to Constitutional debt limitations and other statutory provisions, as well as other accepted financial practices, such as to secure fund liabilities, not all unissued or remaining funds may currently be used for this purpose.

⁴⁶ *Assessment of Trend Infrastructure Needs to 2010*. New Jersey Office of State Planning, January 1992, p. 138.

Table 49: State Capital Funding Programs Summary

Year	Function	Authorized for Current Programs	Unissued Bonds	Remaining Fund Balance (6/30/1999)	Funding Sources
	TOTAL	\$11,678,000,000	\$128,400,000	\$2,810,518,602 + \$18 million/year	--
	TRANSPORTATION AND COMMERCE	\$2,143,000,000	N/A	\$260,486,665	--
1984	Transportation	\$1,380,000,000	N/A	\$3,071,005,285	Tax, Bond, Revolving Loans
1992	Farmland Retention	\$763,000,000	N/A	\$6,142,010,570	Tax, Bond
	HEALTH AND ENVIRONMENT	\$8,121,000,000 + \$20 million/year	\$128,400,000	\$2,502,924,959 + \$18 million/year	--
1985	Wastewater Treatment	\$ 0	\$35,000,000	\$12,747,000,020	Bond, Revolving Loans
1981	Water Supply	\$350,000,000	\$93,400,000	\$209,088,709	Bond, Revolving Loans
1978	Stormwater Management	\$70,000,000	N/A	\$18,647,556	Bond, Revolving Loans
1977	Shore Protection	\$15,000,000 per year + \$95,000,000	N/A	\$15,000,000 per year + \$27,628,754	Tax, Bond
1978	Public Recreation/ Open Space	\$1,390,000,000	N/A	\$312,311,364	Tax, Bond, Revolving Loans
1995	Public Recreation Facilities	\$50,000,000	N/A	N/A	
1985	Solid Waste Management	\$4 to 6 million/year + \$183,000,000	N/A	\$2.5 to \$3.5 million/year + \$179,322,008	Tax, Bond, Revolving Loans
--	PUBLIC SAFETY AND WELFARE	\$1,414,000 + \$268 million/year	N/A	\$47,106,978	--
1995	Public Education	\$100,000,000	N/A	N/A	Bond, Revolving Loans
1988	Higher Education	\$740,000,000	\$10,000,000	\$14,875,464	Bonds, Revolving Loans
1999	Public Libraries	\$45,000,000	N/A	N/A	Appropriation
1987	Arts	\$40,000,000	N/A	\$5,300,000	Bond
1982	Corrections	\$368,000,000	\$0	\$15,535,899	Bonds
1987	Historic Resources	\$121,000,000	N/A	\$11,395,615	Bonds, Revolving Loans
1995	Housing	\$268,000,000 per year	N/A	N/A	Revolving Loans

(See notes to Table on next page.)

Notes to Table 49:

- Note: Year refers to earliest capital funding source with funds still remaining.
Remaining funds include committed and uncommitted fund balance as of June 30, 1999.
Due to debt limitations and other statutory provisions, not all unissued or remaining funds are currently available for infrastructure investments.
N/A = Data not available or not applicable.
Data for capital revenue programs are not available for Energy, Telecommunications, Public Health Care, Public Safety, Justice, Public Administration, and Human Services.
- Source: New Jersey Department of the Treasury, Office of Management and Budget

A long term, comprehensive revenue analysis should be conducted and kept current as part of the annual capital planning and budgeting process of both State and local government. Nevertheless, this brief review of general revenue trends and revenue sources for existing programs suggests that the most effective approaches for financing infrastructure in the long term are both constant and flexible. Such an approach can be achieved by establishing baseline funding programs supplemented by bond issues or by similar short term measures targeted for specific functions and rapid implementation. Baseline revenues should be scaled to rehabilitation needs and a share of new growth needs. Short term revenues should address present needs and provide additional capacity to support new growth in accordance with the State Development and Redevelopment Plan. The same combination of measures may also be appropriate for the long term financing of intergovernmental transfers and joint public-private ventures.

Since the 1992 Infrastructure Needs Assessment, many State agencies have granted priority in funding and programs for projects that are consistent with the State Development and Redevelopment Plan or that are part of a municipal planning agenda adopted by the State Planning Commission in the center designation and plan endorsement process. As of December 1999, 76 New Jersey communities had been designated by the State Planning Commission as centers, or were included in an endorsed regional plan, and nearly 20 State and regional programs provide priority assistance to these areas.

B. General Trends

Federal funding support for infrastructure continued to decline since 1992, except for Federal investments in transportation infrastructure. Nationally, state and local governments have assumed a larger share of fiscal responsibility for investments in infrastructure. At the same time, Federal revenues as a percent of gross domestic product (GDP) were almost constant while State and local tax receipts for the nation as a whole rose (up to 11 percent of GDP).⁴⁷ According to a Lincoln Institute study, this has resulted in a growing reliance on market forces, and therefore financially self-sustaining projects, for financing infrastructure investments by increasing:

- User fees over general taxation,
- Development fees and exactions on developers,
- Privatization, outsourcing and revenue bonding.⁴⁸

The United States Census Bureau enumerates capital outlays of State and local governments annually in a uniform and consistent manner.⁴⁹ "Capital outlays" are defined as "direct expenditure[s] for contract or

⁴⁷ "The Extraordinary Growth in State Government Revenues." C. Eugene Steuerle. Tax Analysts, October 1998.

⁴⁸ "Public Capital Investment: Patterns of Local Accommodation." Lynne B. Sagalyn. *Land Lines* 6(6)-1, November 1994.

⁴⁹ Local government data and comparisons of State and local capital expenditures are based on published data of the U.S. Census Bureau. Census data for New Jersey State government capital outlays prior to 1992 have been found by the New Jersey Department of the Treasury, Office of Management and Budget to exceed State records of actual expenditures, apparently due to double-counting of expenditures under certain trust funds. Efforts were made to

force account construction of roads, bridges, and other improvements, and for purchase of equipment, land, and existing structures [including] amounts for additions, replacements, and major alterations to fixed works and structures". Capital outlays do not include amounts paid for repairs, otherwise classified as current operation expenditures. One can examine capital outlays as percentages of total government expenditures to gauge the extent of infrastructure investment.

C. State Government Capital Outlays

Over the period from fiscal year 1992 through fiscal year 1997,⁵⁰ capital outlays have represented approximately seven percent of the State of New Jersey's total expenditures⁵¹ (see **Table 50** and **Figure 17**). Capital outlays fluctuated significantly since fiscal year 1992, ranging from \$1.9 billion in FY1993 to approximately \$2.3 billion in fiscal year 1997, in the latter year amounting to \$284 per resident for expenditures by State government.

Based on Census data, New Jersey spent more on capital outlays on a per capita basis in 1997 than Pennsylvania and the United States (average of all states), but spent slightly less than the State of New York. In terms of percent of total *general* expenditures,⁵² the New Jersey figure of ten percent is significantly higher than the corresponding Pennsylvania, New York, and United States averages (see **Table 51** and **Figure 18**).

D. Local Government Capital Outlays

Local government share is divided among an array of substate general purpose and special purpose governments (such as independent local utilities and improvement authorities and school districts), with the largest share typically maintained by municipal governments.

Capital outlays represent approximately eight percent of local government total expenditures since fiscal year 1992. The actual amounts of capital outlays fluctuated significantly over the five year period from fiscal year 1992 through fiscal year 1996, ranging from approximately \$1.4 billion in FY1994 to \$2.1 billion in FY1995. Approximately \$2.1 billion was spent New Jersey local governments in fiscal year 1996, representing an average among local governments of 8.5 percent of general expenditures and an average of \$262 per capita across the state (see **Table 52** and **Figure 19**).

In comparison with other states, local governments in New Jersey spent a lesser share of direct expenditures (not including intergovernmental transfers of funds) on capital outlays than neighboring states, and for local governments on average throughout the United States, in fiscal year 1996 (**Table 53** and **Figure 20**). Municipalities in New Jersey are limited by state statute (N.J.S.A. 40A:2-6) to total net debt of 3.5% of its average equalized valuation taxable for the last three preceding fiscal years. Debt service on current and authorized capital improvements is a significant factor in the planning and management of municipal budgets in New Jersey.

resolve this, resulting in some discontinuity in Census capital outlays data between the 1980s and the 1990s. Consequently, the results of this analysis based on data for the 1990s cannot be compared to the results in the 1992 Infrastructure Needs Assessment, which was based on data for the 1980s.

⁵⁰ Census data are used for this analysis unless otherwise cited to ensure compatibility with data for New Jersey local governments and with data for other states. The most recent state government data available at the date of this report is for Fiscal Year 1997 (July 1996 through June 1997). The most recent local government data available is for Fiscal Year 1996.

⁵¹ Total State Expenditures consists of Direct General Expenditures, Intergovernmental Transfers, and other Direct Expenditures.

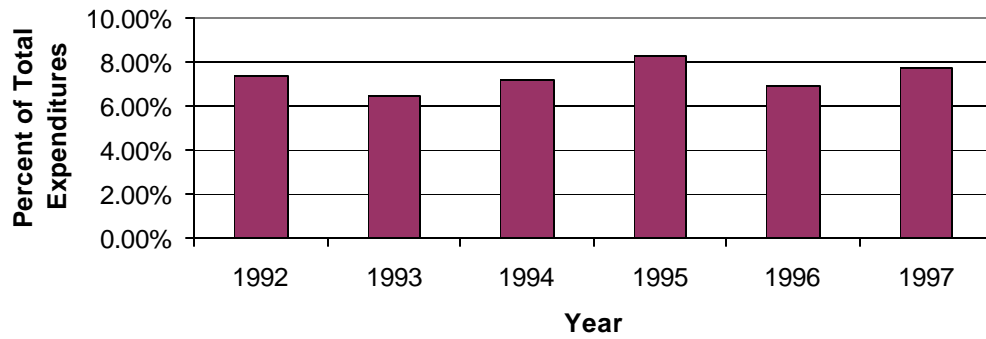
⁵² General expenditures do not include intergovernmental transfers, such as grants to local governments.

Table 50: NJ Capital Outlays as a Percent of State Government Total Expenditures

Fiscal Year	State Capital Outlays	Total State Expenditures	State Capital Outlays as Percent of Total Expenditures	State Capital Outlays per Capita
1992	2,160,051,000	29,316,217,000	7.37%	\$275.94
1993	1,874,448,000	28,922,752,000	6.48%	\$238.03
1994	2,145,616,000	29,605,770,000	7.25%	\$271.46
1995	2,713,013,000	32,605,483,000	8.32%	\$341.47
1996	2,242,394,000	32,314,887,000	6.94%	\$280.72
1997	2,283,969,000	29,429,586,000	7.76%	\$283.62

Note: All values in current dollars.
 Total State Expenditures consists of Direct General Expenditures, Intergovernmental Transfers, and other Direct Expenditures.
 Source: U.S. Census

Figure 17: NJ Capital Outlays as a Percent of State Government Total Expenditures



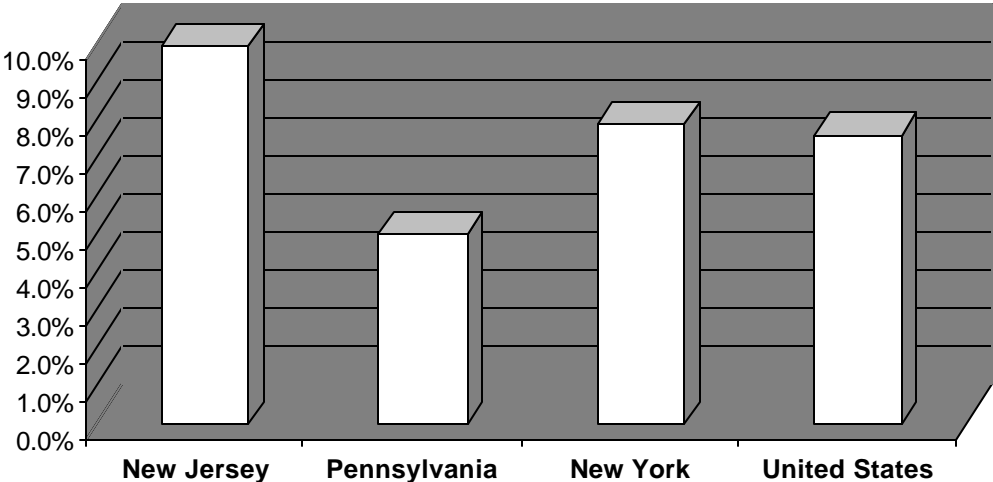
Note: All figures in current dollars.
 Source: U.S. Census

Table 51: Capital Outlays as Percent of State Government Expenditures, 1997

	Total State Government Capital Outlay	Total State Government General Expenditures	Capital Outlay as Percent of State Government Expenditures	State Capital Outlay per Capita
New Jersey	\$ 2,283,969,000	\$ 23,053,317,000	9.9%	\$ 283.62
Pennsylvania	\$ 1,678,474,000	\$ 33,708,562,000	5.0%	\$ 139.64
New York	\$ 5,486,691,000	\$ 70,016,990,000	7.8%	\$ 302.51
United States	\$ 59,657,707,000	\$ 788,175,737,000	7.6%	\$ 223.35

Note: All values in 1997 current dollars for Fiscal Year 1997.
 Source: U.S. Census

Figure 18: Capital Outlays as Percent of State Government Expenditures, 1997



Note: Percent of General Expenditures, Fiscal Year 1997
 Source: U.S. Census

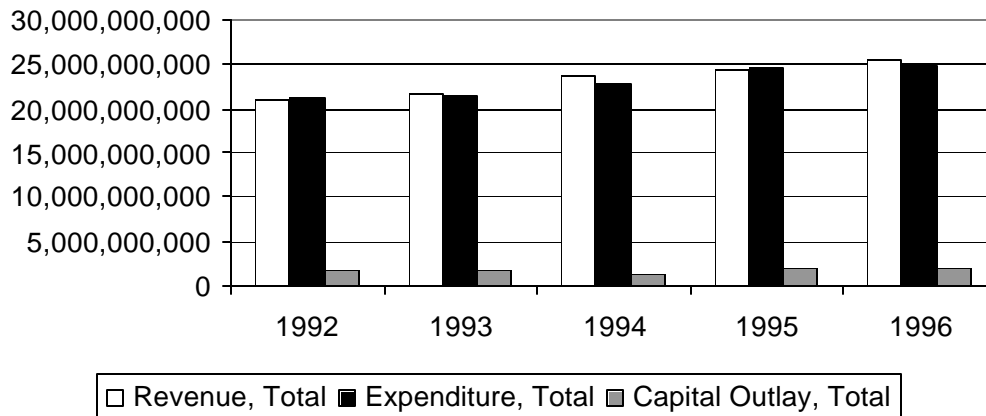
**Table 52: NJ Local Government Expenditures
— Total Revenue, Expenditure, & Capital Outlay**

	1992	1993	1994	1995	1996
Revenue, Total	21,123,616,000	21,828,248,000	23,695,477,000	24,382,232,000	25,625,347,000
Expenditure, Total	21,264,898,000	21,418,235,000	22,907,211,000	24,697,858,000	24,761,362,000
Capital Outlay, Total	1,830,004,000	1,714,536,000	1,405,486,000	2,119,613,000	2,093,571,000
Capital Outlay/ Total Expenditure	8.6%	8.0%	6.1%	8.6%	8.5%
Capital Outlay per Capita, Total	\$233.78	\$217.72	\$177.82	\$266.79	\$262.09

Note: All values in current dollars.

Source: U.S. Census, *State Government Finances 1992-1996*

**Figure 19: NJ Local Government Expenditures
— Total Revenue, Expenditure & Capital Outlay**



Note: All values in current dollars.

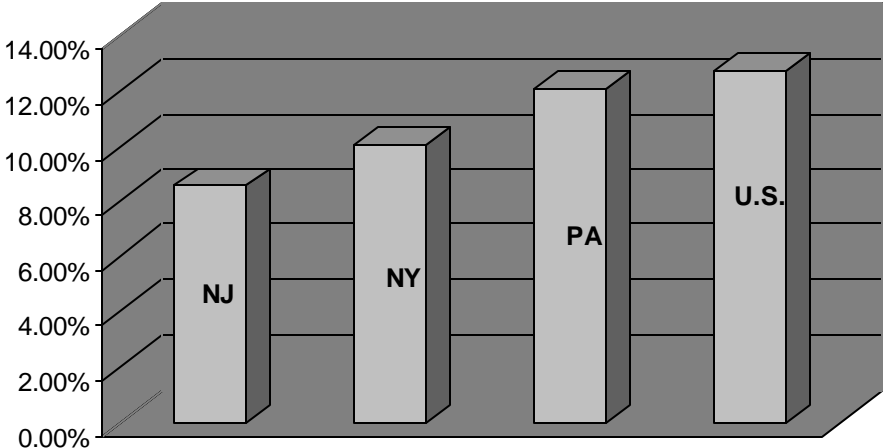
Source: U.S. Census, *State Government Finances 1992-1996*

Table 53: Local Government Capital Outlays as a Percent of Direct Expenditures

State	Total Local Government Capital Outlay	Total Local Government Direct Expenditure	Capital Outlay as Percent of Direct Expenditure
New Jersey	2,093,571,000	24,429,028,000	8.57%
New York	8,806,031,000	87,335,409,000	10.08%
Pennsylvania	3,769,862,000	31,204,757,000	12.08%
United States	99,983,807,000	786,120,191,000	12.72%

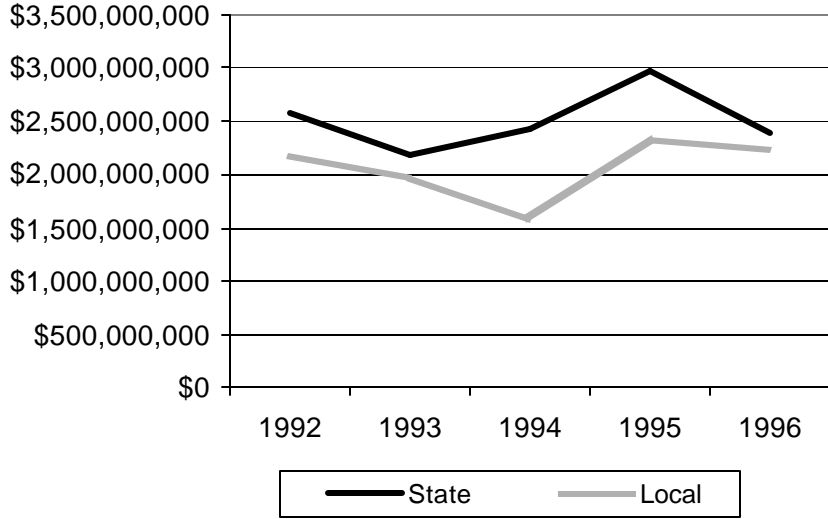
Note: All values in thousands of 1996 dollars.
 Source: US Department of Commerce, Bureau of the Census
Government Finances: 1996

Figure 20: Local Government Capital Outlays as a Percent of Direct Expenditures



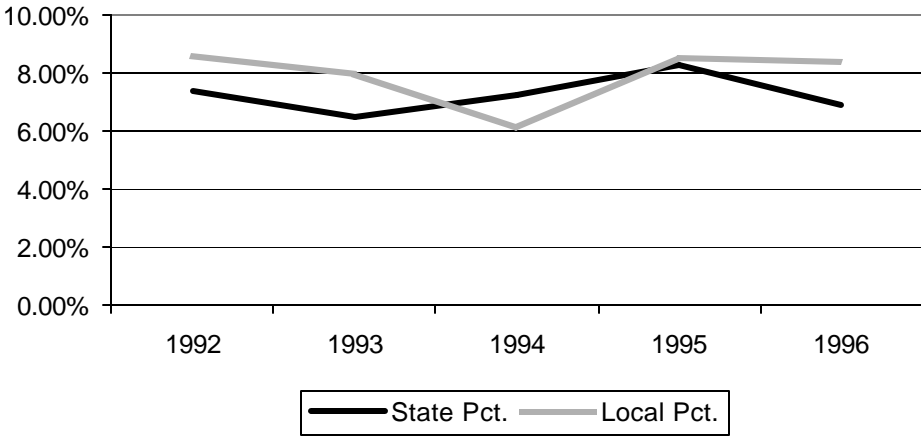
Note: All figures in thousands of current 1996 dollars.
 Source: US Department of Commerce, Bureau of the Census
Government Finances: 1996

Figure 21: Comparison of State and Local Government Capital Outlays



Note: All values in constant 1999 dollars.
Source: New Jersey Office of State Planning, based on U.S. Census

Figure 22: Comparison of State and Local Government Capital Outlays, Percentage of Total Outlays



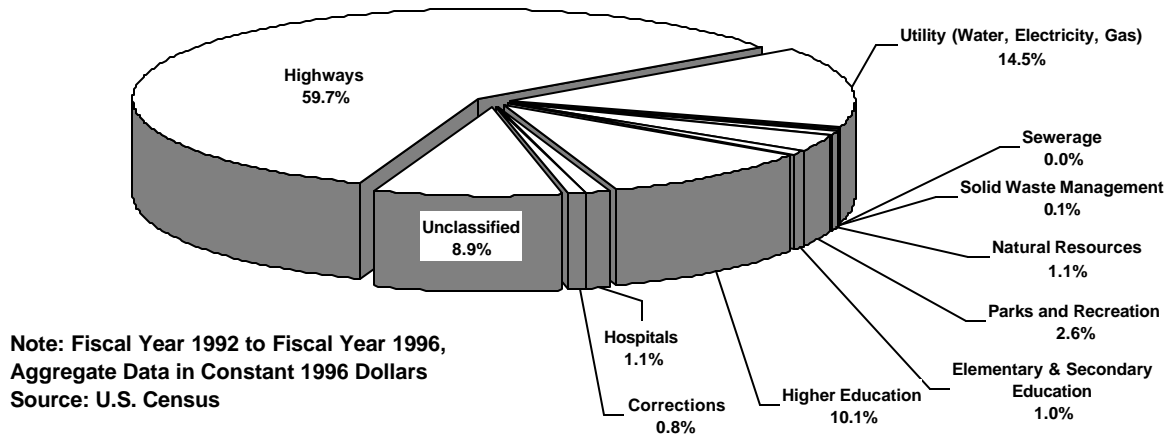
Source: New Jersey Office of State Planning, based on U.S. Census

Table 54: NJ State Government Capital Outlays by Function

State Capital Outlays by Function	FY1992	FY1993	FY1994	FY1995	FY1996	5-Year Totals
Total Capital Outlays	\$ 2,571,489,286	\$ 2,166,991,908	\$ 2,418,958,286	\$ 2,971,536,692	\$ 2,385,525,532	\$ 12,514,501,704
Highways	\$ 1,700,561,905	\$ 1,378,379,191	\$ 1,475,319,053	\$ 1,664,759,036	\$ 1,250,971,277	\$ 7,469,990,461
Utility (Water, Electricity, Gas)	NA	\$ 238,653,179	\$ 347,405,862	\$ 633,355,969	\$ 595,034,043	\$ 1,814,449,054
Sewerage	\$ 76,190	\$ 53,179	\$ 315,671	\$ 1,235,487	\$ 48,936	\$ 1,729,464
Solid Waste Management	NA	\$ 1,019,653	\$ 2,671,928	\$ 10,726,177	\$ 593,617	\$ 15,011,375
Natural Resources	NA	\$ 24,186,127	\$ 31,167,982	\$ 61,544,359	\$ 18,143,617	\$ 135,042,085
Parks and Recreation	NA	\$ 99,082,081	\$ 46,665,163	\$ 60,796,276	\$ 123,447,872	\$ 329,991,393
Elementary & Secondary Education	\$ 21,258,333	\$ 26,076,301	\$ 14,004,510	\$ 31,037,240	\$ 27,957,447	\$ 120,333,830
Higher Education	\$ 242,108,333	\$ 226,758,382	\$ 296,484,780	\$ 268,181,818	\$ 230,413,830	\$ 1,263,947,143
Hospitals	NA	\$ 20,767,630	\$ 30,078,918	\$ 45,070,099	\$ 42,735,106	\$ 138,651,753
Corrections	NA	\$ 26,349,133	\$ 42,087,937	\$ 26,985,761	\$ 10,520,213	\$ 105,943,044
Unclassified	\$ 607,484,524	\$ 125,667,052	\$ 132,756,483	\$ 167,844,469	\$ 85,659,574	\$ 1,119,412,102

Note: All values in 1999 constant dollars.
 Source: US Department of Commerce, Bureau of the Census
 NJ Office of State Planning

Figure 23: NJ State Government Capital Outlays by Function



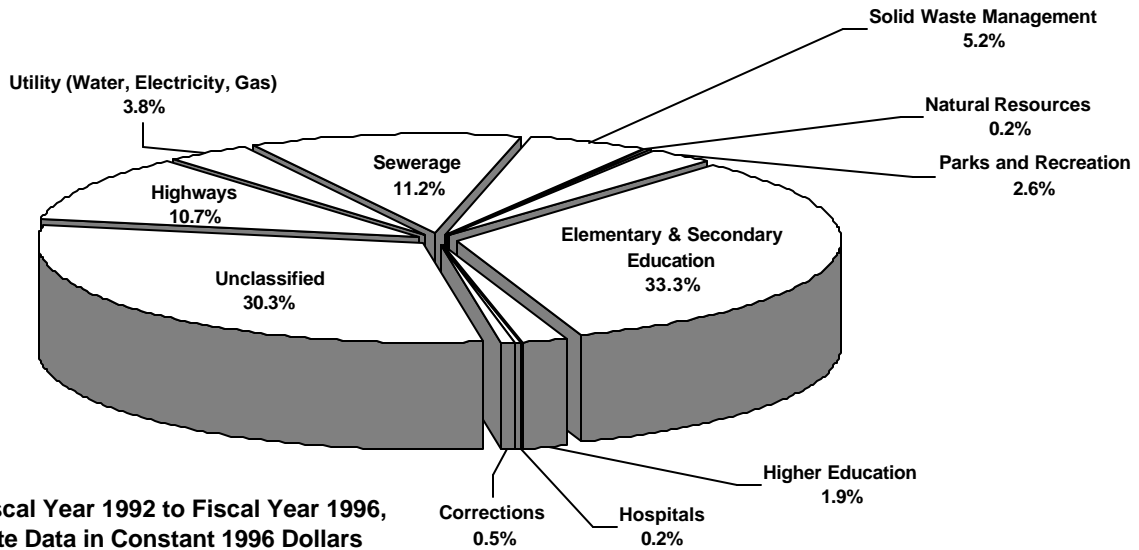
Source: US Department of Commerce, Bureau of the Census
 NJ Office of State Planning

Table 55: NJ Local Government Capital Outlays by Function

Local Capital Outlays by Function	FY1992	FY1993	FY1994	FY1995	FY1996	5-Year Totals
Total Capital Outlays	\$ 2,178,576,190	\$ 1,982,122,543	\$ 1,584,538,895	\$ 2,321,591,457	\$ 2,227,203,191	\$ 10,294,032,277
Highways	\$ 289,260,714	\$ 236,275,145	\$ 211,131,905	\$ 338,430,449	\$ 31,525,532	\$ 1,106,623,745
Utility (Water, Electricity, Gas)	NA	\$ 103,892,486	\$ 83,453,213	\$ 97,937,568	\$ 103,197,872	\$ 388,481,139
Sewerage	\$ 404,922,619	\$ 220,606,936	\$ 178,428,410	\$ 172,532,311	\$ 178,352,128	\$ 1,154,842,405
Solid Waste Management	NA	\$ 83,483,237	\$ 61,241,263	\$ 326,026,287	\$ 65,590,426	\$ 536,341,212
Natural Resources	NA	\$ 7,338,728	\$ 3,195,039	\$ 1,631,982	\$ 6,504,255	\$ 18,670,006
Parks and Recreation	NA	\$ 39,054,335	\$ 60,621,195	\$ 74,279,299	\$ 98,161,702	\$ 272,116,531
Elementary & Secondary Education	\$ 534,236,905	\$ 683,976,879	\$ 579,722,661	\$ 715,911,281	\$ 911,526,596	\$ 3,425,374,321
Higher Education	\$ 31,467,857	\$ 22,115,607	\$ 33,936,866	\$ 76,380,066	\$ 32,518,085	\$ 196,418,481
Hospitals	NA	\$ 5,390,751	\$ 7,877,114	\$ 3,765,608	\$ 4,990,426	\$ 22,023,899
Corrections	NA	\$ 27,270,520	\$ 7,780,158	\$ 12,223,439	\$ 3,177,660	\$ 50,451,777
Unclassified	\$ 918,688,095	\$ 552,717,919	\$ 357,151,071	\$ 502,473,165	\$ 791,658,511	\$ 3,122,688,761

Note: All values in 1999 constant dollars.
 Source: US Department of Commerce, Bureau of the Census
 NJ Office of State Planning

Figure 24: NJ Local Government Capital Outlays by Function



Note: Fiscal Year 1992 to Fiscal Year 1996,
 Aggregate Data in Constant 1996 Dollars
 Source: U.S. Census

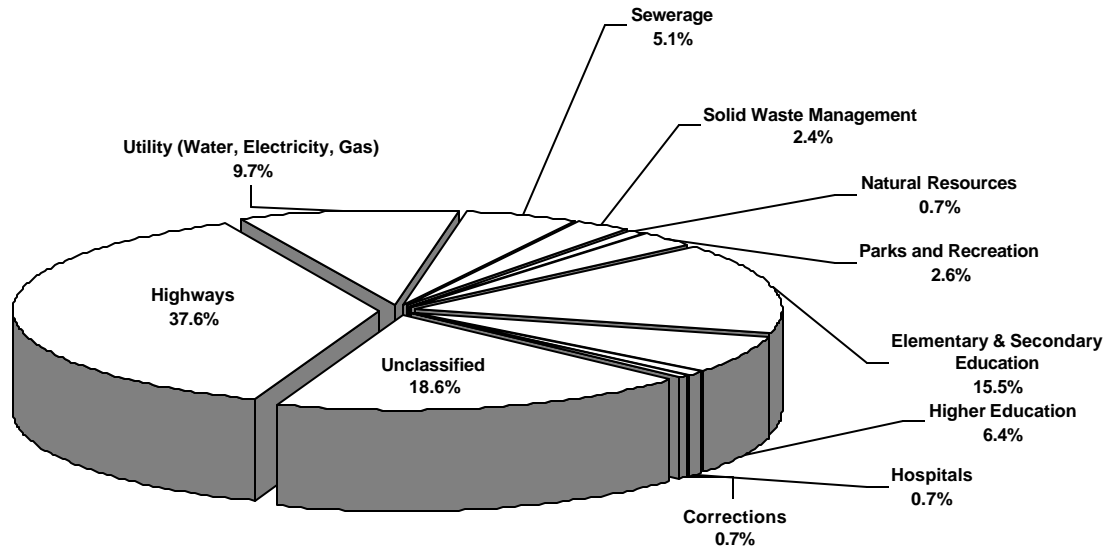
Source: US Department of Commerce, Bureau of the Census
 NJ Office of State Planning

Table 56: Total NJ State and Local Government Capital Outlays by Function

Total NJ State and Local Capital Outlays by Function						
	FY1992	FY1993	FY1994	FY1995	FY1996	5-Year Totals
Total Capital Outlays	\$ 4,750,065,476	\$ 4,149,114,451	\$ 4,003,497,182	\$ 5,293,128,149	\$ 4,612,728,723	\$ 22,808,533,981
Highways	\$ 1,989,822,619	\$ 1,614,654,335	\$ 1,686,450,958	\$ 2,003,189,485	\$ 1,282,496,809	\$ 8,576,614,206
Utility (Water, Electricity, Gas)	NA	\$ 342,545,665	\$ 430,859,076	\$ 731,293,538	\$ 698,231,915	\$ 2,202,930,193
Sewerage	\$ 404,998,810	\$ 220,660,116	\$ 178,744,081	\$ 173,767,798	\$ 178,401,064	\$ 1,156,571,869
Solid Waste Management	NA	\$ 84,502,890	\$ 63,913,191	\$ 336,752,464	\$ 66,184,043	\$ 551,352,588
Natural Resources	NA	\$ 31,524,855	\$ 34,363,021	\$ 63,176,342	\$ 24,647,872	\$ 153,712,091
Parks and Recreation	NA	\$ 138,136,416	\$ 107,286,359	\$ 135,075,575	\$ 221,609,574	\$ 602,107,924
Elementary & Secondary Education	\$ 555,495,238	\$ 710,053,179	\$ 593,727,170	\$ 746,948,521	\$ 939,484,043	\$ 3,545,708,151
Higher Education	\$ 273,576,190	\$ 248,873,988	\$ 330,421,646	\$ 344,561,884	\$ 262,931,915	\$ 1,460,365,624
Hospitals	NA	\$ 26,158,382	\$ 37,956,032	\$ 48,835,706	\$ 47,725,532	\$ 160,675,651
Corrections	NA	\$ 53,619,653	\$ 49,868,095	\$ 39,209,200	\$ 13,697,872	\$ 156,394,821
Unclassified	\$ 1,526,172,619	\$ 678,384,971	\$ 489,907,554	\$ 670,317,634	\$ 877,318,085	\$ 4,242,100,863

Note: All values in 1999 constant dollars.
 Source: US Department of Commerce, Bureau of the Census
 NJ Office of State Planning

Figure 25: Total NJ State and Local Government Capital Outlays by Function



Note: Fiscal Year 1992 to Fiscal Year 1996,
 Aggregate Data in Constant 1996 Dollars
 Source: U.S. Census

Source: US Department of Commerce, Bureau of the Census
 NJ Office of State Planning

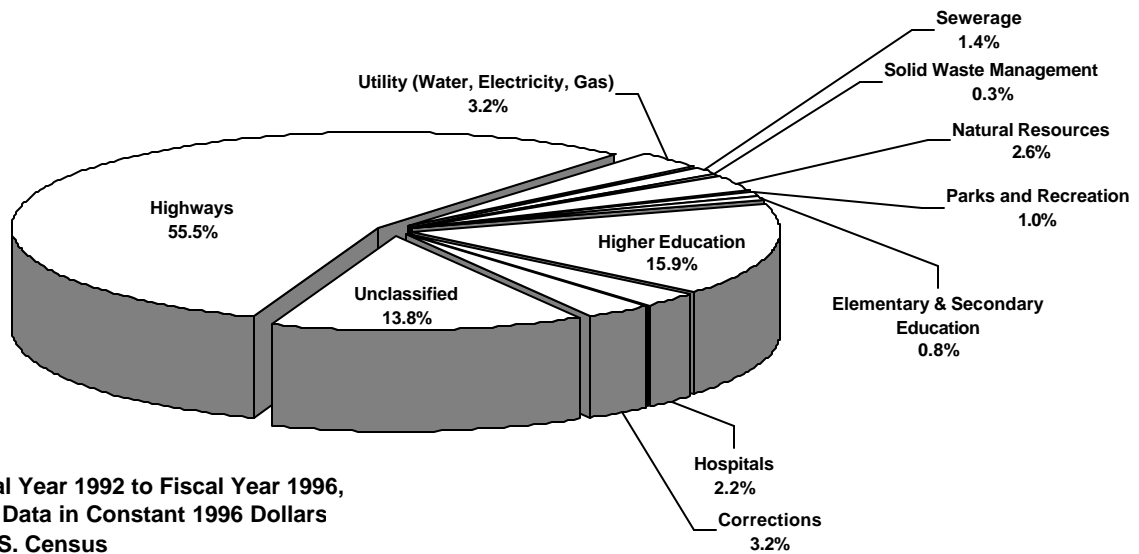
Table 57: US State Government Capital Outlays by Function

US State Capital Outlays by Function	FY1992	FY1993	FY1994	FY1995	FY1996	5-Year Totals
Total Capital Outlays	\$ 59,673,261,905	\$ 57,979,460,116	\$ 59,633,264,938	\$ 63,339,472,070	\$ 62,688,482,979	\$ 303,313,942,007
Highways	\$ 33,044,640,476	\$ 32,609,519,075	\$ 33,816,127,396	\$ 34,706,806,134	\$ 34,253,363,830	\$ 168,430,456,910
Utility (Water, Electricity, Gas)	NA	\$ 2,112,626,590	\$ 2,394,142,052	\$ 2,438,533,406	\$ 2,772,902,128	\$ 9,718,204,175
Sewerage	\$ 634,789,286	\$ 790,341,040	\$ 873,027,057	\$ 934,800,657	\$ 971,376,596	\$ 4,204,334,637
Solid Waste Management	NA	\$ 199,216,185	\$ 186,961,669	\$ 210,852,136	\$ 201,272,340	\$ 798,302,330
Natural Resources	NA	\$ 1,682,298,266	\$ 1,919,083,427	\$ 2,141,856,517	\$ 2,174,457,447	\$ 7,917,695,657
Parks and Recreation	NA	\$ 802,219,653	\$ 779,783,540	\$ 712,148,959	\$ 750,676,596	\$ 3,044,828,748
Elementary & Secondary Education	\$ 489,190,476	\$ 669,921,387	\$ 430,295,378	\$ 430,305,586	\$ 495,672,340	\$ 2,515,385,168
Higher Education	\$ 9,771,688,095	\$ 9,226,092,486	\$ 8,852,241,263	\$ 10,087,168,675	\$ 10,159,748,936	\$ 48,096,939,454
Hospitals	NA	\$ 1,622,900,578	\$ 1,853,202,931	\$ 1,732,878,423	\$ 1,572,318,085	\$ 6,781,300,017
Corrections	NA	\$ 2,141,236,994	\$ 2,446,918,828	\$ 3,015,704,272	\$ 2,236,386,170	\$ 9,840,246,264
Unclassified	\$ 15,732,953,571	\$ 6,123,087,861	\$ 6,081,481,398	\$ 6,928,417,306	\$ 7,100,308,511	\$ 41,966,248,647

Note: All values in 1999 constant dollars.

Source: US Department of Commerce, Bureau of the Census
NJ Office of State Planning

Figure 26: US State Government Capital Outlays by Function



Note: Fiscal Year 1992 to Fiscal Year 1996,
Aggregate Data in Constant 1996 Dollars
Source: U.S. Census

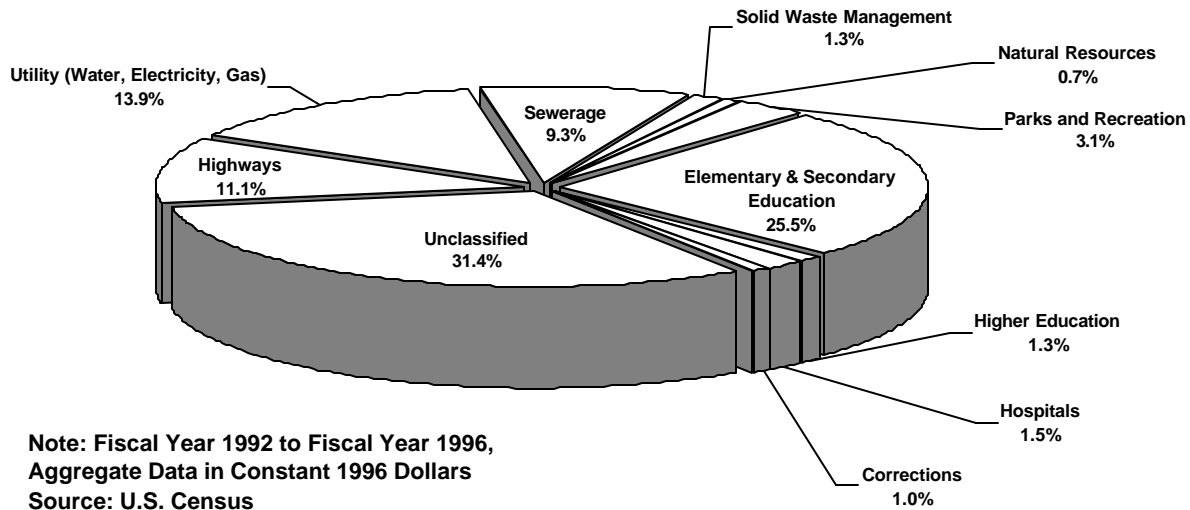
Source: US Department of Commerce, Bureau of the Census
NJ Office of State Planning

Table 58: US Local Government Capital Outlays by Function

US Local Capital Outlays by Function						
	FY1992	FY1993	FY1994	FY1995	FY1996	5-Year Totals
Total Capital Outlays	\$ 100,687,255,952	\$ 99,218,300,578	\$ 95,384,599,775	\$ 102,531,754,655	\$ 106,365,752,128	\$ 504,187,663,088
Highways	\$ 11,039,986,905	\$ 10,107,472,832	\$ 10,719,428,410	\$ 11,910,047,097	\$ 11,973,584,043	\$ 55,750,519,288
Utility (Water, Electricity, Gas)	NA	\$ 16,305,453,179	\$ 18,102,000,000	\$ 18,402,361,446	\$ 17,179,646,809	\$ 69,989,461,433
Sewerage	\$ 9,991,478,571	\$ 11,060,861,272	\$ 8,133,968,433	\$ 8,806,166,484	\$ 8,949,523,404	\$ 46,941,998,164
Solid Waste Management	NA	\$ 1,486,426,590	\$ 1,829,190,530	\$ 1,951,476,451	\$ 1,426,432,979	\$ 6,693,526,549
Natural Resources	NA	\$ 787,566,474	\$ 729,173,619	\$ 1,024,510,405	\$ 1,061,888,298	\$ 3,603,138,796
Parks and Recreation	NA	\$ 3,636,446,243	\$ 3,638,798,196	\$ 3,762,642,935	\$ 4,429,072,340	\$ 15,466,959,715
Elementary & Secondary Education	\$ 24,890,776,190	\$ 25,097,000,000	\$ 21,771,304,397	\$ 26,741,520,263	\$ 30,214,891,489	\$ 128,715,492,340
Higher Education	\$ 1,157,260,714	\$ 1,126,217,341	\$ 1,247,635,851	\$ 1,370,967,141	\$ 1,548,885,106	\$ 6,450,966,154
Hospitals	NA	\$ 2,965,689,017	\$ 2,274,701,240	\$ 1,982,240	\$ 2,255,647,872	\$ 7,498,020,370
Corrections	NA	\$ 1,489,691,329	\$ 1,266,832,018	\$ 1,171,096,386	\$ 1,053,924,468	\$ 4,981,544,201
Unclassified	\$ 53,607,753,571	\$ 25,155,476,301	\$ 25,671,567,080	\$ 27,388,983,806	\$ 26,272,255,319	\$ 158,096,036,077

Note: All values in 1999 constant dollars.
 Source: US Department of Commerce, Bureau of the Census
 NJ Office of State Planning

Figure 27: US Local Government Capital Outlays by Function



Source: US Department of Commerce, Bureau of the Census
 NJ Office of State Planning

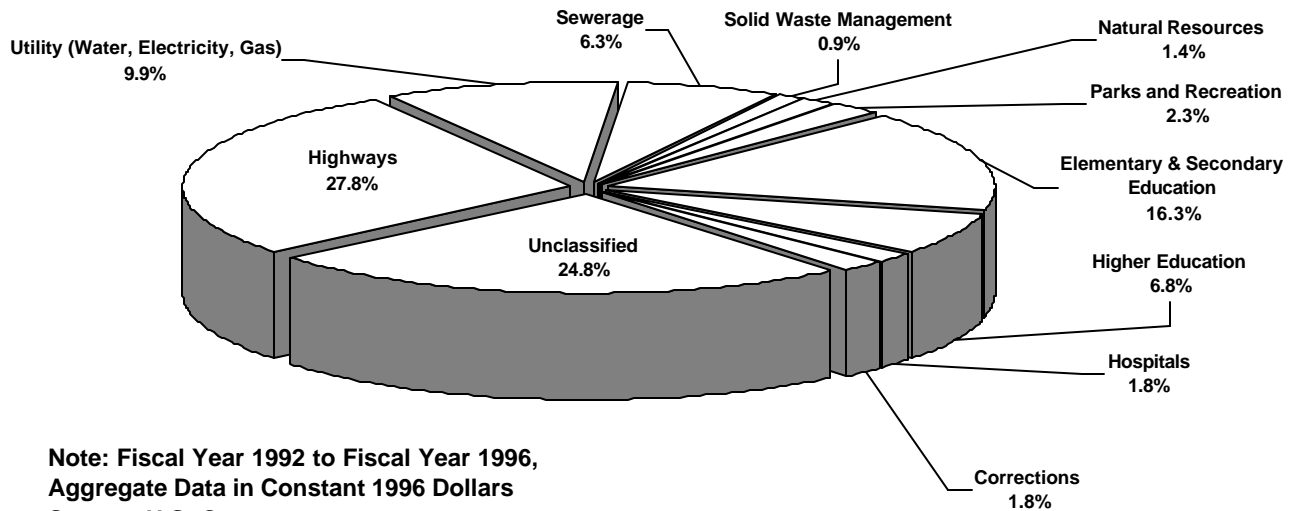
Table 59: Total US State and Local Government Capital Outlays by Function

Total US State and Local Capital Outlays by Function	FY1992	FY1993	FY1994	FY1995	FY1996	5-Year Totals
Total Capital Outlays	\$ 160,360,517,857	\$ 157,197,760,694	\$ 155,017,864,713	\$ 165,871,226,725	\$ 169,054,235,106	\$ 807,501,605,095
Highways	\$ 44,084,627,381	\$ 42,716,991,908	\$ 44,535,555,806	\$ 46,616,853,231	\$ 46,226,947,872	\$ 224,180,976,198
Utility (Water, Electricity, Gas)	NA	\$ 18,418,079,769	\$ 20,496,142,052	\$ 20,840,894,852	\$ 19,952,548,936	\$ 79,707,665,609
Sewerage	\$ 10,626,267,857	\$ 11,851,202,312	\$ 9,006,995,490	\$ 9,740,967,141	\$ 9,920,900,000	\$ 51,146,332,801
Solid Waste Management	NA	\$ 1,685,642,775	\$ 2,016,152,198	\$ 2,162,328,587	\$ 1,627,705,319	\$ 7,491,828,879
Natural Resources	NA	\$ 2,469,864,740	\$ 2,648,257,046	\$ 3,166,366,922	\$ 3,236,345,745	\$ 11,520,834,453
Parks and Recreation	NA	\$ 4,438,665,896	\$ 4,418,581,736	\$ 4,474,791,895	\$ 5,179,748,936	\$ 18,511,788,463
Elementary & Secondary Education	\$ 25,379,966,667	\$ 25,766,921,387	\$ 22,201,599,775	\$ 27,171,825,849	\$ 30,710,563,830	\$ 131,230,877,507
Higher Education	\$ 10,928,948,810	\$ 10,352,309,827	\$ 10,099,877,114	\$ 11,458,135,816	\$ 11,708,634,043	\$ 54,547,905,609
Hospitals	NA	\$ 4,588,589,595	\$ 4,127,904,171	\$ 1,734,860,663	\$ 3,827,965,957	\$ 14,279,320,387
Corrections	NA	\$ 3,630,928,324	\$ 3,713,750,846	\$ 4,186,800,657	\$ 3,290,310,638	\$ 14,821,790,465
Unclassified	\$ 69,340,707,143	\$ 31,278,564,162	\$ 31,753,048,478	\$ 34,317,401,112	\$ 33,372,563,830	\$ 200,062,284,724

Note: All values in 1999 constant dollars.

Source: US Department of Commerce, Bureau of the Census
NJ Office of State Planning

Figure 28: Total US State and Local Government Capital Outlays by Function



Note: Fiscal Year 1992 to Fiscal Year 1996,
Aggregate Data in Constant 1996 Dollars
Source: U.S. Census

Source: US Department of Commerce, Bureau of the Census
NJ Office of State Planning

E. Comparison of State and Local Government Total Capital Outlays

In New Jersey, local governments have provided a nearly equal percentage share of their budgets to capital outlays to State government over recent years (see **Figure 21** and **Figure 22**). Both State and local capital outlays have been somewhat volatile since fiscal year 1992.

F. State and Local Government Capital Outlays by Function

Due to the volatility of capital outlays over time, it is useful to compare capital outlays for the five year period from fiscal year 1992 through fiscal year 1996 for which current data is available for both state and local governments.

Highways accounted for nearly 60% of capital outlays by New Jersey State government over this period, followed by utilities (15%) and higher education (10%) (see **Table 54** and **Figure 23**). The largest portion of New Jersey local government capital outlays in this period was allocated to public education (35% for elementary, secondary, and higher education), followed by wastewater disposal and transportation, each representing approximately 11% of capital outlays (see **Table 55** and **Figure 24**). Together, New Jersey State and local governments invested \$21.4 billion in capital outlays over this period, with the greatest investments in highways (38%) and education (22%) (see **Table 56** and **Figure 25**).

New Jersey state and local capital outlays are significantly higher than the \$16.1 billion average among the 50 states, and comprise 2.8% of the national total for this period. The pattern of investment in New Jersey differs significantly from that of the United States as a whole over this same period. ***Although the relative priorities among functions remains the same, the magnitude of funding is reversed.***

Nationwide, local governments have invested a much higher amount of capital outlays than state governments, averaging over 62% of the total state and local capital outlays over this period. Similar to New Jersey, highways (55%) and higher education (16%) represented the highest shares of state government capital outlays nationwide over this period (see **Table 57** and **Figure 26**). Like New Jersey, the largest portion of local government capital outlays was in public education (26% for elementary, secondary, and higher education), followed by utilities (14%), highways (11%) and wastewater disposal (9%) (see **Table 58** and **Figure 27**). Overall, state and local governments nationwide invested \$807 billion in capital outlays over this period, with the greatest investments in highways (28%) and education (23%) (see **Table 59** and **Figure 28**).

G. State Agency Capital Programs and the State Plan

State agency capital funding plans define patterns of investment, and relationships among investments and other activities, that can be made consistent with the State Development and Redevelopment Plan goals, policies and objectives pursuant to the State Planning Act. Where State agencies specifically identify relationships between their capital programs and the State Development and Redevelopment Plan in terms of policy implications and geographic locations, it is possible to:

- understand the array of capital funding sources available to advance State Plan goals;
- improve coordination among capital programs; and
- more effectively leverage capital projects with other projects and initiatives.

By advancing the State Plan's goals in practice, capital programs can provide a higher level of service at a lesser overall cost to the tax payers and rate payers of New Jersey.

Many State agencies have changed, modified or created means of implementing the State Development and Redevelopment Plan by granting priority in funding and programs for projects that are consistent with

the State Plan or that are part of a municipal planning agenda adopted by the State Planning Commission in the center designation and plan endorsement process. In the course of review, State agencies⁵³ are invited to comment on petitions from local jurisdictions for center designation or plan endorsement, and to consider what State government actions are necessary to support the petitioner's planning agenda.

Pursuant to State law,⁵⁴ each State department, agency and commission is required to publish notice of all Federal and State project grant funds available through the agency. These notices are to include:

- the names of the grant programs that have funds available;
- the purpose for which the grant program funds shall be used;
- the amount of money in the grant program;
- the groups or entities which may apply for funding under the grant program;
- the qualifications an applicant needs to be considered for the grant programs;
- the procedure for eligible entities to apply for grant funds;
- the address of the division, office or official receiving the application;
- the deadline by which applications must be submitted; and
- the date by which applicants shall be notified whether they will receive funds.

State agencies typically publish notices in the *New Jersey Register*, an official publication, for each individual grant program. The law permits agencies to assemble, publish and maintain a comprehensive catalog of grant and loan programs. Such catalogs can be of great benefit, not only to grant applicants but to State government as a whole, by providing information that helps to coordinate funding sources and package grant and loans for specific types of projects. At present, these catalogs are rarely routinely compiled.⁵⁵

As of December 1999, nearly 20 State and regional programs provide priority for projects consistent with the State Plan through their rules, regulations, policies or plans. Some of these programs include:

- NJDOT Project Development;
- NJDOT Transportation Enhancements;
- NJDEP Municipal Wastewater Assistance;
- NJDEP Green Trust Fund;
- NJDEP Historic Preservation Planning Grants;
- NJDCA Community Development Block Grants;
- NJDCA Neighborhood Preservation Program;
- NJ Transit Station Planning and Development.

These programs are described later in this analysis. In addition, NJDOT maintains Local Aid for Centers programs in which only designated centers are eligible. In the past year, seven projects were funded for a total State investment of \$1 million. Rules of the Council on Affordable Housing adopted in 1994 encourage private developers to construct inclusionary developments (projects which include housing affordable to low and moderate income households) in Planning Areas 1 and 2 and in designated centers

⁵³ Agencies currently involved in this review include the Departments of Community Affairs, Commerce and Economic Development, Environmental Protection, Transportation, Agriculture and Treasury as well as New Jersey Transit, the Council on Affordable Housing, Housing Mortgage Finance Agency, New Jersey Economic Development Authority, Delaware Valley Regional Planning Commission and the North Jersey Transportation Planning Authority.

⁵⁴ N.J.S.A. 52:14-34.4 (L. 1987, c. 7, eff. January 20, 1987)

⁵⁵ An example of a recent catalog is that published by the New Jersey Department of Environmental Protection in November 1994. The catalog is organized into sections reflecting the structure of the Department. Within each section, the programs are presented in order by general subject, and include grants and loans available through the Department from State appropriations, Federal awards and other funding sources. Programs are listed even where all funding has been obligated or is not yet or no longer available to enable users to contact the program to discuss related issues, past projects and future opportunities for funding or technical assistance.

in Planning Areas 3, 4 and 5.⁵⁶ These and other State statutes and regulations related to the State Plan and the State Planning Act are discussed in detail in a separate report.⁵⁷

H. State Capital Investment Funding Sources

This section identifies current major State capital investment funding sources and programs associated with infrastructure components in this Assessment. For each program, this report identifies the authorizing statutes for each funding source, the original amount of capital funding appropriated and amounts that remain. State agencies responsible for administering each program provided this information at the request of the Office of State Planning. With this information, plans and policies can be formulated to expend the remaining funding on capital projects and programs that are consistent with the goals and policies of the State Development and Redevelopment Plan.

State capital funding represents only one segment of all sources for capital funding. Federal and local funds are often used in conjunction with State resources to finance capital projects. Capital program information for “off budget” State and regional commissions, agencies and authorities⁵⁸ was not included in this analysis, but will be collected for a subsequent analysis.

Capital needs of the State are primarily funded through three methods, which may be used singularly or in combination. The three methods are pay-as-you-go capital appropriations, general obligation bond funds, and lease or lease-purchase of facilities for State operations.

- **Pay-as-you-go** capital outlays are used primarily for renovations and preservation of State properties, highway and mass transit improvements and environmental projects associated with agency program objectives. Pay-as-you-go capital projects are often relatively small and are usually funded through annual appropriations from the General Fund (see **Table 60**).
- **General obligation bond funds**, authorized by the State’s voters, are used to finance more expensive capital construction projects such as new facilities. The projects are expected to have a useful life equal to the time required to retire the bonds and must yield substantial benefits, not only for the present, but for future generations. The State Constitution limits the amount of debt that can be created to 1% of the total fiscal year appropriation, unless authorized by law and submitted to the voters for approval (see **Figure 29**). Voter authorization, however, is not required for the creation of a debt to refinance the general obligation debt if refinancing produces savings. Some bond funds are revolving funds in which funds for capital projects are made available to State and local entities through loans at below market rates. As loans are repaid, the funds become a renewable capital resource. In many programs, the process is not automatic and requires action by the Legislature to reallocate these funds from the State General Fund to the originating capital loan program.
- **Lease or lease-purchase** of facilities postpones or eliminates the cost associated with State ownership and is normally structured to coincide with the useful life expectancy of a facility. Lease-purchase agreements have been an important and positive means for obtaining office space. Under such agreements, independent authorities, such as the New Jersey Building Authority, the Economic Development Authority, and the Sports and Exposition Authority issue bonds and construct facilities. The State occupies such facilities, funds the debt service and, over a defined period of time, secures ownership. This is an accepted alternate method of financing capital construction because it provides considerable budget flexibility.

⁵⁶ N.J.A.C. 5:93-5.4, 5.6, and 13. A center designation does not add to or subtract from a municipality’s affordable housing obligation assigned by COAH.

⁵⁷ *New Jersey Statutes and Regulations Linked to the State Planning Act*, October 1995. OSP Document #112.

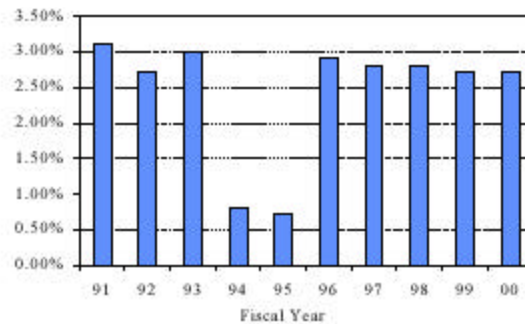
⁵⁸ e.g. toll road and bridge authorities, the Economic Development Authority, Urban Development Corporation, and Health Care Financing Agency.

Table 60: NJ Capital Appropriations by Department

Year Ending June 30, 1999					Year Ending June 30, 2001			
Orig. & (S) Supplemental	Reapp. & (R) Receipts	Transfers & (E) Emergencies	Total Available	Expended		2000 Adjusted Approp.	Requested	Recommended
---	990	925	1,915	1,616	Legislature	---	---	---
156	41	---	197	17	Department of Agriculture	1,153	600	600
11,824	20,447	1	32,272	9,283	Department of Corrections	24,557	85,493	33,198
1,810	526	-1	2,335	800	Department of Education	1,850	3,899	3,336
66,544	36,886	-1,609	101,821	76,830	Department of Environmental Protection	105,944	129,213	96,721
1,269	633	---	1,902	1,383	Department of Health and Senior Services	1,508	6,223	4,625
11,399	8,766	-27	20,138	4,564	Department of Human Services	23,800	42,325	25,255
19,884	10,504	---	30,388	11,496	Department of Law and Public Safety	24,275	45,863	42,224
2,450	1,539	---	3,989	1,651	Department of Military and Veterans' Affairs	10,091	15,280	14,370
12,646	5,320	1	17,967	9,595	Department of State	6,628	3,287	2,887
465,231	594	---	465,825	465,231	Department of Transportation	477,801	698,600	698,600
7,521	8,781	6,445	22,747	10,319	Department of the Treasury	15,396	20,885	11,015
2	---	---	2	---	Miscellaneous Commissions	---	---	---
142,850	16,623	-7,195	152,278	86,862	Interdepartmental Accounts	196,578	243,339	231,689
743,586	111,650	-1,460	853,776	679,647	Total Appropriation	889,581	1,295,007	1,164,520

Source: New Jersey Department of the Treasury, Office of Management and Budget

Figure 29: General Obligation Debt as a Percent of State Appropriations



Source: New Jersey Department of the Treasury, Office of Management and Budget

1. Transportation and Commerce

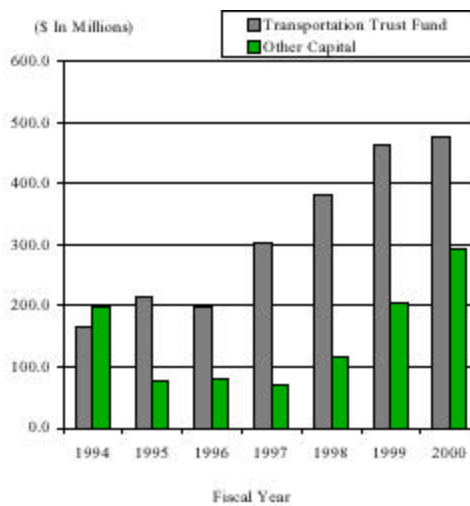
- The Transportation Trust Fund is expected to contribute \$900 million in highway and transit projects in fiscal year 2000. However, future Transportation Trust Fund funding for projects will be limited due to debt payments until additional revenues are made available to the fund. The \$500 million Statewide Transportation and Local Bridge Bond Act of 1999 will provide funds for transportation projects in the short term. The \$205 million Dredging and Containment Facility Fund provides revenues for projects to improve the capacities of New Jersey’s ports and navigation channels.
- The State Agricultural Development Committee administers three capital intensive programs that are the major tools for farmland preservation in the State of New Jersey — Fee Simple, Easement Purchase, and the 8 Year Program. \$600 million in Garden State Preservation Trust funds will be made available to match Federal and local funds and private donations through 2009.

a. Transportation

(1) Programs

Capital funds are critical for the upkeep and maintenance of the State’s highways, tunnels, bridges, transit and goods movement systems. Over recent years, approximately \$2 billion per year are spent on transportation projects. Along with state investments, transportation programs rely substantially on capital financing provided by the federal government. Funding for transportation projects was primarily provided by the State’s Transportation Trust Fund (TTF) and the federal Intermodal Surface Transportation Act (ISTEA). The Congressional reauthorization of the 1991 ISTEA law become the Federal Transportation Equity Act for the 21st Century (TEA-21) in 1998 which increased funding for public transit, bicycle and pedestrian transportation facilities and services. TEA-21 also established a nationwide pilot program to help communities reconcile land use and transportation decision making.

Figure 30: TTF Expenditures



Source: New Jersey Department of the Treasury, Office of Management and Budget

Also in 1998, Governor Whitman announced a 12-year, \$30 billion program to improve and expand all facets of New Jersey's transportation network (New Jersey FIRST), and the State's Transportation Trust Fund was supplanted by a \$500 million Transportation Bond Fund in 1999. While the Transportation Trust Fund continues to draw approximately \$405 million per year from 9 cents of the 10.5 cent per gallon State tax on gasoline, at current funding levels, the entire revenue will be required to pay back debt under the Trust Fund's \$900 million borrowing capacity and no new projects will be able to be paid for by the fund. Proposals to renew and expand the current Trust Fund are expected to be considered in the current session of the State Legislature. The 1999 Statewide Transportation and Local Bridge Bond Act established a \$500 million bond fund intended to primarily address the current backlog of local bridge repairs.

The New Jersey Department of Transportation (NJDOT) and the New Jersey Transit Corporation consider the State Development and Redevelopment Plan in a number of programs and planning strategies. NJDOT maintained the *Local Aid for Centers* program since 1995 as a discretionary program fund for municipalities that have designated centers. This program has grown from funding \$1 million in projects in seven designated centers in 1995 to \$1.25 million for projects in nine centers in 1999.

Designated centers are considered in assessing priorities for highway systems management and new capacity projects. The State Plan's Resource Planning and Management Structure of planning areas, centers and environs has been incorporated into NJDOT's highway access management regulations.⁵⁹

The NJDOT *Transportation Enhancement Program*, which provided \$12 million in Federal TEA-21 funds for local projects in FY2000, requests that applicants provide information on a municipality's participation in the State Planning Commission's planning process.

The Department has also initiated efforts with the Office of State Planning to develop unified municipal level economic and demographic projections to guide project design. New Jersey Transit's new *Handbook on Planning Transit-Friendly Communities* complements the center-based strategies of the State Development and Redevelopment Plan. The Office of State Planning participates in all New Jersey Transit rail service corridor studies.

User fees such as gasoline taxes are an important source of revenue for transportation projects. NJ Transit's operating ratio (the proportion of operating costs recovered from users through fees for services rendered) is in the range of 50 percent, among the highest operating ratios among transit agencies in the United States.⁶⁰ However, the extent to which user fees for transit services should be relied upon relative to general transportation related sources, such as the gasoline tax, and state general fund sources is continually debated.

(2) Transportation Trust Fund

The Transportation Trust Fund has been the largest source of the State's general fund capital construction revenues since 1995. The Special Transportation Fund is an account within the State general fund that authorizes capital projects for transportation. This fund contains both the State appropriations and federal funds. The Transportation Trust Fund Authority reimburses this fund for the State component of transportation project expenses.

⁵⁹ N.J.A.C. 16-47-1.1 et seq.

⁶⁰ *Transportation Choices 2020: Statewide Long-Range Transportation Plan*. New Jersey Department of Transportation. July 1995.

Transportation capital projects are funded at the discretion of the Transportation Trust Fund Authority.⁶¹ The Transportation Trust Fund was created in 1984 as the first stable funding source for capital improvement programs of the New Jersey Department of Transportation and New Jersey Transit. The TTF is funded through the State general fund, dedicated motor fuel taxes, toll authority contributions, heavy truck/diesel fees, and bonding. The Transportation Trust Fund Authority is permitted to issue its own bonds and to handle bonding and investment responsibilities associated with the Transportation Trust Fund. Therefore, the TTF Authority is able to use a combination of debt and pay-as-you-go funding. The sum of TTF investments and appropriations are used to cover both the existing debt service on bonds and the expenses of operation and maintenance. Funds that are left over may be applied to capital programs.

Until 1991-1992, annual State general fund appropriations constituted the majority of the New Jersey Department of Transportation capital program. Historically, the TTF received \$331 million per year in revenue while appropriating \$565 million per year for capital projects. Revenues to the TTF from the State were cut to \$155 million in FY 1993 and \$183 million in FY 1994 while the same level of appropriations were continued, however. The new Transportation Trust Fund approved by the Legislature and voters in 1995 represents a reversal of the historic declines. In FY 1997 the amount of motor fuels tax constitutionally dedicated to the Transportation Trust Fund increased by 4.5 cents to a total of 7 cents per gallon, increasing the amount of revenues constitutionally dedicated to the TTF from \$100 million to \$280 million. This and other funding leveraged a State funded share of the program which appropriated amounts up to \$700 million per year. The majority of these funds were from “pay as you go” financing. In addition, the existing debt was to be refinanced over twenty years, through bonding against a revenue stream. In 1999, the debt ceiling was increased to allow up to \$900 million in borrowing beginning in Fiscal Year 2000 due to lower than anticipated financing costs for the Transportation Trust Fund.

The Trust Fund projects listed in the New Jersey Department of Transportation’s FY2000 Capital Program plan total \$950 million, which includes, consistent with past practice, \$50 million in “overprogramming” in NJ TRANSIT projects to increase flexibility. There is no overprogramming in the NJDOT project list. Federal funds for these projects are assumed at a total level of \$1.047 billion, including \$708 million from the Federal Highway Administration, \$339 million from the Federal Transit Administration, and \$8 million from the Federal Aviation Administration.

Trust Fund state aid funds are allocated on a county-by-county basis under a statutory and regulatory formula. Implementing a Memorandum of Understanding signed in June 1993 between the State Planning Commission, the New Jersey Department of Transportation and New Jersey Transit, designated centers are considered in the Department’s priority evaluation for assessing highway systems management and new capacity projects. Transportation Trust Funds support the Local Aid for Centers program of the New Jersey Department of Transportation.

(3) TEA-21 / Transportation Improvement Programs

The federal Transportation Equity Act for the 21st Century (TEA-21) requires that each state develop an annual single, statewide multimodal Statewide Transportation Improvement Program (STIP). In New Jersey, the STIP consists of a listing of statewide line items, programs, and the regional Transportation Improvement Program (TIP) projects, all of which were developed by Metropolitan Planning Organizations (MPOs). The MPO TIPs contain local and state highway projects, statewide line items and programs, as well as proposed public transit projects.

New Jersey has three Metropolitan Planning Organizations (MPOs) whose primary responsibility is to plan for transportation improvements. These MPOs are the Delaware Valley Regional Planning

⁶¹ Transportation Choices 2020, Statewide Long Range Transportation Plan, Final Draft, New Jersey Department of Transportation, pages 88-92, March 1995

Commission, the North Jersey Transportation Planning Authority, and the South Jersey Transportation Coordinating Commission. In order to receive federal capital funding, each MPO is required by federal legislation to develop a Transportation Improvement Plan (TIP). The TIP is a list of proposed improvements and is formed as the result of a consensus building process. Through the TIP, projects become eligible for federal aid, which is distributed by the New Jersey Department of Transportation.

NJDOT estimates that \$6.7 billion in state and federal revenues will be available to support the state's transportation improvement programs during the three fiscal years from FY2000 through FY2002. The actual budgeting of federal and state funds for projects within the MPO areas is a product of the development of the three regional transportation improvement programs, the Statewide Transportation Improvement Program, and the annual capital program. From year to year there may be significant variations in the amount of funds actually programmed within an MPO area, as needs and specific project implementation schedules dictate.

The Transportation Enhancements Program created under ISTEA, maintained under TEA-21 and administered in New Jersey by NJDOT since FY1994 provides Federal funds to local governments for projects that provide:

- facilities for bicycles or pedestrians;
- scenic beautification or streetscape improvements;
- historic preservation and rehabilitation; or
- mitigation of water pollution due to highway runoff.

(4) Statutes

- The Transportation Trust Fund Authority Act of 1984⁶² was most recently amended in 1999.
- In preparing its urban supplement to the State Transportation Plan, the New Jersey Department of Transportation must consult with the Office of State Planning for recommendations for meeting the transportation needs of urban areas pursuant to N.J.S.A. 27:1A-5.10.
- Applications to create a Transportation Development District, and the subsequent district transportation improvement plans, must certify that the creation of such a district would be in conformity with both the county master plan and the adopted State Development and Redevelopment Plan pursuant to N.J.S.A. 27:1C-4 and 5.

(5) Bond Acts

As a result of the 1999 amendments, the *Transportation Trust Fund* has a statutory annual limit on bond issuance of \$900 million per fiscal year. If the limit is not reached in a given fiscal year, the remaining balance may be issued in a subsequent fiscal year resulting in more than \$900 million in bonds being issued in a given fiscal year.

A 1996 State bond act⁶³ authorized \$205 million *Dredging and Containment Facility Fund* for dredging projects for New Jersey's ports and waterways, including funds to develop environmentally safe methods for managing dredged material as follows:

- \$185 million for dredging and deepening navigation channels from the New Jersey/New York port region and the decontamination and disposal of dredged material from the New Jersey/New York Port,
- \$20 million for dredging navigation channels not in the Port of New York/New Jersey region.

These bond funds were expected to leverage as much as \$1 billion in Federal HR-6 Harbor Dredging and Cleanup funds as well as from the Port Authority of New York and New Jersey.

⁶² N.J.S.A. 27-1B-1 et seq.

⁶³ Port of New Jersey Revitalization, Dredging, Environmental Cleanup, Lake Restoration and Delaware Bay Area Economic Development Bond Act.

In 1989, the *Railroad Right of Way Preservation Fund* was established as part of the \$155 million New Jersey Bridge Rehabilitation and Improvement and Railroad Right of Way Preservation Bond Act, creating a \$25 million fund for acquiring or preserving rail corridors for future use.

The *Statewide Transportation and Local Bridge Bond Act of 1999* provided for \$500 million in funds for transportation projects. Of this amount, \$250 million is set aside for grants to county and municipal governments for the costs of the rehabilitation and improvement of structurally deficient bridges carrying county or municipal roads, including railroad overhead bridges. The remaining \$250 million is available for other transportation projects, including transit, statewide bridge repair, rail freight, airports, bikeways, and interchange improvement projects.

Table 61: Transportation Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Transportation Trust Fund Authority of 1984	\$900 million per year	N/A	\$209,159,422
Dredging and Containment Facility Fund of 1996	\$205,000,000	N/A	\$19,989,887
Railroad Right of Way Preservation Fund of 1989	\$25,000,000	N/A	\$0
Statewide Transportation and Local Bridge Bond Act of 1999	\$250,000,000	N/A	N/A
TOTAL	\$1,380,000,000	N/A	\$229,149,309
Note: Remaining funds include committed and uncommitted fund balances as of June 30, 1999. N/A = Data not available. Source: New Jersey Department of the Treasury, Office of Management and Budget			

b. Farmland Retention

(1) Programs

*Agriculture plays an integral role in the prosperity and well-being of the State as well as providing a fresh and abundant supply of food and fiber for its citizens...; agricultural land resources face an imminent threat of permanent conversion to non-farm uses...; the retention and development of an economically viable agricultural industry is of high public priority for New Jersey.....*⁶⁴

The State Agriculture Development Committee (SADC) administers capital programs for farmland preservation in association with County Agricultural Development Boards. The SADC is an agency of the New Jersey Department of Agriculture that was formed in 1983 as part of the Right to Farm Act. The SADC administers three capital intensive programs that are the major tools for farmland preservation in New Jersey. These programs are Fee Simple, Easement Purchase, and the Eight Year Program. These programs provide compensation to land owners who deed restrict their property as farmland and soil and water conservation funds for landowners who participate in the Eight Year Program.

- Under the *Fee Simple* program, the State purchases farmland in fee, then deed restricts it as farmland and sells it. This option is advantageous to the landowner who does not want to farm any longer, but would like the land to remain agricultural.

⁶⁴ [Second Reprint] Assembly, No. 70 State of New Jersey Introduced October 6, 1994, Green Acres, Farmland and Historic Preservation and Blue Acres Bond Act of 1995

- **Easement Purchase** represents a permanent deed restriction of property as farmland and compensates the owner for development rights. With this program the farm owner retains the land, but deed restricts it as agricultural use in exchange for payment. This program provides a cost share arrangement with the counties. The State may provide up to 80 percent of the purchase, and 100 percent in emergency situations.
- Under the **8 Year Program**, landowners that formally agree to keep their land in agriculture for eight years become eligible for state cost-sharing for soil and water conservation projects approved by the State Soil Conservation Committee.

The State Agriculture Development Committee may base its priority rating for farmland preservation projects in part on the planning area in which the project is located as identified in the State Development and Redevelopment Plan.

The **Garden State Farmland Preservation Trust** program will provide the dominant share of funds for the farmland preservation program over the next ten years.

(2) Statutes

The State Agricultural Development Committee was created in 1983 with the Right to Farm Act.⁶⁵ The Agriculture Retention and Development Act⁶⁶ created County Agricultural Development Boards and the process for receiving funds for farmland preservation.

(3) Bond Acts

The **Farmland Preservation Bond Act of 1981**⁶⁷ was a \$50 million fund that has now been completely expended. This fund permanently protected 11,500 acres of farmland. \$3 million of this fund was dedicated to soil and water programs.

The **Open Space Preservation Bond Act of 1989**⁶⁸ contained a \$50 million fund, also fully expended.

Some capital funding from the **Green Acres, Clean Water, Farmland and Historic Preservation Bond Act of 1992**⁶⁹ was dedicated to farmland preservation. This Bond Act created a \$50 million fund that provided up to \$8 million for easement purchase and \$5 million for the fee simple program.

The **Green Acres, Farmland and Historic Preservation and Blue Acres Bond Act of 1995** included \$50 million for preserving farmland for agricultural use production.

On November 3, 1998 New Jersey voters approved a constitutional amendment that dedicated \$98 million annually in State sales and use tax revenue for the years 1999 to 2009 to finance open space, farmland, and historic preservation. From 2009 to 2029, this measure will provide for the payment of debt on up to \$1 billion in revenue bonds issued by the **Garden State Preservation Trust** authority by dedicating an amount sufficient to pay the debt, up to \$98 million annually. Of this amount, approximately \$60 million per year in State funds totaling \$600 million over ten years will be dedicated to leveraging local and private funds to reaching an established goal of 500,000 total acres of permanently preserved farmland by 2009. Any Garden State Preservation Trust bonds relying on the State sales and use tax revenue provided in this dedication must be issued by 2009. This constitutional amendment did not raise any existing tax or authorize a new tax but dedicated annually a portion of future revenues from an existing tax.

⁶⁵ NJSA 4:1c-1 et seq. (PL 1983 ch 31)

⁶⁶ NJSA 4:1c - 11 et seq. (PL 1983 ch 32)

⁶⁷ PL 1981 ch 276, amended in 87 PL 1987 ch 240

⁶⁸ PL 1989 ch 183

⁶⁹ PL 1992 ch 88

Table 62: Farmland Retention Capital Funding Summary

Bond Act	Authorized	Unissued	Remaining Fund Balance
Farmland Preservation Bond Act of 1981	\$50,000,000	\$0	\$163,435
Open Space Preservation Bond Act of 1989 — Farmland Preservation Portion	\$50,000,000	N/A	\$1,675,322
Green Acres , Clean Water, Farmland and Historic Preservation Bond Act of 1992 – Farmland Preservation Portion	\$13,000,000	N/A	\$4,324,210
Green Acres, Farmland and Historic Preservation and Blue Acres Bond Act of 1995 - Farmland Preservation Portion	\$50,000,000	N/A	\$25,174,389
Garden State Preservation Trust Fund of 1999	\$600,000,000	N/A	N/A
TOTAL	\$763,000,000	N/A	\$31,337,356
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available or not applicable. Source: New Jersey Department of the Treasury, Office of Management and Budget			

2. Health and Environment

- The Municipal Wastewater Assistance Program of the New Jersey Department of Environmental Protection provides priority to projects serving centers designated in the State Development and Redevelopment Plan. Over the longer term, the water quality planning process is expected to emphasize watershed-based planning in a manner consistent with that advanced by the State Development and Redevelopment Plan. Watershed plans would define the scope of magnitude of wastewater treatment projects that could be permitted within a defined watershed.
- The Water Supply Plan Action Program and the Federal/State Drinking Water State Revolving Loan Program provide revenues for improving water supply facilities to meet current and anticipated standards.
- Watershed management planning will provide the main context for stormwater management through the implementation of nonpoint source controls. Separate State programs provide resources for flood control (both structural and non-structural measures) and dam restoration efforts. Federal funds provide revenues for mitigating stormwater runoff impacts of highways and other transportation projects.
- The Realty Transfer tax provides \$45 million per year for shore protection projects. In 1995, a \$15 million *Coastal Blue Acres Fund* was established to acquire lands in the coastal area that have or are prone to damage by storms or storm related flooding for permanent open space
- The Green Acres Program has historically received large amounts of capital funding through bond acts. Public support for investment in open space and recreation led to nine Green Acres Bond issues totaling over \$1.16 billion to acquire public open space lands from 1961 through 1995. In 1999, a stable source of funding was created to set aside \$98 million of state sales tax revenues per year for ten years and to allocate up to \$1.0 billion in revenue bond proceeds (paid for by up to \$98 million a year of sales tax revenues beginning 2010 for up to 20 years) to preserve open space and historic resources through the Garden State Preservation Trust.
- The Garden State Preservation Trust is also expected to increase available funding for maintaining State and urban public recreation facilities.
- Most solid waste management funding resources remain targeted toward resource recovery and recycling, despite the invalidation of flow control requirements. Capital funding does not appear to be available for waste reduction efforts.

a. Wastewater Disposal

(1) Programs

At the Statewide level, the New Jersey Department of Environmental Protection is responsible for three major capital programs affecting wastewater: the Wastewater Treatment Financing Program, the Pinelands Infrastructure Fund and the Sewerage Infrastructure Improvement Act.

The Department's Municipal Wastewater Assistance Program⁷⁰ provides priority to projects serving centers designated in the State Development and Redevelopment Plan. Over the longer term, the Department has been conducting a pilot project and has recently proposed revisions to its water quality planning process that emphasize watershed-based planning in a manner consistent with that advanced by the State Development and Redevelopment Plan. Watershed plans would define the scope of magnitude of wastewater treatment projects that could be permitted within a defined watershed. Significantly, the proposed rules require that watershed management plans consider their relationship to the State Development and Redevelopment Plan.

(2) The Wastewater Treatment Financing Program

The Wastewater Treatment Financing program was established jointly with the Wastewater Treatment Trust and established 50/50 loan programs for wastewater treatment facilities. Sewerage improvement grants are also granted subject to the Financial Assistance Program for Wastewater Treatment Facilities. The New Jersey Department of Environmental Protection (NJDEP) approves interest free loans to municipalities and regional sewerage authorities and the remainder of the project costs are funded through loans from the Wastewater Treatment Fund. Wastewater Treatment Fund loans are market based loans, so a municipality or regional sewerage authority may save fifty percent of the interest by funding with an NJDEP loan and a Wastewater Treatment Fund loan. The Wastewater Treatment Trust provides separate loans for wastewater improvements. The funding source for the Wastewater Treatment Trust is revenue bonds. Each year revenue bonds are sold for specific projects.

The sources of funding for the NJDEP portion of the Wastewater Treatment Financing Program are the 1985 Wastewater Treatment Fund Bond Act, which authorized \$190 million, and federal State Revolving Fund (SRF) capitalization grant money. Of the \$190 million authorized, \$150 million went to the Department of Environmental Protection to be issued as loans and \$40 million went to the Wastewater Trust as security for revenue bonds. About \$13 million per year in loan repayments are received.

The 1992 Clean Waters Bond Act was part of the 1992 Green Acres fund. The clean waters portion was \$50 million. \$45 million of these funds went to the Department's Wastewater Treatment Financing Program and \$5 million went to the Wastewater Trust.

(3) Pinelands Infrastructure Fund

The Pinelands Infrastructure Trust Fund Bond Act of 1985⁷¹ was originally a \$30 million fund for wastewater treatment facilities needed to accommodate existing and future needs in the 23 designated Pinelands Regional Growth Areas. Funding is available for the construction of new collection systems, interceptors and the expansion and/or upgrading of wastewater treatment facilities. Eligibility to receive funding is determined according to the ranking criteria presented in the Pinelands Infrastructure Master Plan. Municipalities and regional sewerage authorities located in the New Jersey Pinelands eligible for zero to low interest loans and grants from this fund. The original fund was fully appropriated and loan repayments may be reappropriated.

⁷⁰ Information on this program is available on the World Wide Web at <http://www.state.nj.us/dep/dwq/mface.htm>

⁷¹ P.L. 1985, c. 302.

Projects certified generally receive a grant for 40% of the allowable project cost and a loan of 20% of the allowable project cost in accordance with project cost estimates contained in the Pinelands Infrastructure Master Plan. Planning and design costs are also eligible for funding under this program. Through this program, projects may also typically receive a 20 percent loan resulting in a local cash share of 40%. For the local share portion of the project cost, the sponsor could raise funds on its own or borrow from the Wastewater Treatment Trust.

(4) Sewerage Infrastructure Improvement Act

The Sewerage Infrastructure Improvement Act addresses point and nonpoint sources of pollution discharged from stormwater sewer systems and combined stormwater and sanitary sewer overflows.⁷²

(a) Combined Sewer Overflow Planning and Design Grants

Planning and design grants are available to eliminate dry weather overflows and to reduce solids and floatables in wastewater are available to provide appropriate abatement measures at any combined sewer overflow (CSO) point. Grants are funded through the Stormwater Management and Combined Sewer Overflow Abatement Bond Act of 1989. Low-interest loans for construction activities are available through the New Jersey Wastewater Treatment Financing Program. Any local government unit which operates or controls a combined sewer may submit an application to the DEP for up to 90% of the allowable planning or design costs to be incurred.

These funds are especially useful to New Jersey's cities and other older communities which sometimes had a combined sanitary and stormwater sewer system. This fund was initially given a state appropriation of \$19 million, which was later repealed. The 1989 Combined Sewer Overflow Abatement Bond Act provided a \$50 million fund for this purpose.

(b) Interconnection/Cross-Connection (I/C) Abatement Planning & Design Grants

I/C planning and design grants assist municipalities with addressing improper connections of sanitary and stormwater systems. Eligibility for this program, funded by the Stormwater Management and Combined Sewer Overflow Abatement Bond Act of 1989, is limited to municipalities in Atlantic, Cape May, Monmouth and Ocean counties that discharge to salt waters. Initial planning grants are limited to \$15,000, \$30,000 or \$50,000, based on the number of stormwater outfalls. Second round awards for up to 90% of eligible costs are based on the project's priority ranking based on its impact on beach and shellfishing areas. Highest priority is given to ocean, then back bay, stormwater discharges in municipalities where beach closures have occurred.

(5) Statutes

The statutes that relate to the New Jersey Municipal Wastewater Assistance Program (7:22A) are NJSA 58:25-23 et seq., 40:55D-93 et seq., 58:10A-1 et seq., 58:11A-1 et seq., 13:1D et seq., PL 1989, c.181 and PL 1990, c.28. Two major regulations relate to capital funding of wastewater facilities, the Financial Assistance Program for Wastewater Treatment Facilities and the New Jersey Municipal Wastewater Assistance Program.

(6) Bond Acts

Bond Acts relating to wastewater treatment include:

- ***Wastewater Treatment Bond Act of 1985*** (PL 1985, c. 329);
- ***The Stormwater Management and Combined Sewer Overflow Abatement Bond Act of 1989***, N.J.S.A. 58:25-23 et seq. (PL 1989, c. 181);

⁷² Further information on these programs is available on the World Wide Web at <http://www.state.nj.us/dep/dwq/mface.htm>

- *Pinelands Infrastructure Trust Bond Act of 1985* (PL 1985, c. 302);
- The *Green Acres, Clean Water, Farmland, and Historic Preservation Bond Act of 1992* (PL 1992, c. 88);
- The *Sewage Infrastructure Improvement Act* established a \$33.5 million fund and is subject to 1988 7-22A (After some appropriations, these funds were taken back to balance the State budget).

Table 63: Wastewater Treatment Capital Funds Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Wastewater Treatment Fund Bond Act of 1985	\$190,000,000	\$0	\$640,946,457
The Stormwater Management and Combined Sewer Overflow Abatement Bond Act of 1989	\$50,000,000	\$27,000,000	\$15,099,760
Pinelands Infrastructure Trust Fund Bond Act of 1985	\$30,000,000	\$8,000,000	\$9,344,280
The Green Acres, Clean Water, Farmland, and Historic Preservation Bond Act of 1992 — 1992 Wastewater Treatment Fund	\$50,000,000	N/A	\$8,719,244
The Sewage Infrastructure Improvement Act Grant	\$33,500,000	N/A	\$0
TOTAL	\$6,146,500,000	\$35,000,000	\$70,000,000
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

b. Water Supply

(1) Programs

(a) Water Supply Plan

The Water Supply Management Act and the Water Supply Bond Act require that any appropriations of bond funds must be for purposes listed in the Action Program that is adopted as part of the Statewide Water Supply Plan of the New Jersey Department of Environmental Protection. Originally, the 1992 Water Supply Plan included major recommendations to improve surface water supply capacity, ensure proper maintenance of aging water supply infrastructure, investigate the status of major aquifers and plan for future water supply needs. Over time, issues regarding the allocation and protection of water supplies to protect other uses and user of water resources, including aquatic and water related ecosystems, have been added to the 1996 Water Supply Plan (see **Table 64**).

Table 64: NJ Water Supply Plan Action Program, 1995

Programs	1982-1993 Water Supply Bond Allocations	New Water Supply Bond Allocations	Total Water Supply Bond Allocations	Appro- priated Water Supply Bond Funds	Unappro- priated Water Supply Bond Fund Allocations	Previous Commit- ments from Other Funding Sources	Anticipated Commit- ments from Other Funding Sources
Major Capital Construction Projects	145,050	0	145,050	134,550	10,500	642,000	0
Water Resources Evaluations	48,650	2,760	51,410	37,181	14,229	4,320	2,360
Watershed and Aquifer Protection	16,950	23,585	40,535	8,425	32,110	0	1,150
Purveyor Infrastructure Loan Programs	160,000	40,300	200,300	141,759	58,541	0	0
Totals	370,650	66,745	437,395	321,915	115,480	646,320	3,610
Note: All values in thousands of 1995 dollars. Source: New Jersey Department of Environmental Protection, September 1995							

(b) Drinking Water State Revolving Fund Program

Drinking Water State Revolving Loan Funds (SRF) are made available from the Federal government. These funds enable NJDEP to provide zero or low interest 20-year loans for up to 50% of allowable costs to assist publicly or privately owned community water systems and nonprofit noncommunity water systems in complying with provisions of the Safe Drinking Water Act. In addition to allowances for planning and design, eligible construction projects may include water treatment facilities, to address the correction of a system's non-compliance with surface water treatment requirements; to address acute violations, maximum contaminant levels, lead and copper rule exceedances or secondary drinking water regulation exceedances; for consolidation of water systems to comply with the SDWA; for rehabilitation of existing water treatment facilities, water mains, pump stations or water storage facilities, or for new water storage facilities to maintain compliance with the SDWA and sealing of wells. This financing source may be used in combination with the New Jersey Environmental Infrastructure Trust, which offers loans at about market rate for the remaining allowable project costs, also for a 20-year term.

(c) Water Supply Replacement Trust Fund

The *Water Supply Replacement Trust Fund* was established as a non-lapsing, revolving fund (capitalized by transfers from other bond funds) to provide low interest loans (2% for up to 20 years) to municipalities or municipally owned public water systems for the purpose of providing a permanent alternate water supply to persons whose principal source of potable water is contaminated or is threatened with contamination by hazardous substances.

(2) **Statutes**

- The Water Supply Management Act of 1981 (N.J.S.A. 58:1A-1 et seq.) defined the planning framework that established the State Water Supply Plan as a policy and strategy document for water supply investments.
- Water Supply Replacement Trust Fund, N.J.S.A. 58:12A-22 et seq. (P.L. 1988, c. 106)

(3) Bond Acts

The *Water Supply Bond Act of 1981* established a \$350 million Water Supply Bond Fund to provide grants and loans for projects identified in the Action Program that is made part of the Statewide Water Supply Plan. The most current Action Program was adopted in 1995.

Table 65: Water Supply Capital Funds Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Water Supply Fund (Water Supply Bond Act of 1981)	\$350,000,000	\$93,400,000	\$202,177,951
Water Supply Replacement Trust Fund of 1988	N/A	N/A	\$5,279,835
Drinking Water State Revolving Fund	N/A	N/A	\$1,630,923
TOTAL	\$350,000,000	\$93,400,000	\$209,088,709
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available or not applicable. Source: New Jersey Department of the Treasury, Office of Management and Budget			

c. Storm Water Management

(1) Programs

(a) Watershed Management

The New Jersey Department of Environmental Protection has been receiving \$5 million each fiscal year from State Corporate Business Tax receipts to implement watershed management. In FY'99, almost \$2.5 million was allocated to contracts for grants to organizations to conduct watershed planning, monitoring and implementation (non-point source controls) activities. In FY'00 this allocation will be reduced to \$1.2 million due to expansion to the Department's watershed program and an accounting change that will free up almost \$400,000 for non-point source projects.

(b) Environmental Infrastructure Financing Program

Since 1997, the Environmental Infrastructure Financing Program (EIFP) has provided zero interest loans to communities for stormwater management and nonpoint source pollution management. Funds are obtained from federal capitalization grants, state bonds and bonds sold by the Environmental Infrastructure Trust. The Financing Program allocates a minimum of \$10 million dollars annually to finance stormwater and non-point source projects sponsored by local government units.

Because of its financing structure, the Trust has commanded better rates than are available to individual project sponsors, and using the EIFP has provided cost savings of approximately 23% compared to independent financing. The EIFP can also structure loans to allow two or more local government units to share the cost of a stormwater/nonpoint source management project. The loans are for the total eligible project costs and can extend for the useful life of the project, not to exceed 20 years. To be eligible for financing, projects must appear on the program's Project Priority List, which is updated each year.⁷³

Eligible projects might include installation of new or retrofit water quality control measures for stormwater management, implementation of other structural best management practices, riparian

⁷³ Further information is available on the World Wide Web at <http://www.state.nj.us/dep/dwq/mface.htm>

restoration, and others that would have a water quality benefit. Examples of projects already funded include:

- Separation of combined sewers in New Brunswick,
- A new stormwater retention basin in Pine Hill,
- Rehabilitation of existing storm sewers in Kearny,
- Restoration of Colonial Lake in Lawrence by removal of nutrient-laden sediment,
- Vegetative stabilization of eroding lake banks in Mercer County, and
- Purchase of street sweepers and storm sewer cleaning equipment to be used as part of an overall storm sewer maintenance plan in Woodbridge.

(c) Combined Sewer Overflows

The New Jersey Department of Environmental Protection provides grants and loans for stormwater management projects pursuant to the Stormwater and Combined Sewer Overflow Bond Act of 1989. These funds are especially helpful to urban communities which still have common sewer and stormwater systems. Cities can borrow funds to separate the two systems. Further information regarding this program is found in the revenue analysis for wastewater treatment.

(d) Nonpoint Source Control Grants

Nonpoint Source Pollution Control and Management Implementation Grants are available from the New Jersey Department of Environmental Protection to implement nonpoint source controls, primarily at the local level in the 20 watershed management areas in New Jersey. Half of the funds will be allocated to priority watershed identified in the New Jersey Unified Watershed Assessment. Funds are provided through Section 319 (h) of the Federal Clean Water Act. Available federal funds in fiscal year 2000 are approximately \$3.3 million, double what has been received in the past, and are dependent upon the annual federal budget.

These grants are available to regional comprehensive planning or health organizations and coalitions (formal or informal) of municipal and county governments and/or local and county environmental commissions, watershed and water resource associations and nonprofit organizations 501 C (3), including, but not limited to, the following: municipal planning departments or boards, health departments or boards; county planning departments, designated water quality management planning agencies; state and regional entities entirely within New Jersey; state government agencies; universities and colleges; federal government; interstate agencies of which New Jersey is a member; and intrastate regional entities. Applicants must submit a project which meets the objectives and project criteria as outlined in an annual Request for Proposals. Applicants must provide matching funds in an amount equivalent to at least 20% of the total project amount requested. Matching funds may be cash or in-kind services. A 25% cash match is required for projects on private lands.

(e) TEA-21 Water Quality Improvement Projects

The New Jersey Department of Transportation administers the Surface Transportation Program under the Transportation Equity Act for the 21st Century (TEA-21) in which up to 20% of the cost of a reconstruction, rehabilitation, resurfacing or restoration project under this program may be used for environmental mitigation, pollution abatement or construction of stormwater treatment systems.

(f) Agriculture Nonpoint Source Grants

The New Jersey Department of Agriculture provides grants to farmers to address non-point sources of pollution associated with farming practices. Funding comes from State sources as well as the Federal Environmental Quality Incentives Program (EQIP) program. The Department of Agriculture made \$5.3 million available for non-point source activities in fiscal year 1999 and fiscal year 2000. Most of this money is available statewide. The EQIP program provides about \$800,000 annually for pass-through grants to farmers implementing non-point source controls.

(g) Dam Restoration and Inland Waters Projects Loan Program

The *Natural Resources Bond Act of 1981* provided \$15 million in grants that funded the rehabilitation of 23 high hazard dams. In 1992, a legislative act allocated an additional \$1.7 million that funded engineering studies and designs for 30 high hazard, publicly owned dams.

The *Green Acres, Clean Water, Farmland and Historic Preservation Bond Act of 1992*⁷⁴ authorized the issuance of New Jersey State bonds to finance a renewable \$15 million State loan program for dam restoration. These loans assist local government units, private lake associations and private dam owners in meeting the costs of dam restoration or inland water projects. Private owners must have a local government unit as a co-applicant. The loans are low interest, currently 2%, with a maturity period of 20 years. The money from the sale of the bonds and loan repayments is deposited into a revolving, non-lapsing fund, the *1992 Dam Restoration and Clean Water Trust Fund*, which provides a limited but stable funding source for dam restoration projects.⁷⁵

At present, all funds from the Dam Restoration and Clean Water Trust Fund have been allocated. As loans are repaid and when sufficient funds exist in the Trust Fund, the Department will offer additional application periods in which to distribute the funds.

(h) Emergency Flood Control Grants

The *Emergency Flood Control Fund* provides 50% matching grants to counties and municipalities of up to \$1 million per project for the acquisition, development, construction and maintenance of structural flood control facilities. No funds have been appropriated from this source since 1978, and no funds are currently available. However, the program remains viable pending future appropriations.⁷⁶

(i) Inland Blue Acres Program

The 1995 *Green Acres, Farmland and Historic Preservation, and Blue Acres Bond Act* established a \$15 million *Blue Acres Fund* in the New Jersey Department of Environmental Protection for acquiring lands in the floodway of the Passaic River.

(2) **Statutes**

- Dam Safety Program, N.J.S.A. 58:4-1 et seq., N.J.S.A. 13:1D-9

(3) **Bond Acts**

- Emergency Flood Control Bond Act (P.L. 1978, c.78)
- Natural Resources Bond Act of 1981
- Green Acres, Clean Water, Farmland and Historic Preservation Bond Act of 1992, P.L. 1992 c.88
- Green Acres, Farmland and Historic Preservation, and Blue Acres Bond Act of 1995.

⁷⁴ P.L. 1992 c. 88

⁷⁵ Further information is available from the Program Rules, N.J.A.C. 7:24A-1.1 et seq. and from the World Wide Web at <http://www.state.nj.us/dep/nhr/engineering/damsafety/engineer.htm>

⁷⁶ Program rules are established in N.J.A.C. 7:23-1.1 et seq

Table 66: Stormwater Management Capital Funds Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Emergency Flood Control Bond Act of 1978	\$25,000,000	\$0	\$214,673
Natural Resources Bond Act of 1981 — Dam Rehabilitation	\$15,000,000	N/A	\$5,434,221
Green Acres, Clean Water, Farmland and Historic Preservation Bond Act of 1992 — Dam Restoration and Clean Water Trust Fund	\$15,000,000	N/A	\$10,309,277
Green Acres, Farmland and Historic Preservation, and Blue Acres Bond Act of 1995 — Inland Blue Acres Fund	\$15,000,000	N/A	\$2,689,385
TOTAL	\$70,000,000	N/A	\$18,647,556
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

d. Shore Protection**(1) Programs****(a) Shore Protection Fund**

The **Shore Protection Fund** is intended to support projects to protect existing development from sea-level rise and shoreline migration through dune creation and maintenance, beach fill projects and repair of existing shore protection structures. The New Jersey Department of Environmental Protection works with municipalities and the Army Corps of Engineers on projects such as putting sand on New Jersey's beaches, rebuilding jetties, rebuilding bulkheads, rebuilding sea walls, and repairing dunes. Municipalities and counties are eligible for matching grants with a 25% local cost share. Loans are available for the 25% local share. The fund provides at least \$25 million per year of revenues dedicated from the Realty Transfer tax. These funds are usually leveraged with Federal HR-6 Flood Control funds, Federal Shore Protection program funds and local matching grants to provide approximately \$45 million per year for shore protection projects.

A ranking list is maintained based on need, the 1981 New Jersey Shore Protection Master Plan, damage assessments from the December 10, 1992 storm, and U.S. Army Corps of Engineer studies and projects.

(b) Coastal Blue Acres Program

A \$15 million **Coastal Blue Acres Fund** provides 50% grant/ 50% loan funding for municipalities and counties located in the State's coastal (CAFRA) area as defined and delineated in P.L. 1973, C.185 (C.12:19-4) to acquire as permanent open space coastal lands that have or are prone to damage by storms or storm related flooding. Applications are evaluated based on ranking criteria established by the bond act.⁷⁷

(2) Statutes

Recent legislative action dedicated funds from the Realty Transfer Tax to shore protection programs. Prior to 1993 funds from the Realty Transfer Tax were put into the State general fund for legislative

⁷⁷ Further information is available on the World Wide Web at <http://www.state.nj.us/dep/greenacres/index.html>

appropriation within the State budget. In 1993, the Stable Funding Bill dedicated \$15 million per year from the Realty Transfer Tax to the shore protection program.

- N.J.S.A. 13:1D-1 et seq. Shore Protection Bond Act. Appropriations under specific chapters 356, P.L. 1983; c. 103, P.L. 1984; c. 103, P.L. 1985; and c. 94 P.L. 1986; N.J.S.A. 13:19-16.1 Shore Protection Fund.
- Coastal Blue Acres Fund, 1995 Green Acres Bond Act (P.L. 1995, C. 204)

(3) Bond Acts

- The *Beaches and Harbor Fund of 1977* (P.L. 1977, c. 208) established a \$30 million fund to research, plan, acquire, develop, construct and maintain beaches and harbors.
- The *Shore Protection Fund* (P.L. 1983, c. 356) established a \$50 million fund for researching, planning, acquiring, developing, constructing, and maintaining shore protection projects. Of the total available, \$40 million was allocated for State shore protection projects and for State grants to counties and municipalities. The remaining \$10 million was allocated for State loans to counties and municipalities.
- The 1995 *Green Acres, Farmland and Historic Preservation, and Blue Acres Bond Act* established a \$15 million *Coastal Blue Acres Fund* in the New Jersey Department of Environmental Protection for acquiring lands in the coastal area that have or are prone to damage by storms or storm related flooding for permanent open space.

Table 67: Shore Protection Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Beaches and Harbor Fund of 1977	\$30,000,000	\$0	\$1,352,821
Shore Protection Bond Act of 1983	\$50,000,000	\$0	\$11,805,343
Realty Transfer Tax (per year)	\$15,000,000 (per year)	N/A	\$12,520,413
Green Acres, Farmland and Historic Preservation and Blue Acres Bond Act of 1995 - Coastal Blue Acres	\$15,000,000	N/A	\$3,302,998
TOTAL	\$15,000,000 per year + \$95,000,000	N/A	\$15,000,000 per year + \$27,628,754
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

e. Public Recreation Open Space

(1) Programs

(a) Green Acres Program

Capital investment in public open space and recreation land has been provided largely from Green Acres bond programs and federal grant funds. Public support for investment in open space and recreation led to nine Green Acres Bonds totaling \$1.48 billion (including farmland preservation funds) from 1961 through 1995.

In addition to Green Acres Bond funds, some capital funding stems from other sources. In 1993 federal funds from the National Recreational Trails Fund Act funded twenty trails projects within New Jersey. These projects included State and county trails as well as projects with the National Park Service.

Green Acres acts as the purchasing agent for many open space and recreational projects. Administration of the open space and recreational properties is conducted by other agencies, primarily by the Division of Parks and Forestry and the Division of Fish and Game in the New Jersey Department of Environmental Protection. Development funds within bond acts serve as the funding sources for these agencies. The Division of Parks and Forestry, for example, utilizes development funds from both Green Acres and the Historic Trust.⁷⁸

Green Acres Program funds are typically allocated as follows:

- 50% for State acquisition and development projects,
- 40% for local acquisition and development projects, and
- 10% for acquisition by non-profit (“charitable conservancy”) organizations.

20% of funding used for state acquisition and development projects is designated for highly populated counties qualifying under the 1995 Green Acres Bond Act, based on a 1,000 person per square mile residential density standard. Currently, these counties include Bergen, Hudson, Essex, Passaic, Union, Middlesex, Monmouth, Mercer and Camden.

In addition, funds will be set aside for local urban acquisition and development based on a percentage that will be equal to the total allocated for urban aid municipalities over the last five Green Acres Bond Acts since 1983 divided by the total allocated to all local government units in those bond acts. In its Final Report, dated February 1998, the Governor’s Council on New Jersey Outdoors recommended that the State spend \$8 million annually on maintenance matching grants to supplement acquisition and development funding to urban aid communities. Non-profit organizations may receive 50% matching grants to a maximum of \$500,000 unless the project has exceptional resource value. Local governments and qualifying nonprofit organizations⁷⁹ cannot use Green Acres funds for lands that are already permanently preserved for recreation or conservation purposes.

The Green Acres Program also establishes a process to determine the value of a Pinelands Development Credit for the purposes of preserving open space and farmland in the Pinelands.

The NJ Historic Preservation Office must be notified of any potentially historic buildings or structures which exist on property purchased under the Green Acres Program.

(b) Garden State Preservation Trust

On November 3, 1998, New Jersey voters approved a referendum by a 2-1 margin to amend the State Constitution to create a stable source of funding for open space, farmland, and historic preservation and recreation development and to use these funds to preserve 1 million acres of open space and farmland over the next ten years. The constitutional amendment allows New Jersey to set aside \$98 million of state sales tax revenues per year for ten years and to allocate up to \$1.0 billion in revenue bond proceeds (paid for by up to \$98 million a year of sales tax revenues beginning 2010 for up to 20 years) to preserve open space and historic resources. On June 30, 1999, the Garden State Preservation Trust Act implementing this funding source was signed into law.

⁷⁸ Further information is available on the World Wide Web at <http://www.state.nj.us/dep/greenacres/index.html>

⁷⁹ As defined in N.J.S.A. 13:8B-1 et seq.

These State funds are expected to be leveraged by nearly \$100 million each year in funds spent by local governments for similar preservation activities. As of December 1999, 16 counties and 92 municipalities in New Jersey were authorized to dedicate a portion of their property taxes or to sell bonds to fund open space and farmland preservation and/or park development and maintenance. Other towns and counties also spend considerable tax dollars for similar purposes without established formal mechanisms to dedicate revenues. As a result of the combination of local and state dedicated revenues, the New Jersey Department of Environmental Protection estimates that over the next ten years more than \$200 million per year will be allocated to the preservation of farmland, open space, and historic resources and to the development and maintenance of outdoor recreation facilities.

The legislation signed by the Governor establishes the Garden State Preservation Trust (GSPT), a nine member board that will receive and approve projects submitted by the Department of Environmental Protection (DEP) and the State Agriculture Development Committee (SADC), at least twice a year. The GSPT will submit at least two appropriation bills each year to fund projects.

The Act also establishes the Garden State Preservation Trust Fund Account (Trust Fund) which will receive \$98 million annually for ten years. From FY 2010 through and including FY 2029, debt service on the bonds shall be satisfied by funds deposited into the trust fund from the general fund. These funds will not exceed \$98 million during a Fiscal Year.

On November 16, 1999, the Garden State Preservation Trust (GSPT), the nine member board created by the passage of the Garden State Preservation Trust Act, voted to approve its first funding package, consisting of over \$82 million for Green Acres open space and recreation development projects. Projects recommended by the GSPT are subsequently subject to approval by the State Legislature and the Governor. This first round of funding approvals included:

- over \$16 million to be spent on municipal and county government land acquisition,
- over \$24 million on recreational development, including over \$10 million earmarked for urban areas,
- \$12 million in Green Acres funding was approved for non-profit land preservation projects,
- \$30 million in State acquisitions by Green Acres to acquire lands necessary to protect key water supplies, wildlife habitat, and recreational opportunities, all linked by trails and greenway corridors throughout the state.

(c) Payment in Lieu of Taxes (PILOT)

In its Final Report, dated February 1998, the Governor's Council on New Jersey Outdoors recommended that the State restructure the formula for in-lieu taxes, and provide \$8 million to achieve this goal.

Payment in lieu of taxes is extended to municipalities in which lands are purchased by the DEP for recreational or conservation purposes by this constitutionally-dedicated money, so that municipalities do not suffer a loss of taxes due to state acquisition of lands. This does not include farmland preservation lands. Payments are made from the general fund. The program includes a 13-year declining percentage schedule and thereafter includes a \$2, \$5, \$10, or \$20 per acre payment depending on the acreage of land in the municipality owned in fee simple for recreational and conservation purposes by the State or qualified nonprofit organizations.

Table 68: Green Acres Bond Acts

Year	Amount	Provisions
1961	\$60 million	(50/50 matching grants to municipal and county government) <ul style="list-style-type: none"> • \$40 million for State acquisitions • \$20 million for Local acquisitions
1971	\$80 million	<ul style="list-style-type: none"> • \$40 million for State acquisitions • \$40 million for Local acquisitions
1974	\$200 million	(Funding for outdoor recreational development added) <ul style="list-style-type: none"> • \$100 million for State acquisitions • \$100 million for Local acquisitions
1978	\$200 million	(Half of the funding was to be spent in urban areas) <ul style="list-style-type: none"> • \$100 million for State acquisitions • \$100 million for Local acquisitions
1983	\$135 million	(Beginning of the Green Trust revolving loan program. Loans made at 2% interest repayable over 20 years. Partial grants available.) <ul style="list-style-type: none"> • \$52 million for State acquisitions \$83 million for Local acquisitions
1987	\$35 million	(New Jersey Green Acres Cultural Centers and Historic Preservation Bond Act of 1987 PL 1987 ch 265) <ul style="list-style-type: none"> • \$35 million for Green Trust only
1989	\$230 million	<ul style="list-style-type: none"> • \$80 million for State acquisition and development • \$120 million for Green Trust acquisition and development (loans and grants) • \$20 million to be set aside for grants of up to 50% for eligible urban area acquisitions & development projects • \$10 million for matching grants to qualifying tax exempt nonprofit organizations for acquisitions only
1992	\$200 million (Green Acres portion)	<ul style="list-style-type: none"> • \$80 million for State acquisition and development • \$100 million for Green Trust acquisition and development (loans and grants) (a minimum of \$15 million must be set aside for grants up to 50% for eligible urban area acquisitions & development projects) • \$20 million for matching grants to qualifying tax exempt nonprofit organizations for acquisitions only
1995	\$250 million (Green Acres portion)	The Green Acres, Farmland and Historic Preservation and Blue Acres Bond Act of 1995. <ul style="list-style-type: none"> • <u>\$105,000,000 for State acquisition and development</u> <ul style="list-style-type: none"> • \$65 million for State acquisition <ul style="list-style-type: none"> • <i>\$40 million maximum for State facilities development</i> • \$40 million general acquisition <ul style="list-style-type: none"> • <i>\$20 million to be spent in counties with population density of at least 1,000/sq. mile</i> • <i>\$5 million for Limited Practical Use/Pinelands acquisition</i> • <u>\$10 million for recreational development at Liberty State Park</u> • <u>\$120 million for Green Trust loans and grants (acquisition and recreational development)</u> <ul style="list-style-type: none"> • \$18 million set aside for grants up to 50% for eligible urban aid acquisition and development projects • \$2 million set aside for recreational development which is in compliance with the Americans with Disabilities Act • <u>\$15 million in Nonprofit matching grants for land acquisition</u>

Statutes

- N.J.S.A. 13:8A-1 et seq.
- P.L. 1983 ch 354
- P.L. 1989 ch 183
- P.L. 1992 ch 88
- Garden State Preservation Trust Act, N.J.S.A. 13:8C-1 et seq. (P.L. 1999, c. 152)
- N.J.A.C. 7:36-1

(2) **Bond Acts**

The Green Acres Program has historically received large amounts of capital funding through bond acts. Public support for investment in open space and recreation led to nine Green Acres Bond issues totaling over \$1.1 billion for acquiring public open space, not including farmland preservation (see **Table 68**).

Table 69: Public Open Space Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Green Acres 1961	\$60,000,000	\$0	\$0
Green Acres 1971	\$80,000,000	\$0	\$0
Green Acres 1974	\$200,000,000	\$0	\$0
Green Acres 1978 (State Land Acquisition and Development Fund of 1978)	\$200,000,000	\$5,500,000	\$1,113,052
Green Acres 1983	\$135,000,000	\$14,500,000	\$20,538,689
Green Acres, Cultural Centers and Historic Preservation Fund of 1987 (Green Acres Portion)	\$35,000,000	N/A	\$0
Green Acres 1989	\$230,000,000	N/A	\$1,477,869
Green Trust Fund 1989	N/A	N/A	\$101,058,629
Green Acres, Clean Water, Farmland and Historic Preservation Bond Act of 1992 (Green Acres Portion Only)	\$200,000,000	N/A	\$6,517,446
Green Trust Fund 1992	N/A	N/A	\$55,225,907
Green Acres, Farmland and Historic Preservation and Blue Acres Bond Act of 1995 (Green Acres Portion Only)	\$250,000,000	N/A	\$1,043,072
Green Trust Fund 1995	N/A	N/A	\$38,882,600
Garden State Preservation Trust of 1999	\$98 million per year + \$1 billion in revenue bonds	N/A	\$86,454,100
TOTAL	\$1,390,000,000	N/A	\$312,311,364
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

f. Public Recreation Facilities

(1) Programs

The 1995 *Green Acres, Farmland and Historic Preservation, and Blue Acres Bond Act* provided, as part of a \$250 million fund for the Green Acres Program, \$40 million for upgrading State park facilities and recreational areas and \$10 million for recreational development at Liberty State Park.

In its Final Report, dated February 1998, the Governor’s Council on New Jersey Outdoors proposed the following recommendations regarding public recreation facilities:

- Spend \$15 million per year for supplements to state appropriations for capital improvements and repairs for state lands and facilities.
- Provide \$14 million in annual funds to enhance the care of State-owned natural and historic resources and the care of newly acquired open space.
- Spend \$8 million annually on maintenance matching grants to supplement acquisition and development funding to urban aid communities.

(2) Statutes

None applicable.

(3) Bond Acts

- Green Acres, Farmland and Historic Preservation, and Blue Acres Bond Act of 1995.
- Garden State Preservation Trust Act, N.J.S.A. 13:8C-1 et seq. (P.L. 1999, c. 152)

Table 70: Public Recreation Facilities Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Green Acres, Farmland and Historic Preservation, and Blue Acres Bond Act of 1995	\$50,000,000	N/A	N/A
Garden State Preservation Trust of 1999 (Public Recreation Facilities Portion)	N/A	N/A	N/A
TOTAL	\$50,000,000	N/A	N/A
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

g. Solid Waste Management

(1) Programs

The New Jersey Department of Environmental Protection administers several capital programs which relate to solid waste management. One of the largest programs, under the Resource Recovery Solid Waste Disposal Facility Bond Act, was started in the 1980s.

(a) Resource Recovery Solid Waste Disposal Facility Bond Act of 1985

The Resource Recovery Solid Waste Disposal Facility Bond Act of 1985 established a \$150 million loan fund, which included funds from the 1980 Natural Resources Bond Act, for high tech incinerators and ash landfills. Through funding from the State general fund, this amount was increased by \$33 million to create a revolving fund totaling \$183 million.

(b) Solid Waste Services Tax Program

The Solid Waste Services Tax Program generates funds from taxes collected at landfills. These funds are collected by the New Jersey Department of Environmental Protection and distributed to counties according to each county's solid waste management plan. Counties may use these funds for any capital projects listed in their solid waste management plan.

(c) Recycling Fund

The Recycling Fund is funded through the recycling tax, which is scheduled to expire in the near future. The Recycling Fund supports several programs:

- The **tonnage** component of the Recycling Fund awards grants to municipalities which provide their own recycling programs. Funds are based on documented allowed materials reported as recyclable from residential, commercial, and institutional establishments. Sources include post consumer products such as: glass, metal, aluminum, paper, paper board, yard, and food waste.
- Some capital investment funds for equipment purchases are distributed through the **county** component. The primary purpose of the county component is public recycling education and recycling program planning grants. Every two years, county recycling activities may be funded through this component.
- The **college** component of the Recycling tax provides recycling research grants to colleges and universities.
- A **revolving fund** provides low interest loans to consultants or private firms for projects related to recycling.

(d) Sanitary Landfill Facility Contingency Fund

Receipts from taxes and penalties levied upon each owner or operator of every sanitary landfill facility are deposited in this Fund. The tax is levied per cubic yard of solids and per gallon of liquids. The Fund is liable for all direct and indirect damages resulting from the operations or closure of any sanitary landfill.

(2) Statutes

- Resource Recovery Investment Tax, N.J.S.A. 13:1E-138 et seq. (P.L. 1985, c. 38)
- Solid Waste Services Tax Program, N.J.S.A. 13:1E-147 et seq. (P.L. 1985, c. 38)
- State Recycling Fund, N.J.S.A. 13:1E-96
- Sanitary Landfill Facility Contingency Fund (N.J.S.A. 13:1E-100)

(3) Bond Acts

- 1980 Natural Resources Bond Act

- Resource Recovery Solid Waste Disposal Facility Bond Act of 1985

Table 71: Solid Waste Management Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Solid Waste Services Tax Program	\$2.5 to \$3.5 million/year	N/A	\$2.5 to \$3.5 million/year
Recycling Tax (State Recycling Fund)	\$1.5 to \$2.5 million/year	N/A	\$13,652,854
Resource Recovery Solid Waste Disposal Facility Bond Act of 1985	\$183,000,000	\$0	\$135,835,228
Sanitary Landfill Facility Contingency Fund	N/A	N/A	\$29,833,926
TOTAL	\$4 to 6 million/year + \$183,000,000	N/A	\$2.5 to \$3.5 million/year + \$179,322,008
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

3. Public Safety and Welfare

- The New Jersey Economic Development Authority offers school districts loans to pay for infrastructure at significant cost savings. A substantial school facilities financing initiative is currently being address by the State Legislature.
- Since 1992, a \$220 million trust fund and a \$550 million capital improvement fund have been established for higher education capital construction. In addition, Chapter 12 funding provides resources for county college infrastructure construction.
- A new \$45 million fund to finance public library construction was established in 1999.
- A small portion of funds for capital projects related to the arts remains available under a 1987 bond act. A \$100 million “New Jersey Cultural Trust” has been proposed to appropriate \$10 million per year for ten years to create a permanent, interest generating fund for future arts grants.
- Two major State bond funds contributed to the construction and renovation of corrections facilities in the 1980s. Since then, corrections facilities in New Jersey have been primarily funded by Federal grants and State pay-as-you-go capital outlays from the General Fund. In 1999, \$20.9 million in Federal funds were awarded to New Jersey to fund expansion of three major minimum-security facilities.
- The Garden State Historic Trust is scheduled to receive \$6 million annually for the next ten years to fund historic preservation projects, including matching grant awards.
- Several programs within which the New Jersey Home Mortgage Finance Agency (HMFA) and the New Jersey Department of Community Affairs which provide funding assistance to local governments, nonprofit organizations and developers to construct and rehabilitate housing for low and moderate income households and special needs populations. NJHMFA has programs to develop affordable single family and multifamily housing. The Balanced Housing program of the New Jersey Department of Community Affairs assists municipalities in providing low and moderate income housing in accordance with their Mt. Laurel housing obligations. The Neighborhood Preservation Program in the New Jersey Department of Community Affairs provides funding to municipalities to restore housing in threatened, but still viable, neighborhoods.

a. Public Education

(1) Programs

Under the Educational Facilities Construction and Financing Act, the New Jersey Department of Education approves new school building construction before a municipality may put forth a bond for construction. After a school district has a bond for construction, it may be eligible for school board debt reimbursement. School districts may also be eligible for loans from the New Jersey Economic Development Authority.

(a) School Debt

The New Jersey Department of Education distributes funds for school board debt service. Each school district receives a “State Share Percentage” which is applied against the school district’s yearly obligation. The resulting amount is then prorated according to availability of funds. The “State Share” percentage varies from district to district based on pupil counts, district income, equalized valuation and other factors determined by legislation.

(b) EDA Loan Programs

The New Jersey Economic Development Authority makes capital from the General Fund and from the Economic Recovery Fund available for school construction in the form of low interest revolving fund loans.

- The **Safe Schools Loan Fund** provides loans for school capital projects necessary to meet health and safety code requirements, and include replacement of windows and roofing. The amount of these loans could represent up to 25% of the project cost. The remaining costs could be funded through EDA market rate loans or through school bonds, annual capital appropriations, or other means.
- The **School Facilities Loan Fund** provides loans for new construction, additions, and upgrades required to comply with the Americans with Disabilities Act (ADA). The amount of these loans could represent up to 50% of a project’s total cost. The remaining funding could come from an EDA market rate loan or some other source.
- **Small Loans** are a revolving fund for market rate, 6 to 20-year loans to school districts to fund projects costing \$5 million or less.

(2) Bond Acts

A \$100 million bond act was used in 1993 to finance Small Loans by the Economic Development Authority. Funds from this bond act were used to make market rate loans available to school districts. The original funding has been expended and as loans are repaid, funds will become available.

State legislation to provide substantial funding for the construction and rehabilitation of public school facilities construction is currently being considered in the State Legislature.

Table 72: Public Education Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Small Loans	\$100,000,000	N/A	N/A
TOTAL	\$100,000,000	N/A	N/A
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

b. Higher Education

(1) Programs

Institutions finance capital spending through their operating and capital budgets, including the direct issuance of debt. Institutions issue debt for both academic and auxiliary facilities. Repayment of the debt comes from institutional revenues, including dedicated fees and general sources.

(a) Job Science and Technology Bond Act of 1984

The Job Science and Technology Bond Act of 1984 provided \$90 million for higher education infrastructure. Almost all of the funds from this bond act have been fully appropriated and only a small amount of funding remains unexpended.

(b) New Jersey Jobs, Education, and Competitiveness Bond Act of 1988

The New Jersey Jobs, Education, and Competitiveness Bond Act of 1988 represented another capital funding source for higher education. This bond act totaled \$350 million dollars, of which \$325 million from this fund have been appropriated. Funds from this bond financed buildings, replacements, and some new projects.

(c) Higher Education Facilities Trust Fund of 1993

The Higher Education Facilities Trust Fund is also structured as a debt capacity program in which the maximum debt outstanding can be \$220 million. The Educational Facilities Authority issues revenue bonds backed by an annual state appropriation. The statute also created a Higher Education Trust Fund Board to review the physical plant needs of the institutions and recommend a plan for the use of additional grants from the fund. Of the initial \$220 million, almost half of the funds \$107.5 million, went for new construction; \$94.7 million was used for capital renewal and replacement, or for extensive renovation of existing facilities; \$5.6 million was used strictly to comply with codes and regulations; \$6.5 million was used to acquire and renovate existing facilities; and \$4.1 million was used to address infrastructure problems.

In addition to being financed through a third party, the trust fund differs from the 1984 and 1988 bond funds in three crucial respects. First the only limitation on the use of the funds is that they be used for “the cost, or a portion of the cost, of the construction, reconstruction, development, extension, and improvement of instructional, laboratory, communication, and research facilities.” Second, no match is required, enabling institutions to structure projects to meet their priorities. Finally, it can be renewed with approval by the Treasurer, whereas the bond fund programs were limited to their initial authorizations.

(d) Chapter 12 Funding

Chapter 12 funding provides resources for county college infrastructure construction. This statute, enacted in 1971, allows the State to pay for one-half the debt service on bonds issued by county governments on behalf of county colleges. The total value of bonds outstanding at any one time is limited, but as debt is retired, the new capacity can be recycled. When enacted, the total state and county debt was limited to \$80 million; in 1985, the limit was doubled to \$160 million; and in 1998, the debt capacity was increased again to a total of \$280 million. Funds may be used for new construction or for capital maintenance, and there is not limitation on the kind of facility that can be built. Since its inception, a total of more than \$375 million has been allocated through the Chapter 12 program.

(e) Higher Education Capital Improvement Fund

The Commission on Higher Education is in the process of allocating \$550 million from the ***Higher Education Capital Improvement Fund Act of 1999***. This bond fund, created within the New Jersey

Educational Facilities Authority, is designed to address the issues of “renewal and renovation” and deferred capital maintenance needs. The provisions of the Fund call for the State to provide 2/3 of the debt service on the bonds, with the four-year public institutions contributing 1/3 of the debt service. Private institutions would be required to pay one-half of the debt service. The Fund allocates deferred capital maintenance, renewal and renovation funds as follows:

- \$169 million to Rutgers University
- \$95 million for University of Medicine and Dentistry
- \$61 million for the New Jersey Institute of Technology
- \$175 million for the State colleges and universities; and,
- \$50 million for private institutions of higher education.⁸⁰

(2) Statutes

- Job Science and Technology Bond Act of 1984 (PL 1984 ch 99)
- New Jersey Jobs, Education, and Competitiveness Bond Act of 1988 (PL 1988 ch 78)
- Higher Education Facilities Trust Fund (PL 1993 ch 375)
- Chapter 12 funding, NJSA 18A:64-22.1 et seq. (PL 1971 ch 12)

(3) Bond Acts

- Job Science and Technology Bond Act of 1984 (PL 1984 ch 99)
- New Jersey Jobs, Education, and Competitiveness Bond Act of 1988 (PL 1988 ch 78)
- Higher Education Facilities Trust Fund (PL 1993 ch 375)

Table 73: Higher Education Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Job Science and Technology Bond Act of 1984	\$90,000,000	\$0	\$58,035
New Jersey Jobs, Education, and Competitiveness Bond Act of 1988	\$350,000,000	\$10,000,000	\$11,953,225
1993 Higher Education Facilities Trust Fund	\$220,000,000	N/A	\$2,864,204
PL 1971 Chapter 12 funding (State share)	\$80,000,000	N/A	\$0
Higher Education Capital Improvement Fund of 1999	\$550,000,000	N/A	N/A
TOTAL	\$1,290,000,000	\$10,000,000	\$14,875,464
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

c. Public Libraries

(1) Programs

In recent years, over \$3.2 million has been made available to libraries in New Jersey to invest in new information technologies and Internet services through various Federal, State and foundation funding sources. The New Jersey Library Construction Act⁸¹ enacted in 1973 provided funds for library

⁸⁰ Commission on Higher Education Fiscal 2001 Capital Request to the Commission on Capital Budgeting and Planning, November 4, 1999. John Geniesse, Acting Executive Director.

⁸¹ NJSA 18A:74-14 et seq.

construction until the 1980's. Federal funding was available for library construction under the Federal Library Services and Construction Act until the early 1990's, when reauthorization of the law in 1996 as the Library Services and Technology Act removed construction as an eligible funding item. In August 1999, new State legislation⁸² established a \$45 million **Public Library Project Fund** under the jurisdiction of the New Jersey Educational Facilities Authority and at the discretion of the Public Library Construction Advisory Board (subject to approval by the Legislature). These funds will leverage a total of \$180 million for library construction through a 3:1 matching requirement. Eligible projects may include:

- Construction of new buildings to be used for public library purposes;
- Expansion, rehabilitation or acquisition of existing buildings to be used for public library purposes;
- Expenses, other than interest and the carrying charge on bonds, incurred after the effective date of P.L.1999, c.184 (C.18A:74-24 et al.), related to the acquisition of land on which there is to be construction of new buildings or expansion of existing buildings to be used for public library purposes, provided the expenses constitute an actual cost or a transfer of public funds in accordance with the usual procedures generally applicable to all State and local agencies and institutions;
- Site grading and improvement of land on which buildings used for public library purposes are located or are to be located;
- Architectural, engineering, consulting and inspection services related to the specific project for which application for financial assistance is made;
- Expenses, other than interest and the carrying charges on bonds, related to the acquisition of existing buildings to be used for public library purposes, provided the expenses constitute an actual cost or a transfer of public funds in accordance with the usual procedures generally applicable to all State and local agencies and institutions; and
- Expenses relating to the acquisition and installation of equipment to be located in public library facilities, including all necessary building fixtures and utilities, office furniture and public library equipment, such as library shelving and filing equipment, catalogs, cabinets, circulation desks, reading tables, study carrels, and information retrieval devices including video, voice, and data telecommunications equipment and linkages with a useful life of 10 years or more necessary for Internet access, but not including books or other library materials.⁸³

(2) Statutes

- N.J.S.A.18A:74-24 et al (P.L.1999, c.184)

(3) Bond Acts

This program is funded by an independent authority.

Table 74: Public Libraries Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Public Library Project Fund of 1999	\$45,000,000	N/A	N/A
TOTAL	\$45,000,000	N/A	N/A
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget			

⁸² PL 1999, c. 184, NJSA 18A:74-24 et seq.

⁸³ NJSA 18A:74-27

d. Arts

(1) Programs

\$40 million in capital funds for construction of Art Centers was part of the New Jersey Green Acres Cultural Centers and Historic Preservation Bond Act of 1987. Approximately \$5.3 million of the original allocation for the Arts remains available. Competitive grants ranging from \$50,000 to \$6,000,000 are awarded for capital development of cultural centers. To be eligible, the applicant must be a private nonprofit corporation or a unit of government operating or proposing a center with sufficient state or regional significance as defined by statute. A panel evaluates the projects of the grant applicants. Three rounds of applications have occurred to date.

A \$100 million “New Jersey Cultural Trust” fund initiative was proposed for the FY2001 State budget, to be comprised of an annual non-lapsing appropriation of \$10 million per year to create a permanent, interest generating fund. The initial proposal, subject to authorizing legislation, calls for State funding to match private contributions to endowments to arts organizations (e.g. non-profit arts, history and humanities organizations, including museums and historical societies), and grants to these organizations to be awarded from the interest income generated by the trust.

(2) Statutes

- PL 1987 ch 265 section 4.

(3) Bond Act

- New Jersey Green Acres Cultural Centers and Historic Preservation Bond Act of 1987 (P.L. 1987 ch 265.)

Table 75: Arts Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Green Acres, Cultural Centers and Historic Preservation Fund of 1987 (Cultural Centers Portion)	\$40,000,000	N/A	\$5,300,000
TOTAL	\$40,000,000	N/A	\$5,300,000
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget New Jersey State Council on the Arts			

e. Corrections

(1) Programs

Two major State bond funds contributed to the construction and renovation of corrections facilities in the 1980s. Since then, corrections facilities in New Jersey have been primarily funded by Federal grants and State pay-as-you-go capital outlays from the General Fund. In 1999, \$20.9 million in Federal funds were awarded to New Jersey to fund expansion of three major minimum-security facilities.

(2) Statutes

There are no statutes relating to funding for this program.

(3) Bond Acts

- The *Correctional Facilities Construction Fund of 1982* (P.L. 1982, c.120) provided \$170 million for construction of new medium security prisons, a program of county assistance, and renovations and modifications to existing state facilities.
- The *Correctional Facilities Construction Fund of 1987* (P.L. 1987, c.178) provided \$198 million for state and county correctional facilities for planning, erection, acquisition, improvement, construction, reconstruction, development, extension, rehabilitation, demolition, and equipment.

Table 76: Corrections Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Correctional Facilities Construction Fund of 1982	\$170,000,000	\$0	\$608,843
Correctional Facilities Construction Fund of 1987	\$198,000,000	\$0	\$14,927,056
TOTAL	\$368,000,000	\$0	\$15,535,899
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available Source: New Jersey Department of the Treasury, Office of Management and Budget New Jersey State Council on the Arts			

f. Historic Resources

(1) Programs

Most New Jersey programs related to historic preservation are administered by the New Jersey Department of Environmental Protection or affiliating agencies. In its Final Report, dated February 1998, the Governor’s Council on New Jersey Outdoors recommended:

- \$14 million in annual funds to enhance the care of State-owned natural and historic resources and the care of newly acquired open space.
- \$15 million of annual funding to historic preservation projects statewide.

(a) New Jersey Historic Trust

The main source of funding for historic preservation in New Jersey is the New Jersey Historic Trust. The New Jersey Historic Trust was created in 1967 as a nonprofit organization affiliated with the Department of Environmental Protection and is managed by a 14 member board of trustees.

The New Jersey Historic Trust leverages funds for historic preservation through matching grants to State, local, and nonprofit agencies. These grants are used to assist in the restoration, preservation, and rehabilitation of properties listed, or eligible to be listed in the State Register of Historic Places. While State and local agency funds are matched, certain small nonprofits are eligible for funding on a 60/40 basis for projects that cost up to \$100,000. The remaining funding must come from Federal, local or other sources, including fund raising. The Trust also supports a revolving loan program that provides low interest loans to nonprofit organizations and local governments for the acquisition of historic properties.

Through the Garden State Preservation Trust established in 1999, the New Jersey Historic Trust will receive \$6 million annually for ten years to fund historic preservation projects including matching grant awards.

(b) NJDEP Historic Preservation Program

The Historic Preservation Office, within the New Jersey Department of Environmental Protection, has limited funds available for soft costs such as engineering and planning for historic preservation. In the past the Historic Preservation Office funded capital projects, but no longer has funds for this purpose.

(c) New Jersey Legacies Program

New Jersey Legacies Program is a new program and is in conjunction with the National Trust for Historic Preservation. This program encourages gifts of historic properties, which will be resold with protective easements.

(d) TEA-21

Some funding for historic preservation projects related to transportation, including renovating historic railroad stations, stems from federal TEA-21 funds administered by the New Jersey Department of Transportation.

(2) **Statutes**

- PL 1967 ch 124 (NJSA 13:1b-15.111) is the enabling legislation for the Historic Trust. This law was modified in 1984 to separate the Trust from the NJ Historic Sites Council
- PL1987 ch 20 created the revolving loans.
- PL1991 ch 41 created the matching grant program.
- PL1992 ch 88 Green Acres, Clean Water, Farmland, and Historic Preservation Bond Act

(3) **Bond Acts**

- *New Jersey Green Acres Cultural Centers and Historic Preservation Bond Act of 1987.* \$23 million dollars was dedicated to the grant component and \$3 million was dedicated to the revolving loan component.
- The *Green Acres, Clean Water, Farmland, and Historic Preservation Bond Act of 1992* (P.L. 1992, C.88) provided \$25,000,000 to the grants component of the Trust and since 1994, \$10,100,000 has been earmarked for projects, subject to the approval of the State legislature.
- The *Green Acres, Clean Water, Farmland, and Historic Preservation, and Blue Acres Bond Act of 1995* contained an additional \$10,000,000 for historic preservation projects.

Table 77: Historic Resources Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Green Acres, Cultural Centers and Historic Preservation Fund of 1987 (Historic Preservation Portion)	\$26,000,000	N/A	\$0
Green Acres, Clean Water, Farmland, and Historic Preservation Bond Act of 1992 (Historic Preservation Portion)	\$25,000,000	N/A	\$5,761,580
The Green Acres, Clean Water, Farmland, and Historic Preservation, and Blue Acres Bond Act of 1995 (Historic Preservation Portion)	\$10,000,000	N/A	\$2,344,054
Historic Preservation Revolving Loan Fund	N/A	N/A	\$3,289,981
Garden State Preservation Trust of 1999	\$60,000,000	N/A	N/A
TOTAL	\$121,000,000	N/A	\$11,395,615

Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999.

N/A = Data not available or not applicable

Source: New Jersey Department of the Treasury, Office of Management and Budget

g. Public Housing

(1) Programs

Most New Jersey programs relating to housing are administered by the New Jersey Department of Community Affairs and by the New Jersey Home Mortgage Finance Agency. The New Jersey Home Mortgage Finance Agency (NJHMFA) is established in, but not of the Department of Community Affairs. NJHMFA was created from the former New Jersey Mortgage Finance Agency (MFA), which concerned itself with single family housing, and the former Housing Finance Agency (HFA), which concerned itself with large rental housing, effective January 17, 1984. NJHMFA now has the responsibility of both of its predecessors and allocates approximately \$200 million dollars per year for the purpose of home finance.

(a) H - Easy 2000

H - Easy 2000 (Housing and Economic Assistance Strategy) is New Jersey's current State comprehensive housing policy designed to increase opportunities and access to affordable housing, boost the economy of the State, create jobs, rebuild neighborhoods, and revitalize cities.⁸⁴ The New Jersey Department of Community Affairs, New Jersey Home Mortgage Finance Agency, and the Council on Affordable housing work together in a cooperative arrangement under this policy. This housing policy uses \$525,000,000 in existing resources and leverages dollars.

Major components of this housing program include:

- **Urban Homeownership Recovery Program** - This program fosters increased homeownership in the cities. NJHMFA, through application of Mortgage Revenue Bonds, will provide \$150 million of Single Family construction financing for projects that meet a diverse neighborhood approach. In addition, \$100 million in permanent mortgage financing will be provided. Low down payment and 100 percent financing will be available in this program. In addition, DCA will establish a Homeownership Incentive Fund of nearly \$30 million to help developers bridge financing requirements.
- **“Too Good, But it’s True” Mortgage Loan Program** - The “Too Good, But it’s True” Mortgage Loan Program is a low interest rate mortgage set-aside program for urban areas. In the initial phase, NJHMFA will set aside a specific pool of 30 year fixed rate mortgages at a 5 percent interest rate. This program will initially focus on Trenton, Camden, Elizabeth, and Asbury Park, and will later expand to all urban areas.
- **Statewide Financing for Affordable Housing Program Opportunities** - NJHMFA will issue a Request for proposal to assist developers in construction finance. NJHMFA will provide construction loans to the developers and will issue a maximum of \$50 million in taxable bonds for this program.
- **Sweat Equity/Affordable Home Ownership Opportunities Bonds** - NJHMFA will set aside a portion of any bond issuance to establish this fund. The Sweat Equity/Affordable Home Ownership Opportunities Bonds provides loans to prospective low and moderate-income buyers through projects offered by not-for-profit organizations. The buyer will be required to perform construction or rehab work, hence the term “sweat equity”. NJHMFA will issue the loans directly to the borrowers and the borrowers will repay the loan back to the fund.
- **Lease Purchase Program** - NJHMFA will provide \$10 million for this program designed to help renters become owners. This program will allow families who lack a down payment, to lease an affordable property, with the option to purchase.

⁸⁴ “H-Easy 2000: A Housing Policy for the State of New Jersey”, Presented by Governor Christine Todd Whitman, State of New Jersey and Commissioner Harriet Derman, New Jersey Department of Community Affairs.

- **Rental Housing Incentive Finance Program** - This program will provide construction loan guarantees for developers of 25 or fewer affordable rental units. This program will allow non profit developers who otherwise would not be approved, the opportunity to secure construction financing. NJHMFA will reserve up to \$10 million for this project and will leverage over \$30 million in construction funding.
- **Increase Balanced Housing Subsidy Levels** - DCA will increase its per unit subsidy levels for rentals and for sale development projects.

Table 78: H-EASY 2000 Program Funding

Home Ownership Recovery Program	\$300,000,000
Home Ownership Incentive Fund	\$30,000,000
“Too Good, But Its True” Loan Program	\$15,000,000
Statewide Financing Affordable Housing	\$50,000,000
Rental Housing Incentive Fund	\$30,000,000
Lease Purchase Program	\$10,000,000
TOTAL	\$435,000,000

(b) Balanced Housing Program

The *Neighborhood Preservation Balanced Housing Program*,⁸⁵ otherwise known as simply the “Balanced Housing Program” is a program of the New Jersey Department of Community Affairs created through the Fair Housing Act of 1985. The purpose of the Balanced Housing Program is to assist municipalities in providing low and moderate income housing in accordance with their Mt. Laurel housing obligations. This program is funded through the Realty Transfer Tax. Municipalities may apply for loans and grants from this fund to develop affordable housing. As some of this fund represents loans, there exists a small revolving fund component.

The maximum award that a municipality may receive is based on the Municipal Distress Index list published periodically by the New Jersey Department of Community Affairs, Office of State Planning.

Table 79: Balanced Housing Program Funding Provisions

Municipal Distress Rank	Maximum Grant New Projects	Maximum Grant Continuing Projects	Required match
1-227	\$240,000	\$300,000	NONE
228-397	\$160,000	\$200,000	ONE TO TWO
398-567	\$120,000	\$150,000	ONE TO ONE

(c) Neighborhood Preservation Program

This Department of Community Affairs program provides funding to municipalities to restore threatened, but still viable, neighborhoods. Funding from the Neighborhood Preservation Program primarily supports single family housing rehabilitation in conjunction with other funding sources. Any activity that leads to the revitalization of neighborhoods is eligible for funding including: recreational projects, economic development projects, infrastructure and amenities (trees and benches), and civic organizations. The

⁸⁵ This program is distinct from the “Neighborhood Preservation” program described in this section.

Neighborhood Preservation Program is funded through an annual appropriation by the State legislature and usually receives an allocation of \$2 million to \$3 million.

(d) NJHMFA Multifamily Rental Housing Programs

The NJHMFA has the authority to obtain funds through bond sales and use the proceeds to provide low interest rate loans for private multifamily housing units.⁸⁶ This program assists in the development of affordable rental housing in the State of New Jersey through financing multiple-unit, newly constructed, or rehabilitated rental housing. Approximately 250 current projects are financed with taxable bonds. Assistance available through this program includes:

- **Multifamily Development Financing Program** — This is the main HMFA multifamily housing program.
- **Transitional Housing Revolving Loan Program** — This program provides assistance to municipalities and non profit organizations which provide transitional housing for homeless and Aid to Families with Dependent Children families. “Specific Initiative” financing is also available in the form of HIV/AIDS housing initiatives.
- **Low Income Housing Tax-Credit Allocation Program (LIHTC)** — This program, which may be combined with other tax exempt financing, helps to build new apartments or to rehabilitate apartments for low income families.
- **Community Investment Demonstration Act of 1993** — Under federal legislation, the NJHMFA is allowed to invest \$50 million from the AFL-CIO pension fund in affordable housing.
- **Risk Sharing Pilot Program** — In combination with federal HUD, NJHMFA can support riskier projects in efforts to create affordable housing.
- **Construction Loan Program for Public Housing** — NJHMFA provides construction loans to developers of public housing.

(e) NJHMFA Single Family Housing Programs

Through the sale of tax exempt bonds, NJHMFA provides below market rate financing for the purchase of single family homes.⁸⁷ This program is funded through the sale of tax mortgage exempt bonds. Mortgage revenue bonds financed approximately 40,000 housing units.

Assistance available through this program includes:

- **100 Percent Mortgage Finance Program** — This program provides commitments to nonprofit and private developers who build Agency-approved residential units. Developers in urban areas can receive 100 percent of appraised value and other developers can receive up to 70 percent of appraised value.
- **Urban Set-Aside** — This fund provides money for downpayments, closing costs, and mortgage buy downs.
- **Housing Incentive Note Purchase Program** — This program provides for a note purchase agreement with the developer’s lender. NJHMFA guarantees 30 percent of the outstanding loan balance. Projects must consist of 100 or less units and the selling price must be less than \$250,000.

(2) **Statutes**

- Fair Housing Act of 1985 (N.J.S.A. 52:27D-301 et seq.)
- New Jersey Housing and Mortgage Finance Agency Law of 1983 (N.J.S.A. 55:14K-1 et seq.)
- Neighborhood Preservation Balanced Housing Program (N.J.A.C. 5:14-1)

⁸⁶ Profile of Key Programs and Contacts for Empowerment/Enterprise Applicants, Urban Coordinating Council, 1995 p. 11-14

⁸⁷ Profile of Key Programs and Contacts for Empowerment/Enterprise Applicants, Urban Coordinating Council, 1995 p. 14-15

(3) Bond Act

NJ HMFA has the power to sell bonds, and the current outstanding bond balances as of June 30, 1995 were \$1.2 billion for the Single Family Program and \$1.2 billion for the multifamily program. On average, \$250 million per year is allocated to the Single Family program.

Table 80: Housing Capital Funding Summary

Fund	Authorized	Unissued	Remaining Fund Balance
Balanced Housing Program	About \$15 million per year based on share of Realty Transfer Tax	N/A	N/A
Neighborhood Preservation	\$2 - \$3 million per year	N/A	N/A
NJ HMFA	Averages \$250 million per year for the Single Family program	N/A	N/A
TOTAL	\$268,000,000 per year	N/A	N/A
Note: Remaining funds include committed and uncommitted fund balance as of June 30, 1999. N/A = Data not available or not applicable Source: New Jersey Department of the Treasury, Office of Management and Budget			

I. Potential Approaches

1. Outlook

State and local capital outlays in New Jersey totaled \$21.4 billion (in 1999 dollars) for the most recent five years of record. If this level of investment is maintained, projected revenues of over \$85.6 billion may be available for capital projects through 2020.

While this projected revenue may exceed estimated infrastructure costs for this period documented in this Assessment, it is important to note that projected costs have not yet been estimated for all infrastructure components.

2. Potential Sources of Revenue

The availability of unissued bond funds and unexpended balances of capital funds for infrastructure projects is limited by Constitutional, statutory and general accounting principle limitations on public debt and security for fund liabilities. While these amounts are typically analyzed carefully by all levels of government, a periodic comprehensive analysis and realignment or refinancing of these sources may yield additional resources.

Subject to State enabling legislation, municipalities may collect impact fees for transportation improvements, water treatment and distribution, wastewater treatment and collection, flood control and

storm water management, municipal parks and recreation facilities, public safety and related facilities, and educational facilities necessitated by residential development.

3. Revenue Planning

Based on a case study by the Office of Local Government Budget Review in the Department of the Treasury, revenue planning, a budgeting process that looks at multi-year impacts of current year revenue and expenditure decisions, can provide a more effective revenue stream for capital programs. In one municipality, the municipal tax rate was just .21, generating a bill of \$356 on the average home in 1987. However, as revenue and ratables declined, the municipality began to use one time revenue sources and maximum amounts of surplus to hold down the tax rate. In 1996, the mayor and council were forced to increase the tax rate by 77% because one time revenue sources and surplus had been depleted and current obligations required a significant tax increase to replace these depleted revenue sources. By 1997, the tax rate was .53 and the average bill was \$718. Elected officials were cautioned to rely on their professionals, the business administrator and the CFO, to advise them on the best means of maintaining a relatively stable tax rate, while assuring the provision of an appropriate level of quality services.

Planning revenues can control and help assure decisions regarding expenditures are being prioritized. Without this:

- Salary and compensation decisions do not reflect a context of what is realistically affordable to a community.
- Capital improvements can be put off in order to arbitrarily keep taxes down and end up costing more when the decision is finally forced.
- A less necessary capital investment may be made before a necessary one.

The Office of Local Government Budget Review recommended the following rules:

- One time revenues should be used for one time expenditures i.e. capital improvements wholesale upgrades of longer life items, for example, the library collection or the automation system, or investment in training, or a management consultant.
- Surplus should be generated and used fairly consistently as a revenue, i.e. a certain proportion per year or last year's addition to the surplus in this year's budget.
- Existing future obligations such as capital investments, annual debt service amounts and collective bargaining agreement settlement costs be considered as part of the current budget when revenue amounts are being considered.

VI. THE INFRASTRUCTURE INVESTMENT DECISION PROCESS

Decisions to raise or use revenues for capital investments for infrastructure may be assisted by the infrastructure needs assessment in evaluating investment backlogs, investigating alternative investments, and in guiding investments away from where they are not appropriate.

The need continues for the Infrastructure Needs Assessment of the State Development and Redevelopment Plan to be part of a more comprehensive, strategic process for making decisions regarding infrastructure investments. Factors related to natural resources suitability, community suitability, and fiscal and economic capacity that are usually beyond the scope of analyses of infrastructure capacity should be taken into account. For example, changes in technology through the year 2020 can be anticipated. Changes in demand for infrastructure systems associated with changes in demographic and economic patterns can be considered. The effects of social and economic factors, such as willingness to pay and cost-benefit analyses, on capital investments may also be considered. A number of these factors were identified in 1986 by the National Council on Public Works Improvement in its study of the nation's infrastructure,⁸⁸ and provide the framework of a strategic resource investment and management process for infrastructure decisions (**Figure 31**) that should ultimately be expressed in the policies and other provisions of the State Development and Redevelopment Plan.

A. Balance Needs

Integrating infrastructure needs assessment data with resource planning and management is readily achieved through a capacity-based planning process.

In the context of the State Development and Redevelopment Plan, capacity-based planning involves a process of balancing four factors that sustain development:

- infrastructure capacity,
- natural resources capacity,
- community suitability, and
- fiscal and economic capacity.

Infrastructure capacity determines whether the use of existing and proposed capital facilities and land assets by development causes desired or undesired changes to the level of service provided by infrastructure systems, with reference to measures of desired levels of service and standards of quality.

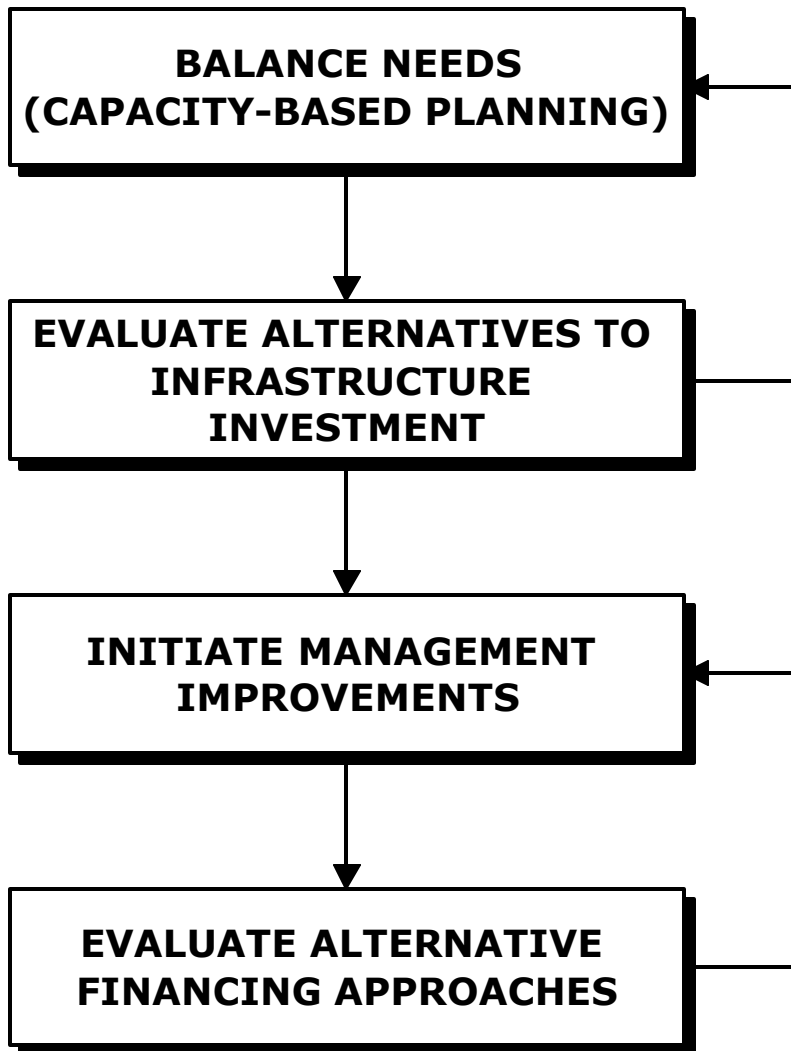
Natural resources capacity evaluates the extent to which natural resource protection objectives are achieved or environmental protection standards are violated.

Community suitability evaluates whether changes in community quality of life, historic and cultural resources, and other social and psychological factors occasioned by development are desirable or undesirable.

Fiscal and economic capacity determines the extent to which the ability to finance infrastructure and community services, absorb market demand for development units, provide for adequate supplies of reasonably priced housing, maintain a suitable labor pool, and sustain a local economy are affected by development.

⁸⁸National Council on Public Works Improvement, "The Nation's Public Works: Defining the Issues." A Report to the President and Congress. (Washington, D.C.: National Council on Public Works Improvement, 1986), pp. 7-21.

Figure 31: Infrastructure Investment Decision Process



The method for assessing infrastructure needs may be applied to determine infrastructure capacity over the long term (for example, a 10 year to 20 year planning horizon). For capital budgeting, more detailed and complex planning, design, and engineering analyses are required.

In the capacity-based planning context, a strategic resource investment and management system may:

- evaluate changes in natural resource protection objectives and environmental protection standards;
- identify changes in community quality of life and other secondary and tertiary impacts associated with the improvement or decline of infrastructure;
- support changes in financing mechanisms for infrastructure;
- support changes to levels of service provided by infrastructure; and
- consider alternatives among development patterns.

An increasing number of State agency functional plans, as well as the State Development and Redevelopment Plan, are incorporating indicators and targets that define the levels of service that investments in facilities and services must yield. This practice was promoted at the highest levels of State government with the adoption of Sustainable State goals and indicators by the Governor's Executive Order in 1999.⁸⁹

Therefore, as part of process for balancing numerous objectives, the infrastructure needs assessment does not yield an absolute number that represents the inevitable costs associated with a given pattern of existing and proposed development. Rather, it is intended to provide information in a continuing, cyclical planning process in which the attainment of more objectives and the detail of the analysis may be increased with each planning cycle.

B. Evaluate Alternatives To Infrastructure Investment

When a capacity analysis indicates a demand for additional infrastructure capacity, alternatives to traditional responses in providing new capacity should first be evaluated. These include controlling the demand for services, limiting new capacity or providing capacity in alternative systems in anticipation of changes in technology and lifestyles, and increasing investments in maintaining capacity in existing systems. Fiscal, as well as physical, alternatives need to be considered also. Proposals to provide infrastructure capacity should be sensitive to the willingness of those who use or support the system to pay, to the value of benefits to growth management relative to the costs, and to the relative advantages and disadvantages of not investing at all.

Control Demand for Services

The most effective way to manage infrastructure may be to control demand for its services. Where needs are high for a given infrastructure system, the use of alternative systems may be encouraged. Access to infrastructure may also be limited to control (to induce or restrict) overall infrastructure demands (such as commonly occurs at or between interchanges of limited access highways). Peak pricing techniques, which vary rates by season, day of week, or time of day are increasingly being used for transportation (such as higher peak hour tolls for the New Jersey Turnpike) and recreation (lower golf course fees in late afternoon), energy and water supplies. While lower demands yield higher levels of service per capita, and lower requirements for future infrastructure expansion as growth occurs, these benefits must be evaluated with consideration to changes (increases or decreases) in per capita costs.

⁸⁹ Executive Order 96, May 20, 1999. The Sustainable State indicators, published in the report, *Living With the Future in Mind* by New Jersey Future, do not yet specify targets. Further information regarding this initiative is online at <http://www.njfuture.org>.

Anticipate Technology and Lifestyle Changes

Just as railroads made canal transport obsolete, and as super highways brought a decline in rail use, future technologies are likely to make some current systems redundant or less effective. Lifestyle preferences may also alter the location, frequency, and total demand for certain services.

Maintain Infrastructure to Increase Service Life

Maintenance practices have a considerable effect on the useful life of capital facilities. Unless rehabilitation costs are factored into infrastructure costs, funding decisions will be biased and replacement costs will be increased due to the premature deterioration of infrastructure systems. Proper cost accounting can isolate maintenance and rehabilitation costs to estimate the cost-effectiveness of periodic capital maintenance versus system replacement.

Evaluate Willingness to Pay

Infrastructure standards are often developed based on criteria other than cost, and tend to obscure alternatives that trade for another level of service at a different cost. In practice, when localities are asked to pay a greater share for state and federal projects, they often attempt to scale down the scope and cost of the projects significantly. By explicitly correlating costs to a range of service levels, tradeoffs can be quantified in terms of willingness to pay, aiding the decision process.

Compare Costs with Growth Management Benefits

Cost-benefit analyses are frequently performed for capital improvement projects. The results of these analyses may be skewed unless measures related to natural resources suitability, community suitability, fiscal and economic capacity, and demands for other infrastructure capacity are included in the analysis. Used effectively, cost-benefit analyses can compare choices among:

- alternative strategies to meet infrastructure needs, such as demand management, alternative technologies, different levels of service, and alternative growth patterns;
- alternative infrastructure expenditures, to evaluate opportunities to integrate and leverage investments leading to the improved integration of systems forming the entire infrastructure network; and
- other non-infrastructure public expenditures.

To this end, the extent to which each component of infrastructure shapes growth, rather than only supports growth, should be considered (see **Table 81**).

Table 81: Growth Shaping Public Facilities and Services

Transportation and Commerce
<i>Roads</i>
Interstates/Limited Access
Interchanges
Arterials
Collectors
Local
<i>Transit</i>
Rail
Buses
<i>Airports</i>
<i>Marine Terminals</i>
<i>Energy</i>
Generation facilities
Distribution lines
Transmission lines
<i>Telecommunications</i>
Switching/signaling facilities
Network transport lines
Local loop transport lines
<i>Farmland Retention</i>
Health and Environment
<i>Sewer Systems</i>
Treatment plants
Interceptors
Collectors
Service areas
Local connections
<i>Water Supply</i>
Reservoirs
Watershed protection
Treatment plants
Distribution mains
Service areas
<i>Open Space and Recreation</i>
<i>Solid Waste</i>
Landfill
Collection
Hazardous waste management
<i>Public Health</i>
Public Safety and Welfare
<i>Public Education</i>
Elementary
Middle
Secondary
Vocational/Technical
<i>Higher Education</i>
<i>Libraries</i>
<i>Police</i>
<i>Corrections</i>
<i>Cultural, Arts facilities</i>

Evaluate Consequences of Not Investing

The cost of not investing in infrastructure may exceed the cost of providing the improvements. Current deficiencies in system condition or service is often the result of not investing in system maintenance and expansion. The Foundation of the New Jersey Alliance for Action is currently addressing this issue.

C. Initiate Management Improvements

If a decision is made to proceed with an investment in infrastructure, opportunities to improve the management of new infrastructure capacity should be pursued in earnest. These efforts range from improving coordination among infrastructure investments to more comprehensive, less reactive, planning-based approaches such as maintaining a life cycle approach, building institutional capacity to manage infrastructure systems, and improving the overall timing and efficiency of investments.

Coordinate Infrastructure Investments

The stakes are high enough and resources scarce enough that the state can no longer afford to have agencies pursuing narrow, independent investment strategies. The state's collective investment must now form a larger, strategic, whole. This observation is valid for all infrastructure systems. For example, drainage, flood control, water supply, wastewater treatment and shore protection are all related through water. Investments in one system affect the need for investments in others. Unless investments are coordinated among systems and with land use to reinforce one another, funds will not be sufficient to achieve environmental protection objectives for water pollution, drought response, flooding, beneficial growth, and regulatory efficiency.

Already, a more integrated approach to transportation investments and to solid waste management, including source reduction, recycling, and disposal, is taking hold. Ultimately, a fully integrated energy and materials handling strategy could produce economic and environmental benefits and tax savings above and beyond the capital investments. Investments in school facilities, if coordinated with land use and other infrastructure objectives, can yield similar savings. In general, integrated approaches to infrastructure yield better and less costly service delivery.

Maintain a Life Cycle Approach

Infrastructure, like the communities and people it serves, has a life of its own. A life cycle approach is essentially a stewardship approach for managing infrastructure systems to ensure continuing service at adequate levels. Successful large corporations, the military, and leading business schools use and teach life cycle methods, in which infrastructure managers are given the responsibility, authority, and accountability to manage the entire six-step "life cycle" of infrastructure. It is appropriate for government as well.

1. *Needs assessment* – to determine how much of an infrastructure improvement is needed, and its approximate cost.
2. *Planning* – to determine what improvements to provide, in what locations, and by what means that will serve the public need throughout the life of the system.
3. *Financing* – to develop a financing system based on life cycle costing that provides adequate resources for all costs, including rehabilitation and replacement, throughout the life of the system.

VI. The Infrastructure Investment Decision Process

4. *Development and Operation* – to build, operate, and maintain the system in a way that is responsive to changing demands throughout the life of the system.
5. *Rehabilitation and Replacement* – to provide regularly scheduled capital improvements to maintain the system at optimum operating condition.⁹⁰
6. *Monitoring and Evaluation* – to periodically review the condition and level of service delivery to identify and implement appropriate adjustments.

Build Institutional Capacity

Some agencies are not designed, as corporations are, to efficiently manage multi-billion dollar systems. This can be corrected by building their capacity to plan for, invest in, and manage infrastructure. Accordingly, new procedures and relationships may be called for.

Clarify Jurisdictional Responsibility. Each organization should be responsible from start to finish for specific facilities. Single "owners" of facilities, now scattered among levels of government, would be designated. This would, for example, eliminate "orphan" bridges. Management of storm water drainage facilities is complicated by being dispersed among all levels of government and the private sector, and in some cases delegated to agencies with no clear management authority.

Improve Management Information. Inventories identifying the location, age, condition, use, and performance of each existing and planned component of infrastructure systems should be established and maintained in a form readily accessible to decision makers. Inventories should be linked to projections of population, employment, housing and land needs to support the preparation of long range infrastructure needs assessments, medium range capital improvement programs, and short range capital budgets. Such inventories are well suited to existing geographic information system (GIS) technology; infrastructure inventories on GIS should be shared among agencies and levels of government to reduce data base development costs and to enhance comprehensive planning and intergovernmental coordination.

Coordinate Management Practices. Standardizing capital investment and budgeting practices and coordinating capital improvement programs with comprehensive and functional master plans would reduce waste due to non-standardized or duplicative assessment, accounting, and regulatory procedures. Improved coordination would reduce the effect of public agencies working against each other by preventing development of facilities with conflicting purposes in the same location, and by coordinating the provision of all necessary facilities in appropriate locations.

⁹⁰ Austin, Texas has found that it costs 15 times more to periodically rebuild a street than to maintain it properly. "Cities are gradually learning the wisdom of considering long-term maintenance needs before they approve a new public project in the first place. Seattle, for example, established one of the nation's most complete fiscal note processes for capital projects. Approval of any project costing more than \$500,000 must be accompanied by an estimate of the facility's life span, ongoing operating and maintenance costs, expected revenue, increased or decreased private investment and the financial cost of non-implementation. A less formal fiscal-note process is used for capital projects between \$100,000 and \$500,000. This is having a strong impact on the way the city looks at all future capital projects. Seattle has started a major-maintenance reserve for several of its new facilities: a concert hall, an arena and an aquarium." In "Grading the Cities: A Management Report Card." The Government Performance Project. Katherine Barrett and Richard Greene. *Governing*. February 2000. <http://www.governing.com/gpp/gp0cm.htm>

VI. The Infrastructure Investment Decision Process

Provide Oversight. System managers should have sufficient authority, resources, and flexibility to be effective stewards of infrastructure. Accountability is also required. Independent authorities should maintain oversight over infrastructure where warranted. Comprehensive and ongoing financial, service, safety, and environmental accounting should be built into the system, however. The New Jersey Board of Public Utilities currently serves this function for some privately operated infrastructure. Similar methods could be applied for publicly owned services.

Improve Timing and Efficiency of Investments

Infrastructure expenditures tend to be subject to the ebbs and flows of economic cycles. When the economy is down, so too are tax revenues, and spending on infrastructure tends to be deferred. Deferring infrastructure investments actually tends to worsen economic decline. To stimulate the economy, take advantage of low costs, and lessen the disruption of periods of high economic activity, infrastructure is best constructed during slowdowns. Properly timed investments can therefore help smooth the economic cycle. The 1997 increase in New Jersey's Transportation Trust Fund spending cap reflected this approach, which could be more widely applied.

D. Evaluate Alternative Financing Approaches

Well-planned and well managed infrastructure systems are well situated to benefit from the selection of financing approaches from among the most advantageous alternatives. Long-term measures include developing financing strategies, evaluating alternative approaches to allocating costs, and coordinating State capital budgeting with the findings of the infrastructure needs assessment and the objectives of the State Development and Redevelopment Plan.

Develop Financing Strategies for Raising Capital

To accrue revenues to enable infrastructure development during downturns, financing tools which ensure a constant and dedicated flow need to be extended from successful programs such as Green Acres, the Wastewater Treatment Trust Fund, and Transportation Trust Fund to other infrastructure systems. Among the many tools available are impact fees, user fees, value capture, tax increment financing, revolving funds, special districts, dedicated taxes, and tax exempt financing. Some hold much more promise than their current use suggests. However, the establishment of constant and dedicated revenue sources should maintain an ability to be discretionary in spending, to not impede prudent fiscal management.

Allocate Costs

Ultimately, the allocation of costs for infrastructure should be evaluated from the point of view of the consumer. The interest of the user is to obtain the benefit of public facilities and services in the most effective manner at the most reasonable cost. Costs borne by public and private sector organizations are in turn financed by their revenue base, which may include various classes of users. The infrastructure needs assessment helps to inform decisions regarding how costs should be equitably allocated among classes of users. In general, local scale infrastructure may be found to be most effectively financed by local agencies, unless the costs exceed the local benefits or ability to pay more than for other classes of users. Increasingly, costs of infrastructure allocated to the private sector, through such mechanisms as exactions for the provision of public facilities and franchises for the operation of public services, may be found to provide a more direct pass through of costs. Raising revenues from user-based financing rather than general taxation is also increasing through the use of special districts, impact fees, and direct use fees such as tolls and other user charges.

Coordinate State Capital Budgeting

The infrastructure needs assessment should be a basis for coordinating the State's capital plan and annual capital budget among the various State agencies. It offers a consistent accounting procedure for all agencies to follow. This procedure derives long term infrastructure needs from demands of projected population and employment using a uniform time horizon -- the year 2020. It provides for a consistent analysis and reporting of long term needs by type (backlog, rehabilitation, and new growth). It also reinforces links between capital planning and long term comprehensive and functional planning within and among State agencies. It provides a basis by which the State's Commission on Capital Budgeting and Planning can interpret the provisions of the State Development and Redevelopment Plan to ensure consistency of proposals for State spending for capital projects with the State Plan, in accordance with the statutes.

Changes in State capital planning and budgeting involving procedures for increased coordination pursuant to the State Planning Act may affect accounting procedures of the Office of Management and Budget, which may in turn require new legislation. However, fundamental coordination procedures such as the long term time horizon for infrastructure needs assessment, the relation of capital planning and budgeting to long term comprehensive and functional plans and consistent projections, and the three types of needs, are intended to complement, rather than conflict with, the State's existing capital budgeting practices, and should be implemented by the State agencies as part of their preparation of annual capital program requests.

Coordinate Local Capital Budgeting

New Jersey municipalities are authorized, and may be required by the Local Finance Board within the New Jersey Department of Community Affairs, to prepare and adopt a six year capital program.⁹¹ The New Jersey Municipal Land Use Law authorizes local planning boards to prepare annual capital improvements programs spanning six years or longer.⁹² Municipalities of over 10,000 population are

⁹¹ *N.J.S.A. 40A:4-43. Capital budgets; definition*

The governing body may and shall, when directed by the local government board, prepare, approve and adopt a budget for the expenditure of public funds for capital purposes to give effect to general improvement programs.

A capital budget shall be a plan for the expenditure of public funds for capital purposes, showing as income the revenues, special assessments, free surplus, and down payment appropriations to be applied to the cost of a capital project or projects, expenses of issuance of obligations, engineering supervision, contracts and any other related expenditures. (L.1960, c. 169, s. 1, eff. Jan. 1, 1962.)

⁹² *N.J.S.A. 40:55D-29. Preparation of capital improvement program*

a. The governing body may authorize the planning board from time to time to prepare a program of municipal capital improvement projects projected over a term of at least 6 years, and amendments thereto. Such program may encompass major projects being currently undertaken or future projects to be undertaken, with Federal, State, county and other public funds or under Federal, State or county supervision. The first year of such program shall, upon adoption by the governing body, constitute the capital budget of the municipality as required by N.J.S. 40A:4-43 et seq. The program shall classify projects in regard to the urgency and need for realization, and shall recommend a time sequence for their implementation. The program may also contain the estimated cost of each project and indicate probable operating and maintenance costs and probable revenues, if any, as well as existing sources of funds or the need for additional sources of funds for the implementation and operation of each project. The program shall, as far as possible, be based on existing information in the possession of the departments and agencies of the municipality and shall take into account public facility needs indicated by the prospective development shown in the master plan of the municipality or as permitted by other municipal land use controls.

In preparing the program, the planning board shall confer, in a manner deemed appropriate by the board, with the mayor, the chief fiscal officer, other municipal officials and agencies, and the school board or boards.

Any such program shall include an estimate of the displacement of persons and establishments caused by each recommended project.

required to prepare a capital improvement program of at least six years identifying projects by title, estimated costs, and their anticipated financing by sources and amounts. Municipalities of under 10,000 population must prepare a capital program of at least three years, although no capital program is required if there are no annual capital budgets for the municipality for three consecutive years.⁹³

A 1994 unpublished study for the Office of State Planning found that multi-year capital planning was not widely practiced among municipalities. The experience of the New Jersey Department of the Treasury, Office of Local Budget Review in its review of 63 local government, school district and local utilities authority financial practices (as of October 1999) confirms that the effective use of long term, coordinated capital budgeting is not widespread. In its 1995 study of Ventnor, the Office of Local Government Budget Review cited long range capital planning as a “best practice”:

The Capital Improvement Program, when reviewed on a five year basis, provides constant attention to the infrastructure of the city. The current funds are used for the rebuilding of various roads, streets and the purchasing of necessary equipment. The bond issues, which are related to capital projects, provide for an ongoing road restoration program and maintenance of the storm water structures of the city.

A five year facilities plan, annually updated and prepared in the context of an overall, comprehensive planning process tied to curriculum and demographic changes, was also recommended by the Office of Local Budget Review for school districts.⁹⁴

The Best Practices section of each Local Government Budget Review report identifies procedures, programs and practices which are recognized by the review team for their cost and/or service delivery effectiveness. These Best Practices are considered deserving of recognition *and replication* in communities and schools throughout the state to possibly save considerable expense.

That the Local Government Budget Review process has identified 5-year capital planning as an important part of an effective, coordinated budgeting and financial management program for local governments is significant.⁹⁵ An annual 5-year capital planning cycle by local governments is well suited for, and emphasizes, assessing (and, hopefully, responding to) current, backlog and immediately emerging needs. However, using only a 5-year program cannot adequately incorporate consideration of life cycle costs, master plan buildout (future development and redevelopment), or other practices that improve the sustainability of a community. Therefore, as at the State level, a long term (20 year) infrastructure needs

b. In addition to any of the requirements in subsection a. of this section, whenever the planning board is authorized and directed to prepare a capital improvements program, every municipal department, authority or agency shall, upon request of the planning board, transmit to said board a statement of all capital projects proposed to be undertaken by such municipal department, authority or agency, during the term of the program, for study, advice and recommendation by the planning board. (L.1975, c. 291, s. 20, eff. Aug. 1, 1976.)

N.J.S.A. 40:55D-30. Adoption of capital improvement program

Whenever the planning board has prepared a capital improvement program pursuant to section 20 of this act, it shall recommend such program to the governing body which may adopt such program with any modification approved by affirmative vote of a majority of the full authorized membership of the governing body and with the reasons for said modification recorded in the minutes. (L.1975, c. 291, s. 21, eff. Aug. 1, 1976.)

⁹³ N.J.A.C. 5:30-4.5 Local Finance Board Rules and Regulations.

⁹⁴ *Getting the Most from Local Property Tax Dollars: What Works and What Doesn't Work in Managing Public Schools and Municipalities*. New Jersey Department of the Treasury, Office of Local Government Budget Review. October, 1997.

⁹⁵ 188 local governments, 95 school districts, 15 utilities authorities and 6 other local authorities have requested reviews by the Office of Local Government Budget Review. With nearly 250 reviews pending, this process provides a significant opportunity to establish long range capital planning and budgeting coordinated with local master plans and long range local infrastructure needs assessments.

VI. The Infrastructure Investment Decision Process

assessment, periodically updated (e.g. as part of municipal master plan reexamination, 5 year school facilities master plans, preparations for state planning cross-acceptance), should provide the context for medium term (5-7 year) capital planning and budgeting, just as the medium term capital plans provide the context and justification for the current year capital budgets.

Municipalities also have authority under the Municipal Land Use Law to review (within a 45 day period) capital projects of State, county, school district, special district and other authorities located within their jurisdiction with regard to the relationship of the proposed capital project to its adopted municipal master plan.⁹⁶

⁹⁶ *N.J.S.A. 40:55D-31. Review of capital projects*

Whenever the planning board shall have adopted any portion of the master plan, the governing body or other public agency having jurisdiction over the subject matter, before taking action necessitating the expenditure of any public funds, incidental to the location, character or extent of such project, shall refer the action involving such specific project to the planning board for review and recommendation in conjunction with such master plan and shall not act thereon, without such recommendation or until 45 days have elapsed after such reference without receiving such recommendation. This requirement shall apply to action by a housing, parking, highway, special district, or other authority, redevelopment agency, school board or other similar public agency, State, county or municipal. (L.1975, c. 291, s. 22, eff. Aug. 1, 1976.)

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